Air Quality Permit

Issued To: Lodge Creek Pipelines, LLC
Willow Creek Compressor Station
P.O. Box 40
Havre, MT 59501

Permit #3136-02
Application Complete: 9/25/06
Preliminary Determination Issued: 10/16/06
Department Decision Issued: 11/01/06
Permit Final: 11/17/06
AFS Number: 041-0006

An air quality permit, with conditions, is hereby granted to Lodge Creek Pipelines, LLC (Lodge Creek), pursuant to Sections 75-2-204 and 211, 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

Lodge Creek owns and operates the Willow Creek Compressor Station, which is located approximately 18 miles north of Havre, Montana. The legal description of the site location is the SW¼ of the SW¼ of Section 5, Township 35 North, Range 16 East, in Hill County, Montana. A complete equipment list is contained in Section I.A of the permit analysis.

B. Current Permit Action

On September 25, 2006, the Department of Environmental Quality (Department) received a complete application for permit modification from Lodge Creek. Specifically, under the current permit action Lodge Creek requested removal of the existing and previously permitted rich-burn natural gas compressor engine with a maximum rated design capacity up to 730-brake horsepower (bhp) from permitted operations and the addition of three rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine. Emissions from each of the three new rich-burn natural gas compressor engines shall be controlled by non-selective catalytic reduction (NSCR) and an air-to-fuel-ratio (AFR) controller.

Section II: Limitations and Conditions

A. Emission Limitations and Control Requirements

1. Lodge Creek compressor engine operations shall be limited to three compressor engines with a maximum rated design capacity up to 380-bhp per engine at the Willow Creek Compressor Station (ARM 17.8.749).

2. Each Lodge Creek compressor engine described in Section II.A.1 shall be a natural gas-fired rich-burn engine with NSCR and an AFR controller. The pound per hour (lb/hr) emission limits for each of the engines shall be determined using the following equation and pollutant specific gram per bhp-hour (g/bhp-hr) emission factors (ARM 17.8.752):

Equation

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

Emission Factors

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

3. Lodge Creek 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).

4. Lodge Creek shall not cause or authorize emissions to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

5. Lodge Creek shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.749).

B. Testing Requirements

1. Each rich-burn natural gas compressor engine with a maximum rated design capacity up to 380-bhp shall be initially tested for NO_x and CO, concurrently, to monitor compliance with the emission limits as calculated in Sections 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 source testing shall continue on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department in writing (ARM 17.8.105 and ARM 17.8.749).

2. All compliance source tests shall be conducted in accordance with 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. Lodge Creek 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 Section I.A of 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. Lodge Creek 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 Lodge Creek 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. Notification

1. Lodge Creek shall provide the Department with written notification of commencement of construction of each of the three permitted rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine within 30 days after commencement of construction of each affected engine (ARM 17.8.749).

2. Lodge Creek shall provide the Department with written notification of the actual start-up date of each of the three permitted rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine within 15 days after the actual start-up date of each affected engine (ARM 17.8.749).

Section III. General Conditions

A. Inspection – Lodge Creek 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 Lodge Creek fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Lodge Creek 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 Lodge Creek 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 3 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
Lodge Creek Pipelines, LLC
Willow Creek Compressor Station
Permit #3136-02

I. Introduction

A. Permitted Equipment

The Lodge Creek Pipelines, LLC, Willow Creek Compressor Station (Lodge Creek) incorporates three permitted rich-burn natural gas compressor engines with a maximum rated design capacity of up to 380-brake horsepower (bhp) per engine. Each permitted engine utilizes non-selective catalytic reduction (NSCR) technology and an air-to-fuel ratio (AFR) controller to control pollutant emissions.

B. Source Description

The Lodge Creek Compressor Station gathers and transmits field gas for sale through natural gas transmission lines. Compression of the natural gas for transmission is accomplished by the three permitted rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine.

C. Permit History

On October 25, 2000, Klabzuba Oil & Gas, Inc. (Klabzuba) submitted a complete air quality pre-construction permit application for a compressor station and associated equipment. The compressor station was to be located approximately 18 miles north of Havre, and was identified as the Willow Creek Compressor Station. The legal description of the site location was defined as the SW¼ of the SW¼ of Section 5, Township 35 North, Range 16 East, in Hill County, Montana. **Permit #3136-00** became final on December 7, 2000.

