AIR QUALITY PERMIT

Issued To:	Croft Petroleum Company Little Rock Compressor Station P.O. Box 397 Cut Bank, MT 59427	Permit: #2932-03 Application Complete: 11/06/06 Preliminary Determination Issued: 12/07/06 Department's Decision Issued: 12/26/06 Permit Final: 1/11/07 AFS #: 035-0016

An air quality permit, with conditions, is hereby granted to Croft Petroleum Company (Croft), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Croft owns and operates a natural gas compressor station and associated equipment located in the Southeast ¼ of Section 13, Township 36 North, Range 6 West, in Glacier County, Montana. The facility is known as the Little Rock Compressor Station. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On November 6, 2006, the Department of Environmental Quality (Department) received a complete application from Croft for the modification of Permit #2932-02. Croft requested to replace the existing Climax V-125 275-brake-horsepower (bhp) compressor engine with a rich-burn compressor engine with a maximum rated design capacity equal to or less than 304-bhp equipped with a non-selective catalytic reduction (NSCR) and air-to-fuel ratio (AFR) controller.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Croft shall not operate more than one natural gas compressor engine at any given time at the Little Rock Compressor Station and the maximum rated design capacity of any compressor engine shall not exceed 304-bhp (ARM 17.8.749).

2. Croft may use only a 4-stroke rich-burn compressor engine with a NSCR and AFR controller. The pound per hour (lb/hr) emission limits for the 304-bhp rich-burn engine shall be determined using the following equation and pollutant specific gram per brake-horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

<u>Equation</u>
Emission Limit (lb/hr) = Emission Factor (g/bhp-hr) * maximum rated design capacity of engine (bhp) * 0.002205 lb/gram

<u>Emission Factors</u>

Oxides of Nitrogen (NO_x):	1.0 g/bhp-hr
Carbon Monoxide (CO):	1.0 g/bhp-hr
Volatile Organic Compounds (VOC):	0.5 g/bhp-hr

3. Croft shall direct the still column emissions from the tri-ethylene glycol (TEG `0) dehydration unit through a sloping line to a storage tank. The vent stack on this storage tank shall be a minimum of 10 feet above ground level (ARM 17.8.752).

4. In order to prevent VOC/BTEX emissions from excessive TEG circulation, Croft shall check the moisture content of the sales gas once every 3 months and shall adjust the TEG circulation rate to correspond to the appropriate rate needed to meet sales gas moisture specifications. Croft shall record the date, the findings, and any consequential actions taken for each audit (ARM 17.8.752).

5. Croft shall operate all equipment to provide the maximum air pollution control for which it was designed (ARM 17.8.749).

6. The compressor engine and the TEG dehydrator reboiler shall combust only pipeline quality natural gas (ARM 17.8.752).

7. Croft shall route the dehydration unit flash tank off gas to the dehydration unit/reboiler fuel gas stream (ARM 17.8.749).

8. Croft shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

9. Croft shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne Particulate Matter (PM) (ARM 17.8.308).

10. Croft shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.9 (ARM 17.8.749).

B. Testing Requirements

1. Croft shall initially test the compressor engine (maximum design capacity 304-bhp) for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.2. The initial source testing shall be conducted within 180 days of the initial start-up date of the compressor engine. After the initial source test, additional testing shall continue on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Croft shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Croft shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by Croft as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Monitoring and Record Keeping Requirements

1. Croft shall record the quarterly evaluation and optimization of the TEG circulation rate of the dehydration unit as required in Section II.A.4 (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – Croft shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Croft fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Croft of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Croft may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within three years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis
Croft Petroleum Company
Little Rock Compressor Station
Permit #2932-03

I. Introduction/Process Description

Croft Petroleum Company (Croft) owns and operates a natural gas compressor station. The facility is located in the Southeast ¼ of Section 13, Township 36 North, Range 6 West, in Glacier County, Montana. The facility is known as the Little Rock Compressor Station.

