

United
States
Department
of
Agriculture

Forest
Service



August
2007

Record of Decision

Deer Creek Shaft (and Escapeway), Federal Coal Lease C-1362

Grand Mesa, Uncompahgre and Gunnison National Forests

Paonia Ranger District

Gunnison County, Colorado

NE ¼ Section 32, Township 13 South, Range 90 West, 6th Principal Meridian.

/Charles S. Richmond/

8/17/07

CHARLES S. RICHMOND

Date

Forest Supervisor

Grand Mesa, Uncompahgre, and Gunnison National Forests

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**USDA Forest Service
Grand Mesa, Uncompahgre, Gunnison National Forests
Paonia Ranger District
Gunnison County, Colorado
NE ¼ Section 32, Township 13 South, Range 90 West, 6th Principal Meridian**

DECISION AND REASONS FOR THE DECISION

Background

Mountain Coal Company (MCC), operator of the West Elk Mine submitted a proposal to construct the Deer Creek Ventilation Shaft and Escapeway on Federal coal lease C-1362 in July 2006. The shaft and escapeway were proposed as part of mine operations that included methane drainage needs for mining E Seam coal reserves at the West Elk Mine. This Record of Decision (ROD) addresses the Forest Service decisions related to the Deer Creek Shaft and Escapeway.

The Forest Service identified the need to fulfill the obligations of its role as the federal land management agency in the Colorado Division of Reclamation Mining and Safety's (DRMS) coal mine permitting process, and the associated USDI-Office of Surface Mining Reclamation and Enforcement (OSM) mine permit modification process that would approve MCC to construct, operate, and reclaim the Deer Creek ventilation/escapeway facility and associated access.

The shaft and escapeway are needed for the West Elk Mine to comply with Mine Safety and Health Administration (MSHA) requirements for mine ventilation to ensure worker safety. The operations would enable continued recovery of leased federal coal reserves in compliance with Federal coal lease terms and requirements.

The purpose of the agency's action is to protect public health and safety, to prevent loss of leased federal coal resources, and to facilitate safe and efficient production of compliant and super compliant coal reserves, and allow the federal coal lease holder to exercise lease rights.

This project supports the Forest Service minerals mission to facilitate orderly development and production of energy resources, and contributes to meeting the need for energy resources developed and produced in an environmentally sound manner. The project responds to the goals and objectives outlined in the Amended GMUG Land and Resource Management Plan (GMUG Forest Plan, USDA FS 1991) which calls for encouraging environmentally sound energy and minerals development. By providing for coal leasing and development in this area, the GMUG Forest Plan and Bureau of Land Management's (BLM) Uncompahgre Basin Resource Management Plan (Uncompahgre RMP, USDI BLM 1989) acknowledged that the area could at some future time support surface facilities necessary to support coal production.

The GMUG Forest Plan also identified providing livestock forage, managing big game winter range and protecting riparian habitat as the desired future conditions of the area. The proposed action is designed to be consistent with moving the area towards those desired conditions. The Uncompahgre RMP supports coal leasing and development in the area with respect to management of mineral resources.

The *Deer Creek Shaft and E Seam Methane Drainage Wells Project Final Environmental Impact Statement* (FEIS) documents the analysis of two alternatives to meet this Forest Plan desired conditions.

Decision

Based upon my review of all alternatives, I have decided to implement a portion of Alternative 2 – The Proposed Action, for the Deer Creek Shaft (and Escapeway). I am not deciding on the E Seam Methane Drainage Wells portion of the project at this time.

My decision on the Deer Creek Shaft (and Escapeway) includes FS concurrence for OSM to recommend that the USDI Undersecretary approve a mining plan modification for the shaft/escapeway. The Forest Service concurrence includes post-mining land use direction and protections for non-mineral resources as further described below.

This decision approves placing the shaft and escapeway on the location shown in Figure 1 (Deer Creek Decision Map). Components of this decision include constructing the shaft and escapeway, installing surface facilities for shaft and escapeway operations, operating the shaft and escapeway for the life-of-mine (or until otherwise not needed for mine operations), and reclaiming the shaft/escapeway pad and access road to support the post-mining land use. This decision also authorizes use of NFSRs 710 and 711 for construction vehicles subject to the terms of a Forest Service Road Use Permit.

My decision includes needed protections for non-mineral resources on NFS lands (Design Criteria of the Proposed Action as they pertain to the shaft/escapeway from Chapter 2 of the FEIS (Appendix A of this document)). My decision includes granting relief to the big game winter range stipulation on Federal coal lease C-1362, for one winter season (2007-2008), if big game is not present at the start of the winter season, to ensure shaft and escapeway construction can proceed in a continuous manner. The post-mining land use for the shaft and escapeway location is wildlife habitat, and reclamation plans have been designed to support this post-mining land use (Appendix A). Approval of the shaft is consistent with the GMUG Forest Plan (Final EIS, Chapter 1, Purpose and Need).

When compared to the other alternatives, this alternative best meets the purpose and need for the action to facilitate safe and efficient production of compliant and super-compliant coal reserves. Further, this alternative allows the federal coal lessee to construct structures and equipment as provided in their lease rights (Final EIS, Chapter 1, Purpose and Need). This alternative supports the Forest Service Minerals Policy to foster and encourage environmentally sound energy and mineral development, and responds to National Energy Policy.

Placement of the Deer Creek shaft and escapeway was achieved through careful review of lease stipulations, current surface resource conditions, designed to minimize surface disturbance, and includes best management practices and design criteria for use of NFS lands (see Exhibit A). This alternative meets requirements under federal coal program laws and implementing regulations (see Final EIS, Chapter 1, Authorizing Actions), and other applicable natural resource laws (see Findings Required by Other Laws and Regulation below), and the National Environmental Policy Act.

In the event of any contradiction or conflict between descriptions or depictions of authorized actions, my decision is to be taken from the project documents in the following order of precedence: first the description in this ROD, second the representations on the Decision Map and legal descriptions (Figure 1), and finally descriptions in the FEIS.

Reasons for the Decision

Applicable Laws, Regulations, and Policy

The selected alternative meets requirements under the Mineral Leasing Act, as amended, the National Environmental Policy Act, National Forest Management Act, Surface Mining Control and Reclamation Act, the Colorado Surface Coal Mining Reclamation Act, and other applicable laws and regulations (refer to the Findings Required by Other Laws and Regulations section of this document and FEIS, Chapter 1, Authorizing Actions).

How Issues Were Considered

Primary issues of concern related specifically to the shaft and escapeway construction included socioeconomic effects should the mine cease operations, effects to big game winter range if the shaft construction would occur over winter, and county road use. To address these concerns, the Forest Service created the alternatives described in Chapter 2 of the FEIS.

With respect to socioeconomic concerns, the effects of the proposed action are addressed in Chapter 3 of the FEIS.

To assess potential effects to big game winter range, the GMUG had wildlife biologists review the shaft/escapeway location and road access routes and consulted with the Colorado Division of Wildlife (CDOW). According to CDOW's current GIS map layers for winter range, the shaft/escapeway and road access are outside of deer winter range and on the very edge of elk winter range; and, therefore, would not create adverse effects to winter range or animal use. The effects of activity occurring in big game winter range are disclosed in Chapter 3 of the FEIS.