On January 8, 2002, Klabzuba requested a name change from Klabzuba to Lodge Creek. **Permit #3136-01** changed the owner's name from Klabzuba to Lodge Creek and replaced Permit #3136-00.

D. Current Permit Action

On September 25, 2006, the Department of Environmental Quality (Department) received a complete application for permit modification from Lodge Creek. Specifically, under the current permit action Lodge Creek requested removal of the existing and previously permitted rich-burn natural gas compressor engine with a maximum rated design capacity up to 730-bhp from permitted operations and the addition of three rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine. Emissions from each of the three new rich-burn natural gas compressor engines shall be controlled by NSCR and an AFR controller. Permit **#3136-02** replaces Permit #3136-01.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT) determinations, air quality impacts, and environmental assessments are included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some rules and regulations applicable 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 the location of any applicable rule or regulation and provide copies where appropriate.

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

1. 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. The testing for this facility shall occur according to Section II.B of the permit. The Department may require further testing.

2. 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).

   Lodge Creek shall comply with all 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.

3. 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.

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

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

1. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
2. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide

Lodge Creek 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 to an 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. Under this section, Lodge Creek 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).

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

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

5. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with standards and provisions of 40 CFR Part 63, Subpart HH. The Lodge Creek Compressor Station is not a National Emission Standards for Hazardous Air Pollutants (NESHAP) affected source because the source is not a major source of Hazardous Air Pollutants (HAPs).

   Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. The Willow Creek Compressor Station is not a NESHAP affected source because the facility does not have a glycol dehydration unit. In addition, the source is not a major source of HAPs.

D. 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. Lodge Creek shall 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. Lodge Creek submitted the required 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. This 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 which pro-rate the required fee amount.

E. 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 modification 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. Lodge Creek 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. Lodge Creek 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. Lodge Creek submitted an affidavit of publication of public notice for the September 18, 2006, issue of *The Havre Daily News*, a newspaper of general circulation in the Town of Havre in Hill 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 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 Lodge Creek 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.

F. 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 Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source because it is not listed and does not have the potential to emit more than 250 tons per year (excluding fugitive emissions) of any air pollutant.

G. 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 stationary source having:

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

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

   c. Sources with the PTE > 70 tons/year of PM_{10} in a serious PM_{10} non-attainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 #3136-02 for Lodge Creek, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for all criteria pollutants;
b. The facility's PTE is less than 10 tons/year of any one HAP and less than 25 tons/year of all HAPs;

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

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

e. This facility is not subject to any current NESHAP standards;

f. This source is not a Title IV affected source nor a solid waste combustion unit; and,

g. This source is not an EPA designated Title V source.

The Willow Creek Compressor Station is not a major source; thus, a Title V operating permit is not required.

III. BACT Determination

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

A BACT analysis was submitted by Lodge Creek in Permit Application #3136-02, addressing some available methods of controlling NO_x, CO, and VOC emissions from the three proposed rich-burn compressor engines with a capacity up to 380-bhp per engine. The Department reviewed these methods, as well as previous BACT determinations in order to make the following BACT determination.

A. Compressor Engine

1. NO_x and CO BACT Analysis

For the purposes of this BACT analysis, a combined analysis of NO_x and CO emissions was conducted because NO_x and CO emissions from internal combustion engines are generally inversely proportional to one another. Under the NO_x and CO BACT analysis, the following control technologies, which are ranked in order of the highest control efficiency (lowest emission rate) to the lowest control efficiency, were reviewed:

a. Lean-burn engine with selective catalytic reduction (SCR), an oxidation catalyst, and an AFR controller

b. Rich-burn engine with NSCR and an AFR controller

c. Lean-burn engine with SCR alone

d. Lean-burn engine with an AFR controller alone

e. Rich-burn engine with an AFR controller alone

f. Rich-burn engine with NSCR alone

g. Rich-burn or lean-burn engine with no additional controls

The Department reviewed these methods, as well as previous BACT determinations in order to make the following BACT determination. Under the current permit action, Lodge Creek proposed the use of three rich-burn internal combustion engines incorporating NSCR and an AFR controller to reduce NO_x and CO emissions from the proposed engine used for the purpose of compressing natural gas for transmission.