A. Permitted Equipment

The facility consists of the following equipment:

- (1) 304-brake-horsepower (bhp) rich-burn compressor engine equipped with a non-selective catalytic reduction (NSCR) and air-to-fuel ratio (AFR) controller
- (1) 1 million standard cubic feet (mmscf) per day triethylene glycol (TEG) dehydration unit with a 0.06 million British thermal units (MMBtu) per hour TEG reboiler
- Associated equipment

B. Source Description

The facility has two primary purposes. The first is to pump the field gas up to the required pressure in the natural gas transmission system. Compression of the gas is accomplished using the natural gas fired compressor described above.

The second purpose of the facility is to "dry" the gas as it is being processed. The gas contains moisture, which must be removed from the system prior to being sent into the transmission system. This is accomplished with the dehydrator, also commonly called a reboiler or glycol unit. The gas is treated with a glycol solution, which absorbs the water in the gas stream. The glycol solution is then heated to about 300 degrees Fahrenheit (^{o}F) to drive off the water and return the glycol. The water that is driven off is released to the atmosphere. The heat necessary for this activity is generated by burning natural gas in the dehydrator reboiler. The reboiler is small by industrial standards, having a size approximately equivalent to a typical natural gas-fired small office heating system.

C. Permit History

On October 25, 1996, the Department of Environmental Quality (Department) issued Permit **#2932-00** to Northland Royalty Company (Northland) for the operation of one 275-Hp Climax V-125 natural gas compressor engine and one 45-MBtu/hr TEG natural gas dehydration unit at the Little Rock Compressor Station. Northland was required to achieve the NO_x and CO emissions limits set forth in Section II.A.1 of Permit #2932-00 by operating the compressor engine at the crossover point -- where oxides of nitrogen (NO_x) and carbon monoxide (CO) emissions are equal. Installation and operation of an electronic air/fuel ratio (AFR) controller was required on the compressor engine to maintain the air/fuel mixture within the range where crossover occurs. Northland was required to control volatile organic compounds (VOC) and benzene, toluene, ethylbenzene, and xylene (BTEX) emissions from the TEG dehydration unit by properly managing the TEG circulation rate and by routing still vent emissions through a sloping line to a storage tank.

On July 17, 1997, Northland requested a name change from Northland to NRC Pipeline Company, LLC (NRC). On August 28, 1998, Permit #2932-01 became final, changing the name on the permit from Northland to NRC. **Permit #2932-01** replaced Permit #2932-00.

On September 16, 2002, the Department received a letter, including an attachment, dated September 12, 2002, from Croft requesting that Permit #2932-01 be transferred from NRC to Croft. The attachment was an assignment and bill of sale for the compressor stations that Croft purchased from NRC in May 2002. The current permit action transfers Permit #2933-01 from NRC to Croft. In addition, the permit was updated to reflect current Department permit format and permit language. **Permit #2932-02** replaced Permit #2932-01.

D. Current Permit Action

On November 6, 2006, the Department received a complete application from Croft for the modification of Permit #2932-02. Croft requested to replace the existing Climax V-125 275-bhp compressor engine with a rich-burn compressor engine with a maximum rated design capacity equal to or less than 304-bhp equipped with a NSCR and AFR controller. **Permit #2932-03** replaces Permit #2932-02.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Croft shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Croft must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter (PM). (2) Under this rule, Croft shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne PM.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere PM caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere PM in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. Croft burns natural gas in the compressor engine and dehydration unit, which meets this limitation.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS).

Croft is not an NSPS affected source because it does not meet the definition of a natural gas processing plant defined in 40 CFR 60, Subpart KKK or the definition of any other NSPS subpart as defined in 40 CFR Part 60.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. A major Hazardous Air Pollutant (HAP) source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as applicable, including the following subparts:

   - 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

   - 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities

   - 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

   Based on the information submitted by Croft, the facility is not subject to the provisions of 40 CFR Part 63, because the facility is not a major source of HAPs.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. Croft must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stacks for Croft is below the allowable 65-meter GEP stack height.

