

APPENDIX H

APPLICATION OF CRITERIA FOR ASSESSING WHETHER FEDERAL LANDS ARE UNSUITABLE FOR ALL OR CERTAIN STIPULATED METHODS OF COAL MINING

As required by the Surface Mining Control and Reclamation Act of 1977, the U.S. Department of the Interior has developed criteria to determine whether federal lands are unsuitable for coal leasing and mining.

This application of the coal unsuitability criteria is directed at the federal mineral estate within the Great Falls Coal Field. No coal lease applications have been received for coal in this area. However, because of the proximity of the Great Falls Coal Field to Montana Power Company's proposed Salem Project, the coal unsuitability criteria are being applied in anticipation of future leasing interest.

Mineable coal in the area under consideration is not suitable for strip mining; therefore, the criteria are being applied to assess the probable effects of surface operations associated with underground mining.

The area involved includes federal coal in portions of the following townships:

T21N, R5E;
T20N, R3E; T20N, R4E; T20N, R5E; T20N, R6E;
T19N, R3E; T19N, R4E; T19N, R5E; T19N, R6E; T19N, R7E;
T18N, R2E; T18N, R3E; T18N, R4E; T18N, R5E; T18N, R6E; T18N, R7E;
T17N, R2E; T17N, R3E; T17N, R4E; T17N, R7E;
T14N, R1E.

This area contains approximately 725 acres of BLM-administered surface and 25,452 acres of federal mineral estate and is shown on the Great Falls Coal Field map.

Directions for application of the coal unsuitability criteria are set forth in 43 CFR 3460. These directions have been followed in assessing whether lands are unsuitable for all or certain stipulated methods of coal mining.

CRITERIA

Each criterion, as defined in 43 CFR 3461.1, is presented first, followed by an analysis. Exceptions are discussed where applicable.

Criterion No. 1

"All Federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, national forests, and Federal lands in incorporated cities, towns, and villages. All Federal lands which are recommended for inclusion in any of the above systems or categories by the administration in legislative proposals submitted to the Congress or which are required by statute to be studied for inclusion in such systems or categories shall be considered unsuitable."

Analysis. There are no lands within the National Park System, National Wildlife Refuge System, National Wilderness Preservation System, or National Wild and Scenic Rivers Systems. There are no National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, national forests, or federal lands in incorporated cities, towns, and villages within the area under consideration.

Criterion No. 2

"Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other public purposes, or for agricultural crop production on federally-owned surface shall be considered unsuitable."

Analysis. Approximately ten and one-half miles of transmission line and railroad rights-of-way have been identified on federal lands within the area under consideration. The lands within these rights-of-way, comprising approximately 126 acres, are considered unsuitable for surface occupancy. Underground mining may be permitted because surface disturbance (e.g. subsidence and tension cracks) can be repaired to a standard equal to or better than the condition of existing surface facilities. A lease stipulation is required that ensures repairs are made whenever subsidence or tension cracks cause damage to surface

facilities. **Additional acres may be identified as unsuitable for surface occupancy and/or unsuitable for leasing in the vicinity of Department of Defense facilities, including the hardened intersite communications cable system. Such facilities will be identified, and appropriate lease stipulations will be developed through consultation with the Malmstrom AFB Cable Affairs Officer prior to lease issuance.**

Exception. No exception to the prohibition of surface occupancy is applicable at this time. Any exception applied would require coordination and formal approval of a relocation plan by all parties involved. Exceptions may be applied at a later date provided all parties involved agree.

Criterion No. 3

"Federal lands affected by section 522(e)(4) and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery or within 300 feet of any public building, school, church, community or institutional building or public park or within 300 feet of an occupied dwelling."

Analysis. There are no known cemeteries, public buildings, schools, churches, community or institutional buildings, public parks, or occupied dwellings on federal lands within the area under consideration. However, further review will be needed at the time of lease application to assure adequate application of this criterion.

Approximately ten and one-quarter miles of public road have been identified on federal lands within the area under consideration. Such roads and lands within 100 feet of the outside line of such rights-of-way, comprising approximately 369 acres, are considered unsuitable for surface occupancy. Underground mining may be permitted because surface disturbance (e.g. subsidence and tension cracks) can be repaired to a standard equal to or better than the condition of existing roads. A lease stipulation is required that ensures repairs are made whenever subsidence or tension cracks cause damage to surface facilities.

Exception. No exception to the prohibition of surface occupancy is applicable at this time. Any exception applied would require coordination and formal approval of a relocation plan by all parties involved. Exceptions may be applied at a later date provided all parties involved agree.

Criterion No. 4

"Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the administration and the Congress for possible wilderness designation. For any Federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment, or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable unless issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal Land Policy and Management Act of 1976."

Analysis. There are no proposed or designated wilderness study areas within the area under consideration.

Criterion No. 5

"Scenic Federal lands designated by visual resource management (VRM) analysis as Class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable. A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area."