With respect to road use for construction equipment, the FEIS discloses the effects of shaft/escapeway construction traffic (see Chapter 3). Oversize/over-length vehicles such as the drill rig and semi-trucks (large equipment transport) would access from the west through the town of Paonia, then via Minnesota Creek Road in Delta County, Gunnison County Road 710, and NFSRs 710 and 711. The estimated traffic associated with use of county roads for oversized vehicles is estimated at 5 round trips per year until project completion. For shaft construction activities where cement hauling is required, an estimated 7 round trips per day with full-sized vehicles (not to exceed 20,000 pounds per axle) will use these routes. Estimated duration of cementing on shaft is fall 2007 through summer 2008. County road use was addressed and resolved between the company and the county through a maintenance agreement process.

Concerns were also raised on the project with respect to activities occurring in the West Elk Inventoried Roadless Area (IRA). This is not an issue that is germane to approval of the shaft/escapeway and needed access, as they are not located within the IRA (FEIS, Figure 3). Other issues raised with respect to the shaft and escapeway and the effects of these activities are presented in the FEIS (Chapter 2 and 3). For all disciplines, Best Management Practices and Design Criteria will be implemented to minimize effects.

Benefits will also occur from implementation of my decision. By allowing the shaft and escapeway, leased Federal coal reserves will continue to be mined and made available to supply energy needs of the country. This will continue to provide economic benefit to the surrounding communities for the next 12 years.

Factors Other Than Environmental Effects Considered In Making the Decision

The purpose and need of this project is to protect public health and safety, to prevent loss of leased federal coal resources, and to facilitate safe and efficient production of compliant and super compliant coal reserves. The purpose and need also support the rights of the Federal Coal Lessee to construct structures which may be necessary to exercise lease rights (EIS, Chapter 1 Purpose and Need). My decision supports the Purpose and Need for this project.

My decision fulfills the Federal Government's policy to foster and encourage mineral development (Mining and Mineral Policy Act of 1970), the Federal Land and Management Policy Act (FLPMA), and complies with the GMUG Forest Plan direction.

Coal in the North Fork Valley is desirable because it is considered "compliance coal" under the Clean Air Act emissions standards. The coal from the area is low sulfur, low ash, and has high burning capabilities. Facilitating its recovery is beneficial to the energy needs of the country.

Identification of the Environmental Documents Considered in Making the Decision

This decision was made after carefully considering the contents of the EIS, public comments, agency response to comments, and the supporting project record. The GMUG Forest Plan was reviewed and this decision is determined to be consistent with it (EIS, Chapter 1 *Authorizing Actions, Forest Plan*). The numerous other environmental documents (EIS, Chapter 1, *Other Analysis Completed in the Vicinity of the Project Area*) prepared for activities in the area were also consulted.

How Considerations Were Weighed And Balanced In Arriving At The Decision

The resource impact analyses presented in the EIS (Chapter 3, and summarized in Table 2-3) show that potential impacts to surface resources would be minor, and are minimized by the Design Criteria for the action given in Exhibit A. Further, I considered the rights of the coal lessee conveyed under the federal coal lease, as well as the needs to comply with other agency requirements.

I have also considered Executive Order 13212, which directs federal agencies to take steps to increase the energy supply to our nation, and the Energy Policy Act of 2005.

I understand other federal agencies and private interests are concerned about release of methane from the mine into the atmosphere. For this reason, I have committed to working with the Bureau of Land Management to pursue the competitive sale of gas lease parcels that are coincident with the Federal coal leases in the area to mitigate the release of methane to the atmosphere. If MCC were the successful bidder on those potential gas leases, the Forest Service would continue working with the company in support of US Environmental Protection Agency's Coalbed Methane Outreach Program to reduce greenhouse gas emissions and put the methane to beneficial use.

Relationship to Public Involvement

Public comments were sought throughout this project (refer to *Public Involvement* Section of this document for a summary of public involvement, and Chapters 4 & 5 of the FEIS).

I recognize that some parties are concerned about construction activities occurring during winter in big game winter range. In consultation with the CDOW, we find that the area of the shaft is not within mapped winter range as known by CDOW. Further, the CDOW advises that there is low or limited use by big game in the area of the shaft. Therefore, my decision to allow one season of winter use will not adversely affect winter range in the area.

I also recognize the concern for continued heavy equipment use on County (CR 710) and Forest Road (NFSR 710) during shaft construction. MCC has reached agreement with the county for the road use (project file). The use of NFSR 710 and 711 will be managed under a FS Road Use Permit approved by the Paonia District Ranger. This road use for the construction of the shaft/escapeway will be short term (less than one year).

I am also aware of concerns for activities occurring in the West Elk IRA; however, these are not applicable to the approval of the shaft/escapeway and access as they lie outside the IRA boundary.

Other Alternatives Considered

The No Action Alternative (FEIS, Chapter 2, Alternative 1), and an alternative that considered no activity in Inventoried Roadless Area (FEIS, Chapter 2, Alternative 3) were the other alternatives that were studied in detail. With respect to the Deer Creek Shaft and Escapeway, Alternative 3 is the same as the alternative selected in this decision (Proposed Action, Alternative 2). The No Action Alternative was the environmentally preferred alternative, because no surface disturbance would occur. A more detailed comparison of these alternatives can be found in the FEIS on Table 2-3.

Under the No Action alternative, current management plans, existing approvals related to coal mining, and non-coal related activities would continue to occur or guide management of the project area (see FEIS Chapter 2, Alternative 1). Under the No Action Alternative construction of the ventilation shaft and escapeway would not occur. The existing pad location would be reclaimed and the access road obliterated. Selection of the No Action Alternative would essentially cause the West Elk Mine to cease operations because the shaft is critical to maintaining required ventilation in the E Seam workings. Without it, the mining company could not receive approval from other Federal or State agencies for mining and ventilation plans. This could result in a reduced capacity for MCC to meet its coal contractual obligations resulting in a decreased ability to recover currently leased federal coal reserves which would have expanded negative effects on local economy. Selection of this alternative would not meet the purpose and need, and would be inconsistent with rights granted by the coal lease, the Forest Plan, and national policy.

Public Involvement

The Notice of Intent (NOI) to prepare an environmental impact statement (EIS) for the Deer Creek Shaft and E Seam Methane Drainage Wells was published in the *Federal Register* on September 18, 2006. The NOI asked for public comment on the proposal from September 18 through November 2, 2006. In addition, as part of the public involvement process, the agency published legal notices in the *Grand Junction Daily Sentinel* and *Delta County Independent* as papers of record and sent approximately 35 scoping letters to required agencies, Tribes, and interested parties list (project file). The NOI was posted on the GMUG's public planning webpage, and the project was included on the GMUG's Quarterly Schedule of Proposed Actions. GMUG personnel briefed the North Fork Coal Working Group at its quarterly meetings on October 10, 2006, January 16, April 10, and July 10, 2007. An additional article was published in the *Delta County Independent* on November 1, 2006 written by an unknown source.

Five comments were received during initial scoping. Using the comments from internal scoping, the public, other agencies, and associations and the interdisciplinary team, a list of issues was developed (EIS, Chapter 1, Issues).

A Draft EIS was prepared, and the Notice of Availability for comment appeared in the *Federal Register* on March 23, 2007. Legal notice of opportunity to comment appeared in the *Grand Junction Daily Sentinel* (April 5, 2007) and the *Delta County Independent* (April 4, 2007). Seven (7) parties, comprised of other agencies and interested parties, submitted comments on the Draft EIS. Responses were prepared

to all comments received and are contained in Chapter 5 of the Final EIS. Relative to the Deer Creek Shaft/escapeway, one comment specifically pertained to the shaft construction.