E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Croft submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. Croft has a PTE greater than 25 tons per year of NO_x and CO; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Croft submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Croft submitted an affidavit of publication of public notice for the November 1, 2006, issue of *The Cut Bank Pioneer Press*, a newspaper of general circulation in the town of Cut Bank in Glacier County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that Best Available Control Technology (BACT) shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Croft of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE > 100 tons/year of any pollutant;

b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2932-03 for Croft, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant;

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs;

   c. This source is not located in a serious PM_{10} nonattainment area;

   d. This facility is not subject to any current NSPS;

   e. This facility is not subject to any current National Emission Standards for Hazardous Air Pollutants (NESHAP) standards;

   f. This source is neither a Title IV affected source, nor a solid waste combustion unit; and

   g. This source is not an Environmental Protection Agency (EPA) designated Title V source.

   Based on these facts, the Department determined that Croft will be a minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or altered source. Croft shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was submitted by Croft in Permit Application #2932-03, addressing some available methods of controlling emissions from natural gas compressor engines. The Department reviewed these methods, as well as previous BACT determinations in order to make the following BACT determination.

Compressor Engine BACT

A. Compressor Engines

1. NO_x BACT

As part of the NO_X BACT analyses, the following control technologies were reviewed:
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- Lean-burn engine with a selective catalytic reduction (SCR) unit and an air-to-fuel ratio (AFR) controller
- Lean-burn engine with an SCR unit
- Lean-burn engine with an AFR controller
- Lean-burn engine with a non-selective catalytic reduction (NSCR) unit and AFR controller
- Lean-burn engine with an NSCR unit

- Lean-burn engine with no additional controls
- Rich-burn engine with an NSCR unit and an AFR controller
- Rich-burn engine with an NSCR unit
- Rich-burn engine with an AFR controller
- Rich-burn engine with an SCR and an AFR controller
- Rich-burn engine with an SCR
- Rich-burn engine with no additional controls

SCR applied to rich-burn engines is technically infeasible because the oxygen concentration from rich-burn engines is not high enough for an SCR unit to operate properly. NSCR on lean-burn engines is technically infeasible because the engine must burn a rich fuel mixture for the NSCR to properly operate. Adverse environmental impacts could occur with an SCR unit operating on lean-burn engines at variable loads as required by a typical compressor engine. SCR units are typically installed on process units that have a constant or low variability in load fluctuation. When engine load changes excess ammonia (ammonia slip) may pass through the system and out the stack or not enough ammonia will be injected. SCR units are technically infeasible because of the potential adverse environmental impacts from the typical load fluctuations that are required for compressor engines. SCR units have not been installed on lean-burn compressor engines in Montana.

Technically feasible control options, in order of the highest control efficiency to the lowest control efficiency, include:

Technically Feasible Control Options

Control Technology	% Control	NO_X Emission Rate (g/bhp-hr)
Lean-burn engine with AFR	95.0	1.0
Lean-Burn without Control	95.0	2.0
Rich-Burn engine with NSCR and AFR or NSCR only	95.0	1.0
Rich-Burn without Control or with only AFR	--	20.0

The control methods listed above are widely used; these control options cannot be eliminated solely based on environmental or energy impacts.

Lean-burn engines do emit relatively higher HAP (formaldehyde) emissions than rich-burn engines. Lean-burn engines cannot be eliminated based on higher formaldehyde emissions, but the higher formaldehyde emissions can affect the BACT determination.

The table below shows the cost per ton of NO_X reduction achieved for the remaining control options.

