



[3410-11- P]

DEPARTMENT OF AGRICULTURE

Forest Service

Grand Mesa, Uncompahgre and Gunnison National Forests; Colorado; Federal Coal Lease Modifications COC-1362 & COC-67232.

AGENCY: Forest Service, USDA.

ACTION: Notice of intent to prepare a supplemental environmental impact statement.

SUMMARY: The Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG) is considering whether or not to consent to Bureau of Land Management (BLM) modifying the Federal Coal Leases COC-1362 and COC-67232 by adding 800 and 922 acres, respectively, to them. If the GMUG does consent to lease, it will prescribe conditions (as stipulations) for the protection of non-mineral resources. BLM will, in turn, decide whether or not to grant lease modifications and will further decide, if leased, whether or not to permit on-lease exploration consistent with lease terms. Subsequent mine plan modification activities may be permitted by Office of Surface Mining Reclamation and Enforcement (OSM).

Previous GMUG and BLM analyses and decisions were vacated by U.S. District Court for Colorado (1:13-cv-01723-RBJ) on September 11, 2014 for issues related to economic analysis on the agencies' leasing analysis and BLM's exploration analysis of recreation impacts and a redundant road. A Supplemental Environmental Impact Statement (EIS) is being prepared to correct Court-identified deficiencies and to update analysis, as needed, since the Final EIS in 2012 and BLM's Environmental Assessment (EA) in 2013. The

leasing and exploration analyses will be combined into a single document for agency and public convenience.

DATES: Public comments for this project were received April-May, 2010 during the preparation of an EA for the lease modifications, April-May, 2012 on the Notice of Intent to prepare a Draft EIS, June-July, 2012 on the Draft EIS and April-May, 2013 on BLM's Sunset Trail Area Coal Exploration Plan Environmental Assessment. Comments received during those periods will be also be considered in this analysis and those that were submitted in a timely manner during official comment periods also qualify for standing in future Forest Service objection opportunities (36 CFR 218 Subparts A & B) and BLM appeal periods. These comments have contributed to the issue analysis and alternative development. Additionally, the agency will continue to accept public comments throughout the preparation of the Supplemental Draft EIS, which is estimated to be released in spring 2016 with an additional formal comment period following its release. The Supplemental Final EIS is expected in summer 2016; however, timing of Supplemental Final EIS is subject to reinstatement of the 2012 Colorado Roadless Rule exception for the North Fork Coal Mining Area, which is currently under separate analysis.

ADDRESSES: Written comments should be addressed to Grand Mesa, Uncompahgre and Gunnison National Forests, Attn: Forest Supervisor, 2250 HWY 50, Delta, CO 81416. Comments may also be submitted electronically to <https://cara.ecosystem-management.org/Public/CommentInput?Project=32459> or via facsimile to 970-874-6698.

FOR FURTHER INFORMATION CONTACT: Niccole Mortenson, 406-329-3163 or nmortenson@fs.fed.us .

Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m., Eastern Time, Monday through Friday.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Action

Lease Modifications

Under 43 CFR 3432 (as amended by the Energy Policy Act of 2005), the holder of a federal coal lease may apply to modify a lease by adding up to 960 acres. The federal agencies are responding to applications to modify existing leases. The GMUG and BLM have identified the need to consider issuing two coal lease modifications for federal coal lands immediately adjacent to exiting federal coal leases COC-1362 and COC-67232. The purpose of the federal agencies' actions is to facilitate recovery of federal coal resources in an environmentally sound manner. Further, the purpose of the lease modifications is to ensure that compliant and super-compliant coal reserves are recovered and not bypassed. The proposed action responds to the federal government's overall policy to foster and encourage private enterprise in the development of economically sound and stable industries, to help assure satisfaction of industrial, security and environmental needs (Mining and Minerals Policy Act of 1970).

The BLM, charged with administration of the mineral estate on these Federal lands, is required, by law, to consider leasing Federally-owned minerals for economic recovery. Processing of these particular applications are not subject to Department of Interior's

January 2016 leasing moratorium (Secretarial Order No. 3338).

The USDA-Forest Service (FS), as the surface management agency, considers consenting to the BLM leasing reserves underlying lands under its jurisdiction and prescribes stipulations for the protection of non-mineral resources. Based on Forest Service consent, the Secretary of Interior (represented by the BLM Southwest District Manager) makes the determination on whether there are no significant recreation, timber, economic, or other values which may be incompatible with leasing the lands in question, and whether or not to modify the leases. BLM could then modify the existing leases, which is a non-competitive leasing action (43 CFR Part 3430).

Exploration Plan

The BLM's purpose is to decide whether to approve the exploration plan and allow the activities to occur on the proposed coal leases, consistent with lease rights, if granted, in the manner described in the plan; disapprove the plan with a statement of conformity; or approve the plan with additional conditions (43 CFR 3482.2(a)(1)), if needed, to minimize impacts. As the surface management agency, the GMUG has to determine the adequacy of the bond and has to concur with the approval terms of the exploration plan.