The Notice of Availability of the Final EIS was published in the *Federal Register* on August 17, 2007.

Findings Required by Other Laws and Regulations

To the best of my knowledge, this decision complies with all applicable laws and regulations. In the following, I have summarized the association of my decision to some pertinent legal requirements.

Executive Order 13212 of May 18, 2001. This Order called the federal agencies to expedite their review of permits for energy-related projects while maintaining safety, public health, and environmental protections. My decision is consistent with this Order.

National Forest Management Act of 1976: The GMUG Forest Plan was approved in 1983 and amended in 1991, as required by this Act. This long-range land and resource management plan provides guidance for all resource management activities in the Forest. The National Forest Management Act requires all projects and activities to be consistent with the Forest Plan.

Bringing forward the consistency of post-mining land use with the Forest Plan, along with protections for non-coal resources (Design Criteria listed in Appendix A) in the concurrence to OSM's recommendation for Department-level approval, is consistent with the intent of the GMUG Forest Plan's long term goals and objectives listed in EIS. The project was designed in conformance with Forest Plan standards and incorporates appropriate Forest Plan guidelines for minerals management, big game winter range, livestock grazing and riparian area management (Forest Plan, pages III-63 to 69).

Forest Plan Consistency

No Forest Plan amendment, site-specific or otherwise, would be required for implementation of this project. All actions are consistent with the Forest Direction and Management Area standards and guidelines of the Plan.

In specific, this project is consistent with the Forest Plan in the following ways:

- All alternatives are consistent with the Clean Water Act and Forest Plan standards for water resources.
- The selected alternative is consistent with Forest Service Manual 2580-Air Resource Management and the 1991 GMUG Forest Plan.
- The proposed action is consistent with Forest Plan standards for geology which establishes limits on ground-disturbing activity on unstable slopes and highly erodible sites.
- The proposed action is consistent with Forest Plan standards for soils that establish limits on ground-disturbing activity on unstable slopes and highly erodible sites.
- The proposed action is consistent with the Forest Plan, NFMA, FSM 2670 at 2670.22 - Sensitive Species, Executive Order 11990 - Protection of Wetlands, and Executive Order 131120 - Invasive Species.
- The alternatives would not result in a decline or reduction of viability of the populations of sensitive species identified to occur on the GMUG National Forests.
- All alternatives are consistent with the Forest Plan regarding Management Indicator Species (MIS), In May 2005 the Forest Supervisor on the Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG) issued an amendment that, in part, revised the list of Management Indicator

Species (MIS). The GMUG has reinstated MIS requirements per the 1982 planning regulations (per guidance provided in 36 CFR 219.19) to monitor both habitat and populations. The GMUG has considered and will continue to consider the “best available science” in forest and project level planning, including data and analysis needs for MIS. The GMUG Forest Plan establishes monitoring and evaluation requirements that employ both habitat capability relationships and, at the appropriate scale, population data. The analysis completed for this project examined how the project directly or indirectly affects selected MIS habitat and populations and how these local effects could influence Forest-wide habitat and population trends.

- The proposed action is consistent with the Forest Plan and all other laws governing archaeological resources.
- The proposed alternative is consistent with Forest Plan direction for recreation and special uses.
- The proposed action is consistent with Forest Plan and current direction for management of IRAs. There are no IRA lands involved in this decision
- The selected alternative is consistent with Forest Plan goals and desired future conditions for transportation.
- The selected alternative is consistent with visual quality direction regarding roads and trails under the GMUG Forest Plan, Gunnison National Forest Interim Travel Restrictions, and Forest Service Handbook (FSH) 7700.
- The proposed action is consistent with range management direction under the GMUG Forest Plan and Forest Service Manual 2200-Range Management.
- The supporting analysis in the EIS has incorporated the best available science.

Mining and Minerals Policy Act of 1970. This Act declared it would be the continuing policy of the Federal government and in the national interest to foster and encourage private enterprise in the development of economically sound and stable domestic mining industries, and the orderly and economic development of domestic mineral resources (EIS, Chapter 1). This decision is consistent with this Act.

Mineral Leasing Act of 1920, as Amended by the Federal Coal Leasing Amendments Act of 1975. These Acts authorize the federal agencies to lease coal reserves (EIS, Chapter 1). The federal coal lease involved with this action, C-1362 was issued and has been re-adjusted in compliance with this Act. This Act also recognized the surface managing agency’s role in coal leasing actions, and operating and reclamation plan actions. This decision is consistent with these Acts.

Surface Mining Control and Reclamation Act, and the Colorado Surface Coal Mining Reclamation Act. This Act established the framework for regulating coal mining activities in the US. The Office of Surface Mining oversees implementation of this Act under approved State programs. The Act and the Colorado rules recognize a specific role for the federal land management agency to participate in the permitting process for coal mines as applicable, and provide the agency a concurrence role for coal mining related activities on federal lands. The Acts also identify the federal land management agency role in prescribing protections for non-coal resources, and identifying the post-mining land use.

The decision framework for this action involves the Forest Service serving its role as the federal land management agency in the State DRMS and OSM permitting process by identifying protections for non-coal resources and the post-mining land use. My decision complies with these Acts.

National Historic Preservation Act: This decision complies with the provisions of this Act and the American Indian Religious Freedom Act. Native American interests were consulted during this project (EIS, Table 2-2 and Chapter 3). The project record and field reviews support that no cultural or historic

sites would be affected by this decision (EIS, Chapter 3, and project file). When implementing the decision, any previously unidentified sites inadvertently discovered would be avoided or mitigated so there would be no effect upon them per stipulations on federal coal lease C-1362 (see Exhibit A of this ROD).

Endangered Species Act: The US Fish and Wildlife Service was consulted in this environmental analysis process. A Biological Assessment (BA) was prepared for this decision (EIS, Chapter 3, Wildlife, and Project File). All known endangered or threatened species were considered in the BA. The BA was submitted to FWS for concurrence on Canada lynx, bald eagle winter foraging habitat (now delisted) and water depletions as they relate to the four big river fishes. In their concurrence letter, the FWS stated they concurred with our findings on “may affect, not likely to adversely affect” bald eagle, “may affect, not likely to adversely affect” Canada Lynx and confirmed earlier consultation on water depletion quantities associated with the big river fish.

If additional findings regarding threatened or endangered, proposed or sensitive species are discovered, a new biological assessment or evaluation will be written, and any mitigation incorporated into Design Criteria.

National Environmental Policy Act: The documentation for this project supports compliance with this Act.

Executive Order 11990 of May 1977: This order requires the Forest Service to take action to minimize destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. In compliance with this order, Forest Service direction requires that an analysis be completed to determine whether adverse impacts would result (EIS, Chapter 3, Vegetation). Design Criteria included in this decision ensure that loss, degradation or destruction of wetlands will be minimized (Exhibit A of this document). Construction of the shaft does not adversely affect wetlands.

Clean Air Act

The selected alternative would be consistent with air quality and fugitive dust provisions required by the Colorado and National Ambient Air Quality Standards and PSD increments as well as alternative gaseous emissions regulated by the Mine Safety and Health Administration.