Cost Effectiveness

Control Technology	Total Annual Cost ($)	Resulting NO_X Emissions (tpy)	Cost Effectiveness ($/ton)
Baseline Emissions			
Rich-Burn Engine without Control	--	58.7	--
Controlled Emissions			
Rich-Burn Engine with NSCR and AFR	7,505	2.9	134.56
Rich-Burn Engine with NSCR only	4,440	--	--
Rich-burn engine with AFR only	3,065	35.2	130.51

The cost effectiveness table above demonstrates that a lean-burn engine with an AFR controller is the most cost effective method to control NO_x emissions from the compressor engine. However, Croft proposed a rich-burn engine with an NSCR unit and an AFR controller. The cost effectiveness table above demonstrates that a rich-burn engine with NSCR and AFR is cost effective and has equivalent emissions to a lean-burn engine with AFR. Therefore, the Department determined that operating a rich-burn engine with NSCR and AFR is the appropriate BACT determination because rich-burn engines with NSCR and AFR are frequently used in the natural gas compression industry and the BACT determination is consistent with other recently permitted similar sources. Therefore, the Department determined that a lb/hr emission limit equivalent to 1.0 g/bhp-hr using either a rich-burn engine equipped with NSCR and AFR is BACT.

2. CO BACT

As part of the CO BACT analyses, the following control technologies were reviewed:

- Lean-burn engine with a catalytic oxidation unit and an AFR controller
- Lean-burn engine with a catalytic oxidation unit
- Lean-burn engine with an AFR controller
- Lean-burn engine with an NSCR unit and AFR controller
- Lean-burn engine with an NSCR unit
- Lean-burn engine with no additional controls
- Rich-burn engine with an NSCR unit and an AFR controller
- Rich-burn engine with an NSCR unit
- Rich-burn engine with an AFR controller
- Rich-burn engine with a catalytic oxidation unit and an AFR controller
- Rich-burn engine with a catalytic oxidation unit
- Rich-burn engine with no additional controls

Catalytic oxidation applied to a rich-burn engine is technically infeasible because the oxygen concentration from a rich-burn engine is not high enough for a catalytic oxidizer to operate properly. An NSCR unit applied to a lean-burn engine or lean-burn retrofit engine is also technically infeasible because the NSCR unit needs a rich fuel-to-air ratio to operate effectively.

Technically feasible control options, in order of the highest control efficiency to the lowest control efficiency, include:

Technically Feasible Control Options

Control Technology	% Control	CO Emission Rate (g/bhp-hr)
Rich-burn without control	97.5	0.5
Rich-Burn with NSCR and AFR or NSCR only	95.0	1.0
Lean-Burn with AFR or without Control	85.0	3.0
Rich-Burn without Control or with only AFR	--	20.0

The control methods listed above are widely used; these control options cannot be eliminated solely based on environmental or energy impacts. Lean-burn engines do emit relatively higher HAP (formaldehyde) emissions than rich-burn engines. However, lean-burn engines cannot be eliminated based on higher formaldehyde emissions, but the higher formaldehyde emissions can affect the BACT determination.

The following tables show the cost per ton of CO reduction achieved for the various control options.

Cost Effectiveness

Control Technology	Total Annual Cost ($)	Resulting CO Emissions (tpy)	Cost Effectiveness ($/ton)
Baseline Emissions			
Rich-burn Engine without Control or with only AFR	--	111.5	--
Controlled Emissions			
Rich-burn Engine with NSCR and AFR	7,505	2.9	69.10
Rich-burn Engine with NSCR only	4,440	--	--
Rich-burn Engine with AFR only	3,065	2.9	28.22

The cost effectiveness table above demonstrates that a rich-burn engine with NSCR and AFR are cost effective methods of controlling CO emissions from natural gas compressor engines. The most CO reduction would occur through the use of a lean-burn engine with a catalytic oxidizer and AFR. The Department determined that operating a rich-burn engine with NSCR and AFR is the appropriate BACT determination because rich-burn engines with NSCR and AFR are frequently used in the natural gas compression industry and the BACT determination is consistent with other recently permitted similar sources. The Department based it's analysis on an emission level of 1.0 g/hp-hr, which is equivalent to other recently permitted similar sources, and the Department determined that a lb/hr emission limit equivalent to 1.0 g/bhp-hr using rich-burn engine with NSCR and AFR is BACT.