The BLM's need is to respond to an application to explore the coal deposits in accordance with the federal lease agreements, if issued; NEPA; the Mineral Leasing Act, as amended by the Federal Coal Leasing Amendments Act of 1976; and the Federal Land Policy and Management Act of 1976. The BLM would also be fulfilling management obligations regarding the federal coal resource by obtaining information which allows the BLM to verify the recoverable reserves.

Proposed Action

Lease Modifications

Ark Land Company (Ark) submitted an application in January 2009 and resubmitted in February 2015 seeking to modify two existing federal coal leases COC-1362, owned by Mountain Coal Company (MCC), and COC-67232, owned by Ark, by adding 800 and 922 additional acres (respectively) to them. The applications are being processed according to procedures set forth in 43 CFR 3432.

The proposed action is for the Forest Service to consent to and BLM approving modifications to MCC's existing federal coal leases COC-67232 and/or COC-1362 and thereby adding 922 and 800 additional acres (respectively) to ensure that compliant and super-compliant coal reserves are recovered and not bypassed, and to identify stipulations for the protection of non-mineral (i.e. surface) resources. The proposed coal lease modification areas lie in portions of sections 10, 11, 13, 14, 22 and 23 of T.14S, R. 90W, 6th PM in Gunnison County, Colorado, adjacent to the currently operating West Elk Mine.

As part of the proposed action alternatives the GMUG Forest Supervisor must decide if the existing stipulations on the parent leases are sufficient for the protection of non-mineral (i.e. surface) resources. If not, additional stipulations that would provide for the protection of non-mineral resources must be prescribed. The Final EIS Tables 2.1a and 2.1b show the stipulations on the parent leases and their applicability to the lease modifications, as well as, proposed modifications and changes.

In accordance with Forest Service Manual (FSM) 2820, the Standard Notice for Lands under the Jurisdiction of Agriculture is part of the parent leases, and hence would apply to the lease modifications. This Standard Notice includes requirements for Cultural and Paleontological Resources, and Threatened and Endangered Species (see Final EIS Table 2.1a). Further, the

Standard Notice contains the following language: “The permittee/lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of Interior in the permit. The Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an exploration plan by the Secretary of the Interior, (2) uses of all existing improvements, such as forest development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by the permit/operation approved by the Secretary of the Interior.”

Lease stipulations that have been identified in the Final EIS would be brought forward in the Supplemental Draft EIS for all action alternatives.

The proposed action responds to the overall guidance given in the GMUG Land and Resource Management Plan, as amended (USDA Forest Service, 1991) which encourages environmentally sound energy and mineral development, and the BLM Uncompahgre Basin Resource Management Plan (RMP; USDI BLM, 1989). To that end, the GMUG has identified the need to consider consenting to two coal lease modifications for federal coal lands immediately adjacent to existing federal coal leases COC-1362 and COC-67232 to further the Forest Plan direction.

Exploration Plan

The proposed action is for the BLM to approve the Sunset Trail Area Coal Exploration Plan to conduct coal exploration activities after a leasing decision is made in sections 10, 11, 14, and 15 of T.14S, R. 90W, 6th PM in Gunnison County, Colorado within the coal lease

modification area. The exploration plan was submitted by Ark on behalf of MCC. Ark would conduct the exploration activities. Exploration consists of drilling, obtaining e-logs down-hole, and collecting core samples for testing.

Alternatives

No Action Alternative

A. Leasing

Analysis of the No Action alternative is required by CEQ 40 CFR Part 1502.14(d). Under the no action alternative, the lease modifications would not be approved, and no mining would occur in these specific areas. Impacts from mining coal under these areas would not occur on these lands, and the effects from on-going land uses could continue including coal mining activities such as exploration and monitoring and subsidence related to existing mine activities, as well as continued recreation and grazing. The land would continue to be managed according to Forest Plan standards, goals and guidelines.

B. Exploration Plan

Issuance of on-lease exploration is conditional upon lease rights being granted. If the lease modifications were not approved, the Sunset Trail Area Coal Exploration Plan could also not be approved as submitted. Information would not be acquired on the coal resource. The No Action Alternative would not preclude MCC from applying to BLM for an exploration license for off-lease activities in the future unless otherwise precluded by the Colorado Roadless Rule.

Alternative 3- Consent to and modify the lease(s) under the Colorado Roadless Rule

Framework (Agencies' Preferred Alternative)

A. Leasing

The proposed action is for the Forest Service to consent to and BLM modifying existing federal coal leases COC-1362 and COC- 67232 by adding 800 and 922 additional acres (respectively) to ensure that compliant and super-compliant coal reserves are recovered and not bypassed, and to identify stipulations for the protection of non-mineral (i.e. surface) resources.

The proposed action deals primarily with underground mining. It is assumed that longwall mining practices would be used. Minor surface disturbance would occur on Forest Service lands as a result of subsidence (slight lowering of the land surface and possible soil cracking along the outside edges) as the coal is removed. In the event that post-lease surface activities are proposed and authorized, other soil disturbance may occur due to temporary road construction and drilling of methane drainage wells (MDWs) which are needed for safety of miners underground. Current technology is not available that would be able to drill MDWs without roads.