Prime Farmland, Rangeland, and Forest Land

Adverse effects on prime farmland, rangeland and forestland not already identified in the Forest Plan EIS are not expected from implementing the selected alternative. There are no prime farmlands, rangeland or forest land within the project area.

Environmental Justice

With the implementation of any of the alternatives, there would be no disproportionate adverse human health or environmental effects on minority or low income populations. The actions would occur in a remote area and nearby communities would mainly be affected by economic impacts related to not implementing an action alternative or contractors implementing the project (EIS, Chapter 3, Socioeconomics).

Consumers, Civil Rights, Minority Groups, and Women

The proposed alternatives would not adversely affect consumers, civil rights, minority groups, or women. The proposed alternatives would not have a disproportionately high or adverse human health effect on any identifiable low income or minority population.

Implementation

Implementation Date

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

In relation to the Forest Service role in this project as the federal land management agency in the State coal program, the agency will be able to provide the required formal concurrence to the DRMS or OSM as applicable, no sooner than 5 days after the appeal filing period closes. If an appeal is filed, formal concurrence would not occur until after the appeal resolution period described above.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal). Parties who have participated in the analysis process by commenting on the DEIS are eligible to appeal pursuant to appeal regulations at 36 CFR Part 215. In accordance with 36 CFR 215.11(d), the operators may appeal this decision, pursuant to appeal regulations at 36 CFR 215 or appeal regulations at 36 CFR 251 Subpart C, but not both.

The appeal must be filed (regular mail, fax, e-mail, hand-delivery, or express delivery) with the Appeal Deciding Officer at:

For delivery services to a physical street address	For U.S. Postal Service delivery
Appeals Deciding Officer U.S.D.A. Forest Service Rocky Mountain Region 740 Simms Street Golden, CO 80401	Appeals Deciding Officer Forest Service Region 2, Regional Office 740 Simms Street Golden, Colorado 80401

The office business hours for those submitting hand-delivered appeals are 8:00 AM to 4:30 PM Monday through Friday, excluding federal holidays. Electronic appeals must be submitted in a format such as an e-mail message, plain text (.txt), rich text format (.rtf), or MSWord (.doc) to appeals-rocky-mountain-regional-office@fs.fed.us. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the *Grand Junction Daily Sentinel*. Attachments received after the 45 day appeal period will not be considered. The publication date in the *Grand Junction Daily Sentinel* is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Individuals or organizations who expressed interest during the comment period specified at 36 CFR 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Contact Person

For more information about this project, contact Niccole Mortenson, 2250 Highway 50, Delta, CO 81416, phone 970-874-6616, or at nmortenson@fs.fed.us.

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Appendix A-Design Criteria

Design Criteria		
Topic	Design Criteria for the Proposed Action	
TRANSPORTATION SYSTEM		
Existing Roads	<ol style="list-style-type: none"> 1. Existing roads would be left in a condition equal to or better than that observed on MCC's entry into the area or to the satisfaction of the USFS engineer or permit administrator. At the completion of mining operations MCC will blade and crown all roads; shape and repair shoulders; clean all culverts and drainage ditches; and perform all other road maintenance work necessary to insure satisfactory functioning of the road drainage system. 2. FS Roads 710, 711, Horse Gulch Road (711.2b) and Sylvester Gulch Roads would be used to access area. Access to the area would primarily be on the Sylvester Gulch Road. Periodically, oversized and full-sized vehicles may need to mobilize via the county portion Minnesota Creek Road, however use will be minimized. 3. Roads will be kept clear of slides, fallen timber, and overhanging brush which obstructs visibility.* 4. Gravel or other selected surfacing material will not be bladed off of roads. 5. MCC must provide specific improvement and use parameters using the AASHTO design criteria (Guideline for geometric design of very low volume roads (2001 edition) and Design guide for pavement structures (1993 edition)) for public roads (Service Levels 3, 4 and 5) or as approved by Forest Engineer, to be designed by a Colorado Registered 6. Professional Engineer, and submitted for USFS approval for each road segment. The Engineer's recommendations must be approved and implemented before any project related traffic may use that part of the NFSR system. During the course of the project the Forest Service will provide oversight of road improvement activities and continued FS Engineering/FS designee monitoring of road conditions resulting from project related traffic. Temporary roads that are not open to the public are not subject to AASHTO engineering standards for low volume roads. 	<p>Road Use Permit</p> <p>MCC Project Plan, County Road Use Agreement</p> <p>Federal Coal Lease Stipulation</p> <p>Road Use Permit</p> <p>Forest Plan, AASHTO Design Standard, Road Use Permit (FSM 2733.04b and FSM 7730), 36 CFR 228 E</p> <p>Forest Plan, AASHTO Design Standard, Road Use Permit (FSM 2733.04b and FSM 7730), 36 CFR 228 E</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	<p>7. For roadway section with 6 inches OR LESS of new structural surfacing section or existing surfacing sections with any aggregate segregation or contamination by intruding fine materials, no rutting, pumping or plastic deformation of the roadway surface will be allowed. Rutting, plastic deformation, or pumping of the surface will result in the proponent's operations, on that road, ceasing immediately and remaining shutdown until repairs and improvements are made to prevent additional damage to the structural section. For surfacing sections with GREATER THAN 6 inches of new structural surfacing section any rutting, pumping or plastic deformation in excess of structural section thickness (T) divided by 3 (T/3) will not be allowed and will result in proponent's operations, on that road, ceasing immediately and remaining shutdown until repairs and improvements are made to prevent additional rutting. This T/3 limitation applies to any forest road utilized by the proponent, even if it is not part of the project area or transportation plan. Once shutdown, operations will not resume until approved repairs or improvements are made to resolve the problem. These limitations apply to any NFSR even if it is not included in the project area or transportation plan.</p>	Road Use Permit (FSM 2733.04b and FSM 7730) , BMP, GMUG Forest Standard
New roads	<p>8. Light-use or low-volume (Service Level 3, 4 & 5) public roads (designed to applicable design standards based on American Association of State Highway and Transportation Officials (AASHTO) "Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT<400) Low Volume Road Standards) and pads will be graveled. Surfacing access roads, including open channel crossings of minor tributaries should utilize gravel or crushed rock on the running surface of the road to reduce ongoing erosion of the channels by vehicle traffic.</p> <p>9. Cross slopes will be maintained on access roads to promote removal of water from the road surface. Surface drainage structures shall be constructed at appropriate intervals to divert water from roadway surface. . . . Relief ditches at regular intervals to direct drainage off of the road grade and into vegetated areas.</p> <p>10. Ditches would be allowed to vegetate or include large rocks or stones to slow the velocity of drainage and allow sediment to settle out.</p> <p>11. Where drainage ditches are installed to direct runoff away from the road, water bars or hay bale dikes would be installed perpendicular to the flow direction of the ditch to reduce runoff velocity and settle out sediment on steeper grades.</p> <p>12. Road construction plans would identify specific locations of drainage features and BMPs for approval by the FS</p>	<p>Road Use Permit (FSM 2733.04b and FSM 7730) , AASHTO Design Standard</p> <p>Road Use Permit(FSM 2733.04b and FSM 7730) , WCPH(FSH 2509.25)</p> <p>WCPH (FSH 2509.25)</p> <p>Project Plan, WCPH (FSH 2509.25)</p> <p>Road Use Permit (FSM 2733.04b and</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	engineer/permit administrator prior to construction.	FSM 7730) , Forest Service Roads Policy Forest Plan
	13. Road design packages will be submitted to the FS for approval prior to any construction activity. Roads open to the public (Levels 3, 4 & 5) will require written approval prior to any construction activity.	
	14. Road work will be performed only upon authorization of the District Ranger and comply with the terms of MCC's Road Use Permit. Roads will be designed and constructed to provide maximum stability and protect the surface resource. Best Management Practices will be used in designing the roads and during construction. All roads will be upgraded or constructed to USFS specified standards for either temporary or classified roads, as appropriate and approved by the USFS, with a design speed of 15 miles per hour.	Road Use Permit (FSM 2733.04b and FSM 7730), MCC Project Plan
	15. Surface disturbance will be minimized to the extent reasonably feasible in order to limit potential impacts. Soil that is removed from all new disturbance areas will be windrowed or stockpiled for use in reclamation. Topsoil will be segregated from subsoil and stored at a depth no greater than that prescribed by the Paonia District Ranger. No soil generated from excavation, slide removal or other operations shall be deposited within the WIZ of any drainage with flowing water.	Forest Plan, 36 CFR 228 E, MCC Project Plan, Road Use Permit(FSM 2733.04b and FSM 7730) , WCPH (FSH 2509.25)
	16. All disturbed and inactive areas (cut/fill slopes) and soil stockpiles shall be seeded with a USFS approved temporary seed mixture within 7 days following disturbance to prevent noxious weed infestation and minimize erosion	BMP, WCPH (FSH 2509.25)
	17. All construction, reconstruction, and improvements will be stabilized by installation of drainage structures, where determined appropriate by the responsible USFS official, concurrently with construction or maintenance activities. These structures shall be maintained for the duration of the project and shall not be removed, without approval, prior to reclamation of the disturbance. Any culverts will be sized to safely pass the runoff from a 25-year event and to withstand flows from a 50-year event. The USFS will approve culvert sizes and lengths. Filter material will be installed below drainage outlets and down slope from rolling dips. Riprap will be installed below culvert outlets when directed by the USFS.	WCPH(FSH 2509.25) , Road Use Permit (FSM 2733.04b and FSM 7730)
	18. At road intersections with existing drainages, which cannot be easily carried by use of a temporary culvert, crossings will be	Road Use Permit (FSM

