Resource Management Plan Amendment
and
Decision Record

for

Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties, Oklahoma

Reclaimed coal mine, Latimer County

U.S. Department of the Interior
Bureau of Land Management
Oklahoma Field Office

– SEPTEMBER 2004 –

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

Dear Reader:

Enclosed is the Bureau of Land Management (BLM) Oklahoma Resource Management Plan Amendment (RMPA) and Decision Record for Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties. This document represents the culmination of a planning process that began in April 2003.

A draft RMPA, preliminary draft Environmental Assessment (EA), and Finding of No Significant Impact (FONSI) document was made available for an informal public review for a 30-day period, which ended June 10, 2004. The Proposed RMPA, EA, and FONSI document was made available for a 30-day protest period and Governor's consistency review, which ended August 30, 2004. The Decision Record was signed by the New Mexico State Director on September 29, 2004 and has been reprinted for your reference at the beginning of this document.

The decision is to implement the BLM's preferred alternative, which will result in leasing the three lease application areas, allowing development of all lands within the leased areas with the application of stipulations and appropriate mitigation as described in the RMPA. The RMPA presents the text of the selected alternative.

Ground-disturbing activities associated with the decisions made in the RMPA and Decision Record are subject to environmental and administrative reviews in accordance with applicable Federal regulations. The Oklahoma Field Office will use this RMPA as a framework for pursuing collaborative management of the Federal coal resources that are the subject of this document.

Thank you for your interest and participation in the planning process. If you have any questions regarding this document, please contact Doug Cook at (918) 621-4124 or Keith Tyler at (405) 790-1015.

Sincerely,

John Mehlhoff
Field Manager

Enclosure

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DECISION RECORD

BUREAU OF LAND MANAGEMENT
OKLAHOMA FIELD OFFICE

RESOURCE MANAGEMENT PLAN AMENDMENT FOR THREE COMPETITIVE COAL LEASE SALES IN HASKELL, LATIMER, AND LEFLORE COUNTIES

DECISION RECORD

INTRODUCTION

The Bureau of Land Management (BLM) proposes to amend its 1994 Oklahoma Resource Management Plan (RMP) to incorporate three competitive coal lease sales in southeastern Oklahoma. The RMP Amendment (RMPA) (1) will allow the three Lease Applications Areas (LAA) to be leased and subsequently developed and (2) provides general guidance for management needed to protect resource and land use values.

The Federal Coal Leasing Amendments Act of 1976 requires that coal leases be issued in conformance with a comprehensive land use plan. In 1994, the BLM Oklahoma Field Office completed such a land use plan, the RMP for Oklahoma. The 1994 RMP did not address the areas of the current LAAs primarily because the tracts represented lands that previously had been mined early in the twentieth century. However, improvements in mining technology and economics would now allow mining in these areas again.

Therefore, the BLM Oklahoma Field Office has prepared the amendment to the 1994 RMP. As part of the planning process, BLM conducted a coal screen to determine the areas acceptable for further consideration for coal leasing with standard or special protective stipulations, and areas unacceptable for further consideration for coal leasing.

The three LAAs are located in Haskell, Latimer, and LeFlore Counties in southeastern Oklahoma and total 6,883.17 acres of previously unleased coal. The sizes and locations of the three LAAs are as follows.

LOCATIONS AND SIZES OF LAAs

LAA	Acres	County	Cadastral Location
Liberty West	640	Haskell	Sections 1 and 12, T10N, R21E
McCurtain	2,380	Haskell	Sections 8-11, 14-17, T8N, R22E
Bull Hill	3,863.17	Latimer	Sections 9-12, T5N, R20E Section 1-3 and 7-10, T5N, R21E
		LeFlore	Sections 4-6, T5N, R23E Sections 31-34, T6N, R24E Sections 33-36, T6N, R23E Section 1-3, T5N, R22E

The surface area overlying the Federal mineral estate in the Liberty West and McCurtain LAAs is privately owned. The majority of the surface land in the Bull Hill LAA is privately owned; however, portions in the eastern part of the Bull Hill LAA are Federal lands under the jurisdiction of the U.S. Army Corps of Engineers (USACE), some of which is managed by the State of Oklahoma as Wister Wildlife

Management Area.[1] Although Wister Lake State Park (also USACE-administered land) does not intersect with the LAA, a 300-foot buffer area adjacent to Wister Lake State Park would intersect with approximately 1.6 acres at the eastern end of the Bull Hill LAA.

Although BLM does not have the authority to make decisions regarding surface lands that are not administered by BLM, it is responsible for disclosing the potential impacts on split estate that result from a BLM decision to lease Federal minerals and from subsequent development. Therefore, in accordance with the National Environmental Policy Act of 1969 implementing regulations, the BLM conducted an environmental assessment (EA) to determine the potential impacts that implementing the RMPA may have.

ALTERNATIVES

Three alternatives were considered. Under Alternative A (No Action), no leasing and, therefore, no subsequent development would take place in the three LAAs. Under Alternative B (Maximum Resource Production), the three LAAs would be leased allowing the development of all lands within the leased area with the exception of those determined to be unsuitable for development in accordance with the coal screen unsuitability criteria. Under Alternative C (Balanced Production and Resource Protection), the three LAAs would be leased allowing development of all lands within the leased areas with the exception of those lands determined to be unsuitable for development (1) in accordance with the coal screen unsuitability criteria and (2) considering the results of the coal screen multiple use criterion, which in this case includes wetland and riparian areas, cultural resources, and priority streams.

DECISION

The decision is to implement BLM's preferred alternative, Alternative C, as described in the Proposed RMPA and EA, which will result in leasing the three LAAs, allowing development of all lands within the leased areas with the exception of those lands determined to be unsuitable for development (1) in accordance with the unsuitability criteria and (2) considering the results of the multiple-use screen, which includes wetland and riparian areas, Wister Wildlife Management Area, cultural resources, and priority streams. With application of stipulations, approximately 1.62 acres, or less than 1 percent, of the LAAs would be unsuitable for consideration.

RATIONALE FOR DECISION/MANAGEMENT CONSIDERATIONS

The decision is based on a number of factors, including consideration of the relevant issues listed in the EA and the following.

Coal Screen

As required by the Surface Mining Control and Reclamation Act of 1977, BLM reviewed the LAAs to determine whether the lands are suitable for further consideration for coal leasing. The four-part land use planning screens include (1) coal development potential, (2) unsuitability criteria, (3) multiple use consideration, and (4) surface-owner consideration.

The results of the first screen indicate that there are an estimated 47.58 million tons of coal that potentially could be removed. The results of the second screen indicate that, of the 20 unsuitability criteria, five criteria are applicable to the three LAAs; however, exceptions or application of stipulations

[1] Leasing within the Wister Wildlife Management Area must be coordinated with the U.S. Army Corps of Engineers and Oklahoma Department of Wildlife Conservation or authorized officer. If leasing agreements cannot be reached, no surface mining would be allowed in the Wister Wildlife Management Area.

(described under "Application of Measures to Avoid or Minimize Environmental Harm" below) maximize the area considered suitable for leasing. The results of the third screen identified wetland and riparian areas, Wister Wildlife Management Area, and cultural resources that are not listed on the National Register of Historic Places. Specific riparian and wetland areas to be excluded from leasing have been identified by the U.S. Fish and Wildlife Service (USFWS). Leasing within the Wister Wildlife Management Area must be coordinated with the USACE and, if the land is available for lease, stipulations described below in the section titled "Application of Measures to Avoid or Minimize Environmental Harm" would apply. For cultural resources, BLM would attach the standard archaeological stipulation to new coal leases. Communication with landowners has taken place since early in the planning process. Although landowners expressed concerns about mining activities during scoping, BLM has received no written rejections to mining by qualified landowners.

Consistency with the 1994 RMP

As mentioned previously, the three LAAs were not addressed as part of the 1994 RMP and, for that reason, the three proposed actions were not consistent with the 1994 RMP. Therefore, the RMPA/EA was prepared to assess the actions proposed and to determine the suitability of the actions for approval. It has been determined that this decision is in conformance with the planning direction in the 1994 RMP for Oklahoma. The 1994 RMP requires that standard and special protective stipulations and mitigation measures be applied to prevent undue adverse impacts on other resource values. Standard and special protective measures were identified and incorporated into the BLM preferred alternative to reduce impacts. The preferred alternative would not result in long-term unnecessary or undue degradation, and will not jeopardize the continued existence of Federally listed species.

National Policy

Leasing Federal mineral estate (in this case, coal) for the development of reliable domestic sources of energy is an integral part of the BLM's coal program under the authority of the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976, and is consistent with the recommendations of the President's Energy Policy Development Group and Executive Order 13212. The RMPA provides for leasing and development of coal resources, protection of sensitive areas, while maintaining public health and safety and ensuring compliance with applicable laws and regulations. The decision is consistent with national policy.

Agency Statutory Requirements

The decision is consistent with all Federal, State, and local authorizing actions required to implement the proposed action. All pertinent statutory requirements applicable to this proposal were considered.

