

DECISION RECORD
DOI-BLM- NM-060-2011-0001

Decision:

It is my decision to approve the installation of compressors, on an as needed basis, in the Cliffside Gas Field in address existing and foreseeable compression issues. The flow would vary from 500 MCFD, 1,000 MCFD, and 1,500 MCFD for each compressor, with a suction of 20 psig and a discharge of 260 psig. The fuel gas has 780 BTU. Each compressor would have a full recycle gas capacity and a hospital grade silencer (critical muffler) for noise reduction. The compressors would be painted "Juniper Green" (BLM Standard Environmental Colors). The compressors would be installed on already disturbed land at the individual well sites approximately 15 miles to the northwest of Amarillo, Texas (see Appendix A: Map). The BLM would load/unload compressors at the BLM sites, make site preparations, and make all the necessary connections to the pipeline. The compressors would be installed on existing disturbed soil on an approximately one-foot thick, 20-foot by 30-foot Caliche pad. A pick-up vehicle would be used once or twice a day to operate the compressors.

Alternatives Considered:

The EA considered two alternatives: the No Action Alternative and the Proposed Action. The No Action Alternative was not selected because it would not be effective in improving the compression at the well sites and may not allow the CHEU to produce at rates specified by existing contracts and the 1996 Helium Privatization Act.

Alternatives Considered but Eliminated from Detailed Study:

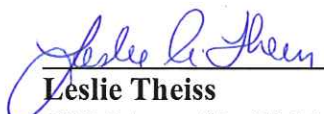
An alternative to install one central compressor at the CHEU was considered. However, additional analysis would need to be developed in order to determine the size and model for a centralized compressor. This alternative was not considered further because of the timing considerations for addressing the analysis and the immediate need for improved pressure. Individual compression can be sized to meet the volume expected from each well as each well approaches the low pressure limitation and can provide more timely application.

Rationale for Decision:

The proposed action was developed in accordance with the National Environmental Policy Act (NEPA), articulated in Section 101 of NEPA and implemented through regulations, policies and guidelines issued by the Council on Environmental Quality at 40 CFR 1500. The proposed action alternative would help to address compression issues in the Cliffside Gas Field in a timely and effective manner.

Protest/Appeal Language:

This decision shall take effect immediately upon the date it is signed by the Authorized Officer and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals issues a stay (43 CFR 2801.10(b)). Any appeal of this decision must follow the procedures set forth in 43 CFR Part 4. Within 30 days of the decision, a notice of appeal must be filed in the office of the Authorized Officer at the New Mexico State Office.



Leslie Theiss
BLM Amarillo Field Manager

1/11/2011

Date

U.S. Department of the Interior
Bureau of Land Management

Cliffside Gas Field Compressor Upgrade Project

NM-060-2011-0001-Compressor EA

U.S. Department of the Interior
Bureau of Land Management
Amarillo Field Office
802 South Fillmore, Suite 500
Amarillo, TX 79101



1. Introduction

1.1 Background

The Bureau of Land Management (BLM), Amarillo Field Office is proposing to add 20 leased compressors to gas wells located near the Cliffside Helium Enrichment Unit (see Appendix A: Map).

The BLM Amarillo Field Office operates a gas storage reservoir that contains approximately 17 billion cubic feet (Bcf) of injected federally and privately owned helium in a partially depleted natural gas field that originally contained about 300 Bcf of gas. The gas field contains 29 wells, which include 18 withdrawal wells, 6 injection wells, and 5 observation wells. The storage reservoir is located approximately 15 miles northwest of Amarillo, Texas in the Cliffside Field. A 425-mile crude helium gas transmission pipeline connects private helium refiners and crude helium extraction plants to the storage reservoir.

The reservoir was discovered in 1929. From discovery until about 1963 gas was produced and helium extracted and purified. The field produced about 54 Bcf of gas during this time. In 1963, the Federal government began injecting crude helium into the field as part of the helium conservation program. About 54 Bcf of crude helium was injected and 3 Bcf of native gas was withdrawn over the next ten years. In 1973, the Government cancelled its helium purchase contracts and began storing privately owned crude helium.

Over the next 20 years, the field was normally in the injection mode during the winter months when the demand for natural gas was high and private plants produced excess crude helium, which was injected into and stored in the reservoir. When the natural gas demand dropped in the summer, the supply of helium decreased, resulting in the need for crude helium to be produced out of the storage reservoir to meet market demand. Along with the production and/or injection of crude helium, native gas was produced from the native gas wells in the perimeter of the field to supply fuel gas for the BLM helium purification plant. During the early to mid- 1990's, the injection and production cycle became less dramatic as private companies increased their stockpile of stored, crude helium in the reservoir. Native gas from the field was still supplied to the BLM purification plant.