a. Lean-Burn Engine with SCR and Catalytic Oxidation

SCR, which is a post-combustion emission reduction technology, has been shown to be effective at reducing NO_x emissions from lean-burn engines. SCR units can achieve NO_x control efficiencies as high as 90% for lean-burn engines that are operated at a constant load. An SCR unit selectively reduces NO_x emissions by injecting either liquid anhydrous ammonia or aqueous ammonium hydroxide into the exhaust gas stream prior to the gas stream reaching the catalyst. The catalyst is typically made from noble metals, base metal oxides such as vanadium and titanium, and zeolite-based material. NO_x, NH_3, and O_2 react on the surface of the catalyst to form N_2 and H_2O. For an SCR unit to operate properly, the exhaust gas must be within a particular effective temperature range (typically between 450°F and 850°F). The type of catalyst used dictates the effective temperature range. Exhaust gas temperatures greater than the upper limit of the effective temperature range will pass the NO_x and NH_3 through the catalyst prior to the reaction. NH_3 emissions, called ammonia slip, are a key consideration when specifying an SCR unit. SCR units are only applicable to lean-burn engines because a high oxygen concentration (as found in lean-burn engines) is needed for the unit to operate properly. In addition, for engines that typically operate at variable loads, such as engines utilized for natural gas transmission, an SCR unit may not function effectively and may cause either periods of ammonia slip or periods of insufficient ammonia injection.

While an SCR unit can be utilized to effectively reduce NO_x emissions, as previously described, CO emissions are typically increased with the use of lean-burn technology. An oxidation catalyst may be used in conjunction with an SCR unit to effectively reduce CO emissions. In a catalytic oxidation system, CO passes over a catalyst, usually a noble metal, which oxidizes the CO to CO_2 at efficiencies of 70-90%. Further, as with an SCR unit, oxidation catalysts are only applicable to lean-burn engines because a high oxygen concentration is needed for the unit to operate properly. An oxidation catalyst is not typically used on engines that operate at variable loads (such as natural gas compressor engines) due to technical difficulties arising from this type of operation in conjunction with the SCR control technology.

As discussed above, the Department determined that a lean-burn engine operating with an SCR unit and an oxidation catalyst may lead to technical difficulties when operated for the purpose of natural gas compression and transmission, as proposed under the current permit action. Technical difficulties may include, but are not limited to, periods of ammonia slip or periods of insufficient ammonia injection for engines that typically operate at variable loads. Therefore, due to concerns over technical feasibility and the subsequent potential increase in collateral environmental impact associated with these technical difficulties (ammonia emissions), the Department determined that a lean-burn engine operated with an SCR unit and an

oxidation catalyst does not constitute BACT, in this case.

b. Rich-Burn Engine with an NSCR unit and an AFR Controller

An NSCR unit controls NO_x emissions by using available CO and residual hydrocarbons in the exhaust of a rich-burn engine as a NO_x reducing agent. Without the catalyst, in the presence of oxygen, the hydrocarbons will be oxidized instead of reacting with NO_x. As the excess hydrocarbon and NO_x pass over a honeycomb or monolithic catalyst (usually a combination of noble metals such as platinum, palladium, and/or rhodium), the reactants are reduced to N_2, H_2O, and CO_2. The noble metal catalyst usually operates between 800 degrees Fahrenheit (°F) and 1,200°F; therefore, the unit would normally be mounted near the engine exhaust to maintain a high enough temperature to allow the various reactions to occur. In order to achieve maximum performance, 80% to 90% reduction of NO_x concentration, the engine must burn a rich fuel mixture, causing the engine to operate less efficiently.

In order to provide for the most effective use of the catalyst in an NSCR unit it is necessary to install an electronic AFR controller. This device maintains the proper air-to-fuel ratio thereby increasing fuel efficiency, optimizing the level of reducing agents, and minimizing agents that can poison the catalyst thus providing for the maximum NO_x and CO emission reduction and limiting technical difficulties such as engine down time.