Application of Measures to Avoid or Minimize Environmental Harm

Areas may be open to Federal coal leasing under standard lease terms and conditions and any specific stipulations as defined in the 1994 RMP or the RMPA. Application of the coal screen unsuitability criteria and multiple use criteria identified areas that may be included for leasing consideration with stipulations. Coal lease stipulations were developed from the 1994 RMP as well as BLM policy documents and will be attached to the new coal leases. These stipulations are described in a subsequent section titled Implementing the Decision and Environmental Commitments. Also, it should be noted here that environmental review of coal mining activities is required during the process of leasing the Federal coal as well as the mine permit application process at which time environmental review will address site-specific actions of construction, operations, and abandonment.

SUMMARY OF AGENCY AND PUBLIC PARTICIPATION

The BLM requested comments from the general public; local landowners; and Federal, State, and local agencies during scoping early in the planning and environmental process. Scoping began on April 17, 2003, with the publication in the *Federal Register* of a Notice of Intent to the 1994 RMP, prepare an EA, and conduct public scoping meetings. In addition, BLM distributed a media release, and prepared and mailed a scoping notice to approximately 1,800 agencies, interested organizations, and individuals. Two public meetings were held in early May 2003. The scoping period ended on May 23, 2003. A total of 36 people attended the meetings.

Issues identified during scoping and addressed in the RMPA and EA pertained primarily to concern about: (1) public access in and near the permit areas during operations; (2) landowner rights and compensation; (3) effects on water quality and quantity; (4) effects of dust and equipment emission from mining activities on the air quality in and adjacent to the permit areas; (5) effects of noise and vibration from blasting and noise from operations; (6) effects of mining activities on wildlife (including habitat fragmentation and wildlife displacement); (7) standards of reclamation efforts; and (8) effects of the mining activities on the social and economic conditions of the areas (beneficial and adverse).

Although not required, BLM made available a draft RMPA, preliminary draft Finding of No Significant Impact (FONSI), and supporting EA for a 30-day period for the public to review and comment on the adequacy of the document. Six comment letters were received and reviewed, and relevant comments were incorporated into the document. While the comments are acknowledged and incorporated as appropriate in the Proposed RMPA, EA and FONSI, the comments will be addressed more appropriately when (1) BLM consults with qualified surface owners to determine whether they are for or against mining of property they own or (2) the Office of Surface Mining and Oklahoma Department of Mines prepares the more detailed permitting documentation prior to mining.

The Proposed RMPA, FONSI, and supporting EA were made available in July 2004 for a Governor's consistency review and 30-day protest period. BLM received no comments from the Governor's consistency review or from consultation with the USFWS. BLM received no protest on the Proposed RMPA.

At the time of the lease sale, qualified surface owners, as defined in Title 43, Code of Federal Regulations, Part 3400.0-5 (43 CFR 3400.0-5), will be solicited by BLM to provide written consent in order for a coal operator to enter and commence surface mining. If the applicant cannot provide written consent from the qualified surface owner to enter and commence surface mining, the BLM would issue the lease for coal underlying that particular parcel for underground mining only.

IMPLEMENTING THE DECISION AND ENVIRONMENTAL COMMITMENTS

This Decision Record and RMPA constitute the final step in amending the 1994 RMP. The 1994 RMP is hereby amended to incorporate the three LAAs, which now become part of the approved RMP. Following this Decision Record, BLM will offer the LAAs for bid and issue the leases to the successful bidder. Once the leases are issued, lead-agency responsibility shifts and the lessee must submit a mine permit application, including mine operation and reclamation plans, to the Oklahoma Department of Mines. The Oklahoma Department of Mines is the State agency given the authority for review and approval of mining and reclamation in Oklahoma through designation by the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement. The Oklahoma Department of Mines and Office of Surface Mining Reclamation and Enforcement are responsible for completing site-specific environmental evaluation and mitigation planning at the time the mine permit application is submitted. BLM participates

in review of the mine plan to ensure that the lease stipulations are upheld and the economic recovery of the Federal coal is maximized.

Coal lease stipulations have been developed from the 1994 RMP as well as BLM policy documents and will be attached to the new coal leases. Stipulations are provisions that modify the standard lease rights and are attached and made a part of the lease. Existing stipulations from the 1994 RMP address coal screen Criterion Number 2–Rights-of-Way and Easements; Criterion Number 3–Buffer Zones for Rights-of-Way, communities, and Buildings; Criterion Number 10–State-Listed Threatened and Endangered Species; and the multiple-use screen conflict identified for riparian and wetland areas.

In addition, measures to reduce effects of mining activities were identified and address water quality and acid mine drainage (including measures to minimize infiltration and exposure), vegetation, wetlands, wildlife (including habitat, big game, wildlife management areas), and noise (including blasting).

FINDING OF NO SIGNIFICANT IMPACT

I based the FONSI on the information contained in the RMPA and EA for Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties, Oklahoma, with implementation of the protective measures found in the RMPA. The FONSI was attached to the EA for review during a 30-day informal public comment period (ending June 10, 2004), during the Governors' consistency review (ending August 30, 2004), and during the 30-day protest period (ending August 30, 2004). An environmental impact statement does not need to be prepared.

CONCLUSION

The decision is hereby made to approve the attached RMPA for Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties, Oklahoma to incorporate the three LAAs into the 1994 Oklahoma RMP. Any person adversely affected by a decision of the BLM Officer in implementing some portion of an RMPA may appeal such action to the Interior Board of Land Appeals pursuant to 43 CFR 4.400 at the time the action is proposed for implementation.

Recommended by:

John Mehlhoff

John Mehlhoff
Field Manager
Oklahoma Field Office

Sept. 27, 2004
Date

Approved by:

Linda S. Rundell

Linda Rundell
State Director
New Mexico State Office

9/29/04
Date

RESOURCE MANAGEMENT PLAN AMENDMENT

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LIST OF ACRONYMS

AMD	Acid Mine Drainage
AWWA	American Water Works Association
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CLS	Coal Lease Stipulation
EA	Environmental Assessment
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
LAA	Lease Application Area
NEPA	National Environmental Policy Act of 1969
ODM	Oklahoma Department of Mines
ODWC	Oklahoma Department of Wildlife Conservation
OSM	Office of Surface Mining Reclamation and Enforcement
PSD	Program Support Division
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
SMCRA	Surface Mining Control and Reclamation Act of 1977
USACE	U.S. Army Corps of Engineers
USFSW	U.S. Fish and Wildlife Service

1.0 Introduction

1.0 INTRODUCTION

1.1 PURPOSE AND NEED FOR AMENDMENT

The Bureau of Land Management (BLM), Oklahoma Field Office, has prepared this amendment to its 1994 Resource Management Plan (RMP) to incorporate three competitive Federal coal lease sales covering lands in Haskell, Latimer, and LeFlore Counties, Oklahoma. BLM received applications for the three areas, which total 6,883 acres of previously unleased coal, in February and June of 2002 from Farrell-Cooper Mining Company. The three Lease Application Areas (LAA) are part of the Federal mineral estate administered by the BLM. The RMP Amendment (RMPA) will amend the 1994 Oklahoma RMP to incorporate the three LAAs.

The BLM, under the Secretary of the Interior, is the Federal agency responsible for leasing Federally owned coal, and the Federal Coal Leasing Amendments Act of 1976 requires that coal leases be issued in conformance with a comprehensive land use plan. In 1994, the BLM Oklahoma Field Office completed such a land use plan, the RMP for Oklahoma, which included Federal mineral resources in Haskell, Latimer, and LeFlore Counties; however, neither the 1994 RMP nor the amendment prepared in 1996 addressed the areas that are the subject of this current RMPA. Portions of these proposed new coal leases were not included in the 1994 RMP, primarily because the tracts represented lands that previously had been mined early in the twentieth century; however, improvements in mining technology and economics would now allow mining in these areas again.

This amendment to the 1994 RMP was prepared to determine the following:

- Areas acceptable for further coal leasing consideration with standard stipulations;
- Areas acceptable for consideration with special stipulations; or
- Areas unacceptable for further coal leasing consideration.

Lands already considered in the 1994 Oklahoma RMP, and as amended in 1996, are not addressed.

Environmental review of coal mining activities is phased and required during (1) the process of leasing the Federal coal and (2) the mine permit application process.

BLM is the Federal agency responsible for administration of the Federal mineral estate. As such, BLM is required to determine the areas acceptable for further consideration for coal leasing with standard or special protective stipulations, and areas unacceptable for further consideration for coal leasing. In addition, BLM is required to disclose the potential impacts resulting from its decision to lease and consider subsequent development.

Once BLM has determined whether standard stipulations are adequate or special protective stipulations will be required, BLM then offers the tract for bid, and issues the lease to the successful bidder. At this stage of the process, site-specific details of the proposed mining activities are not known.

At the time of the lease sale, a qualified surface owner, as defined in Title 43, Code of Federal Regulations, Part 3400.0-5 (43 CFR 3400.0-5), must provide written consent in order for a coal operator to enter and commence surface mining. If the applicant cannot provide written consent to enter and commence surface mining from the qualified surface owner, the BLM would issue the lease underlying that particular parcel for underground mining only.