The BLM, in conjunction with private industry, has built a crude helium enrichment unit (CHEU) at the Cliffside site. This unit processes about 20 million cubic feet (MMcf) per day of natural gas from the Bush Dome reservoir blended to helium content of about 30%. The BLM expects to deplete the field over the next 5 to 10 years. The CHEU has a feed compressor at the front end of the unit that compresses the feed gas to approximately 500 pounds per square inch (psi). The minimum suction pressure on the compressor is 200 psi. At this time at least two wells in the field are unable to flow at that suction pressure, and in time all wells would be unable to flow at 200 psi.

1.2 Purpose and Need

The purpose of the action is to increase suction pressure at the individual helium wells in the Cliffside Gas Field as they become unable to flow at the 200 psi suction pressure of the CHEU feed compressor. The need for this action is to address in a timely manner the reduction of pressure due to depletion in

order to continue production at a steady rate so that the requirements of the 1996 Helium Privatization Act are met, contractual obligations are fulfilled, and global helium needs are provided for.

1.3 Decision

The BLM must determine how to improve pressure in the Cliffside Gas Field in order to provide adequate compression to the CHEU to retain uninterrupted production levels.

1.4 Land Use Plan Conformance and Relationship to Applicable Laws

The Texas Resource Management Plan Amendment (April 2000) primarily discusses surface and mineral management on the Cross Bar Cooperative Management Area. While specific well actions relative to the Cliffside Gas Field were not specifically addressed in the plan, the proposed action is consistent with the goals and objectives of the plan, as well as those for the BLM's helium resources program.

This EA analyzes the impacts of the proposed action and alternatives in accordance with the National Environmental Policy Act of 1969, as amended. Other laws that may be directly applicable to this action is the Clean Air Act, the Endangered Species Act and Section 106 of the National Historic Preservation Act.

1.5 Resource Issues and Scoping

Internal scoping was used to formulate the purpose and need for the proposed action and identify potentially affected resources. Internally scoping suggested that air, visual, wildlife, and cultural resources could be impacted by the addition of the compressors.

External scoping was also conducted by sending letters to surface owners and interested parties in the area.

1.4.1 Issues to be addressed:

Based on the scoping efforts described above, the following issues are determined to relevant to this analysis:

Air resources: What are the levels of emissions associated with the new compressors and how would these impact air quality? How might the contribution of green house gases affect climate change?

Visual resources: How would visual resources be affected by the addition of the compressors?

Wildlife resources: How would noise associated with the proposed compressors affect wildlife? How would the location of the compressors affect wildlife habitat?

Cultural resources: What is the potential to impact cultural resources from the installation of the compressors?

2. Alternatives

2.1 Description of Proposed Action

The BLM anticipates it would need 20 leased small compressors at these sites, all within 3 miles radius of the CHEU, in the next five years. Some compressors are needed more immediately to address existing compression issues while others may be installed as the flow drops and the need arises. The flow would vary from 500 MCFD, 1,000 MCFD, and 1,500 MCFD for each compressor, with a suction of 20 psig and a discharge of 260 psig. The fuel gas has 780 BTU. Each compressor would have a full recycle gas capacity and a hospital grade silencer (critical muffler) for noise reduction. The compressors would be painted “Juniper Green” (BLM Standard Environmental Colors).

The compressors would be installed on already disturbed land at the individual well sites approximately 15 miles to the northwest of Amarillo, Texas (see Appendix A: Map). The BLM would load/unload compressors at the BLM sites, make site preparations, and make all the necessary connections to the pipeline. The compressors would be installed on existing disturbed soil on an approximately one-foot thick, 20-foot by 30-foot Caliche pad. A pick-up vehicle would be used once or twice a day to operate the compressors.

The following types of the compressors would be used:

Compressor Type	Capacity MCFD	No. Proposed	Noise level dBA*
DPC-115	500	4	81
DPC-280	1,000	8	85
DPC-360	1,500	8	87

* average weighted dBA noise levels is at 10 ft.

2.2 No Action

Under the no action alternative the BLM would not install the leased compressors. The reservoir pressure would continue to drop to a point that helium production would cease. This option is not viable because the CHEU could no longer process helium required by existing contracts and the 1996 Helium Privatization Act.