3. VOC BACT

Croft provided information from an engine manufacturer stating that the 304-hp rich-burn engine would meet a lb/hr VOC emission limit equivalent to 0.18 g/bhp-hr. However, there were many items included in the manufacturer's data (constant temperature, constant load, maximum logged engine hours, etc) that would need to be met in order to achieve 0.18 g/bhp-hr. The Department determined that many of the items would make it nearly impossible for Croft to consistently operate the rich-burn engine to meet the 0.18 g/bhp-hr. Therefore, the Department based it's analysis on an emission level of 0.5 g/hp-hr, which is equivalent to other recently permitted similar sources, and the Department determined that a lb/hr emission limit equivalent to 0.5 g/bhp-hr using rich-burn engine with NSCR and AFR is BACT.

The Department determined that no additional controls, and burning pipeline quality natural gas and meeting a lb/hr emission limit equivalent to 0.5 g/bhp-hr, constitutes BACT.

4. PM_{10} and SO_2 BACT

The Department is not aware of any BACT determinations that have required controls for PM_{10} or Sulfur Dioxide (SO_2) emissions from natural gas fired compressor engines. Croft proposed no additional controls and burning pipeline quality natural gas as BACT for PM_{10} and SO_2 emissions from the proposed compressor engine. Due to the relatively small amount of PM_{10} and SO_2 emissions from the proposed engine and the cost of adding additional control, any add-on controls would be cost prohibitive. Therefore, the Department concurred with Croft's BACT proposal and determined that no additional controls and burning pipeline quality natural gas will constitute BACT for PM_{10} and SO_2 emissions.

IV. Emission Inventory

Ton/year					
Source	PM_{10}	NO_x	VOC	CO	SO_x
Compressor Engine 304-hp	0.13	2.93	1.49	2.93	0.01
Dehydration Unit Reboiler	0.00	0.02	0.00	0.00	0.0001
Dehydration Unit Still Vent	---	---	9.32	---	---
Total	0.13	2.95	10.81	2.93	0.01

304-bhp capacity 4-Stroke Rich-Burn Compressor Engine

Fuel Heating Value: 1,000 MMBtu/MMScf (Company Information)
Fuel Consumption Rate: 2.74 MMBtu/hr (Company Information)

PM_{10} Emissions
Emission Factor: 9.91E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 2.74 MMBtu/hr * 9.91E-03 lb/MMBtu = 0.03 lb/hr
0.03 lb/hr * 8,760 hr/hr * 0.0005 ton/lb = 0.13 ton/yr

NO_X Emissions
Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: 1.00 gram/hp-hour * 304 hp * 0.002205 lbs/gram = 0.67 lb/hr
0.67 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.93 ton/yr

VOC Emissions
Emission factor: 0.5 gram/hp-hour (BACT Determination)
Calculations: 0.5 gram/hp-hour * 304 hp * 0.002205 lbs/gram = 0.34 lb/hr
0.34 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.49 ton/yr

CO Emissions
Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: 1.00 gram/hp-hour * 304 hp * 0.002205 lbs/gram = 0.67 lb/hr
0.67 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.93 ton/yr

SO_X Emission
Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 2.74 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.002 lb/hr
0.002 lb/hr * 8,760 hr/hr * 0.0005 ton/lb = 0.01 ton/yr

HAP Emissions (HAP emissions include formaldehyde):

Emission Factor: 0.0324 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 0.0324 lb/MMBtu * 2.74 MMBtu/hr = 0.09 lb/hr
0.09 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.39 ton/yr

Dehydration Unit Reboiler

Max Fuel Combustion Rate: 0.045 MMBtu/hr
Hours of Operation: 8,760 hr/yr
Fuel Heating Value: 1,000 Btu/SCF or 0.0010 MMSCF/MMBtu (Natural Gas)

PM_{10} Emissions
Emission Factor: 3.00 lb/MMSCF {FIRE, PC Version 1/95, 1-05-001-06}
Calculations: 3.00 lb/MMSCF * 0.001 MMSCF/MMBtu * 0.045 MMBtu/hr = 0.0001 lb/hr
0.0001 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.0006 ton/yr