Once a lease is issued, lead-agency responsibility shifts and the lessee must submit a mine permit application, including mine operation and reclamation plans, to the Oklahoma Department of Mines (ODM). ODM is the State agency given the authority for review and approval of mining and reclamation in Oklahoma through designation by the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSM). Site-specific environmental evaluation and mitigation planning is required at the time the mine permit application is submitted.

The Federal lead agency, or its designee, is required to consult with relevant agencies to ensure that its actions would not jeopardize sensitive environmental resources. BLM participates in review of the mine plan to ensure that the lease stipulations are upheld and the economic recovery of the Federal coal is maximized.

Preparation of this RMPA has been guided by BLM planning regulations 43 CFR 1600 under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976, which directs BLM to provide for the use of public land managed under the principles of multiple use and sustained yield; and 43 CFR 3400, which provides the framework for BLM to conduct leasing of the rights to extract Federal coal.

The sizes and locations of the three LAAs are shown in Table 1-1 and Map 1-1.

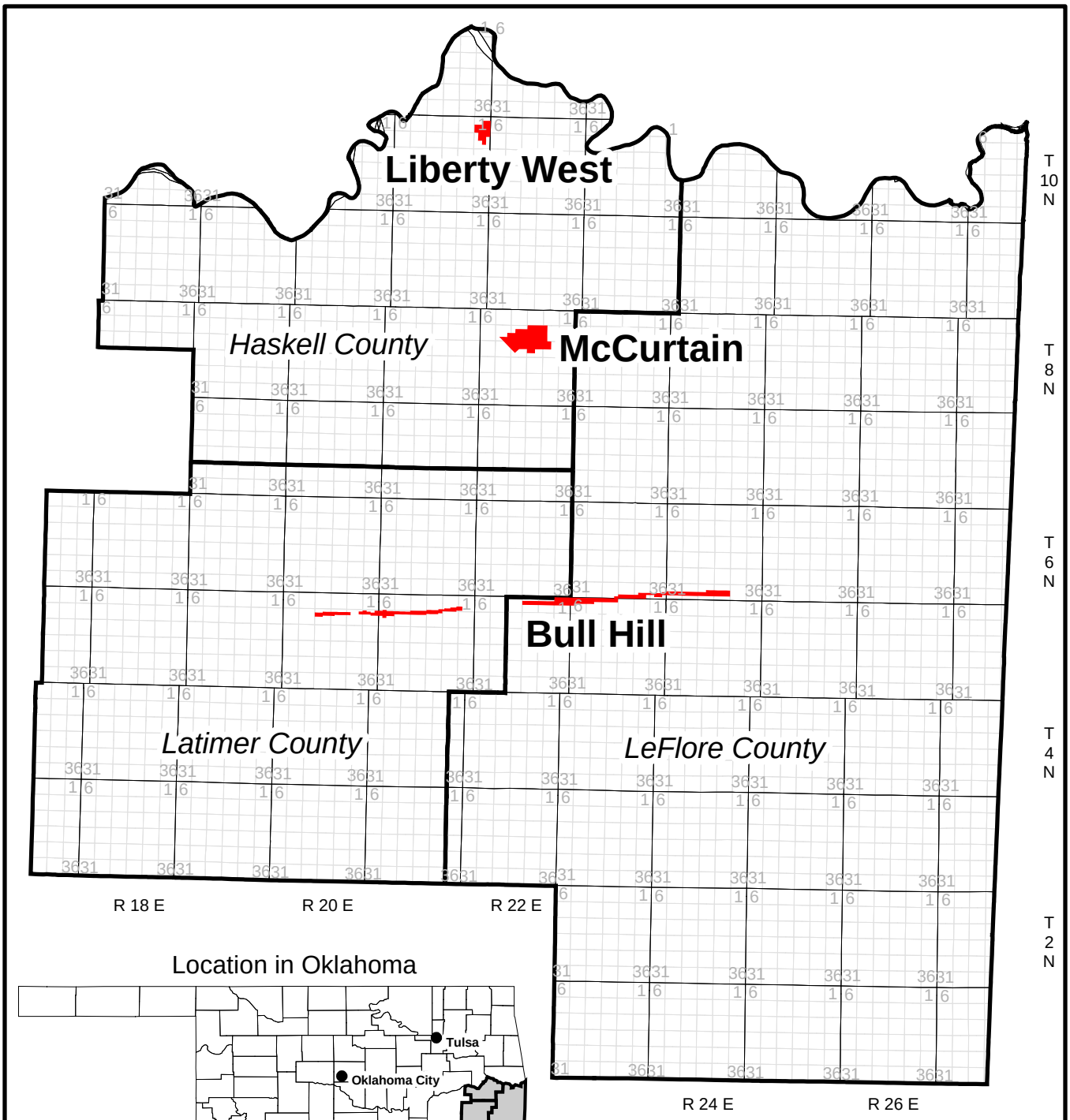
TABLE 1-1
LOCATIONS OF THE LAAS

LAA	Acres	County	Cadastral Location
Liberty West	640	Haskell	Sections 1 and 12, T10N, R21E
McCurtain	2,380	Haskell	Sections 8-11, 14-17, T8N, R22E
Bull Hill	3,863.17	Latimer	Sections 9-12, T5N, R20E Sections 1-3 and 7-10, T5N, R21E
		LeFlore	Sections 4-6, T5N, R23E Sections 31-34, T6N, R24E Sections 33-36, T6N, R23E Sections 1-3, T5N, R22E

The surface area overlying the Federal mineral estate in the Liberty West and McCurtain LAAs is privately owned. The majority of the surface land in the Bull Hill LAA is privately owned; however, portions in the eastern part of the Bull Hill LAA are Federal lands under the jurisdiction of the U.S. Army Corps of Engineers (USACE), some of which is managed by the State of Oklahoma as Wister Wildlife Management Area.[1] Although Wister Lake State Park (also USACE-administered land) does not intersect with the LAA, a 300-foot buffer area adjacent to Wister Lake State Park would intersect with approximately 1.6 acres at the eastern end of the Bull Hill LAA.

Although BLM does not have the authority to make decisions regarding surface lands that are not administered by BLM, it is responsible for disclosing the potential impacts on split estate that result from a BLM decision to lease Federal minerals and from development. Therefore, an environmental assessment (EA) was prepared to identify the potential impacts that implementation of the RMPA could have on the environment and identify appropriate stipulations and other measures to mitigate those impacts. The EA was prepared in compliance with the National Environmental Policy Act (NEPA) of 1976 as well as the Council on Environmental Quality regulations implementing NEPA.

[1] Leasing within the Wister Wildlife Management Area must be coordinated with the U.S. Army Corps of Engineers and Oklahoma Department of Wildlife Conservation or authorized officer. If leasing agreements cannot be reached, no surface mining would be allowed in the Wister Wildlife Management Area.



Location in Oklahoma

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Lease Application Area Boundaries
RMPA for Three Competitive Federal
Coal Lease Sales in Haskell, Latimer,
and LeFlore Counties, Oklahoma
BLM Oklahoma Field Office

0 2.5 5 10 15 20
Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by BLM. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

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Map 1-1

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1.2 PLANNING PROCESS

The RMPA process employs the nine basic steps of the BLM planning process. The process was conducted by an interdisciplinary team of resource specialists to complete each step. A brief description of each step and the work that was accomplished is provided in Sections 1.2.1 through 1.2.9.

1.2.1 Step 1 – Identification of Issues

Issues were identified through the scoping process at the beginning of the project. Scoping is a process required in the early stages of preparing an RMPA/EA to encourage public participation and solicit public input on the scope and significance of the proposed action (40 CFR 1501.7). Scoping and the RMPA/EA process for the three LAAs began with the publication in the *Federal Register* of the Notice of Intent to amend the 1994 RMP, prepare an EA, conduct public scoping meetings, and request any information that would be useful in meeting the requirements of the Federal Coal Management Program defined in 43 CFR 3420, including the application of coal planning screens. The Notice of Intent was published on April 17, 2003. In addition to the Notice of Intent, BLM prepared a scoping notice to send to approximately 1,800 entities on BLM's mailing list in April 2003. Also, BLM prepared and issued media releases and posted notices in the local communities to announce the public scoping meetings.

BLM conducted two public scoping meetings in early May 2003, at which 36 people attended). The 30-day scoping period ended on May 23, 2003. All of the comments and questions received were compiled, reviewed, and analyzed to identify the issues to be addressed in the PRMPA/EA.

The scoping process, including scoping activities and summary of comments and issues, was documented in a Scoping Report in June 2003 and sent to the interested parties on the mailing list. The Scoping Report is on file at the BLM Oklahoma Field Office and also available on the Oklahoma Field Office website: http://www.nm.blm.gov/okfo/okfo_home.html.

The comments received as part of scoping were analyzed and the issues subsequently derived are summarized in this section. Issues identified and addressed in the RMPA/EA pertained primarily to concern about: (1) public access in and near the permit areas during operations; (2) landowner rights and compensation; (3) effects on water quality and quantity; (4) effects of dust and equipment emission from mining activities on the air quality in and adjacent to the permit areas; (5) effects of noise and vibration from blasting and noise from operations; (6) effects of mining activities on wildlife (including habitat fragmentation and wildlife displacement); (7) standards of reclamation efforts; and (8) effects of the mining activities on the social and economic conditions of the areas (beneficial and adverse).