2.4 Alternatives Considered But Dropped From Detailed Analysis

An alternative to install one central compressor at the CHEU was considered. The compressor would have to be sized for the maximum amount of flow expected from the wells. Additional analysis would need to be developed in order to determine the size and model for a centralized compressor. This would involve detailed study of existing flow and projections of decreases over time. This alternative was not considered further because of the timing considerations for addressing the analysis and the immediate need for improved pressure. Individual compression can be sized to meet the volume expected from each well as each well approaches the low pressure limitation and can provide more timely application. The proposed action provides a more adaptive approach using the available data.

3. Affected Environment and Environmental Impacts

3.2 Air Resources

Air quality and climate are components of air resources, which include applications, activities, and management of the air resource. Therefore, the BLM must consider and analyze the potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision making process.

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years.

3.2.1 Air Quality

Affected Environment

The proposed project is located within the Amarillo Air Quality Control Region. The Air Quality Control Region including the Cliffside Gas Field and the surrounding Amarillo Area is classified by the EPA as “attainment” for all National Ambient Air Quality Standards (40 CFR 52.2279). This classification means that the area meets all existing air quality standards for which it could be evaluated. This region is currently listed in attainment of low level/low atmosphere ozone. Ozone is a byproduct of the chemical reaction of Volatile Organic Compounds (VOCs), nitrogen oxides (NO_x), and sunlight. Health problems caused by extreme exposure to high levels of ozone include damage to lung tissue, reduction in lung function, and sensitization of lungs to other irritants. The main contributor to this source of pollution stems from the interaction of a manufacturing based economic region tied to a continuously growing urban population. Air quality for Potter County and Amarillo is reported by the Texas Commission on Environmental Quality as “good.”

3.2.2 Climate

Affected Environment

Greenhouse gases (GHGs), including carbon dioxide (CO₂) and methane (CH₄), and the potential effects of GHG emissions on climate are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA’s Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total US GHG emissions were over 6 billion metric tons and that the total US GHG emissions have increased by 14.1% from 1990 to 2006. The report also noted that the GHG emission fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures. It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed lease parcels and subsequent actions.

However, potential impacts to natural resources and plant and animal species due to climate change are likely to be varied, including those in the southwestern United States. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from drier and less stable soils.

Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated. Due to loss of habitat or competition from other species whose ranges may shift northward, the population of some animal species may be reduced or increased. Less snow at lower elevations would likely impact the timing and quantity of snowmelt, which, in turn, could impact water resources and species dependant on historic water conditions. Forests at higher elevations in New Mexico, for example, have been exposed to warmer and drier conditions over a ten year period. Should the trend continue, the habitats and identified drought sensitive species in these forested areas and higher elevations may also be more affected by climate change.

Direct and Indirect Impacts to Air Resources

The potential impacts of the proposed action include the exhaust emissions from the new compressors as well as any potential emissions from construction activities. The exhaust from the compressors is expected to consist of Nitrogen Oxide (NOx), Carbon Monoxide (CO), Formaldehyde (H2CO), and non-methane volatile organic compounds (VOCs). Traffic from trucks and equipment to and from the location would also increase the levels of dust and emissions in and around the project areas.

The emissions presented below in Tables 1 and 2 are not expected to have adverse impacts to regulated air quality standards.

Table 1: Expected emissions by type of compressors.

Type of Compressors	NOx Nitrogen Oxide Tpy *	CO Carbon Monoxide Tpy *	H2CO Formaldehyde Tpy *	VOCs Non Methane Tpy *	CO2 Carbon Dioxide Metric Tons /yr
DPC-115, 4 req.	4.5	3	4.4	.3	470
DPC-280, 8 req.	28.2	4.2	5.2	.8	1075
DPC-360, 8 req.	20.1	5.4	9.3	1	1425

Table 2: Annual emissions by type of emission

	NOx Nitrogen Oxide Tpy *	CO Carbon Monoxide Tpy *	H2CO Formaldehyde Tpy *	VOCs Non Methane Tpy *	CO2 Carbon Dioxide Metric Tons /yr
No Action	0	0	0	0	0
Proposed Action(Total)	404.4	88.8	133.6	15.6	21880

* Tons Per Year

Emissions associated with GHGs have the potential to impact the phenomenon of climate change. Current science cannot predict the net impacts to climate from this amount of emissions. It is also impossible to connect local climate effects to local emissions. The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts of decisions made at this level. This assumption based on all 20 compressors installed the next five years.

The No Action alternative would have no adverse impacts to air resources as no additional emissions would be added.