Lodge Creek proposed a rich-burn engine with NSCR and an AFR controller as BACT for the proposed project (3 engines up to 380-bhp/engine). The Department determined that an NSCR unit with an AFR controller constitutes BACT for the reduction of NO_x and CO emissions resulting from the operation of the proposed rich-burn natural gas compressor engines. NSCR/AFR control typically constitutes BACT for rich-burn compressor engines. NSCR/AFR control effectively reduces NO_x and CO emissions and represents a technically, economically, and environmentally feasible option for the control of NO_x and CO resulting from internal combustion engines such as those proposed for the current permit action. Further, it has been demonstrated that these technologies operated together are capable of achieving the pound per hour BACT emission limits contained in Section II.A.2. The pound per hour emission limits were established as BACT by using 1.0 g/bhp-hr for NO_x and 1.0 g/bhp-hr for CO.

c. Lean-Burn Engine with an SCR Unit

As discussed above, an SCR unit has been shown to be effective at reducing NO_x emissions from lean burn engines with SCR units achieving NO_x control efficiencies as high as 90% for lean-burn engines that are operated at a constant load. While an SCR unit can be utilized to effectively reduce NO_x emissions as previously described, CO emissions are typically increased with lean-burn technology. The potential increase in CO emissions constitutes a negative co-lateral environmental impact resulting from the operation of a lean-burn engine with an SCR unit alone.

Further, the Department determined that a lean-burn engine operating with an SCR unit may lead to technical difficulties when operated for the purpose of natural gas compression, as proposed under the current permit action. Technical difficulties

may include, but not be limited to, periods of ammonia slip or periods of insufficient ammonia injection for engines that typically operate at variable loads while the potential increase in CO emissions and the potential for ammonia emissions constitute co-lateral negative environmental impacts. Therefore, due to concerns over technical feasibility, the subsequent potential increase in collateral environmental impact associated with these technical difficulties, and the inherent increase in CO emissions, the Department determined that a lean-burn engine operating with an SCR unit does not constitute BACT, in this case.

d. Lean-Burn Engine with an AFR Controller (NO_x Control at the Crossover Point)

NO_x and CO emissions from a lean-burn engine can be stabilized by installing an electronic AFR controller. This device maintains the proper air-to-fuel ratio that will optimize the performance of the lean-burn engine. A lean-burn engine with an AFR controller and a rich-burn engine incorporating an NSCR and AFR achieve approximately the same NO_x and CO emission rate while the rich-burn engine with an NSCR and AFR controller typically achieves a higher total reduction in potential uncontrolled emissions than the lean-burn engine fitted with an AFR controller.

Lean-burn engines with an AFR controller have a higher initial cost when compared to rich-burn engines fitted with an NSCR unit and an AFR controller. However, since there is limited add-on equipment, the lean-burn engine may require less maintenance than a rich-burn engine fitted with an NSCR unit and an AFR controller and thus operation of the lean-burn engine may result in less technical difficulty and down-time and lower operating costs.

A lean-burn engine with an AFR controller effectively reduces NO_x and CO emissions and represents a technically, economically, and environmentally feasible option for the control of these emissions resulting from internal combustion engines, such as that proposed for the current permit action. However, since Lodge Creek proposed to install a rich-burn engine with an NSCR unit and an AFR controller and because these engines with their respective controls achieve approximately the same NO_x and CO emission rates, the Department determined that the use of a lean-burn engine with an AFR controller does not constitute BACT, in this case.

e. Rich-Burn Engine with an AFR Controller (NO_x Control at the Crossover Point)

Under this control strategy, the proper air-to-fuel ratio is obtained by adjusting the engine to operate at the crossover point, where NO_x and CO emissions are equal. At the crossover point, the engine operates neither too lean nor too rich. Excess hydrocarbon in a rich fuel mixture causes incomplete combustion thereby lowering the exhaust temperature to a point where the concentration of NO_x decreases and the concentration of CO increases. Conversely, combustion of a lean fuel mixture occurs at higher temperatures accompanied by higher concentration of NO_x and a lower concentration of CO.