Analysis. There are no areas of federal lands listed as VRM Class I within the area under consideration. However, further review will be needed of any proposed plan of operations to assure adequate consideration of visual resources.

Criterion No. 6

"Federal lands under permit by the surface management agency and being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purpose of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining."

Analysis. There are no federal lands within the area under consideration that are being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations.

Criterion No. 7

"All districts, sites, buildings, structures, and objects of historic, architectural, archaeological, or cultural significance on Federal lands which are included in or eligible for inclusion in the National Register of Historic Places, and an appropriate buffer zone around the outside boundary of the designated property (to protect the inherent values of the property that makes it eligible for listing in the National Register) as determined by the surface management agency in consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Office shall be considered unsuitable."

Analysis. There may be sites, buildings, structures, and objects of historical, architectural, archaeological, or cultural significance on federal lands that are eligible for inclusion in the National Register of Historic Places. However, only a limited survey has been done to determine what, if any, archaeological values are present on federal lands in the area under consideration. It is recommended that those areas that are identified by any proposed mine plan as direct impact areas be completely inventoried to assure adequate consideration of this criterion. Some areas may subsequently be identified for no surface occupancy to protect cultural resource values.

Criterion No. 8

"Federal lands designated as natural areas or National Natural Landmarks shall be considered unsuitable."

Analysis. There are no federal lands designated as natural areas or as National Natural Landmarks within the area under consideration.

Criterion No. 9

"Federally designated critical habitat for threatened or endangered plant and animal species, and habitat for Federal threatened or endangered species which is determined by the U.S. Fish and Wildlife Service (USFWS) and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable."

Analysis. There are no federally designated critical habitats for threatened and endangered plant and animal species within the area under consideration.

Criterion No. 10

"Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a State pursuant to State law as endangered or threatened shall be considered unsuitable."

Analysis. There are no designated critical habitats for state listed threatened or endangered plant and animal species within the area under consideration.

Criterion No. 11

"A bald or golden eagle nest or site on Federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be determined in consultation with the USFWS."

Analysis. There are no known active bald or golden eagle nest sites in the area under consideration. However, the level of data for species occurrence is limited. The area under consideration includes suitable golden eagle nesting habitat and active nest sites are suspected to occur. **Additional raptor surveys will be done prior to issuance of a lease and unsuitable areas will be established where necessary at that time.**

Criterion No. 12

"Bald and golden eagle roost and concentration areas on Federal lands used during migration and wintering shall be considered unsuitable."

Analysis. There are no known golden eagle roost and concentration areas on the area under consideration.

There is moderate to light bald eagle winter usage along the Missouri and Smith rivers. This use generally takes place from 12/1 to 4/30. There are no known roost sites used in association with this winter habitat. However, the level of inventory data in this area is limited. It is recommended that additional bald eagle roost site inventories be conducted on all affected tracts within five miles of these major drainages. **These inventories would be completed prior to lease issuance.** No surface disturbances, dwellings, occupancy, industrial fires, subsidence, portals, or roads would be permitted in bald eagle winter habitat or roost site areas.

Criterion No. 13

"Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the USFWS."

Analysis. There are no known active falcon nest sites within the area under consideration. However, the level of inventory data for this area is limited. It is recommended that cliff sites be inventoried and buffer zones established **prior to** lease issuance.

Criterion No. 14

"Federal lands which are high priority habitat for migratory bird species of high Federal interest on a regional or National basis, as determined jointly by the surface management agency and the USFWS, shall be considered unsuitable."

Analysis. The migratory species of high federal interest have not yet been identified for this coal area. Because of this and the fact that inventory data for this area is generally lacking, this criterion cannot be applied at this time. **Once these species of high federal interest are identified, and prior to lease issuance, inventories for high priority habitat for these species will be done and areas unsuitable for surface occupancy will be established.** Surface disturbances associated with underground mining, e.g. dwellings, subsidence, portals, roads, etc., generally can be located such that no adverse impacts occur to migratory species of high federal interest.

Criterion No. 15

"Federal lands which the surface management agency and the State jointly agree are fish and wildlife habitat for resident species of high interest to the State and which are essential for maintaining these priority wildlife species shall be considered unsuitable. Examples of such lands which serve a critical function for the species involved include:

- (i) Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;
- (ii) Winter ranges most critical for deer, antelope, and elk; and
- (iii) Migration corridors for elk.

A lease may be issued if, after consultation with the State, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected."

Analysis. Of the twenty sharp-tailed grouse dancing grounds known to occur in the coal area, three occur on federal mineral ownership. An area 500 feet around each ground was delineated as unsuitable for surface occupancy. This equals approximately twenty acres each.