3.3 Visual Resources

Affected Environment

Under the current Texas Resource Management Plan as amended, there are no designated visual resource management objects for the proposed project area(s). In this regard, and according to BLM Manual 8400.06 - Visual Resource Management (VRM), interim visual management objectives will be established “where a project is proposed and there are no RMP, or Management Framework Plan (MFP) approved VRM objectives.” Given the current RMP management objectives for the project (including surface and mineral leasing) and the lack of measureable scenic quality and viewer sensitivity, a Class III Visual Resource Management Objective is established for this analysis. The Class III objective is to design proposed activities as to partially retain the existing character of the landscape where the level of change to the characteristic landscape caused by management activities should be moderate. Land management activities under the Class III objective may be evident (seen) and begin to attract attention within the characteristic landscape.

The landform within the project area(s) is typical of the physiographic landscape(s) of the Great Plains – a primarily flat or moderately undulating landscape covered with a matrix of desert shrubs and grasses. With the exception of the effects of shadow caused by early morning and late evening light (shadows) and the color contrasts created between vegetated and un-vegetated areas where soil exposure is prominent (a contrast of dark greens to light browns), the overall scenic contrasts and quality of the basic visual elements of color, line, form and texture are low. Existing visual intrusions visible within the project area include livestock fences, power transmission lines, a network of primitive roads and trails, and scattered clearings and drilling facilities that highlight existing gas extraction project sites. Viewer

sensitivity within the project area is low due the remoteness of the area and lack of visitor use – primarily gas field workers, big game hunters in the fall, and off-road vehicle recreationists. Site distances are generally extended and move from the foreground to the limits of perception.

Direct and Indirect Impacts

Each of the 20 compressor units identified for installation are approximately 8 feet high, 16 feet wide and 20 feet long. To reduce light reflectivity from metal surfaces and blend factory colors with the surrounding vegetation, each unit would be painted with dark shale and/or juniper green coating. The resulting visual impact from these installations would occur mostly in the foreground (0-2 miles) where site distances are uninterrupted by the undulating landscape and surrounding vegetation; and where the appearance of a series of human-made geometric lines and form (the compressor) contrasts with the surrounding lines and shapes of natural vegetation. The profile of each unit would create additional contrast where each unit (about 8 feet tall) would extend and become visible several feet about the average height of most of the surrounding shrub.

With sensitive viewpoints limited primarily to the motorized use along a dispersed network of primitive roads and trails (see attached map), overall visual impacts of each installation would be low - visible to varying degrees but limited to the duration of time taken to traverse the respective road and/or trail where the installation comes into view. All proposed installations would meet or exceed the interim Class III VRM objective.

3.4 Wildlife and Special Status Species

Affected Environment

Many species of animals utilize the habitat associated with the proposed project sites. Federally and State listed endangered, threatened, proposed, and candidate species for Potter County, Texas consist of the western burrowing owl, ferruginous hawk, snowy plover, western snowy plover, prairie falcon, peregrine falcon, American peregrine falcon, Arctic peregrine falcon, whooping crane, bald eagle, interior least tern, lesser prairie chicken, peppered chub, Arkansas River shiner, Wiest's sphinx moth, gray wolf, pale Townsend's beg-eared bad, black-tailed prairie dog, black footed ferret, western small footed bat, cave myotis bat, big free-tailed bat, plains spotted skunk, black bear, swift fox, Mexican mud-plantain, and the Texas horned lizard. However, there is limited potential for the above species to occur in the proposed project location due to the limited size.

Direct and Indirect Impacts

The proposed action would remove food, cover, and space for wildlife in this area. The more mobile species would move away from the area during the installation phase of the proposed action to avoid direct mortality, the increase in human presence and levels of noise. The less mobile species could suffer some mortality during the active construction phase. The drilling pad may be reduced in size as the well goes into production. However, the immediate area of the compressor stations would be unavailable as wildlife habitat during the life of compressor operations.

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between and among the U.S., Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds.

Under the MBTA, incidental, unintentional and accidental take, killing or possession of a migratory bird or its parts, nests, eggs or produces, manufactured or not, without a permit is unlawful. The MBTA has no provisions for a permitting process which allows for a regulated “take” of migratory birds. Sixteen Birds of Conservation Concern are listed for the Short Grass Prairie (Bird Conservation Region 18), where this project occurs. The Breeding bird surveys conducted near the sire found three species from that list, mountain plover, burrowing owl, and the lark bunting. Whereas this project may impact individuals, it is not likely to adversely impact the populations of any of these bird species.

For special status species, the biological determination of effect for federally listed species regarding this project is “no effect.” A Biological Evaluation prepared for this project (see Appendix B) supports this analysis of potential impacts.