Because leasing itself does not approve any mineral development or surface disturbance, it is necessary to project the amount of surface use or activity that may result during lease development in order to disclose potential effects and inform decision-making. A Reasonably Foreseeable Mine Plan (RFMP) has been developed to address potential environmental effects and is detailed to the extent necessary without being predecisional. A RFPM has previously been developed for this alternative and is included in the Final EIS (Section 3.2). It must be noted that decisions pertaining to surface use and disturbance, with the exception of subsidence impacts, are not made at the leasing stage. Rather, the decisions related to permit-related surface activities are made when and if site-specific surface uses are proposed, and are evaluated through the BLM's on-lease

exploration (detailed below) or through State permitting process for mining. The environmental effects analysis of post-lease surface use and disturbance associated with this alternative will include subsidence and MDW pads and their associated access. It should be noted that approval of these lease modifications may extend the life of the existing West Elk Mine by approximately 1.4 years and provides underground access to existing privately-owned (fee) and other federal coal reserves which could extend the life of the mine by an additional 1.3 years; it would not approve a new mine nor is it anticipated to change current production rates at the West Elk Mine.

Alternative 3 would be analyzed under the framework of the Colorado Roadless Rule (CRR). This rule went into effect on July 3, 2012. The CRR specifically addressed coal mining in this area (known as the “North Fork Coal Mining Area”) by providing for the construction of temporary roads which would be needed for MDWs. The CRR in this instance includes the Sunset Colorado Roadless Area (CRA). Sunset CRA includes 786 acres of the COC-1362 lease modification and 915 acres of the COC-67232 lease modification. Under Alternative 3, the Forest Service would consent to and BLM would modify the leases with all stipulations/notices/addenda identified in the Final EIS (Tables 2.1a and 2.1b). This alternative would rely on the reinstatement of the North Fork Coal Mining Area exception to the CRR after Court vacatur; analysis of which is in progress. The North Fork Coal Mining Area exception would allow for MDW drilling and temporary road access, and would therefore allow for mining the coal under RFMP (described in the Final EIS Section 3.2) with today’s available technology. Because a leasing decision itself does not involve any mineral development or surface disturbance, it is necessary to project the amount of surface use or

activity that will likely result during lease development in order to disclose potential effects and inform decision-making.

B. Exploration Plan

The proposed action is for the BLM to approve the site-specific Sunset Trail Area Coal Exploration Plan to conduct coal exploration activities after a leasing decision. Exploration would consist of drilling, obtaining e-logs down-hole, and collecting core samples for testing and is detailed below.

Sites, locations, temporary access road lengths, and estimated disturbed acreage of the 10 exploration sites proposed have previously been identified. They would be located within the proposed coal leases modifications above. Exploration activities would be scheduled to be completed over the course of two years. Exploration and reclamation activities would be completed by October 31 each year.

Access road upgrades and new construction would begin one to two weeks prior to moving the drill rig onto the site. The construction, drilling, and reclamation activities would take an average of 16 days per hole.

Roads would be needed for access to drill pad locations at this time. Roads would generally have a travel width of 14 feet wide. For construction road width would generally be 30 to 45 feet. For the analysis, an average of 35 feet will be used, which would disturb 4.24 acres per mile. Drill pads would, at a maximum, disturb 0.46 acres per pad. Total disturbance on NFS lands would be 29.64 acres.

Drilling activities such as pad construction, road grading, or watering, would not be scheduled on opening weekend of big game hunting seasons to avoid user conflicts.

There would be no stationary fuel storage on site. Fuel would be brought to the equipment by truck. If left on-site, the fuel truck would be parked on a prepared drill pad where drainage is contained on the pad and mud pit.

Exploration activities would follow any required stipulations attached to the leases and lease modifications.

First Year Exploration Drilling Program-Four exploration drill holes (SST-2, SST-4, SST-5, and SST-6) are planned to be drilled in the first field season. These four holes would be within the lease modification area of COC-1362. Temporary roads and drill sites would be developed. Upon completion of the first field season and subsequent data review, Ark would determine if completion of the exploration plan with the remaining six exploration drill holes is warranted for a second season. If Ark determines further exploration drilling is not warranted, unless the drill sites and access roads would be used as future MDW locations, they would then be reclaimed. If further exploration is warranted, the edges of temporary roads would be reclaimed to a maximum 14 foot width running surface. Per Forest Service stipulations, waterbars and stormwater control devices will be placed at the end of the field season, even if the road will be used again in the next season. Culverts would be removed to allow unhindered natural flow events over the winter and spring. Site SST-6 may be kept open as a staging area for the next season's activities.

Second Year Exploration Drilling Program- If the results of the coal resource exploration from the first field season are favorable, exploration activities would continue during the second field season at sites SST-1, SST-3, and SST-7 through SST-10.

Drainage control on temporary roads used for the previous year's exploration program will be reestablished.

Pre-drilling Activities- On-site inspection of proposed drill sites and access routes was conducted with representatives from appropriate regulatory agencies to discuss site-specific concerns. A road was relocated to improve stream crossings and avoid steep slopes. State, Forest Service, and BLM regulatory personnel would be notified at least 48 hours before any construction or drilling equipment is mobilized. An authorized representative of Ark would supervise all construction and drilling activities. A copy of the exploration permit and all pertinent permit documents would be available from the Ark representative for inspection. Any proposed changes in the exploration plan after permit approval would be reviewed and approved by the appropriate regulatory agencies before changes take effect.