Internal combustion engines can operate manually at the crossover point; however, the engine must be tuned frequently to account for operational changes such as varying engine load, operating temperature, fuel gas quality, etc. Therefore, the use of an AFR controller with no additional control may present technical difficulties resulting in decreased run time. Further, while the use of an AFR controller to adjust the engine to operate at the crossover point results in a reasonable reduction of both NO_x and CO emissions, an AFR controller operated without additional control does not provide for a reduction in NO_x and CO emissions as effectively as other control strategies such as an NSCR unit or an NSCR unit operated in

conjunction with an AFR controller. Therefore, due to concerns over technical feasibility resulting in increased engine down-time and the potential for increased NO_x and CO emissions when compared to other strategies, the Department determined that a rich-burn engine with an AFR controller, operated alone, does not constitute BACT, in this case.

f. Rich-Burn Engine with NSCR

Similar to the use of an AFR controller alone, the use of an NSCR unit alone can be used to effectively reduce NO_x and CO emissions. However, to effectively reduce these pollutants in the gas stream when operated as the only control, the engine must burn a rich fuel mixture to achieve maximum performance thereby resulting in lower engine operating efficiency and increased fuel use. Subsequently, an NSCR unit operated alone does not provide as high of a reduction in NO_x and CO emissions as an NSCR unit with an AFR controller where engine efficiency is increased. Therefore, due to concerns over technical feasibility resulting in lowered engine efficiency and the subsequent potential for increased NO_x and CO emissions when compared to other strategies, the Department determined that a rich-burn engine with an NSCR unit, operated alone, does not constitute BACT, in this case.

g. No Additional Controls

This practice would consist of operating technically available natural gas compressor engines without any add-on pollution control equipment.

Internal combustion engine operation with no additional controls is a technically feasible option for the compression and transmission of natural gas, as proposed by Lodge Creek. This approach would result in no additional energy or economic impacts on Lodge Creek; however, no additional controls would result in negative impacts on air quality due to increased NO_x and CO emissions when compared to other existing and technically feasible control options. Therefore, after consideration of all potential impacts including, but not limited to, energy impacts, impacts to the environment, and economic impacts and other costs, the Department determined that no additional control does not constitute BACT, in this case.

2. VOC BACT Analysis

The Department is not aware of any BACT determinations that have required controls for VOC emissions from natural gas fired compressor engines comparable to the proposed rich-burn compressor engines with a capacity up to 380-bhp/engine. Further, the BACT determined controls for NO_x and CO (NSCR and an AFR controller) will result in a co-benefit control of VOCs. Therefore, the Department determined that no additional VOC specific controls and the lb/hr emission limits contained in Section II.A.2 of Permit #3136-02, constitutes BACT for VOC emissions, in this case. The pound per hour emission limit is established as BACT by using 1.0 g/bhp-hr) for VOC.

3. PM_{10} BACT Analysis

The Department is not aware of any BACT determinations that have required controls for PM_{10} emissions from natural gas fired compressor engines comparable to the proposed rich-burn compressor engines with a capacity up to 380-bhp/engine. Due to the relatively small amount of PM_{10} emissions from the proposed engines, any add-on controls would be cost prohibitive and likely would not result in a great deal of environmental benefit. Therefore, the Department determined that no additional controls

will constitute BACT for PM_{10} emissions, in this case.

4. SO_x BACT Analysis

The Department is not aware of any BACT determinations that have required controls for SO_x emissions from natural gas fired compressor engines comparable to the proposed rich-burn compressor engines with a capacity up to 380-bhp/engine. Due to the relatively small amount of SO_x emissions from the proposed engines, any add-on controls would be cost prohibitive and likely would not result in a great deal of environmental benefit. Therefore, the Department determined that no additional controls will constitute BACT for SO_x emissions, in this case.

Compressor Engine BACT Summary:

After consideration of potential impacts including, but not limited to, energy impacts, impacts to the environment, economic impacts and other costs, and taking into consideration previous BACT determinations for similar source internal combustion engines, the Department determined that the emission limits contained in Section II.A.2 of Permit #3136-02 constitute BACT for the proposed project. The Department believes that the proposed rich-burn compressor engines with a maximum rated design capacity up to 380-bhp, operating with NSCR and an AFR controller, are capable of meeting the applicable BACT emission limits. In addition, the Department does not believe that any environmental, energy, or economic impacts preclude the use of a rich-burn engine with an NSCR and an AFR controller. Therefore, the Department determined that this control strategy and applicable emission limits constitute BACT, in this case.