1.2.2 Step 2 – Development of the Planning Criteria

Planning criteria are the standards, rules, and measures used for data collection and alternative formulation, which will guide final plan selection. Planning criteria are developed from appropriate laws and regulations, BLM manuals and directives, and concerns expressed in the meetings and consultations, both with the public and other agencies. The planning criteria to guide the development of the RMPA include the following:

- Recognize valid existing rights
- Follow existing laws, executive orders, regulations, and BLM policy and program guidance
- Collaborate with agencies and the public
- Consider adjoining land to minimize land use conflicts

- Develop reasonable alternatives
- Avoid unbalanced analysis
  - Use science-based analysis with relevant and current data
  - Address social and economic conditions
- Address effects on natural, human, and cultural resources

1.2.3 Step 3 – Collection of Data and Information

The majority of data and information used was existing data from the BLM Oklahoma Field Office and other relevant sources. Data included published and unpublished reports, maps, and digital information (geographic information system). Resources and resource uses addressed include the following:

- Land Uses
- Access and Transportation
- Geology and Minerals
- Soils
- Water Resources
- Air Quality
- Noise
- Vegetation
- Wildlife
- Special Status Species
- Noxious Weeds
- Hazardous Materials
- Cultural Resources
- Paleontological Resources
- Recreation
- Visual Resources
- Social and Economic Conditions

1.2.4 Step 4 – Management Situation Analysis

The purpose of the Management Situation Analysis was to characterize the existing condition of the environment potentially affected by the proposed action (i.e., the baseline environmental data), examine the existing management direction, and consider whether existing management remains adequate or determine if existing management should be modified. The resulting documentation, prepared to be appropriate and commensurate with the planning issues, is on file at the BLM Oklahoma Field Office.

Once the existing environment had been inventoried and characterized, in accordance with 43 CFR 3400, BLM reviewed (or screened) the Federal coal land within the LAAs. The purpose was to (1) determine the potential for coal, and the suitability (or unsuitability) and appropriateness of multiple uses; and (2) consult with the affected, qualified surface landowners to determine whether they are for or against surface mining of the land they own. Through this screening, lands that were determined unsuitable for leasing and subsequent development were eliminated from further consideration.

1.2.5 Step 5 – Formulation of Alternatives

Three alternatives were developed to respond to issues identified through scoping and BLM management concerns, explore alternatives to existing management, comply with BLM planning guidelines, and comply with the FLPMA requirement of managing for multiple use and sustained yield. The alternatives, described in more detail in Chapter 2.0 of the Proposed RMPA/EA, include: (1) Alternative A: No Action, (2) Alternative B: Maximum Resource Production, and (3) Alternative C: Balanced Production and Resource Protection, which is the Proposed Action.

1.2.6 Step 6 – Estimation of Effects of the Alternatives

Considering the baseline environmental data of the areas open to leasing and subsequent development along with the description of the activities that would take place under each alternative, the potential adverse and beneficial environmental consequences, or effects, that could result from each of the alternatives were identified and evaluated. Mitigation measures and reclamation also were considered in evaluating the potential effects. The environmental consequences that could result from each of the alternatives are described in Chapter 4.0 of the Proposed RMPA/EA.

1.2.7 Step 7 – Selection of the Preferred Alternative

Following an in-depth analysis of the environmental effects associated with the three alternatives, the BLM Oklahoma Field Manager identified and recommended Alternative C: Balanced Production and Resource Protection, as the agency's preferred alternative to the BLM New Mexico State Director. The Proposed RMPA/EA then was completed to document the process and results, and was distributed for a 60-day Governor's Consistency Review and a 30-day protest period. The right-to-protest applies to any person who has participated in the amendment process and has an interest that may be affected by the amendment decision. However, only those issues of record submitted to the Oklahoma Field Manager during the amendment process were subject to protest.

1.2.8 Step 8 – Selection of the Plan Amendment

No protests were received; therefore, BLM prepared and issued this RMPA and Decision Record.

1.2.9 Step 9 – Monitoring and Evaluation

The approved RMPA will serve as general guidance for the coal lease areas. BLM will offer the LAAs for bid and issue the leases to the successful bidder. Once the leases are issued, lead-agency responsibility shifts and the lessee must submit a mine permit application, including mine operation and reclamation plans, to the ODM. The ODM is the State agency given the authority for review and approval of mining and reclamation in Oklahoma through designation by the OSM. The ODM and OSM are responsible for completing site-specific environmental evaluation and mitigation planning at the time the mine permit application is submitted. BLM participates in review of the mine plan to ensure that the lease stipulations are upheld and the economic recovery of the Federal coal is maximized. Over time, BLM will monitor and evaluate the actions, resource conditions, and trends to determine the effectiveness of the RMPA and to ensure that implementation of the RMPA is achieving the desired results.

1.3 CONFORMANCE WITH BLM POLICIES, PLANS, AND PROGRAMS

This document has been prepared to reflect and be consistent with current laws, regulations, and BLM policy guidance for the Federal coal program, and to provide the public the opportunity to review coal leasing decision making.

In 1994, the BLM Oklahoma Field Office completed a RMP, which provides a comprehensive framework for managing the Federally owned minerals and BLM-administered public land in the State of Oklahoma. Among other resources, the RMP identified Federal coal tracts considered, at that time, acceptable for leasing and development. The RMP and associated Record of Decision are amended appropriately by this RMPA.

As stated earlier in this chapter, part of the three LAAs addressed by this RMPA, which are located within the planning area covered by the 1994 Oklahoma RMP, were not included in the 1994 RMP, primarily

because the tracts represented lands that previously had been mined early in twentieth century. However, improvements in mining technology and economics would now allow mining in these areas again. Completion of the RMPA/EA places the lease process in conformance with BLM laws, regulations, and policy.

2.0 Management Plan Amendment

2.0 MANAGEMENT PLAN AMENDMENT

2.1 INTRODUCTION

This section contains a description of plan amendments for the Federal mineral estate in the three coal lease application areas (LAA) in Haskell, Latimer, and LeFlore Counties.

Section 2.2 is a summary of applicable general management guidance. The Bureau of Land Management (BLM) would follow this management guidance, which consists of laws, regulations, and policies.

Section 2.3 is the results of conducting the four-part land use planning coal screen required by Title 43, Code of Federal Regulations, Part 4361 (43 CFR 4361). The coal screen considers and addresses potential for coal development, areas where coal development may be unsuitable, compatibility with other land uses, and consultation with qualified landowners.

Section 2.4 is a description of the management plan amendment.

2.2 MANAGEMENT GUIDANCE

2.2.1 Laws, Regulations, and Policies

BLM's management of the Federal mineral estate and surface resources is governed by several laws, regulations, Executive Orders, and policies, some of which are summarized below and in Table 2-1. Applicable decisions from the 1994 Resource Management Plan (RMP), cooperative agreements or memoranda of understanding with State and other Federal agencies would continue.

2.2.2 Management Direction

As stated in Section 1.1, BLM is responsible for leasing Federal coal, ensuring that lease stipulations are upheld, and economic recovery of the Federal coal is maximized. Therefore, the management direction described in Section 2.2.2.1 through 2.2.2.14 pertains specifically to BLM's leasing responsibilities. Although BLM does not have the authority to make decisions regarding surface lands that are not administered by BLM, it is responsible for disclosing the potential impacts on split estate that result from a BLM decision to lease Federal minerals and subsequent development. During the mine permit application process, the Oklahoma Department of Mines (ODM) and the Federal Office of Surface Mining Reclamation and Enforcement (OSM) would be responsible for site-specific compliance with laws, regulations, and policies. BLM participates in review of the mine plan.

2.2.2.1 Lands

Although BLM does not have management authority on private land, BLM is responsible for ensuring that mineral development on split estate (private surface overlying Federally owned minerals) occurs in accordance with existing statutes and regulatory requirements, and that National Environmental Policy Act (NEPA) documentation considers impacts on the surface area in the event of mineral development. Each of the LAAs involves Federal coal under a majority of non-Federal land and as such falls within split estate guidelines.