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	<p>established. The approaches to any crossing shall be armored by placing a minimum 8inch depth of 1- to 3-inch clean crushed rock, 14 feet wide for a distance of 20 feet on each side of the drainage to minimize siltation, bank rutting, and erosion. Crossings will be constructed perpendicular to the flow line. When access is no longer needed, any temporary culverts, associated fill, and crushed rock shall be removed. Silt fences or appropriate sediment control devices shall be utilized to prevent siltation into existing drainages, ponds, or associated riparian areas.</p> <p>19. The road surface will be constructed with an in-slope of 2 percent and the surface width shall not exceed 14 feet except in locations that require curve widening, or those designated for turnouts. These locations must be identified on the ground and approved by the responsible USFS official. Side-casting will not be permitted where side slopes exceed 40 percent.</p> <p>20. Special design, construction, and mitigation measures jointly developed by a USFS Interdisciplinary Team and MCC will be applied to project construction activities proposed in steep slope, moderate slope, or geologic hazard areas to minimize and control the potential for slope de-stabilization and erosion. These measures may include but will not be limited to site-specific drainage measures, limitations on slope cut/fill angles, slope construction measures (benching or slope reinforcement such as temporary gabions or barricades), and slope stabilization measures (such as geotextile or jute matting or hydromulching).</p>	<p>2733.04b and FSM 7730) , WCPH (FSH 2509.25),</p> <p>Road Use Permit (FSM 2733.04b and FSM 7730)</p> <p>Forest Plan</p>
Road Operations	<p>21. Minnesota Creek, Dry Fork, and Horse Gulch roads will continue to be open for public full size vehicle and ATV use throughout the project. MCC will sign roads warning the public of heavy truck traffic during the active drilling season.</p> <p>22. To minimize conflicts with hunters, project traffic will not be allowed on the Minnesota Creek, Horse Gulch, and Dry Fork roads (except for emergency use) during the periods of one hour before sunrise and two hours after sunset during the big game rifle hunting seasons. Additional security and public safety measures may be considered and approved or directed by the District Ranger.</p>	<p>BMP</p> <p>BMP</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	23. Cross country motorized vehicle travel is prohibited. Mine related traffic is permitted on approved roads and designated trails only.	Road Use Permit (FSM 2733.04b and FSM 7730), Gunnison Interim Travel Restrictions
	24. If snow is removed from the Minnesota Creek and Dry Fork Roads, removal must be performed in compliance with MCC's Road Use Permit, and must be pre-approved by the District Ranger. If snow is plowed, public snowmobile traffic will not be permitted on this road. Snow shall be compacted to 4 inches, and then allowed to freeze before hauling loads where GVW would exceed 10,000 pounds. MCC will be responsible for erecting a temporary closure device on snowplowed roads to prevent public motorized access on the road. This closure must meet MUTCD requirements.	Road Use Permit (FSM 2733.04b and FSM 7730)
	25. On all roads used for project activities, road maintenance activities will be performed by MCC as directed by the responsible USFS official, and shall consist of maintenance needed to preserve, repair and protect the roadbed, surface, and all structures and appurtenances including but not limited to periodic grading, and inspection, clean-out, and repair of any drainage structures, as appropriate. Dust suppression would be used, as necessary, to control dust emissions from project construction and reclamation activities, as well as project roads. Use of anything other than water for dust suppression in any WIZ will not be allowed.	Road Use Permit (FSM 2733.04b and FSM 7730) , WCPH
	26. Silt fences or appropriate sediment control devices shall be utilized to prevent sedimentation into the existing willow riparian area adjacent to Dry Fork Minnesota Creek Road 711 from the junction with Horse Gulch Road to the lower Cow Camp, as directed by the District Ranger. Dust control measures will be applied to reduce dust along this section of road.	WCPH (FSH 2509.25), Road Use Permit (FSM 2733.04b and FSM 7730)
	27. Drainage maintenance on roads will be critical for the duration of use. Existing rolling dips shall be maintained and may need to be hardened. The USFS representative will inspect roads used for project activities to identify any additional drainage structures to be constructed prior to or during use.	BMP
	28. MCC is responsible for using appropriate MUTCD traffic control	Road Use Permit (FSM

