

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

**Environmental Assessment DOI-BLM-UT-G010-2015-0081-EA
February 2015**

**Bill Barrett Corporation proposes to amend the
access road route to the Aurora Federal 9-27D-7-20 well,
on private surface in Uintah County, Utah.**

Location: NE/SE Section 27 T7S, R20E, SL B&M.

Applicant/Address: 1099 18th Street, Suite 2300, Denver CO 80202

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CHAPTER 1

INTRODUCTION

INTRODUCTION

This Environmental Assessment (EA) has been prepared by the Bureau of Land Management Vernal Field Office to analyze Bill Barrett Corporation's (BBC) Sundry Notice (SN) Notice of Intent to make a change to the approved Application(s) for Permit to Drill (APD) for the Aurora Federal 1-18D-7-20 well. The subject well(s) and proposed access road route are located on split estate lands. The approved well pads and the entire length of the proposed access roads would be located on lands owned by Four Star Ranch, with underlying Federal minerals. A Surface Use Agreement with the operator has been signed by the respective landowner(s) and has been submitted with the SN package. A BLM right-of way (ROW) would not be required.

The well information is as follows:

Well Identification	Legal Location	Lease Number
Aurora Federal 9-27D-7-20	NE/SE Sec. 20, T7S R20E	UTU-85591

The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The BLM decision to be made is whether or not to approve the change to the APD. The purpose of the action is to allow the lessee to develop the Federal mineral lease indicated above in an environmentally sound manner. The need for the action is established by BLM Onshore Orders (43 CFR 3160), which require the BLM to review and approve APDs and changes to approved APDs producing from Federal mineral leases, including those leases with split estate lands. However, the BLM has no jurisdiction over surface impacts on these split estate lands.

SCOPING AND PUBLIC INVOLVMENT AND ISSUES

An on-site review of the Aurora Federal 9-27D-7-20 was conducted on June 25, 2014 and the surface owner(s) were invited to attend. The operator has provided certification that they have a surface owner's agreement from each of the landowners, which was received by the BLM on February 24, 2015. No major issues were identified by the landowners. A cultural resource survey has been completed and cover page of the survey results was submitted with the Sundry Notice. No cultural resources eligible for listing under the National Historic Preservation Act (NHPA) were identified as a result of the survey. Internal cultural review was previously completed for this location, and SHPO concurrence has been obtained.

The Interdisciplinary Checklist contained within the Utah NEPA Guidebook was not completed for this EA because the effects of the Proposed Action on the natural and physical environment cannot be meaningfully evaluated on lands outside of BLM's jurisdiction, other than for those resources carried forward in detail in Chapters 3 and 4, because of lack of data, lack of authority to gather the data, and existence of the land owner's decision (BLM NEPA Handbook H-1790-1, Sections 3.1 and 6.4).

The Proposed Action was posted to the Utah BLM's NEPA Register on February 25, 2015. No public interest has been expressed.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

DESCRIPTION OF PROPOSED ACTION

Bill Barrett Corporation proposes to amend the access route to the approved Aurora Federal 9-27D-7-20 oil well. The following table summarizes the maximum proposed dimensions for the access road.

Table 1. Maximum Proposed Access Road Dimensions

Well ID	Access Road Length	Access Road Corridor Total Width	Access Road Running Surface Width	Total Surface Disturbance
Aurora Federal 9-27D-7-20	2,395 ft	30 ft	18 ft	1.649 acres

Approximately 2,395 feet of new access road would be needed to access the Aurora Federal 9-27D-7-20 location. Total new surface disturbance to the land from the new access road would be approximately 1.649 acres. The proposed access road would be located entirely on private surface. A BLM ROW would not be required. The amended access route would follow and upgrade an existing 2-track road, and would connect to the access road to the existing Aurora Federal 13-26D-7-20 location. The access road would be crowned, ditched, and constructed with a permanent running surface of 18 feet and a maximum disturbed width of 30 feet. Approximately 12 feet of the access road corridor width would undergo reclamation following completion of the access road construction. If the reclamation efforts are successful then the disturbed acreage would be lessened to approximately 0.99 acre. Graveling or capping the roadbed would be performed as necessary to provide a well-constructed, safe road that minimizes the potential soil and vegetation losses. If construction occurs in winter months, then the proposed road would be cleared of any snow and allowed to dry completely prior to initiation of construction. No culverts or low water crossings are proposed along the access road route. One cattleguard is proposed near the entrance to the well pad.