NO_x Emissions
Emission Factor: 100 lb/MMSCF {FIRE, PC Version 1/95, 1-05-001-06}
Calculations: 100 lb/MMSCF * 0.001 MMSCF/MMBtu * 0.045 MMBtu/hr = 0.0045 lb/hr
0.0045 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.0197 ton/yr

CO Emissions
Emission Factor: 20.0 lb/MMSCF {FIRE, PC Version 1/95, 1-05-001-06}
Calculations: 20.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 0.045 MMBtu/hr = 0.0009 lb/hr
0.0009 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.004 ton/yr

VOC Emissions
Emission Factor: 5.3 lb/MMSCF {FIRE, PC Version 1/95, 1-05-001-06}
Calculations: 5.3 lb/MMSCF * 0.001 MMSCF/MMBtu * 0.045 MMBtu/hr = 0.0002 lb/hr
0.0002 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.001 ton/yr

SO_x Emissions
Emission Factor: 0.60 lb/MMSCF {FIRE, PC Version 1/95, 1-05-001-06}
Calculations: 0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 0.045 MMBtu/hr = 0.00003 lb/hr
0.00003 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.0001 ton/yr

Dehydration Unit Still Vent

Glycol Type: Tri-ethylene Glycol (TEG)
Dry Gas Flow Rate: 1.5 MMSCF/day
Hours of Operation: 8,760 hr/yr
Fuel Heating Value: 1,000 Btu/SCF or 0.0010 MMSCF/MMBtu (Natural Gas)
Control Device: storage tank Control Efficiency: 30% Flash Separator: none

Uncontrolled VOC Emissions
Emission Factor: 3.04 lb/hr {GRI-GlyCALC Program}
Calculations: 3.04 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 13.32 ton/yr

Controlled VOC Emissions
Emission Factor: 3.04 lb/hr * (100% - 30%) = 2.13 lb/hr
Calculations: 2.13 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 9.32 ton/yr

Uncontrolled HAP Emissions
Emission Factor: 0.514 lb/hr {GRI-GlyCALC Program}
Calculations: 0.514 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.25 ton/yr

Controlled HAP Emissions
Emission Factor: 0.514 lb/hr * (100% - 30%) = 0.36 lb/hr
Calculations: 0.36 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.58 ton/yr

V. Existing Air Quality

The surrounding area is listed as attainment/unclassified for the Montana and National Ambient Air Quality Standards (MAAQS and NAAQS).

VI. Ambient Air Impact Analysis

The Department determined, based on the relatively small size of the facility and the corresponding emissions, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Croft Petroleum Company
Little Rock Compressor Station
P.O. Box 397
Cut Bank, MT 59427

Air Quality Permit Number: 2932-03

Preliminary Determination Issued: December 7, 2006
Department Decision Issued: December 26, 2006
Permit Final: January 11, 2007

1. *Legal Description of Site*: The facility would be located in the Southeast ¼ of Section 13, Township 36 North, Range 6 West, in Glacier County, Montana. The facility is known as the Little Rock Compressor Station.

2. *Description of Project*: The project would be to install a 304-hp natural gas compressor engine to pump the field gas up to the required pressure in the natural gas transmission system. The 1 mmscf per day TEG dehydration unit and associated 0.06 MMBtu per hour TEG reboiler currently exist.

3. *Objectives of Project*: The objectives of the project would be to allow Croft to install the engine to increase the pressure of the field gas to produce additional gas to sell to the transmission line, which would result in additional business and revenue for the company.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Croft demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in Permit #2932-03.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic life and Habitats

Minor impacts to terrestrial and aquatic life and habitats would be expected from the proposed project because deer, antelope, coyotes, geese, ducks, and other terrestrials would potentially use the area around the facility and because the facility would be a source of air pollutants. The facility would emit air pollutants and corresponding deposition of pollutants would occur (as described in Section 7.F. of this EA); however, due to the relatively small size of the facility, the Department determined that any impacts from deposition would be minor. In addition, minor land disturbance would occur through facility construction activities. Any impacts from facility construction would be minor due to the relatively small size of the project and the relatively short period of time required for construction. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because the facility would be a source of air pollutants. The facility would have no direct discharges into surface water. However, minor amounts of water may be required to control fugitive dust emissions from the access roads and the general facility property. In addition, the facility would emit air pollutants and corresponding deposition of pollutants would occur. However, the Department determined that because of the relatively small size of the facility that any impact resulting from the deposition of pollutants on water quality, quantity, and distribution would be minor.