TABLE 2-1
APPLICABLE MAJOR LAWS, REGULATIONS, AND POLICIES

Law/ Regulation	Applies to
American Indian Religious Freedom Act of 1978; 42 U.S.C. 1996	American Indian religious places and access
Archeological Resources Protection Act of 1979; 16 U.S.C. 470	Archaeological resources
Clean Air Act of 1970, as amended 1990; 42 U.S.C. 7401 *et seq*.	Air quality
Clean Water Act , as amended; 33 U.S.C. 1252 *et seq*.	Surface water quality
Comprehensive Environmental Response, Compensation and Liability Act of 1986	Hazardous substances reporting and cleanup
Endangered Species Act; 16 U.S.C. 1531 *et seq*., as amended	Threatened and endangered species
Federal Coal Leasing Amendments Act of 1976; 30 U.S.C. 201	Federal coal leasing
Federal Land Policy and Management Act of 1976; 43 U.S.C. 1700, *et seq*.	Federal lands, special management areas
Federal Noxious Weed Act of 1974, as amended	Noxious weeds
Federal Water Pollution Control Act, as amended 1972	Watersheds
General Mining Law of 1972; 30 U.S.C. 22-54	Mining
Migratory Bird Treaty Act of 1989	Migratory birds
Mineral Leasing Act of 1920	Mineral leasing
Mineral Leasing Act of 1947; 30 U.S.C. 351, 352, 354, 359	Mineral leasing
Mining and Mineral Policy Act of 1970; 30 U.S.C. 219	Mining
Mining Law of 1872, as amended	Mining claims
National Environmental Policy Act of 1969 and implementing regulations 40 CFR 1500-1508	Federal undertakings
National Historic Preservation Act of 1966; 16 U.S.C. 470	Archaeological and historic properties
National Materials and Minerals Policy Research Development Act of 1980	Mineral resources
Native American Grave Protection and Repatriation Act of 1990	
Resource Conservation and Recovery Act of 1986, as amended	Hazardous and solid waste
Soil and Water Conservation Act of 1977	
Surface Mining Control and Reclamation Act of 1977; 30 U.S.C. 1201 *et seq*.	Surface mining
Water Quality Act of 1987	Riparian area, wetlands
Watershed Protection and Flood Control Act of 1954	Watersheds
Executive Order 11593	Preservation of the cultural environment
Executive Order 11988	Floodplain management
Executive Order 11990	Wetlands, riparian zones
Executive Order 12898	Environmental justice
Executive Order 13007	Sacred sites
Executive Order 13112	Invasive species

2.2.2.2 Access

There are no Federal laws or regulations applicable to access in this case. However, while access to Federal coal resources must be provided, BLM's specific management direction associated with access is intended to protect unique resources or values where BLM determines it necessary.

2.2.2.3 Geology and Minerals

The BLM's responsibility for the management of the Federal government's coal mineral resources and the effect that management has upon the surface requires that all minerals management decisions and mineral resource allocations comply with both NEPA and Council on Environmental Quality guidelines that implement NEPA. BLM's decision whether to lease, thereby allowing development, is based in part on the following four land use planning coal screens as described in 43 CFR 3420 and summarized in Section 2.3:

- Screen 1 – Development Potential
- Screen 2 – Unsuitability Criteria
- Screen 3 – Multiple Use
- Screen 4 – Surface Owner Consultation

According to the 1994 RMP, BLM coal-program activities in Oklahoma involve on-site inspections, production inspections, reclamation inspections, and lease operation review.

2.2.2.4 Soils

According to the 1994 RMP, the BLM relies extensively upon the U.S. Department of Agriculture Natural Resources Conservation Services soil survey program and its county publications when evaluating potential surface-disturbing actions. Emphasis is placed on prevention of surface degradation as well as mitigation and rehabilitation of surface damages.

Highly erodible soils should be managed to maintain or reduce erosion and to improve vegetative ground cover. Where necessary, roads should be upgraded, maintained, and properly surfaced in accordance with the appropriate standards. Areas where the soils are highly erodible or difficult to reclaim should receive increased attention and are avoidance areas for surface-disturbing activities.

2.2.2.5 Water Resources

Groundwater

Other than the laws and regulations listed in Section 2.2.1, there is no specific BLM management direction regarding groundwater.

Surface Water

BLM has established a management and planning structure that conserves resources and protects surface water quality. BLM direction in surface-water resources is located in two places within department manuals. One is Manual 7200 – Water Resources including subsections on watershed condition analysis, watershed activity planning, floodplain management, groundwater, water quality, water rights, and floodplain management. Elsewhere, the subject of water resources is dispersed within the manuals for rangeland health, minerals management, mining, special status plant and wildlife management, fishery management, recreation engineering, habitat management, and general program management and administration.

In addition, BLM in 1998 adopted as policy a portion of the larger Federal Clean Water Action Plan. The plan called out existing BLM activity in three management areas: riparian restoration and management,

abandoned mine lands, and rangeland health. The plan also committed to a watershed approach in monitoring, assessing, reclaiming, and maintaining water resources.

2.2.2.6 Air Quality

Other than the laws and regulations listed in Section 2.2.1, there is no specific BLM management direction regarding air quality.

2.2.2.7 Vegetation

According to the 1994 RMP, the BLM maintains a "Riparian Area Management Policy" to maintain, restore, or improve riparian areas to achieve a healthy and productive ecological condition for maximum long-term benefits. This BLM policy, in accordance with Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection and Management of Wetlands), result in wetland and riparian area management being of particular concern. Wetland and riparian resource protection stipulations have been developed, and are presented as an integral part of the coal resource programs.

2.2.2.8 Wildlife

Policies are outlined in a series of BLM manuals for various wildlife program activities. BLM also has entered into a draft cooperative agreement with the Forest Service and U.S. Fish and Wildlife Service (USFWS) to promote conservation of migratory birds and minimize potential adverse effects of take under the Migratory Bird Treaty Act. The goal among the agencies is to strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and minimize adverse impacts on migratory birds through collaboration among the cooperating agencies.

According to the 1994 RMP, the BLM's wildlife management program activities in Oklahoma are limited to preparation of environmental analyses, special status species evaluations or clearances, wetland determinations, and development of stipulations for impact avoidance or mitigation in the mineral development and lands initiatives.

Federal minerals under private surface or Federal surface managed by another Federal agency or licensed by another Federal agency to a state or local agency for surface management purposes are the most common situations encountered in BLM's wildlife management program in Oklahoma. In these situations, BLM's wildlife responsibilities in Oklahoma do not begin until a BLM mineral action is proposed. As such, fish and wildlife resource concerns are addressed through site-specific agency coordination in Oklahoma. Coordination is initiated with the Oklahoma Natural Heritage Inventory, USFWS, and Oklahoma Department of Wildlife Conservation (ODWC) regarding each site-specific BLM project in Oklahoma. These agencies are being consulted for this current proposal.

2.2.2.9 Special Status Species

BLM has a legal mandate to conserve and manage threatened or endangered species, and also has a policy to conserve all special status species. Decision-making should be consistent with BLM's mandate to recover listed species and should be consistent with objectives and recommended actions in approved species recovery plans, conservation agreements and strategies, memorandum of understanding, and applicable biological opinions for threatened and endangered species (BLM Land Use Planning Handbook H1601-1, Appendix C).

BLM has entered into a memorandum of agreement with the Forest Service, National Marine Fisheries, and USFWS to improve Section 7 consultations under the Endangered Species Act. The goal of the memorandum of agreement is to improve the efficiency and effectiveness of project and programmatic

level Section 7 consultation processes and enhance conservation of listed species while delivering appropriate goods and services provided by lands and resources managed by the signatory agencies.

According to the 1994 RMP, the BLM's special status species management activities in Oklahoma are limited to preparation of environmental analyses and special status species evaluations or clearances and development of stipulations for impact avoidance or mitigation in the mineral development and lands initiatives.

The 1994 RMP includes one Coal Lease Stipulation (CLS-4) for protection of the American burying beetle (*Nicrophorus americanus*), a Federally listed endangered species. The stipulation prohibits surface-disturbing activities that would result in unacceptable impacts on the American burying beetle. The stipulation is specifically attached to leases in Bryan, Cherokee, Haskell, Latimer, LeFlore, Muskogee, Pittsburg, Sequoyah, and Tulsa Counties. As such, this stipulation would apply to the three current LAAs.

Federal minerals under private surface or Federal surface managed by another Federal agency or licensed by another Federal agency to a state or local agency for surface management purposes are the most common situations encountered in BLM's management program in Oklahoma. In these situations, BLM's responsibilities in Oklahoma do not begin until a BLM mineral action is proposed. As such, special status species concerns are addressed through site-specific agency coordination. Coordination is initiated with the Oklahoma Natural Heritage Inventory, USFWS, and the ODWC regarding each site-specific BLM project in Oklahoma. These agencies are being consulted for this current proposal.

2.2.2.10 Hazardous Materials

BLM's hazardous materials management program direction and guidance consist of application of Federal and State air-quality laws, surface-protection regulation, water-quality regulations, and BLM manuals and policy memoranda. The program activities are limited to preparation of environmental analyses, evaluations of potential surface-disturbing activities, and development of stipulations for impact avoidance or mitigation in the mineral development and lands initiatives. Hazardous materials management is accomplished by incorporation of site-specific mitigation measures for each BLM authorized action or approval.

2.2.2.11 Cultural Resources

As a Federal agency, the BLM is obliged under the conditions of Section 106 of the National Historic Preservation Act of 1966, as amended, to take into account the effect of an undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register and to afford the Advisory Council on Historic Preservation an opportunity to comment on this undertaking. The BLM also shall cooperate with the Oklahoma State Historic Preservation Officer to ensure that historic properties are taken into consideration at all levels of planning and development.

Federal regulations such as the Archaeological Resources Protection Act of 1979, the Native Graves Protection and Repatriation Act of 1990, and the American Indian Religious Freedom Act of 1978 protect archaeological resources, Indian graves, and sacred objects on Indian lands, and the freedom to worship through ceremonials and traditional rites.