Upon well abandonment, the operator would reclaim the well pad, access road, and other related infrastructure as directed by the surface owner or by the BLM AO if reclamation techniques are inadequate.

NO ACTION ALTERNATIVE

Under the No Action alternative, the proposed access road would not be constructed or installed. However, another access road route was previously approved with the Aurora Federal 9-27D-7-20 APD. The applicant would construct the access road as initially approved, and the direct and indirect impacts to resources would be similar or the same as those under the Proposed Action Alternative.

CHAPTER 3

AFFECTED ENVIRONMENT

Air Quality and Greenhouse Gases

Air Quality: The National Ambient Air Quality Standards (NAAQS) are standards that have been set to protect human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone (O₃), SO₂, nitrogen dioxide (NO₂), CO, PM₁₀, and PM_{2.5}. The Project Area is located in the Uinta Basin, which is designated as unclassified/in attainment of the NAAQS by the Environmental Protection Agency (EPA) under the Clean Air Act. The Greater Natural Buttes FEIS, Tables 3.1-2 and 3.1-3 list ambient air quality background values for the Uinta Basin and the NAAQS standards.

Two year-round air quality-monitoring sites were established in summer 2009 near Red Wash (southeast of Vernal, Utah) and Ouray (southwest of Vernal). The complete EPA monitoring data can be found at <http://www.epa.gov/airexplorer/index.htm>. Both monitoring sites have recorded numerous exceedences of the 8-hour ozone standard during the winter months (January through March 2010, 2011, 2013 and 2014). The exceedences did not occur in 2012 due to lack of snow cover. Winter ozone formation is a newly recognized issue, so the ozone precursor sources are still being identified and the methods of analyzing and managing this problem are still being developed.

During the 2006-2007 winter season in Vernal, Utah, the UDAQ recorded PM_{2.5} levels higher than the PM_{2.5} health standards that became effective in December 2006, likely due to combustion and dust, similar to other areas in northern Utah that experience wintertime inversions, plus nitrates and organics from oil and gas activities in the Basin. PM_{2.5} monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin by the Red Wash and Ouray monitors beginning in summer 2009 have not recorded any exceedences of either the 24 hour or annual NAAQS.

Hazardous Air Pollutants (HAPs) are pollutants that are known or suspected to cause cancer or other serious health effects or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health. Refer to Section 3.1 (pages 3-2 through 3-13) in the Greater Natural Buttes Final EIS for additional information on air quality conditions relevant to the Project Area.

Greenhouse Gases: Greenhouse gases keep the planet's surface warmer than it otherwise would be but as concentrations of these gases increase, the Earth's temperature is climbing above past levels. The analysis of the Regional Climate Impacts prepared by the U.S. Global Change Research Program (USGCRP) (2009) suggests that recent warming in the region including the project area was nationally among the most rapid. Past records and future projections predict warmer nights and effectively higher average daily minimum temperatures. For eastern Utah, the USGCRP projects an approximate 5 percent to 40 percent annual precipitation decrease. Refer to Section 3.1.3.7 (pages 3-12 through 3-13) in the Greater Natural Buttes Final EIS for more information on climate change.

Soils/Vegetation

The proposed access road is located in NE/SE Section 27 of T7S, R20E, Mer. SLB. The terrain is generally flat, and receives approximately 4-8 inches of precipitation per year on average. The soils in the Project Area are Tipperary loamy fine sand (229) and Shotnick sandy loam (206). The soils are described in Table 2.

Table 2. Soils in Project Area

Soil Type and Slope	Landform and Elevation	Parent Material(s)	Surface Layer and Depth	Permeability and Drainage Class	Land Capability Classification	Ecological Site Classification
Tipperary loamy fine sand (229), 1-8% slopes	Structural benches at 4,700-5,800 ft.	Eolian deposits derived from sandstone	Loamy fine sand: 0-4 in.	Rapid permeability; somewhat excessively drained	3e if irrigated 7e nonirrigated	Desert sand (fourwing saltbush)
Shotnick sandy loam (206), 2-4% slopes	Alluvial flats at 4,700-5,500 ft.	Eolian deposits and alluvium derived from sandstone, limestone, and shale	Sandy loam: 0-8 in.	Moderately rapid permeability; well drained	2e if irrigated 7e nonirrigated	Desert sandy loam (Indian ricegrass)

A land capability classification of 2 or 3 indicates that the soils are suitable for the mechanized production of commonly grown field crops for pasture and forest land. A level 7 classification indicates that the soils are not generally suited for the mechanized production of field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The *e* capability subclass shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained.