In addition, water quality, quantity, and distribution would not be impacted from installing the compressor engine because there is no surface water at or relatively close to the site. Furthermore, no direct discharges into surface water would occur and no use of surface water would be expected for facility construction. Therefore, no impacts to water quality, quantity, and distribution would be expected from facility construction. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because minor construction would be required to install the compressor engine. In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the geology and soil quality, stability and moisture from facility construction would be minor due to the relatively small size of the project.

Further, deposition of pollutants would occur (as described in Section 7.F. of this EA); however, the Department determined, based on the relatively small size of the facility, that any impacts resulting from the deposition of pollutants on the soils surrounding the site would be minor. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur on vegetation cover, quantity, and quality because minor construction would be required to install the compressor engine at the existing facility.

In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the vegetation cover, quantity, and quality from facility construction would be minor due to the relatively small size of the project.

The facility would be a source of air pollutants and corresponding deposition of pollutants would occur (as described in Section 7.F. of this EA). However, the Department determined that any impacts resulting from the deposition of pollutants on the existing vegetation cover, quantity, and quality would be minor. Overall, any impacts to vegetation cover, quantity, and quality from the proposed project would be minor.

E. Aesthetics

Minor impacts would result on the aesthetic values of the area because the proposed project would be replacing an engine at an existing facility. However, any visual aesthetic impacts would be minor because the proposed project would be relatively small by industrial standards.

The facility would also create additional noise in the area. However, any auditory aesthetic impacts would be minor because the compressor engine would generally operate indoors with catalyst emission controls. Emission controls are typically designed to be installed in mufflers to achieve the appropriate temperature for proper operation catalyst. Overall, any aesthetic impacts would be minor.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM_{10}; NO_X; CO; VOC, including HAPs; and sulfur oxides (SO_X). Air emissions from the facility would be minimized by limitations and conditions that would be included in Permit #2932-03. Conditions would include, but would not be limited to, BACT emission limits and opacity limitations on the proposed engines and the general facility. In addition, the Department determined, based on professional experience and the relatively small size of the facility that the proposed project would comply with the MAAQS and NAAQS.

Deposition of pollutants would occur as a result of operating the facility, but the Department determined that the impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed,

wind direction, ambient temperature, etc.), and conditions that would be placed in Permit #2932-03. Therefore, the Department believes that controlled emissions from the source would not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed facility would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (Section 13, Township 36 North, Range 6 West, in Glacier County, Montana), contacted the Montana Natural Heritage Program (MNHP). Search results concluded there is one known environmental resource of special concern within the area. The search area, in this case, is defined by the township and range of the proposed site, with an additional one-mile buffer. The resource of special concern is the Long-billed Curlew. The Long-billed Curlew is found within a 1-mile radius of the project site; however, due to the minor amounts of construction that would be required, the relatively low levels of pollutants that would be emitted, the Department determined that it would be unlikely that the proposed project would impact the Long-billed Curlew and that any potential impacts would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would have minor impacts on the demands for the environmental resources of air, because the facility would be a minor source of air pollutants. Demands for water would be minor because the facility may use water for dust suppression. Deposition of pollutants would occur as a result of operating the facility (as described in Section 7.F. of this EA); however, the Department determined that any impacts from deposition of pollutants would be minor.