3.3 Cultural Resources

Affected Environment

There are no known historic properties located at any of the well sites. The wells were drilled several decades ago and no cultural clearances were preformed. However, there is no surface evidence that any cultural or historical sites might exist within the confines of the well/pad site. Research conducted by BLM archaeologist could find no record of any archaeological sites in the area of the wells, and an on-site visit on October 7, 2010 found no historic properties present.

Direct and Indirect Impacts

As no new surface disturbance is expected as a result of the proposed action, it is predicted that no cultural resources would be affected. A determination of No Historic Properties Affected is made regarding the installation of compressors at the well locations (see Appendix C: Cultural Clearance).

3.4 Cumulative Impacts

Other actions that may affect the same resources as the proposed action include the continuing operations of the Cliffside Helium Enrichment Unit and the ongoing workovers of the same 20 wells. Air quality emissions from the workovers were shown to be insignificant in the analysis of the 2009 EA for the Workover of 23 Gas Wells. Combined with those from the proposed action, the emissions are still not expected to exceed regulatory standards.

The total emissions of NO_x, CO, H₂CO, and VOC from the operation of the CHEU are less than 27 tons per year and the CHEU operates under permit by rule number registration number 45144.

This amount of GHG emissions represents small, incremental contributions to the total emissions. These small incremental contributions to global GHG gases cannot be translated into incremental effects on climate change globally or in the area of this site-specific action. The total amount of GHG emissions from oil and gas activities is expected to continue decreasing as improved technology and changing economics result in more complete control of GHG emissions at all stages of oil and natural gas systems.

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. However, potential impacts to air quality due to climate change are likely to be varied. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated. Due to loss of habitat, or due to competition from other species whose ranges may shift northward, the population of some animal species may be reduced. Less snow at lower elevations would be likely to impact the timing and quantity of snowmelt, which, in turn, could impact water resources and species dependant on historic water conditions.

4. Consultation and Coordination

4.1 Individuals, Organizations and Agencies Consulted

The BLM reviewed the available information and determined that further consultation with both the Fish and Wildlife Service and the SHPO were not necessary due to the lack of resource concerns as identified in the BE and cultural Clearance respectively.

4.2 Public Participation

A letter was sent out to adjacent landowners and interested publics on October 20, 2010. The letter outlined the proposed action and requested any comments or concerns in writing within 30 days (see Appendix D). No response was received by the BLM as a result of this effort.

5. List of Preparers

ID Team Member	Title	Organization
Megan Stouffer	NM State Planning and Environmental Coordinator	BLM
Nabil Dia	Team Lead, Engineering and Technical Services Team, Amarillo Field Office	BLM
Leslie Theiss	Field Manager, Amarillo Field Office	BLM
John Hamak	Assistant Field Manager, Amarillo Field Office	BLM
George Thomas	Wildlife Biologist Oklahoma Field Office	BLM
Rick Fields	Archaeologist	BLM

	Oklahoma Field Office	
Brad Higdon	Planning and Environmental Coordinator	BLM

6. References

EPA Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006. Environmental Protection Agency, Washington, D.C.

EPA, Natural Gas Star Program (2006 data) at: <http://www.epa.gov/gasstar/accomplish.htm>. Environmental Protection Agency, Washington, D.C.

Goddard Institute for Space Studies. 2007. Annual Mean Temperature Change for Three Latitude Bands. Datasets and Images. GISS Surface Temperature Analysis, Analysis Graphs and Plots. New York, New York. (Available on the Internet: <http://data.giss.nasa.gov/gistemp/graphs/Fig.B.lrg.gif>.)