IV. Emission Inventory

	Emissions in Tons/Year				
Source	**PM_{10}**	**NO_x**	**CO**	**VOC**	**SO_x**
Rich-Burn Engine #1 (up to 380-bhp)	0.10	3.67	3.67	3.67	0.01
Rich-Burn Engine #2 (up to 380-bhp)	0.10	3.67	3.67	3.67	0.01
Rich-Burn Engine #3 (up to 380-bhp)	0.10	3.67	3.67	3.67	0.01
Total	**0.30**	**11.01**	**11.01**	**11.01**	**0.03**

Rich-Burn Compressor Engine (up to 380-bhp) (3 Total Engines)

Engine/Fuel Parameters

Horsepower: 380 bhp
Hours of Operation: 8760 hr/yr
Maximum Fuel Combustion: 3.07 MMBtu/hr (Manufacturers Information)
Fuel Heating Value: 0.0010 MMscf/MMBtu

PM_{10} Emissions

Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculations: 7.6 lb/MMscf * 0.0010 MMscf/MMBtu * 3.07 MMBtu/hr = 0.023 lb/hr
0.023 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = 0.10 ton/yr

NO_x Emissions

Emission Factor: 1 grams/bhp (Department BACT Determination)
Calculations: 1.0 g/bhp * 380 bhp * 0.002205 lb/gram = 0.84 lb/hr
0.84 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.67 ton/yr

CO Emissions

Emission Factor:	1 grams/bhp (Department BACT Determination)	
Calculations:	1.0 g/bhp * 380 bhp * 0.002205 lb/gram =	0.84 lb/hr
	0.84 lb/hr * 8760 hr/yr * 0.0005 ton/lb =	3.67 ton/yr

VOC Emissions

Emission Factor:	1 grams/bhp (Department BACT Determination)	
Calculations:	1.0 g/bhp * 380 bhp * 0.002205 lb/gram =	0.84 lb/hr
	0.84 lb/hr * 8760 hr/yr * 0.0005 ton/lb =	3.67 ton/yr

SO_x Emissions

Emission Factor:	0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)	
Calculations:	0.6 lb/MMscf * 0.0010 MMscf/MMBtu * 3.07 MMBtu/hr =	0.002 lb/hr
	0.002 lb/hr * 8760 hr/yr * 0.0005 ton/lb =	0.01 ton/yr

V. Existing Air Quality

The plant site is located near Havre, Montana. The legal description of the site location is the SW¼ of the SW¼ of Section 5, Township 35 North, Range 16 East, in Hill County, Montana. The air quality of this area is classified as either better than National Standards or unclassifiable/attainment of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants.

VI. Ambient Air Quality Impacts

Based on the relatively low levels of air pollutants emitted from the proposed Devon compressor station, the Department determined that ambient air impacts from this permitting action will be minor. The Department believes the facility, operating under the limits and conditions included in this permit, will not cause or contribute to a violation of any applicable ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 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: Lodge Creek Pipelines, LLC
Willow Creek Compressor Station
P.O. Box 40
Havre, MT 59501

Air Quality Permit Number: 3136-02

Preliminary Determination Issued: October 16, 2006
Department Decision Issued: November 1, 2006
Permit Final: November 17, 2006

1. *Legal Description of Site*: Lodge Creek owns and operates the Willow Creek Compressor Station, which is located approximately 18 miles north of Havre, Montana. The legal description of the site location is the SW¼ of the SW¼ of Section 5, Township 35 North, Range 16 East, in Hill County, Montana.

2. *Description of Project*: Under the current permit action, Lodge Creek would remove the existing and previously permitted rich-burn natural gas compressor engine with a maximum rated design capacity up to 730-bhp from permitted operations and add three rich-burn natural gas compressor engines with a maximum rated design capacity up to 380-bhp per engine. Emissions from each of the three rich-burn natural gas compressor engines would be controlled by NSCR technology and an AFR controller.

3. *Objectives of Project*: Provide operational flexibility for the collection, compression, and transmission of natural gas from field operations.

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 Lodge Creek 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 #3136-02.

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 addition of the proposed equipment would result in air pollution from facility operations. The facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor. In addition, because the proposed site of operation is an existing and previously permitted industrial site, the proposed changes would be consistent with existing operations and would therefore result in only minor and consistent impacts to any terrestrial and aquatic life and habitats located within the proposed area of operation. 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 addition of the proposed equipment would result in air pollution from facility operations. No discharges into surface water would occur from operating the facility. 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, as described in Section 7.F. of this EA, the Department determined that any impact resulting from the deposition of pollutants would be minor.