Approximately 480 acres of elk winter/spring habitat occurs within the coal area in T14N, R1E. This area is considered important winter range and spring calving range for a portion of the Bear-tooth Game Range elk population, which numbers about 1,000 head. No surface occupancy would be allowed on these 480 acres because of the importance of the area for this elk population. No surface disturbances, dwellings, occupancy, industrial fires, subsidence, portals, or roads would be permitted in this area.

Two antelope winter ranges, identified as crucial habitat, are within the coal area. Federal mineral ownership involved is found within T19N, R3E (eighty acres) and T19N, R6E (forty acres). Numbers and intensity of use are not totally known, but a large portion of the antelope herd that uses the area for summer/fall habitat utilizes these winter ranges. These 120 acres are identified as unsuitable for surface occupancy.

Two mule deer winter ranges, with federal mineral ownership, are found in the coal area. The Box Elder Creek winter range contain 120 acres of federal minerals in T19N, R6E and 320 acres in T19N, R5E. The Smith River winter range contains 160 acres in T17N, R3E. These two areas support high densities of mule and white-tailed deer. The 500 acres identified are considered unsuitable for surface occupancy.

If it can be shown that the surface occupancy will not have a significant long-term impact on these important wildlife habitat areas, or that seasonal restrictions on surface occupancy could mitigate the onsite impacts, these portions of the coal area could be considered for surface occupancy.

Criterion No. 16

"Federal lands in riverine, coastal, and special floodplains (100-year recurrence interval) shall be considered unsuitable unless after consultation with USGS, the surface management agency determines that all or certain stipulated methods of coal mining can be undertaken without substantial threat of loss to people or property, and to the natural and beneficial values of the floodplains on the lease tract and downstream."

Analysis. Approximately nine and one-quarter miles of special or 100-year floodplains have been identified along the Smith River, Sand Coulee Creek, Ming Coulee Creek, Goodman Coulee Creek, Boston Coulee Creek, Spring Coulee Creek, Cottonwood Creek, and their tributaries. This results in about twenty-five acres being unsuitable for the location of surface facilities.

Criterion No. 17

"Federal lands which have been committed by the surface management agency to use as a municipal watershed shall be considered unsuitable."

Analysis. There are no federal lands in the area under consideration that have been committed to use as a municipal watershed.

Criterion No. 18

"Federal lands with National Resource Waters, as identified by states in their Water Quality Management Plans, and a buffer zone of Federal lands one-quarter mile from the outer edge of the far banks of the water, shall be unsuitable."

Analysis. There are no federal lands with National Resource Waters in the area under consideration.

Criterion No. 19

"Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in 3400.0-5(a) of this title, the standard in 30 CFR, Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved State programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining Federal land outside an alluvial valley floor would materially damage the

quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable."

Analysis. Sufficient information is available to preliminarily identify alluvial valley floors on federal lands within the area under consideration. These lands comprise approximately 6,550 acres. However, due to the lack of detailed studies, no federal lands are being excluded from leasing or surface occupancy at this time. More detailed analysis to determine final alluvial valley floors and contributing lands will be done during review of lease applications and prior to approval of any mining permit.

Criterion No. 20

"(ii) adopted by rulemaking by the Secretary, shall be considered unsuitable."

Analysis. The State of Montana has not proposed any other criteria.

FINDING

All federal coal in the area under consideration is determined to be acceptable for further consideration for coal development, pending further study. The acceptable area totals 25,452 acres of federal subsurface containing 125,657,000 tons of coal.

In addition, approximately 1,780 acres are identified where surface occupancy would be prohibited (see Table H-1). The Application of Coal Unsuitability Criteria map shows the areas where special stipulations would be applied.

RATIONALE

The unsuitability criteria have been applied to all federal lands within the estimated boundary of the Great Falls Coal Field. Coal in this area is probable affects of surface disturbances associated with underground mining. On the lands under consideration, surface occupancy will be prohibited where necessary, or impacts will be sufficiently mitigated by use of appropriate lease stipulations. Additional lands may be identified as sensitive to impacts of coal mining operations as a result of site-specific analysis of lease applications and coal mining plans.

TABLE H-1
RESULTS OF APPLICATION OF UNSUITABILITY CRITERIA:
GREAT FALLS COAL FIELD

	Acres	Estimated Tons ¹
Total Federal Coal	25,452	125,657,000
Total Eliminated From Further Consideration for Leasing	0	0
Total Eliminated from Surface Occupancy		
By Criteria #2	126	—
By Criteria #3	369	—
By Criteria #15	1,260	—
By Criteria #16	25	—
Total	1,780	—
Total Federal Coal Available for Further Consideration for Leasing, Pending Further Study	25,452	125,657,000

¹Estimated federal coal tonnage (short tons) was derived from data contained in "Stratigraphy and Economic Geology of the Great Falls-Lewistown Coal Field — Central Montana," published by the Montana Bureau of Mines and Geology. Reserves in the Stockett-Sand Coulee and Belt Creek coal basins were averaged, resulting in an estimated 4,937 short tons of coal per acre.