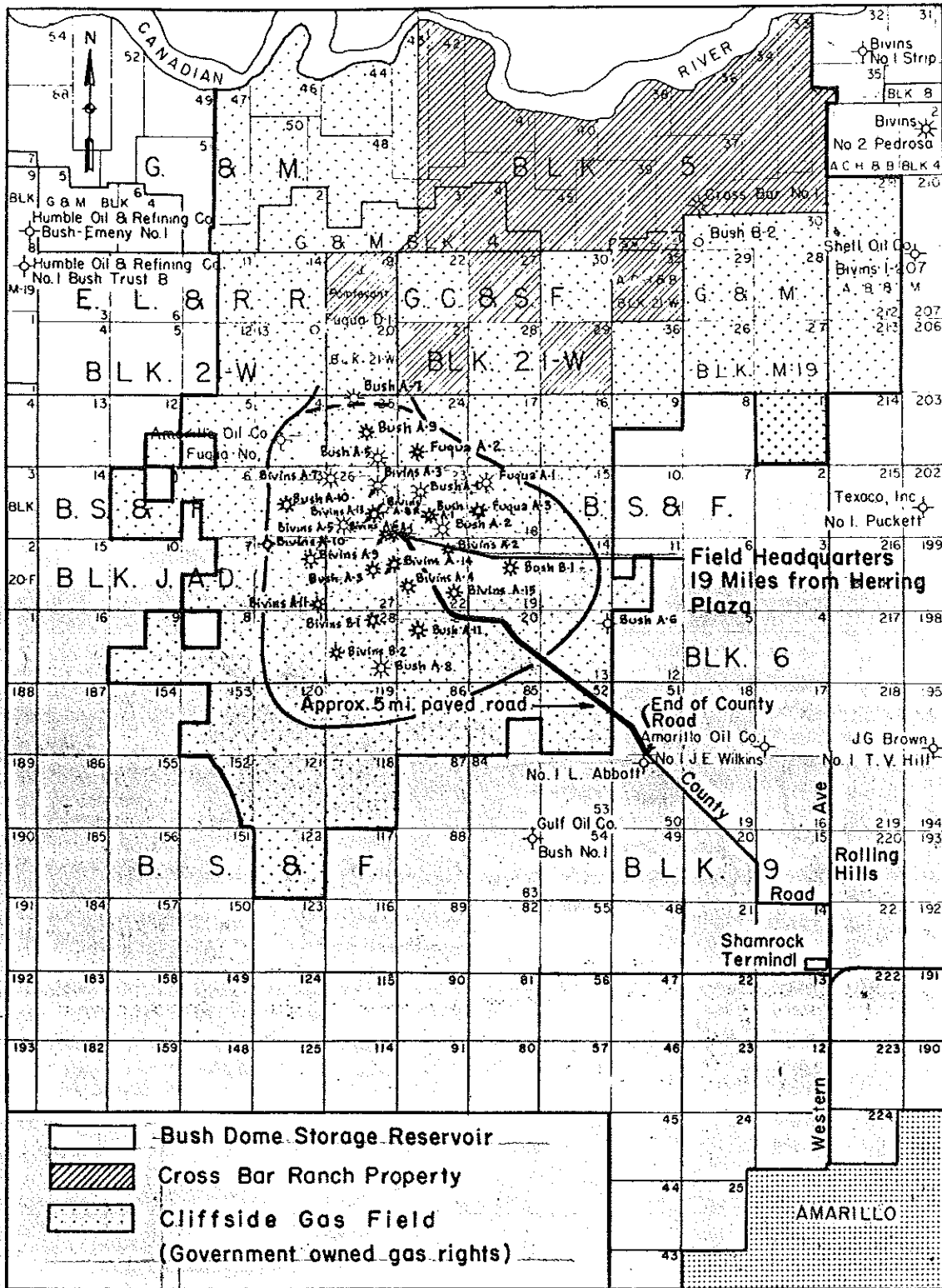
Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Basis (Summary for Policymakers). Cambridge University Press. Cambridge, England and New York, New York. (Available on the Internet: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>)

Intergovernmental Panel on Climate Change (IPCC). Climate Change 2007, Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. National Academy of Sciences. 2006. Understanding and Responding to Climate Change: Highlights of National Academies Reports. Division on Earth and Life Studies. National Academy of Sciences. Washington, D.C. (Available on the Internet: <http://dels.nas.edu/basc/Climate-HIGH.pdf>.)

US Government Accountability Office Report "Climate Change, Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources" GAO-07-863, August 2007 (1st paragraph, 1st page, GAO Highlights) at: <http://www.gao.gov/news.items/d07863.pdf>.

Definitions

Bcf – one billion cubic feet, measured at 14.65 psi and 60⁰ Fahrenheit.
MMcf – one million cubic feet, measured at 14.65 psi and 60⁰ Fahrenheit.
MCFD – one thousand cubic feet per day at 14.65 psi and 60⁰ Fahrenheit.
Psig – Pound per square in gage.
BTU – British thermal unit.
crude helium – a gas containing about 70% helium and 30% nitrogen.