The dominant and representative species of vegetation for the ecological site classifications of soils in the Project Area are listed in Table 3.

Table 3. Dominant Vegetation in Project Area

Ecological Site Classification	Dominant/Representative Vegetation
Desert sand (fourwing saltbush)	Indian ricegrass (<i>Achnatherum hymenoides</i>), fourwing saltbush (<i>Atriplex canescens</i>), Mormon tea (<i>Ephedra viridis</i>), needleandthread (<i>Hesperostipa comata</i>), galleta grass (<i>Pleuraphis jamesii</i>), sand dropseed (<i>Sporobolus cryptandrus</i>), spike dropseed (<i>Sporobolus contractus</i>), and winterfat (<i>Krascheninnikovia lanata</i>).
Desert sandy loam (Indian ricegrass)	Indian ricegrass (<i>Achnatherum hymenoides</i>), galleta grass (<i>Pleuraphis jamesii</i>), fourwing saltbush (<i>Atriplex canescens</i>), shadscale (<i>Atriplex confertifolia</i>), Torrey's jointfir (<i>Ephedra torreyana</i>), scarlet globemallow (<i>Sphaeralcea coccinea</i>), and winterfat (<i>Krascheninnikovia lanata</i>).

In addition to the aforementioned vegetation, additional species that have been identified in the Project Area during onsite investigation(s) include Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), rubber rabbitbrush (*Chrysothamnus nauseosus*), plains pricklypear (*Opuntia polyacantha*), fleabane sp. (*Erigeron* sp.), and tufted evening primrose (*Oenothera caespitosa*).

The proposed access road location was previously disturbed by agricultural activities and is currently comprised primarily of weeds. The Class B noxious weed perennial pepperweed (*Lepidium latifolium*) was identified during the onsite and/or have been previously documented on the BLM land adjacent to the Project Area. The invasive/introduced species halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola iberica*), tall tumbled mustard (*Sisymbrium altissimum*), tall morning-glory (*Ipomoea purpurea*), and cheatgrass (*Bromus tectorum*) were identified in the Project Area during the onsite. These species are considered undesirable and would be controlled by Bill Barrett Corporation. Any observed instances of noxious weed growth in the Project Area during the life of the project would also be controlled by the operator.

CHAPTER 4

ENVIRONMENTAL EFFECTS

PROPOSED ACTION DIRECT AND INDIRECT EFFECTS

Air Quality and Greenhouse Gases

Air Quality: Emissions during well development include: NO_x, SO₂, and CO tailpipe emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities; small amounts of HAPs emissions from construction equipment; fugitive dust from vehicle traffic on unpaved roads and wind erosion where soils are disturbed; and NO_x, CO, and lesser amounts of SO₂ from drill rig and fracturing engine operations. These emissions would be short-term during the drilling and completion phases.

Emissions during well production include: continuous NO_x, CO, VOC, and HAP emissions from well pad separators, condensate storage tank vents; and daily tailpipe and fugitive dust emissions from operations traffic. Emissions would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions.

Annual estimated emissions from the Proposed Action are summarized in Table 4-1.

Table 4-1. Proposed Action First Year Emissions (tons/year)

Pollutant	Development ^{1,2}	Production ¹	Total ^{1,3}
NO _x	3.472	0.9732	4.4452
CO	1.1012	1.8336	2.9348
VOC	0.3324	1.8332	2.1656
SO ₂	0.0176	0.00036	0.01796
PM ₁₀	0.406	5.4296	5.8356
PM _{2.5}	0.102	0.5988	0.7008
Benzene	0.0012	0.0044	0.0056
Toluene	0.0008	0.0028	0.0036
Ethylbenzene	0	0	0
Xylene	0.0004	0.0004	0.0008
n-Hexane	0	0.002	0.002
Formaldehyde	0	0.04	0.04

¹Emissions include 1 producing well and associated operations traffic during the year in which the project is developed.