Cultural resources program involvement in split-estate minerals activities in Oklahoma consists of development of environmental analyses reports, site-specific evaluations or inventories in support of mineral leasing, development of stipulations for impact mitigation or impact avoidance, and consultations with State agencies and Oklahoma Indian Tribes. Program involvement associated with mineral leasing under lands managed by other Federal agencies is limited to coordination and consultation.

BLM also has issued policy in the form of manuals, including Manual 8100–Cultural Resource Management, Manual 8110–Identifying Cultural Resources, Manual 8120–Protecting Cultural Resources, Manual 8130–Utilizing Cultural Resources for Public Benefit, and Manual 8160–Native American Coordination and Consultation. In addition, specific policy for addressing cultural resources in RMPs has been issued as Information Bulletin 2002-101. The bulletin defines policy for identifying cultural resources, defining management goals, allocating uses of cultural resources, and defining management actions to support the plan goals.

A key tool used by the BLM to manage the cultural resources is a varied intensity of inventory divided into three classes: Class I, a review of previously conducted inventory results; Class II, a sampling field inventory (all sample units inventoried to a Class III level); and Class III, an intensive field inventory (covers 100 percent of the area on foot). With only specifically defined exceptions in the BLM Cultural Resource Manual, the Class III inventory is required before any surface disturbance is allowed.

2.2.2.12 Paleontological Resources

BLM has developed objectives for paleontological resources (BLM Manual H-8270-1, General Procedural Guidance for Paleontological Resource Management) to provide protection of the resources. It is the policy of BLM to manage paleontological resources for these values and to mitigate adverse impacts on them.

According to the 1994 RMP, the BLM paleontological resource management program within Oklahoma includes the requirement that the BLM be notified should paleontological resources be encountered during the conduct of BLM approved operations.

2.2.2.13 Social and Economic Conditions

BLM is required by statute and executive order to consider social science information when preparing a land use plan. The BLM also is required to consider multiple use and sustained yield to meet the needs of present and future generations. These needs include environmental protection in relation to human occupancy and other uses that may conflict or create conflicting demands. Social and economic information is important for understanding the social context within which decisions will be made and ascertaining how these decisions would affect communities and individuals in and near the LAAs, as well as concerned groups and individuals at the regional and national level. Social science information and analysis may be useful at various stages throughout the planning process including scoping and issue identification; assessment of past, current, and future conditions; and identification of impacts and mitigation. Impact analysis should assess the social and economic consequences of implementing the various alternatives identified in the planning process.

BLM decisions associated with the LAAs have the potential to affect social and economic conditions of communities and individuals, negatively or positively. The intent of BLM's management of Federal mineral estate is to affect positively the social and economic condition in the LAAs. For example, mineral leases granted by BLM allow development of Federal mineral estate, which serves a need of the American public (in the case of energy minerals) and benefits the economy. However, management restrictions are placed on the operator (e.g., to protect sensitive environmental resources) that may affect the extent to which the operator can achieve its fiscal goals and the revenue, royalties, jobs, etc. produced.

As required by the Federal Land Policy and Management Act, NEPA, and Executive Order 12898, social science information is required to make informed, legal planning decisions. Additional statutory requirements further define the planning environment and prescribe the extent of BLM's authority and policies that define resource management planning and use. As the human population continues to increase and social values continue to evolve, resource conflicts are expected to increase. More

importantly, the American public is increasingly aware of the importance of land to its well-being and is demanding a larger voice in resource management decisions. Given these realities, the planning process can represent a constant balancing act among competing interests.

2.2.2.14 Recreation

According to the 1994 RMP, the BLM's recreational program in Oklahoma consists of limited coal planning responsibilities in eastern Oklahoma. Recreational values or components that should be evaluated and discussed for the current proposal include effects on visual resources and areas with significant recreational resource values or potential conflicts with other resource uses.

2.3 COAL SCREEN

The three LAAs were reviewed in accordance with 43 CFR 3420; that is, the four-part land use planning coal screen. The four screens are (1) coal development potential; (2) unsuitability criteria; (3) multiple use consideration; and (4) surface owner consultation. Each screen and the results of the review are summarized below.

2.3.1 Coal Development Potential

As stated previously, in February and June of 2002, BLM received three applications from Farrell-Cooper for three competitive coal lease sales for land in Haskell, Latimer, and LeFlore Counties. The total 6,883.17 acres of Federal mineral estate is administered by the BLM and the surface is privately owned. Table 2-2 is a summary of the coal development potential for the three LAAs.

TABLE 2-2
SUMMARY OF COAL DEVELOPMENT POTENTIAL

LAA	Total Tons of Coal (million)	Average Coal Thickness (inches)	Acres
Liberty West	2.62	26	640.00
McCurtain	17.14	47	2,380.00
Bull Hill	27.82	47	3,863.17
Total	47.58	–	6,883.17

2.3.1.1 Liberty West LAA

Coal from the Stigler seam would be recovered by surface mining methods. The Stigler seam averages 26 inches in thickness, and dips toward the northwest and southwest at a rate of approximately 2 to 4 percent, with 135 tons per acre-inch of recoverable coal. The Stigler seam in this area lies from approximately 60 feet below the surface to as deep as 150 feet below the surface within the mining area.

Mining would be a continuation of the adjacent permit, Oklahoma Department of Mines Permit #4268. Mining would progress in a series of long, narrow pits away from the cropline of the Stigler horizon. The pits would be up to 150 feet wide at the bottom and may range from 60 to 120 feet in depth. The length would vary but would range from 2,000 to 4,000 feet.

2.3.1.2 McCurtain LAA

Coal from the Hartshorne seam would be recovered by underground mining methods. The Hartshorne seam averages 47 inches in thickness and a maximum recovery depth of 1,000 feet. The existing highwall remaining from previous mining operations would be stripped back to a solid wall and then the underground mining operation would begin.

2.3.1.3 Bull Hill LAA

Coal from the Lower and Upper Hartshorne coal seams would be recovered to a depth of 100 feet of overburden. The coal seam would be recovered with a combination of conventional surface mining and auger mining. Surface mining operations would remove coal from two steeply dipping coal seams. One pit of coal would be stripped using conventional surface mining methods. The stripping would advance the existing highwall down-dip to a depth of approximately 100 feet to provide additional pit area for the auger mining operations and would recover coal 300 to 500 feet into the seam from the highwall.

2.3.2 Unsuitability Criteria

As required by the Surface Mining Control and Reclamation Act of 1977 (SMCRA), BLM must review the LAAs to determine whether public lands are suitable for further consideration for coal leasing. Criteria for assessing the LAAs for areas that are not suitable were established by SMCRA and expanded by the U.S. Department of the Interior in 43 CFR 3461.5. The criteria were applied to baseline environmental data compiled for the three LAAs with the intent to determine the areas within the LAAs that cannot be protected properly or maintained if the areas were leased for coal mining. There are 20 unsuitability criteria used to evaluate cultural and environmental aspects that may be affected by mining. After the criteria are applied, the lands may be classified three ways, as follows:

- Suitable for further consideration for coal mining
- A deferred decision may be made if the data are inconclusive or subject to change
- The area may be classified unsuitable for further consideration for mining

A deferred decision allows lands to be considered for leasing until such time as a lease application is received or a coal tract is established and a more detailed and up-to-date study can be completed. This includes situations where making the decision today would be premature because changes can be expected to occur between the time the unsuitability criteria are first applied and a lease sale takes place. Mining effects also may be minimized by attaching stipulations to leases or by determining certain lands unsuitable to mining by surface methods. In addition, there may be exceptions to the findings of the unsuitability criteria screen. Exceptions, defined in 43 CFR 3461.5 for each of the criteria, may be made if the responsible agency (i.e., ODM and OSM) determines that a significant effect would not result.

It should be noted that lands with Federal coal deposits that would be mined by underground mining methods are not assessed as unsuitable where there would be no surface coal-mining operations on the lease (43 CFR 3461.1).

The resources and lands described were reviewed considering the unsuitability criteria. Using a geographic information system, the environmental database was reviewed and the 20 criteria were applied to determine the locations and estimated extent (in acres) of the areas considered unsuitable for development. In summary, of the 20 criteria, five criteria are applicable to the three LAAs. The five criteria are as follows:

- Criterion Number 2 – Rights-of-Way and Easements
- Criterion Number 3 – Buffer Zones for Rights-of-Way, Communities, and Buildings
- Criterion Number 10 – State-Listed Threatened or Endangered Species
- Criterion Number 16 – Floodplains
- Criterion Number 17 – Municipal Watersheds

It should be emphasized that the estimates are based on available data for the purpose of determining lands available for leasing. Once site-specific mine plans of operation have been completed and approved, further environmental investigation to comply with NEPA may alter the area allowed for development.

The 20 unsuitability criteria and results of applying the criteria to the three LAAs are presented below. Maps 2-1, 2-2, and 2-3 illustrate the LAAs, and the highlighted areas on each map illustrate the areas identified as unsuitable for mining as a result of applying the criteria with or without stipulations.

2.3.2.1 Criterion Number 1 – Federal Land Systems

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.

Findings. There are no Federal land systems or categories within the LAAs; therefore, this criterion does not apply.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal mining.