Cliffside Gas Field Area Map

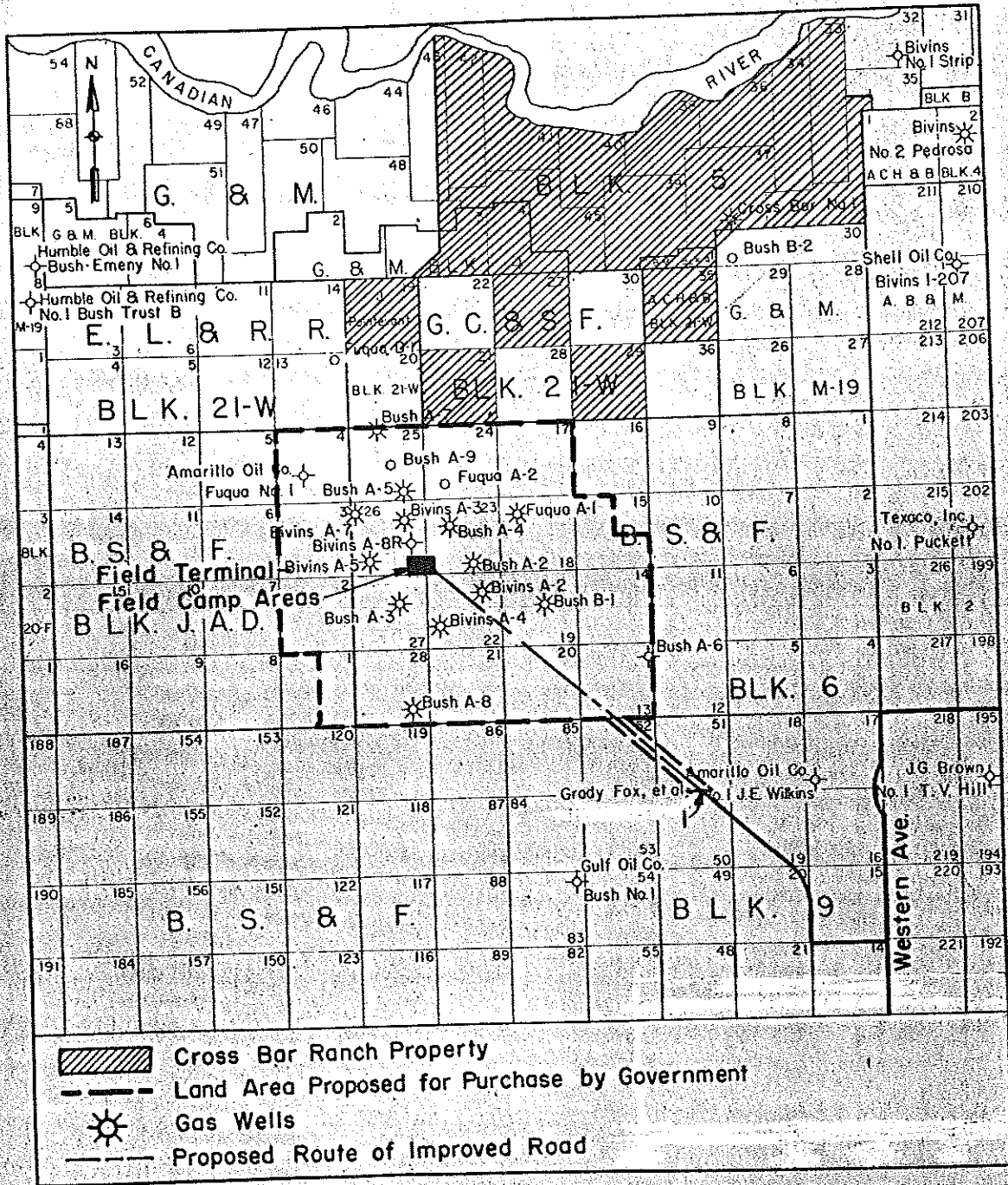


FIGURE 22.-Relative Location of Cross Bar Ranch, Underground Helium Storage Area, Field Terminal, Field Camp Areas and Improved Road



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
 OKLAHOMA FIELD OFFICE
 7906 E. 33rd St., Suite 101
 TULSA, OK 74145-1352
<http://www.blm.gov>



RE: Biological Evaluation for the Amarillo Field Office, Compressor Project, Potter County, TX.

The Bureau of Land Management's (BLM) environmental assessment (EA) for this project contains all pertinent information regarding the specific characteristics of this proposed compressor project. This proposed project is located on the 12,000 acre BLM Cross Bar Ranch. The Cross Bar Ranch is located in the semiarid Canadian Breaks of the Southwestern Tablelands Ecoregion of Texas. This federal project will be conducted without any further surface disturbance. The purpose of this report is to document BLMs biological "No Effect" determination.

U.S. Fish and Wildlife Services National Wetlands Inventory Cliffside, TX Quad map showed no wetlands within 300' of this project. Likewise, observations during an on-site inspection revealed no occurrences of wetland and riparian habitat within 300' of the project.