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	<p>devices when any heavy equipment is moved on Forest Roads.</p> <p>29. Traffic counters will be provided and installed by MCC, at designated locations to record vehicle and ATV passes. The counters will be monitored and data recorded on a monthly basis. The counter totals will be submitted to the District Ranger monthly in both tabular form and graph form. The USFS Engineering Staff will provide specifications to MCC on installation of the traffic counters.</p> <p>30. Harassment of livestock is prohibited. While stock is in the project area, extra precautions must be taken by MCC and their contractors to ensure that stock are not pushed out of the currently occupied grazing unit.</p> <p>31. Livestock access will be maintained during active operations. Cattleguards and access gates to the side of each cattleguard will be installed in a timely fashion at any place where MCC uses or builds roads as directed by the District Range Management Specialist. Project personnel will cooperate with the grazing permit holders to avoid or minimize conflicts with grazing operations.</p> <p>32. MCC would be required to maintain stock ponds adjacent to project roads to assure their continued effective use. This would involve pond clean out on an as-needed basis</p>	<p>2733.04b and FSM 7730)</p> <p>Road Use Permit (FSM 2733.04b and FSM 7730)</p> <p>BMP</p> <p>BMP</p> <p>BMP</p>
Maintenance	<p>33. Roads will be maintained with water bars and appropriate sedimentation controls. Water bar placement and design will be approved by the authorized FS Officer.</p> <p>34. All use and maintenance of existing NFSRs will be authorized by and be consistent with a FS Road Use Permit. A performance bond will be required per the terms of the road use permit.</p>	<p>Road Use Permit(FSM 2733.04b and FSM 7730) , BMP</p> <p>FSM 2733.04b and FSM 7730</p>
WATER RESOURCES		
Ground Water	<p>35. Any aquifers encountered in the shaft will be sealed by a grout curtain wall extending 20 feet above and below aquifer.</p> <p>36. Each drill or borehole, well, or other exposed underground opening sealed, or otherwise managed to prevent acid or other toxic drainage from entering ground or surface waters and minimize disturbance to the prevailing hydrologic balance.</p>	<p>BMP</p> <p>BMP</p>
Water Quality	<p>37. Material from slides or other sources on roads will not be deposited in streams or other locations where it will wash into streams.</p>	<p>WCPH (FSH 2509.25) , Federal Coal Lease</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	<p>38. Disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quantity or quality of water in surface and groundwater systems both during and after the mining operation and during reclamation shall be minimized by measures, including, but not limited to:</p> <ul style="list-style-type: none"> • compliance with applicable Colorado water laws and regulations governing injury to existing water rights; • compliance with applicable federal and Colorado water quality laws and regulations, including statewide water quality standards and site-specific classifications and standards adopted by the Water Quality Control Commission; • compliance with applicable federal and Colorado dredge and fill requirements; and • removing temporary or large siltation structures from drainways after disturbed areas are revegetated and stabilized, if required by the Reclamation Plan. 	<p>Stipulation</p> <p>State Law</p> <p>State and Federal Law (33 U.S.C.A §§ 1251 to 1387)</p> <p>State and Federal Law MCC Project Plan, BMP</p>
Drilling Water	<p>39. Drilling water (< 10 acre-feet per year for shaft and MDW) will be obtained from MCC's non-tributary water in the mine or Minnesota Creek. This quantity of water is within the GMUG's blanket consultation with USFWS for depletion associated with the Upper Colorado River System.</p> <p>40. Water will be pumped from portable tanks using a high-pressure hose or transported to the site with mobile water carriers.</p>	<p>US Fish and Wildlife Service (USFWS), Forest Plan</p> <p>BMP, MCC Project Plan</p>
Water Influence Zone (WIZ)	<p>41. Within WIZ, an adequate vegetative buffer or filter strip would be maintained to filter runoff from the road before it reaches the creek, wherever possible.</p> <p>42. All disturbed areas within 100 feet of a WIZ would be protected with sediment control materials specified by the FS.</p>	<p>WCPH (FSH 2509.25), BMP</p> <p>WCPH (FSH 2509.25), BMP</p>
WETLANDS		
	<p>43. Surface use or disturbances (except for surface subsidence and resource monitoring purposes defined in the approved mining permit) will not be permitted in riparian, wetland or floodplain areas, or within a buffer zone surrounding these areas (the definition of riparian areas and appropriate buffer zone will be</p>	<p>Forest Service Manual, Lease Stipulation and WCPH</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	consistent with that defined in the Forest Service Manual and Water Conservation Practices Handbook, unless specifically approved by the Authorized Officer. Wetland definition will follow Army Corps of Engineers guidelines) unless no practical alternatives exist.	(FSH 2509.25)
WILDLIFE		
Threatened, Endangered and Sensitive Faunal Species	<p>44. Appropriate populations or habitats will be surveyed on a site-specific basis prior to any ground disturbing activities and appropriate avoidance, buffering or other restrictions will be applied if threatened or endangered faunal species or their habitats are present.</p> <p>45. Water depletions of the Colorado River System as they pertain to the four endangered fishes (associated with MDW drilling and shaft construction) have previously been consulted upon with the US Fish and Wildlife Service in a programmatic biological opinion.</p> <p>46. Avoid or minimize impacts to lynx habitat.</p> <p>47. Restrict use to designated routes where over-snow access is required to protect lynx.</p> <p>48. Minimize snow compaction during MDW monitoring to protect lynx. Use remote monitoring of sites if possible.</p> <p>49. Restore suitable lynx habitat during reclamation activities.</p> <p>50. Reclaim and obliterate temporary roads at project completion.</p> <p>51. Close project-created roads to public access in lynx habitat.</p>	<p>Federal Coal Lease Stipulation</p> <p>USFWS</p> <p>Canada Lynx Conservation Assessment and Strategy (LCAS)</p> <p>LCAS</p> <p>LCAS</p> <p>LCAS</p> <p>LCAS, 36 CFR 228 E, Road Use Permit (FSM 2733.04b and FSM 7730) , WCPH (FSH 2509.25), GMUG Coal Lease EIS</p> <p>LCAS</p>

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	52. Pre-disturbance surveys would be completed within the potentially impacted delineated wetland and two intermittent lakes, as specified by the Forest Service, to ensure that northern leopard frog populations are not adversely impacted. In the event that breeding northern leopard frog populations are documented within the surveyed wetlands, disturbances to these wetland areas would be postponed until early June and the completion of the breeding season (CDOW 2003).	MCC Project Plan, Forest Plan
	53. If there is reason to believe that Sensitive, Threatened or Endangered species of plants or animals, or migratory bird species of high Federal interest are present, or become present in the lease area, the Lessee/Operator shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist, and a report of findings prepared. A plan will be made that recommends protection for these species or action necessary to mitigate the disturbance. The cost of conducting such inventory, preparing reports and carrying out mitigation measures shall be borne by the Lessee/Operator.	Dry Fork Federal Coal Lease (COC-67232)
	54. In order to protect big game wintering areas, elk calving areas, and other key wildlife habitat and/or activities, specific surface use may be curtailed during specific times of year. Specific time restrictions for specific species will be evaluated by the Forest Service at the individual project stage, and any additional site specific conditions of use developed at that time.	Dry Fork Federal Coal Lease (COC-67232)
	55. In the future, if water to be used for mine related activities is taken from a source that is not considered to be non-tributary waters by the U.S. Fish and Wildlife Service, or which exceeds a depletion amount previously consulted upon, the permitting agency must enter into consultation with the U.S. Fish and Wildlife Service to determine appropriate conservation measures to offset effects to listed fish and critical habitat in the upper Colorado River Basin.	Dry Fork Federal Coal Lease (COC-67232)
	56. Minimize disturbance and access during crucial winter months to avoid stressing animals.	BMP
	57. Habitat management and creation, if part of the Reclamation Plan, shall be directed toward encouraging the diversity of both game and non-game species, and shall provide protection, rehabilitation or improvement of wildlife habitat.	Forest Plan
	58. To avoid collisions with game, MCC is encouraged to consider shift changes outside of dawn/dusk.	BMP