Further, water quality, quantity, and distribution would not be impacted from constructing the facility because there is no surface water at or relatively close to the site and any minor construction activities would take place within the existing industrial site. Furthermore, no

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 to the geology and soil quality, stability, and moisture from the proposed project would occur because minor construction would be required to develop the additions to the facility. Small buildings may be constructed; however, these buildings would be erected within an existing industrial site currently used for similar source operations. Since most of the infrastructure needed to accommodate the compression and transmission of natural gas (natural gas pipelines, access roads, etc.) would already be developed, any impacts would be minor. In addition, no discharges, other than a minor increase in air emissions, would occur at the facility as a result of the proposed project.

Further, deposition of pollutants would occur; however, as described in Section 7.F of this EA, the Department determined that any impacts resulting from the deposition of pollutants on the areas 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 to vegetation cover, quantity, and quality would occur because minor construction would be required to accommodate the proposed new equipment. Small buildings may be constructed; however, these buildings would be erected within an existing industrial site currently used for similar source operations. Since most of the infrastructure needed to accommodate the compression and transmission of natural gas (natural gas pipelines, access roads, etc.) would already be developed, any impacts would be minor. No discharges, other than air emissions, would occur as a result of the proposed new equipment at the facility.

Further, deposition of pollutants would occur as a result of the proposed project; however, as described in Section 7.F of this EA, the Department determined that any impacts resulting from the deposition of pollutants on the areas surrounding the site would be minor. Overall, any impacts to the vegetation cover, quantity, and quality in the area would be minor.

E. Aesthetics

Minor impacts to the aesthetic value of the area would occur because the proposed project would add equipment and infrastructure to the existing facility. Small buildings may be constructed; however, these buildings would be erected within an existing industrial site currently used for similar source operations. Since most of the infrastructure needed to accommodate the compression and transmission of natural gas (natural gas pipelines, access roads, etc.) would already be developed, any visual aesthetic impacts would be minor.

The proposed new equipment may create additional noise in the area; however, any auditory aesthetic impacts would be minor because the engines would be located within a building. 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 proposed project would result in emissions of the following air pollutants: PM_{10}; NO_x; CO; VOC (including HAPs); and SO_x. With the exception of VOC emissions, allowable air

emissions from the facility would be reduced from previously permitted operations and would be minimized by limitations and conditions that would be included in Permit #3136-02. Conditions would include, but would not be limited to, BACT emission limits, opacity limitations on the proposed equipment, and opacity limitations on the general facility. In addition, based on previous analyses of similar sources operating under similar conditions, the Department believes that the emissions resulting from the proposed engines would exhibit good dispersion characteristics (from such factors as stack height, wind speed, wind direction, ambient temperatures, etc.) resulting in minor deposition impacts to the affected area.

Since controlled allowable emissions from the proposed station would be reduced from previously permitted operations, would exhibit good dispersion characteristics, and would not exceed any Montana ambient air quality modeling threshold, the Department determined that controlled emissions from the source would not cause or contribute to a violation of any applicable 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

Recently, under the initial permitting action for this facility, in an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The NRIS search identified one such species of special concern, the Swift Fox, which has a documented sighting outside of the immediate area of the facility, but within the defined NRIS search area. Area in this case is defined by the township and range of the proposed site, with an additional 1-mile buffer. Due to minor amounts of construction that would be required to accommodate the proposed new equipment, the relatively low levels of pollutants that would be emitted, dispersion characteristics of pollutants and the atmosphere, and conditions that would be placed in Permit #3136-02, the Department determined that any impacts to any species of special concern at or near the proposed project site would be minor.

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

The proposed project would have minor impacts on the demands for the environmental resources of air and water because the proposed project would result in the emission of regulated air pollutants. Deposition of pollutants would occur as a result of operating the proposed equipment; however, as explained in Section 7.B and 7.F of this EA, the Department determined that any impacts on water and air resources of the area from the proposed project would be minor.