²Development emissions would likely only occur during the first year while wells and other infrastructure are being developed.

³Total emissions after the first year would be substantially lower following completion of development.

Greenhouse Gases: The assessment of greenhouse gas emissions and climate change remains in its earliest stages of formulation. Applicable EPA rules do not require any controls and have yet to establish any emission limits related to GHG emissions or impacts. The lack of scientific models that predict

climate change on regional or local level prohibits the quantification of potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action. Drilling and development activities from the Proposed Action are anticipated to release a negligible amount of greenhouse gases into the local air-shed.

Soils/Vegetation

During construction, the soils in the Project Area would be stripped of vegetation, moved around and compacted until the road is formed. Topsoil would be separated from other soils and be used for interim and final reclamation only. If topsoil is to be stored for a long period, protection/stabilization of topsoil must take place to prevent further losses of topsoil from erosional processes. The Proposed Action alternative would result in approximately 1.649 acres of new disturbance. Upon well completion, the portions of the access road not needed for daily operations would be reclaimed in accordance with Onshore Order #1 regulations and the surface owner's directions, which includes Bill Barrett Corporation's surface operating plan. Upon well abandonment, the well pad, access road, and other associated infrastructure would be reclaimed in accordance with the surface owner's directions, and BBC's site specific reclamation plan.

NO ACTION DIRECT AND INDIRECT EFFECTS

Air Quality and Greenhouse Gases

Under the No Action Alternative, it is assumed the proponent would still drill the proposed well and would construct the access road along the originally approved route. Therefore, effects on ambient air quality would be almost identical to those under the Proposed Action alternative. In addition, effects on ambient air quality would continue at present levels from existing oil and gas development in the region and other emission producing sources. Refer to Section 4.1.1 (pages 4-6 through 4-10) in the Greater Natural Buttes Final EIS for additional information on potential air quality impacts under the No Action alternative.

Soils/Vegetation

Under the No Action Alternative, it is assumed the proponent would still drill the proposed well and would construct the access road along the originally approved route. Therefore the direct and indirect effects to soils and vegetation would be similar to those under the Proposed Action Alternative.

CUMULATIVE EFFECTS

Air Quality and Greenhouse Gases

The cumulative impact area for air quality is the Uinta Basin, bounded on all sides by higher terrain, which results in similar climate and dispersion conditions for pollutants in the cumulative impact area. The Greater Natural Buttes Air Quality Technical Support Document, and the Greater Natural Buttes Final EIS section 5.3.1, are incorporated by reference and summarized below. Most of the cumulative emissions in the Uinta Basin are associated with oil and gas exploration and production activities. Consequently, past, present and reasonably foreseeable wells in the Uinta Basin are a part of the cumulative actions considered in this analysis. Table 6 summarizes the 2006 Uinta Basin emissions as well as the incremental impact of this project's alternatives. As indicated in Table 4-2, the Proposed Action comprises a small percentage of the Uinta Basin emissions summary.

Table 4-2. 2006 Uinta Basin Oil and Gas Operations Emissions Summary

County	NO _x (tpy)	CO (tpy)	SO _x (tpy)	PM (tpy)	VOC (tpy)
Uintah	6,096	4,133	247	344	45,646
Carbon	995	814	22	40	2,747
Duchesne	3,053	2,448	96	173	19,019
Grand	337	207	16	22	2,360
Emery	273	199	9	14	453
Uinta Basin Total	10,754	7,800	391	592	70,226
Proposed Action	4.4452	2.9348	0.01796	6.5364	2.1656
No Action	4.4452	2.9348	0.01796	6.5364	2.1656

Source: Greater Natural Buttes Final EIS Table 5.3-1.