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because power would be required at the site. The impact on the demand for the non-renewable environmental resource of energy would be minor because the facility would continue to be relatively small by industrial standards. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there has been no previously recorded historic or archaeological sites within the proposed area. Given the previous industrial disturbances in the area, SHPO stated there would be a low likelihood that cultural properties would be impacted and that a recommendation to conduct a cultural resource inventory would be unwarranted.

However, SHPO requested to be contacted by Croft if cultural materials are discovered while implementing the project. Therefore, the Department determined that due to the previous disturbance in the area (the area is an active natural gas field) and the small amount of land disturbance that would be required to implement the proposed project, the chance of the project impacting any cultural or historic sites would be minor.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project and negligible construction activities associated with this type of facility. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #2932-03.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			X			Yes
B	Cultural Uniqueness and Diversity			X			Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population			X			Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

See Cultural Uniqueness and Diversity

B. Cultural Uniqueness and Diversity

The proposed project would cause minor, if any, impacts to the above social and economic resources in the area because the proposed project would take place in a relatively remote location at an existing facility. Further, the proposed project would not necessitate any new permanent employees and would likely not result in any immigration of new people to the area for employment purposes; thereby, having little, if any, impact on the above social and economic resources of the area.

Additional activity (vehicle traffic, construction equipment, etc.) would be noticeable during facility construction. Once the facility is constructed, activities associated with the operation of the facility would be minor. Overall, any impacts to the above social and economic resources in the area would be minor.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue because no new employees would be expected as a result of the proposed project. However, the proposed project would necessitate negligible construction activities and typically would not require

an extended period of time for completion. Therefore, any construction related jobs would be temporary and any corresponding impacts on the tax base/revenue in the area would be minor. Overall, any impacts to the local and state tax base would be minor.

D. Agricultural or Industrial Production

The land at the proposed location is rural agricultural grazing land. However, because the facility would be relatively small, the proposed project would result in only minor impacts to agricultural production. The proposed project would have minor impacts to industrial production because the proposed project would expand an existing industrial source. However, because the facility would continue to be relatively small by industrial standards, the project would likely not result in additional industrial sources.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process. The Department is not aware of plans for any additional facilities at this time. Overall, any impacts to agricultural or industrial production of the area would be minor.

E. Human Health

The proposed project would result in minor, if any, impacts to human health. Deposition of pollutants would occur (as described in Section 7.F. of this EA); however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health. Overall, any impacts to public health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would have minor, if any, impacts on access to recreational and wilderness activities because of the relatively remote location, the relatively small size of the facility, and because the facility is an existing facility in an active natural gas field. The proposed project would have minor impacts on the quality of recreational and wilderness activities in the area because the facility, while relatively small by industrial standards, would be expanding and would produce additional noise. Overall, any impacts to the access and quality of recreational and wilderness activities in the area would be minor.

G. Quantity and Distribution of Employment

See Distribution of Population

H. Distribution of Population

The proposed project would have minor, if any, impacts on the employment and population of the area because no new employees would be required for normal operations thereby resulting in no new immigration to the area. However, temporary construction-related positions would result from this project. Although, any impacts to the quantity and distribution of employment from construction related employment would be minor due to the relatively small size of the facility and the relatively short time period that would be required for constructing the facility. Overall, any impacts to the above social and economic resources in the area would be minor.

I. Demands for Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue the appropriate permits for the facility and to assure compliance with applicable rules, standards, and conditions that would be contained in those permits. In addition, there would be minor impacts on the demands for government services to regulate the increase in vehicle traffic that would be associated with the proposed project. The increase in vehicle traffic would be primarily during the installation of the new compressor engine. Therefore, vehicle traffic would be relatively minor due to the relatively short time period that would be required to install the engine. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the relatively small size of the facility.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. The proposed project would be relatively small, would take place at a relatively remote location, and would occur at an existing facility located in an active natural gas field.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process. Overall, any impacts to the local industrial and commercial activity of the area would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans or goals. The permit would ensure compliance with state standards and goals. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) impacts resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #2932-03.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a natural gas compressor engine at an existing facility. Permit #2932-03 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Eric Thunstrom
Date: November 9, 2006