2.3.2.2 Criterion Number 2 – Rights-of-Way and Easements

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

Findings

Liberty West LAA. A number of paved county roads and unpaved roads are located along section lines throughout the LAA. The extent of these roads is estimated to be approximately 10 miles with easements of approximately 100 feet wide. At the far northern end of the LAA are a publicly owned water tower, phone lines, and overhead power lines. These easements must be considered.

McCurtain LAA. A portion of State Highway 26 (approximately 2 miles) and its easement cross the LAA on the southeastern corner. This two-lane, asphalt-paved highway that links the LAA to the town of McCurtain is located on State land. The easement for this highway is estimated to be 200 feet wide. Several county roads also cross throughout the LAA. However, the primary mining technique proposed in this LAA is underground mining, thereby minimizing surface disturbance and interaction with surface easements.

Bull Hill LAA. Two north-south highways cross the LAA. These include Highway 82 at Red Oak and Highway 271 at Fanshawe. The extent of the highway crossings is estimated to be approximately 0.5 mile at each location. The easement for these highways is estimated to be 200 feet wide. Because the primary mining technique to be used is surface mining, these easements must be considered.

Recommendation. Exceptions (iv) and (v), as defined in 43 CFR 3461.5, apply to the minor rights-of-way and either relocate the rights-of-way, obtain permission to use the rights-of-way, or attach appropriate stipulations to the lease or mining permit to allow for mining in or around the rights-of-way.

2.3.2.3 Criterion Number 3 – Buffer Zones for Rights-of-way, Communities, and Buildings

The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of 30 CFR. Federal lands affected by section 522(e)(4) and (5) of SMCRA 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.

Findings. There are no cemeteries, public buildings, schools, churches, community or institutional buildings within any of the three LAAs. However, roads are located within all of the LAAs, and the buffer area for Wister Lake State Park would affect a portion of the Bull Hill LAA.

Liberty West LAA. A number of paved county roads and unpaved roads are located along section lines throughout the LAA. The extent of these roads is estimated to be approximately 10 miles. In addition, approximately 10 homes and ranch buildings are located within the LAA.

McCurtain LAA. A portion of State Highway 26 (approximately 2 miles) crosses the LAA on the southeastern corner. This two-lane, asphalt-paved highway that links the LAA to the town of McCurtain is located on State land. Several county roads also cross throughout the LAA. In addition, approximately 5 homes and ranch buildings are located within the LAA. However, the primary mining technique proposed in this LAA would be underground mining, thereby minimizing surface disturbance and interaction with surface structures.

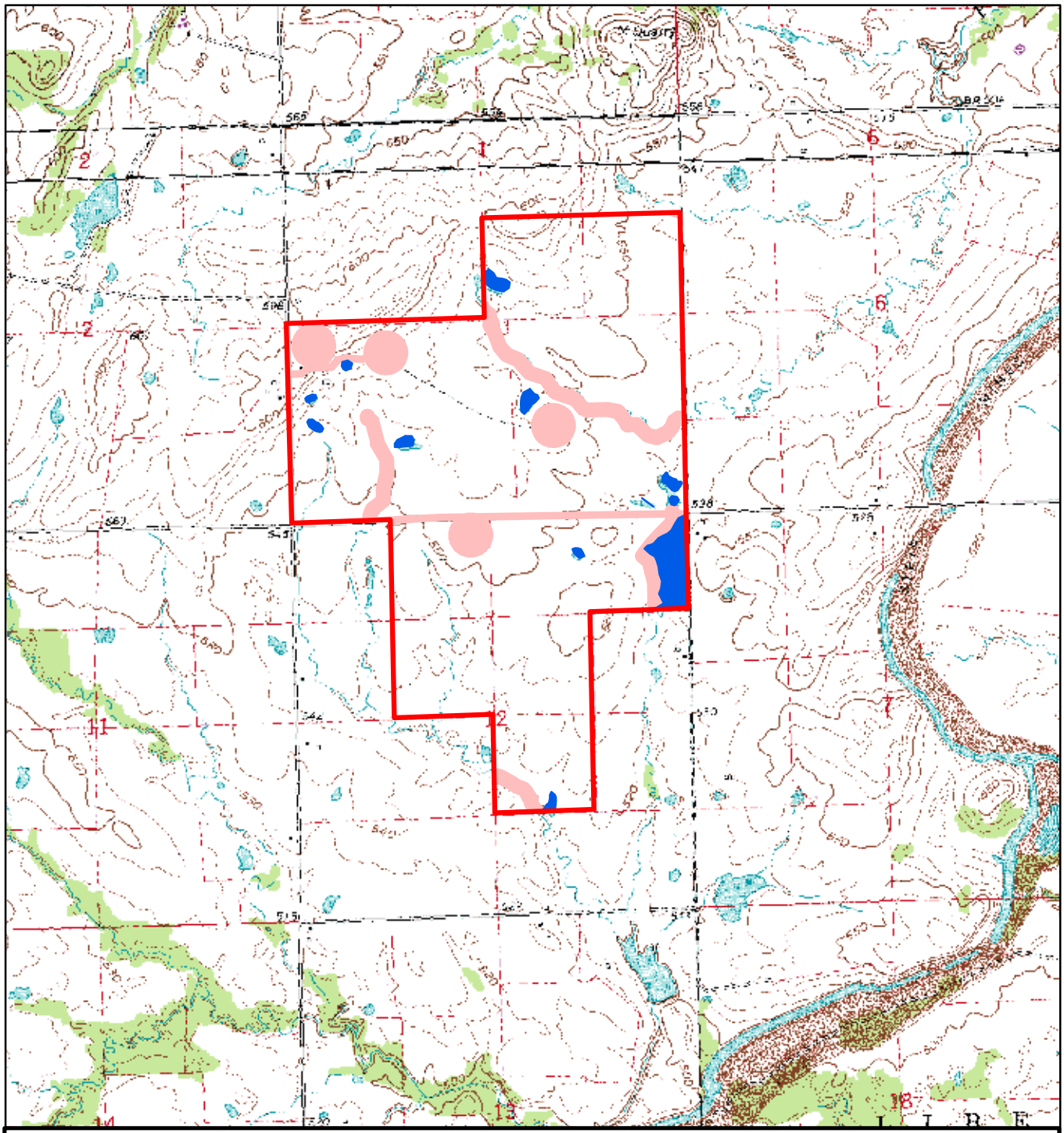
Bull Hill LAA. Two north-south highways cross the LAA. These include Highway 82 at Red Oak and Highway 271 at Fanshawe. The extent of the highway crossings is estimated to be approximately 0.5 mile at each location. In addition, approximately nine homes and ranch buildings are located within the LAA. Because the primary mining technique to be used is surface mining, these structures must be considered.

The 300-foot buffer area for Wister Lake State Park would intersect with approximately 1.6 acres at the eastern end of the Bull Hill LAA.

Recommendation. Exception (ii) or (iii) apply to State highways and county roads and a decision can be deferred at this time making an assumption that the roads could be moved in the future. Exception (iv) applies to occupied dwellings and a decision can be deferred at this time. The eastern end of the Bull Hill LAA as it intersects with Wister Lake State Park buffer area is considered unsuitable and no exceptions exist. No surface mining may be conducted within this unsuitability area.

2.3.2.4 Criterion Number 4 – Wilderness Study Areas

Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and 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 an environmental 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 Federal Land Policy and Management Act.



Liberty West Tract (OKNM 104763)
Haskell County

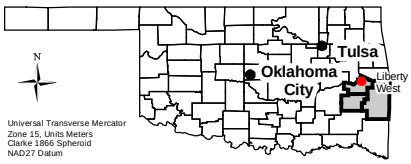
Legend

- Lease Application Area Boundary
- Unsuitable for Leasing (Coal Screen Unsuitability Criteria) Before Stipulations
  - Rights-of-Way and Easements (Criterion Number 2)
    - Residences 300-foot buffer
  - Buffer Zones for Rights-of-Way, Communities, and Buildings (Criterion Number 3)
    - Interstate 100-foot buffer
    - Other Roads 50-foot buffer
  - Floodplains (Criterion Number 16)
    - Streams100-foot buffer
- Unsuitable for Leasing (Multiple Use Screen) Before Stipulations
  - Wetlands and Riparian Areas
  - Priority Streams

Note: Cultural resources are described in text, locations are not provided.