The GNB model predicted the following impacts to air quality and air quality related values for the GNB Proposed Action, which encompassed 3,675 new wells:

- Cumulative impacts from criteria pollutants to ambient air quality are well below the NAAQS at Class I airsheds and selected Class II areas;
- The incremental impacts to visibility would be virtually impossible to discern and would not contribute to regional haze at the Class I areas;
- The 2018 projected baseline emissions would result in impacts of 1.0 deciview for at least 201 days per year at the Class II areas;
- Discernible impacts at Flaming Gorge National Recreation Area and Dinosaur National Monument were anticipated;
- Less than 1 percent would be contributed to the acid deposition in Class I areas, and 4.3 percent at the Flaming Gorge Class II area;
- Acid deposition impacts at sensitive lakes would be below the USFS screening threshold; and,
- Ozone levels would be below the current ozone standard of 75 parts per billion (ppb) for the fourth highest annual level in the Uinta Basin for the 2018 projected baseline, and the proposed action would be approximately 3.2 percent of the cumulative ozone impact within the Uinta Basin.

Based on the GNB model results, it is anticipated that the impact to ambient air quality and air quality related values associated with the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the model and Uinta Basin emission inventory. The No Action alternative would result in a similar accumulation of impacts, since the well would still be drilled and the access road would be constructed as originally approved.

Soils/Vegetation

According to UDOGM GIS data, there are 15,701 wells in the categories of producer, shut-in, temporarily abandoned, active service, approved, drilling, inactive service, and drilling operations suspended. 2,575 of these are in the plugged and abandoned designation, meaning that proper ecological restoration should have been validated by the BLM. Of these, 18.9% or 2,961 are directional or horizontal wells on existing wells pads with minimal or no disturbance. Of the productive wells, 5,565 are gas wells and 3,471 are oil wells. The total existing oil and gas development is estimated to be 23,811 acres; 23,493 acres for wells and 318 acres for gas plants/compressors stations.

Foreseeable BLM wells equal 25,721 on 14,137 new well pads and UDOGM wells equal 2,696 well pads on 1,659 new well pads. Totaling, 28,417 wells on 15,796 new well pads, which equals 81, 981 acres of disturbance or 43,625 acres if successful interim reclamation is completed.

Assuming average disturbance for a new well equals 5.2 acres or 2.6 acres if interim reclamation is successful, pending NEPA projects equal 72,744 acres of construction disturbance, which if reclamation practices are successful would decrease the amount to 39,267 acres for the life of the project. All oil and gas related disturbances that exist or are foreseeable equal 81,981 or 67,436 if successful interim reclamation is completed.

Cumulative impacts to soils and vegetation typical of oil and gas field development include: removal of native vegetation and disturbance to soils which are generally very thin, slow to develop, and difficult to reclaim due to arid climate, low average precipitation per year, erosional forces, microbial breakdown, leaching of soils, and low organic content. The Proposed Action would result in 4.313 acres of additional disturbance to soils and vegetation. However, it is difficult to make a determination of the effects on lands not designated as BLM lands.

CHAPTER 5 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Table 4. Tribes, Individuals, Organizations, or Agencies Consulted		
<i>Name/Agency</i>	<i>Authority</i>	<i>Result</i>
Private Landowner: Four Star Ranch	BLM requires that the Operator engage the Surface Owner in negotiations for the purpose of obtaining a surface owner agreement or waiver for access.	Private Surface Use Agreement received on 2/24/2015.

CHAPTER 6 LIST OF PREPARERS

Table 5. List of Preparers		
<i>Name</i>	<i>Title</i>	<i>Responsibilities</i>
Christine Cimiluca	Natural Resource Specialist	Team Lead

**FINDING OF NO SIGNIFICANT IMPACT
AND
DECISION RECORD**

Bill Barrett Corporation proposes to amend the access road route to the Aurora Federal 9-27D-7-20 well, on private surface in Uintah County, Utah.

DOI-BLM-UT-G010-2015-0081-EA

Finding of No Significant Impact:

Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

/s/ Jerry Kenczka

3/16/2015

Authorized Officer (signature)

Date of signature

Decision Record:

It is my decision to authorize Bill Barrett Corporation's proposed access road as described in the Proposed Action of DOI-BLM-UT-G010-2015-0081-EA.