Design Criteria		
Topic	Design Criteria for the Proposed Action	
Raptors (including Goshawks)	<p>59. Surveys will be conducted in appropriate habitats prior to construction activities. If nests are discovered, they will be appropriately buffered depending on species and/or will have timing restrictions placed on activities.</p> <p>60. In the event that a northern goshawk nest is identified during pre-disturbance surveys, nests would be protected by implementing a no-disturbance buffer of ¼ mile radius around the active nest site between the dates of March 1 and July 31.</p>	<p>Forest Plan</p> <p>Forest Plan</p>
VEGETATION RESOURCES		
Brush Removal/Tree Removal	61. Payment will be made to the Forest Service for any merchantable trees removed under a timber contract.	FSH 2409
Fire Prevention	<p>62. All equipment, including welding trucks, would be equipped with fire extinguishers and other fire fighting equipment as required by the Forest Service.</p> <p>63. Operating or using any internal or external combustion engine without a spark arresting device properly installed, maintained, and in effective working order, meeting either: (1) Department of Agriculture, Forest Service Standard 5100-1a (as amended); or (2) Appropriate Society of Automotive Engineers (SAE) recommended practice J335(b) and J350(a). 36 CFR 261.52(j) (Order # R2-2007-01)</p>	<p>R2 RFO #R2-2007-01</p> <p>R2 RFO #R2-2007-01</p>
Noxious weeds	<p>64. Power-wash all construction equipment and vehicles prior to the start of construction off-forest at a privately owned or commercial facility.</p> <p>65. Any construction or operational vehicles traveling between the Project Area and outside areas would be power-washed on a weekly basis.</p> <p>66. Weed control would be conducted through an Approved Pesticide Use and Weed Control Plan approved by the Authorized Officer.</p> <p>67. Weed and reclamation monitoring would be continued on an annual basis (or as frequently as the Authorized Officer determines) throughout the life of the project.</p> <p>68. During sensitive plant surveys, any occurrence of Rocky Mountain thistle should be flagged and mapped to avoid inadvertent herbicide application during weed treatments. Species</p>	<p>BMP, FS</p> <p>BMP</p> <p>FS Weed Maintenance Agreement with Counties, DRMS</p> <p>FS Weed Maintenance Agreement with Counties, DRMS</p> <p>FS</p>

Design Criteria		
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	identification information should also be provided to the weed control agent to further decrease the likelihood of species misidentification.	
VISUALS		
Visuals	69. Long-term surface facilities (such as the shaft) would be painted a standard environmental color selected by the Forest Service to better blend the facilities with their surroundings and thereby reduce visual impacts.	BLM/FS
GEOLOGY, SOILS, MINERALS		
Topsoil	<p>70. Where it is necessary to remove topsoil in order to construct MDW pads or access roads, topsoil shall be removed and segregated from other soil. If such topsoil is not replaced within a time short enough to avoid deterioration of the topsoil, vegetative cover or other means shall be employed so that the topsoil is protected from erosion, remains free of any contamination by toxic or acid-forming material, and is in a usable condition for reclamation.</p> <p>71. Where practicable, woody vegetation present at the site shall be removed from or appropriately incorporated into the existing topsoil prior to excavation within the affected areas.</p> <p>72. Topsoil stockpiles shall be stored and configured to minimize erosion and located in areas where disturbance by ongoing mining operations will be minimized. Such stockpile areas must be included in the affected areas and subject to all reclamation requirements.</p> <p>73. Immediate seeding of topsoil stockpiles for the purpose of stabilization may be required.</p> <p>74. Once stockpiled, the topsoil shall be handled as little as possible until replacement on the regraded, disturbed area.</p> <p>75. The Operator shall take measures necessary to assure the stability of replaced topsoil on graded slopes such as roughening in final grading to eliminate slippage zones that may develop between the deposited topsoil and heavy textured spoil surfaces.</p> <p>76. When growth media is replaced, it shall be done in as even a manner as possible. Fertilizer or other soil amendments shall be added, if required in the Reclamation Plan.</p>	<p>DRMS, FS</p> <p>Reclamation Plan, FS</p> <p>DRMS, FS</p> <p>Reclamation Plan, FS, BMP</p> <p>Reclamation Plan, FS</p> <p>Reclamation Plan, FS</p> <p>Reclamation Plan</p>
Subsoil	77. Minimize footprint of stockpile to limit disturbance. Use for regrading and contouring.	FS

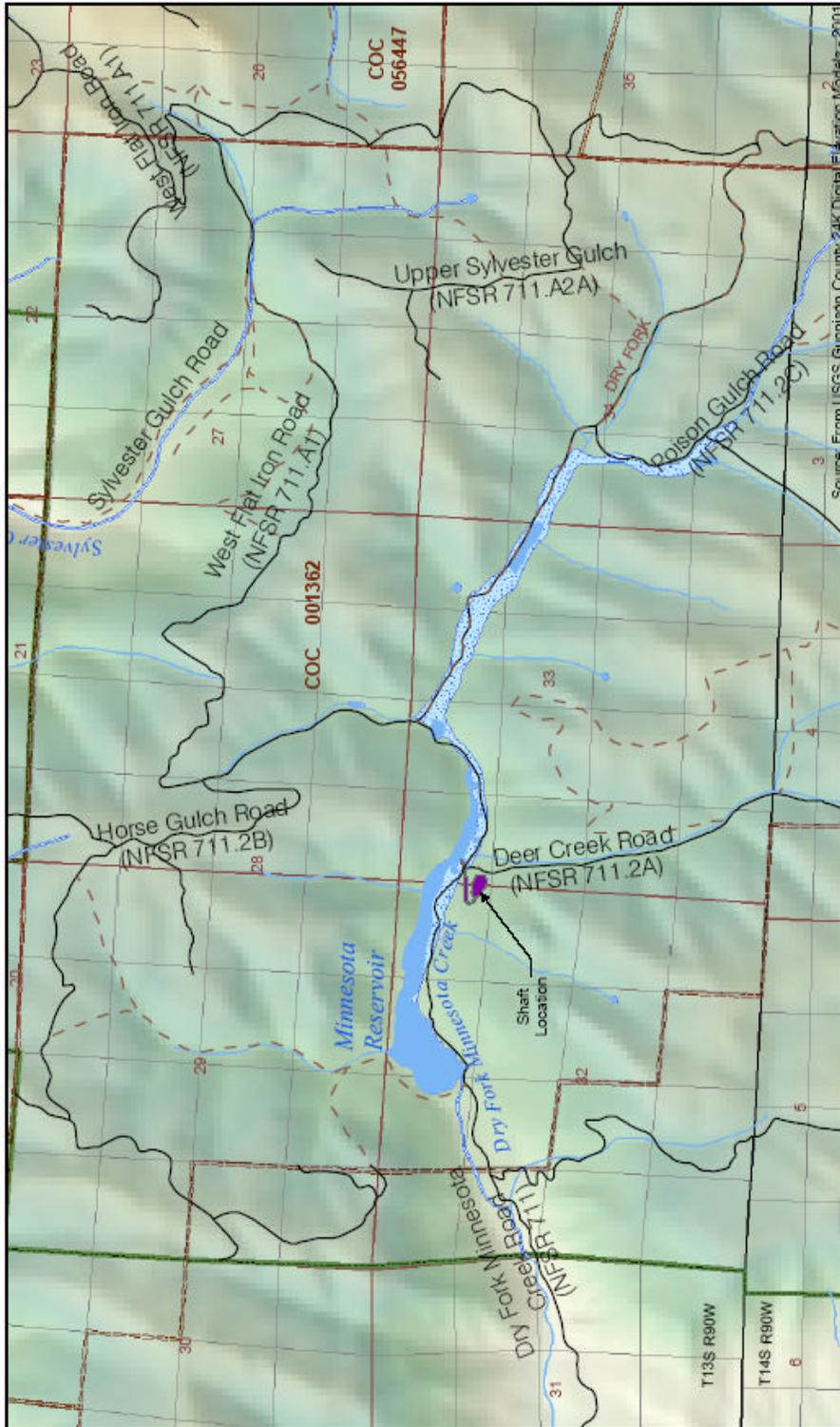
Design Criteria		
Topic	Design Criteria for the Proposed Action	
Erosion & Sediment Control	78. Erosion will be minimized through interim reclamation including, but not limited to, contouring, seeding and mulching.	BMP
	79. Sediment control measures such as, but not limited to, silt fence, straw mulch, site containment and sediment control ponds will be utilized as needed.	BMP
Incidental Coal Recovery	80. Any coal recovered incidental to project will be taken back to the mine site or disposed of in the mud pits.	MCC Project Plan
AIR QUALITY		
Surface Air Quality	81. Road watering and/or treatment with dust suppressant on the access road during the short-term construction and development activities will minimize vehicle-related fugitive dust emissions.	BMP
	82. To the extent feasible, project workers would car pool to and from the project area to minimize vehicle-related emissions and fugitive dust emissions.	BMP
RECREATION		
Recreation	83. To avoid near-miss accidents between hunters and drillers, MCC will be encouraged to avoid operations on Minnesota Creek Road from the Thursday before the second hunting season opener (mid-October) to the Wednesday after the second hunting season opener. If use is required for operations using over-sized vehicles during any period of public use, then MCC will use appropriate active traffic control measures.	CDOW suggestion
CULTURAL RESOURCES		
Cultural Surveys/ Paleontological Resources	84. Prior to the construction process, an intensive cultural resources survey would be completed by the Proponent, at their expense, on all areas proposed for surface disturbance if it has not already been inventoried per requirements of the Standard Notice for Lands Under Jurisdiction of the USDA attached to the leases.	43 CFR 7 Subtitle A and 36 CFR Part 296
	85. During project implementation, in the event of an inadvertent discovery of any other cultural resources not covered under NAGPRA (above), work should cease and an archaeologist should be notified to investigate the resource. Any cultural resources located will be brought to the immediate attention of the Forest Service and will be left intact until directed to proceed. All data and materials recovered will remain under the jurisdiction of the U.S. Government	43 CFR 7 and 36 CFR Part 296
CONSTRUCTION ACTIVITIES		
Interim reclamation	86. Interim reclamation will be done through seeding of ungraveled areas.	BMP, State