Road Construction- Existing roads would be used whenever possible and movement of equipment across undisturbed land would be kept to a minimum. New roads would be constructed only when necessary and only as the drilling program progresses. A projected maximum 14-foot road running width would be employed except in locations such as curves, where more width would be needed for the drill rig. Maximum road width disturbed area would be 40 feet. The analysis will use an average of 35 feet of disturbance width.

The drill sites have been located so temporary roads are as short and disturb as little ground as possible and still provide reasonable access and appropriate coal data. Topsoil would be stockpiled and redistributed at reclamation. Erosion control structures such as water bars would be installed as required and would be constructed in accordance with regulations and stipulations. Any culverts placed would be removed at the completion of the project.

*Drill Site Construction-*Drill sites would be 0.46 acres of disturbance or smaller. Drill site sizes and dimensions were reviewed and field fitted to topography with the aid of Forest Service representatives.

A bulldozer (D-7 or smaller) would clear brush and small trees from the drill pad. Topsoil would be removed and stockpiled on the upslope side of the drill pad and remain undisturbed during drilling. Up to one foot of topsoil thickness would be salvaged and stockpiled at the disturbance site with a "TOPSOIL" sign clearly marking the pile. Drill sites would be leveled by grading.

Slurry (mud) pits would be made on the drill pad. One or two pits would be excavated at each site depending upon depth of drill hole and projected water requirements. The mud pit(s) would be approximately 10 feet wide, 30 feet long, and 6 feet deep. Subsoil and rock materials would be stockpiled within the drill pad clearing and used to refill the mud pits at reclamation.

Erosion and transportation of sediment would be minimized through stormwater controls.

Using the existing roads or trails would minimize disturbance. Where possible, the existing vegetation would be left to reduce the need for sediment control. Using existing level areas for drill pads would minimize surface disturbance.

Salvaged soils would be placed adjacent to the drill pad with appropriate sediment control devices surrounding the down slope portion of the soil stockpile. A similar sediment control device would be placed on the downslope side of the subsoil/rock stockpiles from the slurry (mud) pits.

Methods and Equipment for Drilling- Rotary drilling and coring on each site would be completed using a rubber-tired, truck-mounted drilling rig. To aid in the reduction of surface disturbances, Ark would use the smallest possible drill rig that can be used safely and successfully. Support equipment may consist of one or two water trucks, one rig-up truck, a

pipe truck, flatbed trailer, one or more air compressors and/or boosters, a supply trailer, and three 4-wheel drive pickups.

Water sources for drilling operations would be nearby streams, where MCC owns the water rights, or stock watering ponds. Water from streams would be either pumped or trucked to the sites. If pumped, pipes (1-inch polyvinylchloride or 2 to 3-inch hose) would be laid alongside the roads and undisturbed ground surface. If trucked, about two 4,000-gallon water truck trips would be needed per site. The use of these water sources would be approved by the agency or party owning the water rights. In the event stock ponds are used, minimum water levels would be established to ensure sufficient water is left for stock and wildlife. Removal of sediments and other maintenance of stock watering ponds within proximity to the exploration sites would provide improved water storage for drilling operations and long term use for wildlife and livestock. Sediments removed from ponds would be placed on the pond embankment, wheel-rolled, and seeded. Water consumption is estimated at 5,500 to 8,500 gallons per drill hole (0.017-0.026 acre feet). No water storage tanks would be needed. Overland flow of the drill fluids would be directed into the slurry pit as would most precipitation runoff.

Upon drill hole completion, one truck mounted geophysical logging unit would be used at each hole location.

Modification of Drill Holes to Surveillance for Water Levels-Exploration hole SST-2 may be converted to an E-Seam water monitoring site if a mineable thickness of E-Seam coal is present. Construction of the water monitoring well would be delayed until a determination on mineability of the coal is made. The necessary well permit would then be obtained from the Colorado Division of Reclamation, Mining and Safety (CDRMS) for the well installation.

It is not anticipated that significant water-bearing bedrock or aquifers would be encountered. The Mesa Verde Formation is known to contain limited water bearing sandstones, and no known bedrock aquifers exist. If significant quantities of water are encountered, the appropriate regulatory officials would be notified and if directed, the hole may be completed as an additional water monitoring well.

Drill Hole Abandonment Methods-The hole plugging method described in 43 CFR 3484.1(a), states that each open hole would be plugged with cement from bottom to 50 feet above the uppermost thick coal seam and from 50 feet below to 50 feet above any aquifers encountered in the hole. The remainder of the hole would be filled with an approved completion mud, gel, cuttings, or cement to within 10 feet of the surface. A 10 foot cement surface plug would be set, and an appropriately labeled monument marker to be cemented into the surface plug. For monitoring wells, the surface casing would be cut off at or below the level of the soil surface. Ark may elect to fill the hole in its entirety with cement.

Access-Primary routes used to access the exploration area would be Highway 133 to the West Elk Mine entrance and the private and National Forest administrative road through Sylvester Gulch to National Forest System Road (NFSR) 711. Approximately 0.4 miles of NFSR 711 will be used to access the Sylvester Gulch Road.