Federally and State listed endangered, threatened, proposed, and candidate species for Potter County, Texas consist of the western burrowing owl, ferruginous hawk, snowy plover, western snowy plover, mountain plover, prairie falcon, peregrine falcon, American peregrine falcon, Arctic peregrine falcon, whooping crane, bald eagle, interior least tern, lesser prairie chicken, peppered chub, Arkansas River shiner, Wiest's sphinx moth, gray wolf, pale Townsend's beg-eared bat, black-ti-ailed prairie dog, black-footed ferret, western small-footed bat, cave myotis bat, big free-tailed bat, plains spotted skunk, black bear, swift fox, Mexican mud-plantain, and the Texas horned lizard. There is limited potential for the above listed species to occur in the proposed project location. If any species, including snakes, are observed during any stage of the project life, measures should be taken to avoid killing of them, unless imminent human danger exists.

Many species of animals utilize the habitat associated with this proposed project site. The proposed action would remove food, cover, and space for wildlife in this area. The more mobile species will move away from the area during the construction, drilling, and well completion phases of this petroleum exploration project to avoid direct mortality, the increase in human presence, and levels of noise. The less mobile species could suffer some mortality during the active construction phase of the project. The drilling pad may be reduced in size as the well goes into production. However, the immediate area of the compressor stations will be unavailable as wildlife habitat during the life of compressor operations.

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between and among the U.S., Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the MBTA, incidental, unintentional, and accidental take, killing, or possession of a migratory bird or its parts, nests, eggs or products, manufactured or not, without a permit is unlawful. The MBTA has no provisions for a permitting process which allows for regulated "take" of migratory birds. Sixteen Birds of Conservation Concern are listed for the Short Grass Prairie (Bird Conservation Region 18), where this project occurs. The Breeding bird surveys conducted near the site found three species from that list, mountain plover, burrowing owl, and the lark bunting. Whereas this project may impact individuals, it is not likely to adversely impact the populations of any of these bird species.

Based on all the information discussed above, the biological determination of effect for federally listed species regarding this project is "NO EFFECT".

George Thomas, Wildlife Biologist

10-5-2010

Date



In Reply Refer To:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Amarillo Field Office
801 South Fillmore, Suite 500
Amarillo, Texas 79101-3545
www.blm.gov/nm



October 20, 2010

Landowner address....

Dear Landowner:

The purpose of this letter is to advise you that the Bureau of Land Management (BLM), Amarillo Field Office, is proposing to install compressors on a series of government-owned wells in the Cliffside Gas Field in Potter, County, Texas (map attached). An Environmental Assessment (EA) will be prepared to analyze the impacts of this proposed action. A description of the proposed action is as follows:

Proposed Action

The BLM proposes to install rental compressors at the wellheads in the Cliffside Gas Field, on an as needed basis, in order to improve the production of crude helium and to address reduced pressure during depletion of the Bush Dome. The BLM anticipates up to 20 small compressors at these sites within 3 miles radius in the next 5 years. The flow will vary from 500 MCFD, 1,000 MCFD, and 1,500 MCFD for each compressor, with a suction of 20 psig and a discharge of 260 psig. The fuel gas has 780 BTU. Compressors will have a full recycle gas capacity and a hospital grade silencer (critical muffler) for noise reduction. The BLM intends to reduce visual effects by painting the compressors in background acceptable colors.

The BLM will unload/load compressors at the BLM sites, make site preparations, and make all the necessary connections to the pipeline. The compressors will be installed on existing disturbed soil with the exception of installing approximately 20' X 30' Caliché pad for the compressor to set on. A pick up vehicle will be used once or twice a day to inspect/start/stop the compressors.

Additional compression is needed in order for the BLM to meet contractual obligations, meet the requirements of the 1996 Helium Privatization Act, and not to disrupt global helium supplies.

A 30 day public scoping period will begin on October 20, 2010 and end November 18, 2010. If you are interested in participating in the process and have concerns, issues or alternatives you would like to see addressed, we request you respond by supplying your written or e-mail comments to:

Address: Attn: Megan Stouffer
Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508

E-mail: Megan_Stouffer@blm.gov

Once complete, the EA will be available on the Amarillo BLM homepage at http://www.blm.gov/nm/st/en/fo/Amarillo_Field_Office.html.

There will be an additional opportunity to review and comment on the EA after it has been posted.

Please note that public comments submitted for this review, including names, e-mail addresses, and street addresses of the respondents will be available for public review and disclosure at the above address during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

Individual respondents may request confidentiality. If you wish us to withhold your name, e-mail address, or street address from public review or from disclosure under the Freedom of Information Act, you must state this plainly at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

If you have any questions regarding this project, please contact Megan Stouffer, BLM New Mexico State Planning and Environmental Coordinator at (505)954-2181.

Sincerely,

Leslie A. Theiss
BLM Amarillo Field Manager