Design Criteria		
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	87. Stabilization of steep cut slopes that will remain unreclaimed over a winter or longer will be stabilized through placement of native boulders or other reclamation.	BMP
	88. All cut slopes would be aggressively re-vegetated (hydro-mulch seeded and fertilized, if necessary) following the completion of construction to help stabilize these disturbed sites.	BMP, State
	89. Post-construction seeding applications would continue until determined successful by the Forest Service.	Forest Plan, CO DRMS
Onsite Inspections	90. Prior to any construction, onsite inspections with appropriate regulatory agencies will be held to discuss site-specific concerns.	36 CFR 228 E
OPERATIONS & MAINTENANCE ACTIVITIES		
Emergency Shaft	91. Hoist and generator will be tested weekly per MSHA requirements to assure functionality.	MSHA, MCC Project Plan
	92. A 1,000 gallon propane tank for generator will be buried in pad.	MCC Project Plan
	93. The generator for shaft will be muffled to reduce noise during the testing periods.	MCC Project Plan, State
Site Security	94. A 6-foot high, locked, chain-link fence topped with barbed wire will surround shaft escapeway to preclude wildlife and public.	MCC Project Plan
	95. Underground mine workings will supply power to light the shaft and emergency escapeway instead of solar power to avoid installation of a powerline. Back-up power will be provided by a generator.	MCC Project Plan
De-gas installation	96. Degassing trailer, if needed near shaft/escapeway, will be enclosed with a fence with a locking gate to preclude public, livestock, and wildlife entry.	MCC Project Plan
	97. Equipment will be inspected by MSHA prior to installation.	
RECLAMATION ACTIVITIES		
Closure	98. Shaft and emergency escapeway would be capped with concrete and steel structure below ground surface and backfill material would be used to cover the caps. Caps would consist of 6 inch layer of concrete poured onto a steel screen supported by a steel beam frame installed 10 feet below the ground surface. Concrete collars would be removed and the area re-graded to approximate original contour and re-vegetated.	30 CFR 75.1711
Revegetation	99. Subsurface ripping would be used to reduce compaction prior to replacement of the topsoil and seeding.	BMP

Design Criteria		
Topic	Design Criteria for the Proposed Action	
	<p>100. Successful revegetation (measured by 75 percent cover of adjacent undisturbed ground after 2 growing seasons in upland areas and 80 percent ground cover in riparian areas) of disturbed ground with native vegetation.</p> <p>101. Surface will be left roughened (“pocking”) as part of the seed bed preparation.</p> <p>102. Revegetation of all reclaimed areas would include reapplication of seed (and a Forest Service recommended fertilizer if necessary) and periodic watering by the operator if revegetation is unsuccessful within two growing seasons after construction is completed.</p> <p>103. A seed mix palatable for both wildlife and livestock would be used for revegetation to support the post-mining land uses.</p>	<p>Forest Plan</p> <p>FS</p>
Reclamation Plan	104. A Reclamation Plan (reviewed by the Forest Service), submitted as part of a DRMS mine permit revision, prior to any construction activities, will include, but not limited to, methods, seeding species and seeding rates.	DRMS
COMPLIANCE REQUIREMENTS		
SMA Requirements	105. Operator shall comply with applicable requirements of surface management agency (30 CFR 815.15) or approved State program.	30 CFR 815.15
Plugging Requirements	<p>106. Bottom 50-feet of the continuously cored hole would be plugged with cementitious grout to prevent water from entering the mine following Deer Creek Shaft Construction.</p> <p>107. When no longer needed for its intended use each drilled hole or borehole, wells, or other exposed underground opening shall be capped, sealed, backfilled, or otherwise properly managed, as required by the Division and consistent with 30 CFR 75.1711. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.</p> <p>108. Exploration holes, drill holes or boreholes, wells or other exposed underground openings not completed to aquifers shall be sealed by replacing cuttings or other suitable media in the hole and placing a suitable plug 10 feet below the ground surface to support a cement plug or other media to within 3 feet of the ground surface. The hole will be marked.</p> <p>109. A surface plug shall be placed in accordance with 4.07.3(1) and the hole shall be marked.</p>	30 CFR 75.1711

¹Canada Lynx Conservation Assessment and Strategy

Appendix B-Decision Map



Source: From USGS Gunnison County 24K Digital Elevation Models - 2001

0 Feet 2,000

Decision Map
Deer Creek Ventilation Shaft
Gunnison County, Colorado
NE 1/4 Section 32, Township 13 South, Range 90 West
6th Principal Meridian

- Existing Trails
- Existing Roads
- Forest Boundary
- Private Land Boundary
- Shaft Location
- Streams
- Riparian Areas
- Lakes
- Coal Lease Boundary
- Township/Range
- Section
- 1/4 Section