Secondary access may use the Gunnison County Road 710 to Lick Creek. Access is controlled through a gate at the bottom of the Lick Creek Road on MCC's fee surface to the exploration area. Additionally there may be access via NFSR 711 and the spurs 711-2C to the proposed sites and 711-2A.

NFSR 711 has been maintained by MCC as an access road to exploration drill holes and methane drainage well sites for 17 years. Upgrades and improvements to the road include

gravel base, culverts, ditches, gates, and drainage control structures. Ongoing maintenance is a condition of MCC's Road Use Permit.

Reclamation Plan- Final reclamation activities would follow the completion of the hole as soon as possible. Upon completion of all drilling activities at each site; debris, trash, and drilling equipment will be removed. Mud pit(s), once sufficiently dry, would be filled with stored subsoil and compacted. Remaining subsoil would be redistributed on and around the drill pad to the original contour. Stored topsoil would be distributed evenly over the disturbed pad area.

The entire drill pad area would be re-seeded using the Paonia Ranger District seed mix. After seeding, the cleared brush would be redistributed over the drill pad area to act as natural mulch. This method has proven successful for the revegetation of previous drill sites. Sediment control measures would include slash, silt fence, erosion control blankets, or straw wattles.

Newly developed access roads would be graded to the original contour as closely as possible and re-seeded.

The drill pad and access roads reclamation procedure outlined above would apply only to newly disturbed areas. Existing roads, as identified in the 2010 Gunnison National Forest's Travel Management Plan, would be left in a condition equal to or better than that observed upon Ark's entry into the area.

After reclamation, newly constructed access roads to certain drill sites may be blocked and closed to vehicle entry at the GMUG or surface owner's request. Alternate road closure methods may be employed where practical after review with the Forest Service representative.

Alternative 4- Consent to and modify only COC-1362 lease (Environmentally Preferable Alternative)

A. Leasing

Many commenters expressed concerns regarding roadless area effects due to post-lease development. Similarly, some commenters suggested an alternative requesting agencies' consent/leasing for proposed modification to COC-1362 only, while not consenting to proposed modification to lease COC-67232. In response to those comments Alternative 4 was brought forward for further analysis from alternatives Considered but Eliminated from Detailed Study in the Draft EIS. Alternative 4 would include all the same lease stipulations considered for Alternative 3 as detailed in the Final EIS (Tables 2.1a and 2.1b). As part of the analysis of this alternative, the Forest Service requested an additional review from BLM to make determinations of mineable resources.

Alternative 4 will analyze the effects of post-lease surface activities-

1. under the Colorado Roadless Rule including temporary road construction in the Sunset Colorado Roadless Area, as described in Alternative 3 above, or
2. with no road construction above.

An RFMP was developed to address indirect and cumulative effects specific to the COC-1362 modification only.

B. Exploration Plan

The on-lease exploration activities would remain similar to Alternative 3 except roads would be truncated at the lease modification boundary. This may result in a reduction of three or more exploration drill holes and a reduction of approximately 2.75 miles of temporary road within the COC-67232 lease modification. Because an exploration plan specific to this alternative

has not been submitted, the agencies are unsure if road density and miles might be increased on the COC-1362 lease to try to reach drill holes close to the lease modification boundary or if they will be foregone. Effects analysis will rely on the RFMP developed for leasing to assess impacts.

Alternatives to be removed from detailed analysis in the SDEIS include:

Alternative 2- Under Alternative 2, the Forest Service would consent to and BLM would modify the leases with stipulations/notices/addendums above listed for the Action Alternatives. However, under the provisions of 2001 Roadless Area Conservation Rule, road construction would not be allowed in the lease modification areas. At the time of this notice, the 2001 Roadless Area Conservation Rule is no longer in effect in Colorado. It has been replaced with the 2012 Colorado Roadless Rule and the roadless area boundaries have changed. Therefore, this alternative is now moot.

Alternatives not considered in detail in the SDEIS remain as described in the FEIS and BLM EA:

Mitigate the potential greenhouse gas emissions of the project by requiring MCC to use MDW ventilation air methane-In the geological process, methane and coal are formed together. In many coal-bearing formations, the methane can be trapped within the coal seams and/or within the surrounding rock strata. The process of longwall mining reduces the geological pressure and fractures the coal, thereby releasing the methane. In underground coal mining, methane is released into the mine during extraction. MSHA regulations require methane to be diluted in the ventilation air and then vented to the atmosphere, known as VAM, for the safety of the mine workers.

With respect to the VAM, no technology currently exists that has been demonstrated to

have the capability of handling the volume of ventilation air and dilute concentrations of methane at the West Elk Mine to make capture economically feasible (current lease stipulation language). In 2009, the DOE released the results of a study to simulate VAM capture using a non-producing mine (see U.S. Department of Energy Cooperative Agreement DE-FC26-02NT41620, available on the Internet at: http://www.epa.gov/cmop/docs/vam_executive-summary.pdf). The project demonstrated continued advancements and a viable solution for coal mine VAM control. The DOE, however, stated that the, “system is only economically feasible when there is value for GHG emission reduction.” This implies carbon credits, cap- and-trade, or another market or regulatory-based incentivized system for reducing GHGs. (The DOE assessment included carbon credits in their economic feasibility model, which provided a cost basis for controlling VAM up to 180k cfm).