Well Identification	Legal Location	Lease Number
Aurora Federal 9-27D-7-20	NE/SE Sec. 20, T7S R20E	UTU-85591

Summary of the Selected Alternative:

This decision includes the following components:

Maximum Proposed Access Road Dimensions

Well ID	Access Road Length	Access Road Corridor Total Width	Access Road Running Surface Width	Total Surface Disturbance
Aurora Federal 9-27D-7-20	2,395 ft	30 ft	18 ft	1.649 acres

Rationale for the Decision:

The proposed access road meets the BLM's purpose and need to allow the lessee to develop the subject mineral lease indicated above in an environmentally sound manner. The need for the action is established by BLM Onshore Orders (43 CFR 3160) which require BLM approval of Sundry Notices associated with APDs on a Federal Lease, including those leases with split estate.

An on-site review of the APD(s) was held on June 25, 2014 and the surface owners were invited to attend. The operator has provided certification that they have a surface use agreement from all landowners, which was received by the BLM on February 24, 2015. No major issues were identified by the surface owner(s).

The above factors and the analysis contained in DOI-BLM-UT-G010-2015-0081-EA for Bill Barrett Corporation's proposed access road were carefully considered and evaluated. In addition, the Sundry Notice and surface use agreement were reviewed. All reports were read and the information contained weighed in determining the appropriateness of the decision stated above.

/s/ Jerry Kenczka

3/16/2015

Authorized Officer (signature)

Date of signature

Appeals:

This decision is effective upon the date it is signed by the Authorized Officer. The decision is subject to appeal. Under BLM regulation, this decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision must include information required under 43 CFR 3165.3(b)(State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, Utah State Office, P.O. Box 45155, Salt Lake City, Utah, 84145-0155, within 20 business days of the date of this Decision is received or considered to have been received.

If you wish to file a petition for stay, the petition for stay should accompany your notice of appeal and shall show sufficient justification based on the following standards:

1. The relative harm to the parties if the stay is granted or denied;
2. The likelihood of the appellant's success on the merits';
3. The likelihood of irreparable harm to the appellant of resources if the stay is not granted; and
4. Whether the public interest favors granting the stay.

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Bill Barrett Corporation (BBC)
Well Name & Number: Aurora Federal Aurora Federal 9-27D-7-20
Surface Ownership: Private (Four Star Ranch)
Lease Number: UTU-85591
Location(s): NE/SE Sec. 27 of T7S, R20E, Mer. SLB

CONDITIONS OF APPROVAL:

- In the case of any deviation from the submitted Sundry Notice or approved APD(s), which includes BBC's surface use plan and any applicable ROW applications, the operator will notify the BLM in writing and will receive written authorization of any such change with appropriate authorization.
- The operator will implement "Safety and Emergency Plan." The operator's safety director will ensure its compliance.

Construction

- The private landowner (Four Star Ranch) will be notified by BBC prior to commencement of construction of the access road.
- All operator employees and/or authorized personnel (sub-contractors) in the field will have approved applicable APD's, COAs, and ROW permits/authorizations on their person(s) during all phases of construction.
- All vehicular traffic, personnel movement, construction/restoration operations should be confined to the area examined and approved, and to the existing roadways and/or evaluated access routes.
- Roads shall be crown and ditched to divert any runoff from pooling on the road surface itself, this also aids in lessening erosion on the road and disturbed area. Wing ditches can be installed to also aid in controlling runoff from affecting the proposed road. These should be spaced to adequately catch any runoff along the ditches and aid in diverted water to the surrounding vegetation.
- The operator must conduct operations to minimize adverse effects to surface and subsurface resources, prevent unnecessary surface disturbance, and conform to currently available technologies and practices.
- If cattleguards or gates are required along the access roads construction will be to BLM/USFS Gold Book standards or better.
- No construction or soil disturbing activities will occur during times of saturated soils (usually spring runoff and fall rains).

Reclamation and Vegetation

- Noxious and invasive weeds will be treated, monitored, and controlled along the access road route.
- Minimal vegetation removal will occur along the access road route in order to lessen the visual impact and to aid in re-vegetation efforts in the future.
- Operator will ensure topsoil stability on location and use topsoil for interim reclamation as soon as possible to maintain viability of topsoil resource. Topsoil piles will be “track-walked,” crusted and seeded to prevent topsoil erosion.
- Interim reclamation along the access road would be accomplished within 6 months of construction completion, weather permitting. Please contact the landowner or the BLM for possible seed mixes to use in the project area. Seeds should be planted in August and prior to ground freeze. Non-natives can be used; however lbs/ac must be kept low to minimize the chance of a monoculture.