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because increased power would be required at the site. Further, the proposed project would result in a minor impact to the non-renewable energy resource of natural gas in the proposed area of operation because the project would result in increased compression and transfer of natural gas resulting in a reduction of that resource in the area. The impact on the demand for the environmental resource of energy would be minor because the proposed project would be consistent with existing operations at the site. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

Recently, under the initial permitting action for this facility, in an effort to identify any historical and archaeological sites located on or near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have not been any previously recorded historic or

archaeological sites within the proposed project area. In addition, SHPO records indicated that no previous cultural resource inventories have been conducted in the area. Previous correspondence from SHPO has stated that there is a low likelihood that cultural properties would be impacted by the proposed project due to previous industrial disturbance to the area; therefore, a cultural resource inventory would be unwarranted for the proposed project. The Department determined that the proposed project would not impact any cultural or historic sites.

J. Cumulative and Secondary Impacts

Cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the minor amount of construction activities associated with the proposed project and because the proposed project would be consistent with existing industrial operations at the proposed site. 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 #3136-02.

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
B. Cultural Uniqueness and Diversity

The proposed project would cause minor, if any, impacts to the social structures and mores and cultural uniqueness and diversity of the area because the proposed project would take place in a relatively remote location currently used for such industrial purposes. Further, the operation of a compressor station of this type, including the proposed project, necessitates relatively few employees for normal operations and would likely not result in any, or very little, immigration of new people to the area for employment purposes. Therefore, the proposed project would have little, if any, impact on the social structures and mores and cultural uniqueness and diversity in the area.

Additional activity (vehicle traffic, construction equipment, etc.) would be noticeable during construction activities associated with the proposed project; however, compressor stations, including the proposed new equipment, typically do not require day-to-day employees and once the project 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 relatively few or no new employees would be needed as a result of the proposed project. Further, the proposed project would necessitate relatively little construction 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 of a given area would be minor. Overall, any impacts to the local and state tax base and tax revenue would be minor.

D. Agricultural or Industrial Production

The land surrounding the proposed location is rural agricultural grazing land; however, the proposed site itself is currently used for industrial purposes consistent with the proposed project. Therefore, the proposed project would result in only minor, if any, impacts to agricultural production in the area. The proposed project would have minor impacts to industrial production in the area because the proposed project would add new equipment to an existing industrial source locating in an existing industrial area. However, because the proposed project would be relatively small by industrial standards, the project would likely not result in additional industrial sources (not directly associated with operations) moving to a given area.

E. Human Health

The proposed project would result in minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; 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 not impact any access to recreational and wilderness activities because the proposed project would occur at an existing industrial facility used for such purposes. The proposed project would have minor impacts on the quality of recreational and wilderness activities in the area because the proposed project, while relatively small by industrial standards, would be visible and would produce additional noise from the site. Overall any impacts to the access to and quality of recreational and wilderness activities in the area would be minor.

G. Quantity and Distribution of Employment
H. Distribution of Population

The proposed project would have minor, if any, impacts on the quantity and distribution of employment and the distribution of population in the area because relatively few, if any, additional permanent employees would be required for normal operations thereby resulting in relatively little, if any, new immigration to the area. In addition, temporary construction-related positions would result from this project but 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 proposed facility changes. Overall, any impacts to the quantity and distribution of employment and the distribution of population in the area would be minor.

I. Demands for Government Services

The project would result in minor impacts on the demands for government services because additional time would be required by government agencies to issue Permit #3136-02 and to assure compliance with applicable rules, standards, and conditions contained in Permit #3136-02. 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 constructing and operating the proposed new equipment. The increase in vehicle traffic would be primarily during facility construction because compressor stations typically do not require day-to-day employees. Therefore, vehicle traffic would be relatively minor due to the relatively short time period that would be required to construct the proposed changes. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the nature and 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 and short term increase in the industrial and commercial activity in the area. The proposed project would be relatively small and would take place at a relatively remote location currently used for such purposes.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans or goals that would be affected by the proposed project. The permit would ensure compliance with state standards and goals.

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 #3136-02.

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 permit action would add equipment to the existing compressor station. This EA assesses the impacts specific to the proposed project. Permit #3136-02 would include conditions and limitations to ensure the facility would operate in compliance with all applicable air quality rules and regulations. In addition, there are no significant impacts associated with the proposed project.

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: Montana Department of Environmental Quality; Montana Historical Society – State Historic Preservation Office; Natural Resource Information System – Montana Natural Heritage Program.

Analysis Prepared By: M. Eric Merchant, MPH
Date: October 10, 2006