In relation to the coal lease modifications, MCC commissioned an analysis (Final EIS Appendix A) for capturing and/or conditioning the MDW methane for use onsite as fuel for a co-generation facility in order to produce electricity for sale to the grid, or for sale as pipeline quality natural gas. The study evaluated the gas characteristics and potential quantities of methane that would be realistically produced based upon existing well data and testing. This information was then used to engineer a collections system, including options for pipelines and screw compressor configurations for pressure management; and dehydration units, control systems, valves, and metering. Options for energy generation equipment included reciprocating internal combustion engines (RICE) and combustion turbines. Additional gas processing equipment options for rendering natural gas from the CMM were also presented. The analysis covered multiple scenarios for multiple

configurations of equipment. The analysis for the production of natural gas from CMM indicated that the levels of contaminants in the gas (including carbon dioxide, oxygen, and nitrogen) were treatable, but that the cost of treatment of the gas, the cost of gas compression, and the distance to access available existing pipeline systems were prohibitive for delivery of the gas as a saleable product. This mining project would be an addition to an existing mine; therefore, uninterrupted mining would need to take place in order for this project to be economically viable.

An alternative for methane capture, with the required infrastructure, would likely include more miles of road construction connecting to a capture facility (probably centralized to operations) and pipeline construction (even though pipelines may occur near or in roads) and surface disturbance than would the Alternative 3, which would also produce additional impacts across multiple resource areas including air resources and roadless areas.

Mitigate the potential greenhouse gas emissions of the project by requiring MCC to purchase of carbon credits or do off-set mitigations-It was suggested that MCC be required to purchase carbon credits as mitigation for methane. Congress may develop cap-and-trade legislation as a means to reduce greenhouse gas emissions. Under “cap-and-trade,” the government sets a limit or a cap on the amount of a pollutant that may be emitted. The limit or cap is allocated or sold to businesses in the form of emissions permits, which then represent the right to emit or discharge a specific volume of the specified pollutant. Under this type of legislation, businesses are required to hold a number of permits (or “carbon credits”) equivalent to their emissions. Generally, one carbon credit is equal to one tonne (metric ton) of carbon dioxide or carbon dioxide

equivalent gases. The total number of carbon credits cannot exceed the established cap, limiting total emissions to that level. Businesses that need to increase their carbon credits must buy from those who require fewer carbon credits (“trade”). The goal of cap-and-trade legislation is to allow market mechanisms to drive industrial and commercial endeavors where carbon emissions are constrained (or limited); to date they are not constrained in the US. Since GHG mitigation projects (such as those listed for flaring or capture above) generate carbon credits, the sale can be used to finance carbon reduction projects between trading partners around the world. Currently, purchasing carbon credits is a voluntary financial investment that MCC may choose to entertain for business reasons. The federal agencies are not involved in any financial investment decisions that MCC makes as a corporation. Since no cap has been established, there is no need to require purchase of carbon credits as mitigation measure for this leasing analysis. While other specific off-set (or off-site) mitigations may be possible, they have not been brought forward for consideration related to this leasing analysis.

Prevent all future disturbances from road construction, methane drainage well pads and the like in Roadless Areas- The environmental consequences from an alternative that considers prevention of future surface disturbance is already covered by consideration of the No Action Alternative. Therefore, CEQ NEPA regulations describe this situation as having been covered by prior environmental review (Sec. 1506.3).

Shrink the boundaries of the lease to conform to the area where the coal will be mined underground- The proposed lease modification boundaries were defined by the BLM during tract delineation, and the FS has not found reasons for shrinking the tracts due to surface resource concerns or results of the unsuitability assessment (see Appendix B).

The mine plan is approved in a later permitting process by DRMS and OSM. The longwall panels foreseen by MCC are based on current, yet limited knowledge of the geology. As panels are developed, they could be longer or shorter, depending upon conditions found during development. If the area to be mined is limited, it could cause bypass of mineable coal. Therefore, where actual subsidence or mining may occur is not known at this time. The estimated subsidence, derived from the RFMP for each alternative is described in the Final EIS Section 3.4.

Protect values of the area by using this set of stipulations for the Proposed Action

Protect a number of values by adopting the following no surface occupancy (NSO) stipulations (proposed stipulation is followed by response):

1. NSO stipulations prohibiting road and MDW well pad construction within ¼ mile of the hiking route known as “Sunset Trail,” which traverses the lease modification, to protect recreational values.

GMUG Forest Plan indicates (III-68) coal mining is prohibited on trails on the National System of Trails in “Further Planning Areas” (i.e., areas identified in the Rare II inventory for wilderness designation). The Sunset CRA is not a further planning area and the Sunset Trail is not on the National System of Trails (examples on the GMUG include Crag Crest Trail, Continental Divide National Scenic Trail, etc), it is simply a non-system non-motorized trail that is mostly overgrown with minimal use by the public.

Recreational values according to the Forest Plan for this management area could range from semi-primitive non-motorized to roaded natural or rural. Further, the Alternative 3 includes a lease notice that addresses development scenarios for Roadless Areas.

- NSO stipulations prohibiting road and MDW well pad construction for all areas

within ¼ mile of: (a) all lynx denning habitat; (b) all lynx winter foraging habitat; and (c) all lynx foraging habitat which is adjacent to lynx denning habitat.

Appropriate stipulations specific to Lynx and related to Threatened and Endangered species are in Alternatives 3 & 4. Lynx stipulations included are consistent with the GMUG Forest Plan 2008 amendment, Southern Rockies Lynx Amendment and the Endangered Species Act. Further, the Forest Service has consulted with the USFWS regarding Canada lynx. CEQ NEPA regulations describe this situation as having been covered by prior environmental review (Sec. 1502.20).

2. NSO stipulations prohibiting road and MDW well pad construction for all areas within ¼ mile of a water influence zone (WIZ).

The GMUG's WIZ is defined as: The land next to water bodies where vegetation plays a major role in sustaining long-term integrity of aquatic systems. It includes the geomorphic floodplain (valley bottom), riparian ecosystem, and inner gorge. Its minimum horizontal width (from top of each bank) is 100 feet or the mean height of mature dominant late-seral vegetation, whichever is most. The Watershed Conservation Practices Handbook 12.1 Management Measure (3) states in the WIZ "allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition." Lease stipulations addressed in the Alternatives 3 & 4 address the concern of activities in the WIZ.

3. NSO stipulations prohibiting road and MDW well pad construction for all areas within ½ mile of the West Elk Wilderness boundary, to protect roadless, wildlife, scenic, and other values.

The West Elk IRA was not brought forward as a further planning area during the RARE

II wilderness inventory. Unlike Oil, Gas and Geothermal development (Forest Plan III-54), coal leasing does not provide any conditions that would warrant the issuance of an NSO buffer stipulation in this area (Forest Plan III-66). Recreational values according to the Forest Plan for this management area could range from semi-primitive non-motorized to roaded natural or rural. Furthermore, provisions of the Colorado Wilderness Act (specific to the West Elk Wilderness) do not allow for the prevention of activities outside wilderness “Congress does not intend that designation of wilderness areas in the State of Colorado lead to the creation of protective perimeters or buffer zones around each wilderness area. The fact that nonwilderness activities or uses can be seen or heard from areas within the wilderness shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area” (96-560, Sec. 110).

- NSO stipulations prohibiting road and MDW well pad construction within ¼ mile of any old growth forest to prevent fragmentation.

Old growth stands have not been identified in the lease modification area. There are three stands which may or may not be old growth outside the lease modification area within the affected 6th level hydrologic unit code (HUC) (same acreage as the 4th level watersheds described in early old growth definitions) that meet the first screening criteria (large diameter trees) for old growth using Mehl’s definitions (Mehl 1992). One is a spruce-fir stand located in the West Elk Wilderness; one is a cottonwood stand located primarily on private land; the last is a spruce-fir stand over a mile west of the lease modifications. None of these stands would be impacted directly or cumulatively by post-leasing surface impacts. However, assuming post-lease surface disturbing activities would occur in mature/over-mature classes (which may provide some of the same habitat

components as old growth), the GMUG Forest Plan (page III-9a, III-9b) allows for removal of 70-80% of these stands assuming residual patch sizes are met. If the RFMP were implemented in Alternative 3, it is estimated that up to 61 acres of mature/over-mature aspen (0.3% of vegetation unit), and 7 acres of mature/over-mature spruce-fir (0.09% of vegetation unit) may be disturbed. These are both only a tiny fraction of that allowed to be removed under forest plan standards to protect structural diversity.

- NSO stipulations prohibiting road and MDW well pad construction within ½ mile of any raptor nest site.

There is no need for an NSO stipulation related to raptor nest sites as it is covered by survey and timing limitations requirements (Lease Stipulations) in Alternatives 3 & 4 for sensitive raptors in Colorado as identified by Region 2 list. CEQ NEPA regulations describe this situation as having been covered by prior environmental review (Sec. 1502.20).

4. NSO stipulations prohibiting road and MDW well pad construction on slopes greater than 40% to protect soils and prevent erosion.

A stipulation that requires restrictions for no surface occupancy to be allowed in “areas of high geologic hazard or high erosion potential, or on slopes which exceed 60%” and a stipulation that requires “special interdisciplinary team analysis and mitigation plans detailing construction and mitigation techniques would be required on areas where slopes range from 40-60 %...the interdisciplinary team could include engineers, soil scientist, hydrologist, landscape architect, reclamation specialist and mining engineer” already exists as part of the Alternative 3. These stipulations are required by the Forest Plan and supported by the Watershed Conservation Practices Handbook (FSH 2509.25). CEQ

NEPA regulations describe this situation as having been covered by prior environmental review (Sec. 1506.3).

For Exploration Use Helicopters to Transport Drill Rig-An alternative analyzing drilling using a drill rig that can be placed on site by a helicopter drill rig to avoid construction of access roads was considered; however, this alternative was not carried forward for detailed analysis because it is ineffective and technically infeasible. The geology of the exploration area is such that the aggregate material is not structurally sound; therefore, the drill hole must be cased. In order for the holes to be properly cased, the initial diameter must be wide enough to allow for casing and core extraction. This is not feasible to do with a drill rig that can be transported by helicopter because they are too small and not powerful enough. Furthermore, this alternative would not fulfill the purpose and need for the proposed action because it would not allow the exploration to be accomplished if the holes collapse before the core sample can be obtained.

For Exploration Analyze Only the Holes Proposed to be Drilled During the First Field Season for Exploration-An alternative was suggested by Wild Earth Guardians that would include only the four holes that MCC proposes to drill during the first field season. This alternative was not carried forward for detailed analysis because it is ineffective as it would not provide the necessary information on the coal. This alternative would not meet the purpose and need of the proposed action because it would not effectively explore the coal leases consistent with lease rights, if granted.

Lead and Cooperating Agencies

Lead Agency:

Grand Mesa, Uncompahgre and Gunnison National Forests

Cooperating Agencies:

Uncompahgre Field Office, Bureau of Land Management

Southwest District Office, Bureau of Land Management

Colorado State Office, Bureau of Land Management

Western Region, Office of Surface Mining Reclamation and Enforcement

Colorado Division of Reclamation Mining and Safety

Responsible Officials

GMUG Forest Supervisor

BLM Southwestern District Manager

Nature of Decision To Be Made

Forest Service

The GMUG Forest Supervisor is the Authorized Officer for this discretionary consent decision on these coal lease modifications (FSM 2822.04c, R2 Supplement). Given the purpose and need, the Authorized Officer will review the proposed action, the other alternatives, and the environmental consequences in order to decide the following:

- Whether or not to consent to the BLM modifying existing Federal Coal Lease COC-1362 by adding 800 acres, and whether or not to consent to the BLM modifying existing Federal Coal Lease COC-67232 by adding 922 acres according to the Mineral Leasing Act of 1920; as amended by the Federal Coal Leasing Amendments Act of 1976 and Energy Policy Act of 2005;
- If the Forest Service consents to modify the leases, they will prescribe stipulations needed for the protection of non-mineral surface resources by determining if the existing stipulations on the parent lease are sufficient. If they are not sufficient,

prescribe additional stipulations that will provide for the protection of non-mineral interests in the lands.

The Forest Service Authorized Officer will determine if the activity is consistent with the GMUG Forest Plan. The Forest Service decision will be made based on the analysis relative to the No Action and Proposed Action Alternatives.

BLM

The BLM is a cooperating agency for this EIS to respond directly to their role in the Federal coal leasing process which is tied to the mineral (not surface) estate. The BLM State Director is the Authorized Officer for the BLM, and will decide whether or not to modify the existing coal lease under the Mineral Leasing Act, as amended, and the federal regulations under 43 CFR 3400. The Uncompahgre Field Office Manager/Southwest District Manager is responsible for providing the State Director with briefings and recommendations.

Specifically, the BLM will decide whether to:

- Adopt the No-Action Alternative (no leasing);
- Adopt the coal lease modifications as applied for by the applicants;

BLM cannot issue lease modifications without the consent of the surface managing agency. BLM's must also decide whether to approve the exploration plan and allow the activities to occur on the coal leases, consistent with lease rights if granted, in the manner described in the plan, disapprove the plan with a statement of conformity, or approve the plan with additional conditions (43 CFR 3482.2(a)(1)), if needed to minimize impacts. BLM cannot approve an exploration plan without concurrence by the surface management agency (concurrence is not a "decision" subject to Forest Service objection process).

OSM

Office of Surface Mining Reclamation Enforcement (OSM) is a cooperating agency in preparing this EIS. If the leases are modified, OSM will determine if there is a need for a federal mining plan modification at the time the actual permitting process is underway. If a federal mining plan modification is needed, OSM would be responsible to recommend that the DOI Assistant Secretary for Lands and Minerals approve, approve with conditions, or not approve the modification.

DRMS

In Colorado, the Division of Reclamation Mining and Safety (DRMS) operates under an OSM -approved program for administering coal mining operations in the state, as codified by the Colorado Surface Coal Mining Reclamation Act (CRS 34-33-101) and attendant regulations which are consistent with the overarching federal regulations (30 CFR Part 906, Appendix B). Any applications submitted to the State of Colorado to revise the state mining and reclamation permit, including applications to allow mining and its related surface disturbances, reclamation, and the changing of the approved mine permit boundary to include the modification area , would be reviewed by the DRMS.

Preliminary Issues

Issues have previously been addressed in the Final EIS (Table 1.9) and will be carried forward in this analysis. It is believed that new issues will arise during this the Supplemental EIS process including, but not limited to: changes in fish recovery status prompting reconsideration of GMUG's Programmatic Biological Opinion for Water Depletions related to Endangered Big River Fishes and request for Social Cost of Methane analysis.

Scoping Process

In addition to receiving and considering previous comments from the public, the agency continues to accept and consider public comments to guide the development of this Supplemental EIS and the resulting decision. Additional comments should clearly articulate the reviewer's concerns and contentions, and focus on the adequacy of stipulations proposed as they relate to the protection of surface resources or specific to analysis that must be undertaken relative to exploration activities. Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered, however.

Dated: February 12, 2016.

Scott G. Armentrout, Forest Supervisor.

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