0 0.25 0.5 1 Miles

BLM Oklahoma Field Office
RMPA for Three Competitive Coal
Lease Sales in Haskell, Latimer, and
LeFlore Counties, Oklahoma



Universal Transverse Mercator
Zone 15, Units Meters
Clarke 1866 Spheroid
NAD27 Datum

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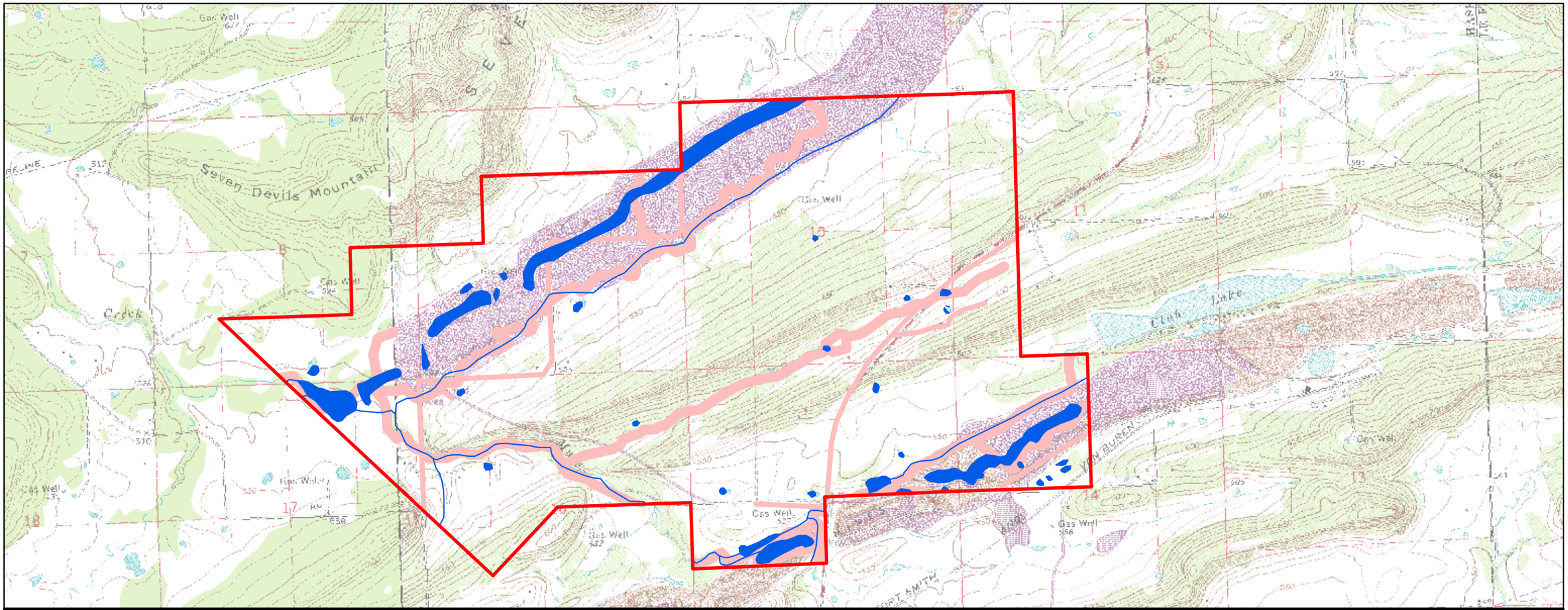
Map 2-1



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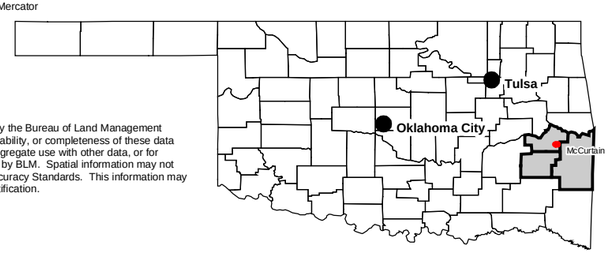
Universal Transverse Mercator
Zone 15, Units Meters
Clarke 1866 Spheroid
NAD27 Datum



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Legend

- Lease Application Area Boundary
- Unsuitable for Leasing (Coal Screen Unsuitability Criteria) Before Stipulations
  - Rights-of-Way and Easements (Criterion Number 2)
    - Residences 300-foot buffer
  - Buffer Zones for Rights-of-Way, Communities, and Buildings (Criterion Number 3)
    - Interstate 100-foot buffer
    - Other Roads 50-foot buffer
  - Floodplains (Criterion Number 16)
    - Streams100-foot buffer
- Unsuitable for Leasing (Multiple Use Screen) Before Stipulations
  - Wetlands and Riparian Areas
  - Priority Streams

Note: Cultural resources are described in text, locations are not provided.

McCurtain Tract (OKNM 108097)
Haskell County

BLM Oklahoma Field Office
RMPA for Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties, Oklahoma

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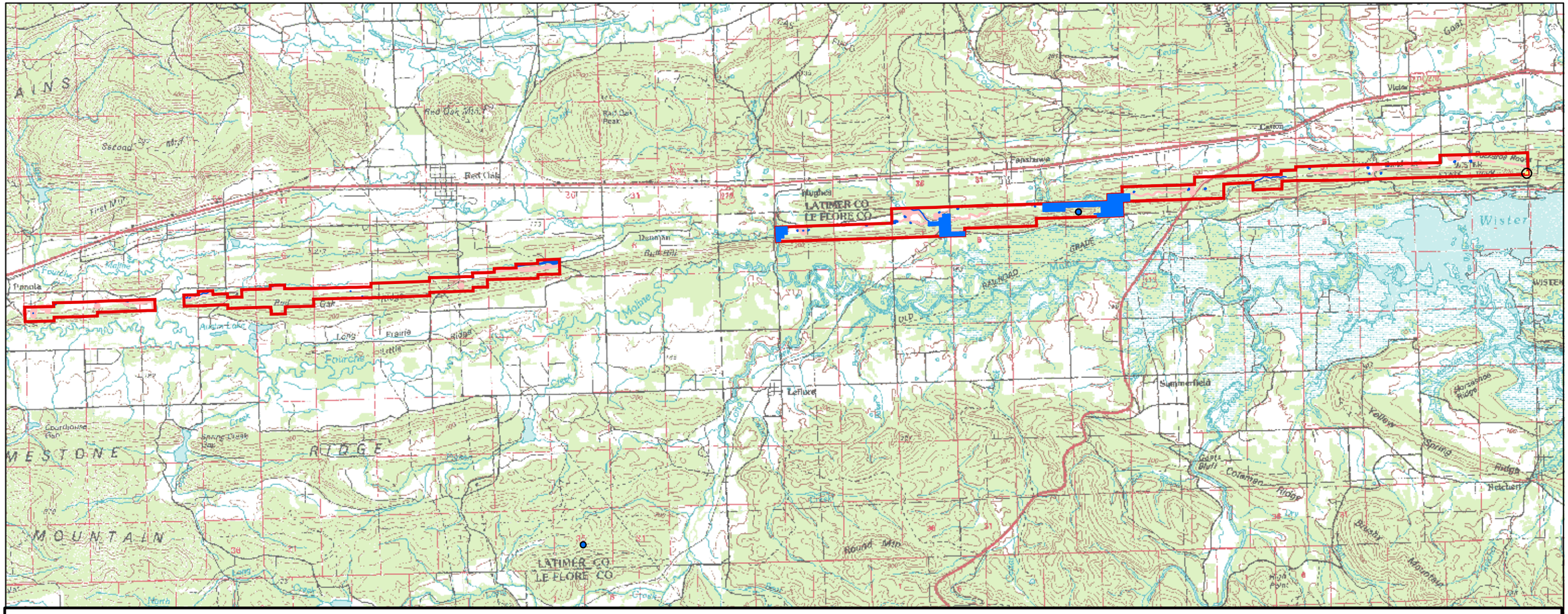
Map 2-2



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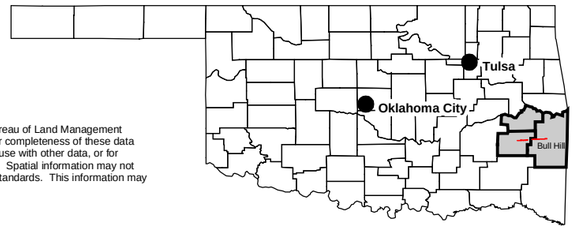
0 1 2 4 Miles

Universal Transverse Mercator
Zone 15, Units Meters
Clarke 1866 Spheroid
NAD27 Datum



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Legend

- Lease Application Area Boundary
- Unavailable for Leasing After Stipulations
  - Public Park (State Park) 300-foot buffer
- Unsuitable for Leasing (Coal Screen Unsuitability Criteria) Before Stipulations
  - Rights-of-Way and Easements (Criterion Number 2)
    - Residences 300-foot buffer
  - Buffer Zones for Rights-of-Way, Communities, and Buildings (Criterion Number 3)
    - Interstate 100-foot buffer
    - Other Roads 50-foot buffer
  - Floodplains (Criterion Number 16)
- Unsuitable for Leasing (Multiple Use Screen) Before Stipulations
  - Wetlands and Riparian Areas
  - Priority Streams
  - Wister Wildlife Management Area

Notes: Cultural resources are described in text, locations are not provided.

Municipal Watersheds Criterion 17 encompasses most of mapped area & is not shown for clarity.

Bull Hill Tract (OKNM 107920)
Latimer and LeFlore Counties

BLM Oklahoma Field Office
RMPA for Three Competitive Coal Lease Sales in Haskell, Latimer, and LeFlore Counties, Oklahoma

URS

Map 2-3

Findings. There are no wilderness study areas nor are there lands possessing wilderness character in any of the three LAAs; therefore, this criterion does not apply.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.5 Criterion Number 5 – Scenic Areas

Scenic Federal lands designated by visual resource management 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.

Findings. There are no Federal surface lands and no areas equivalent to BLM's visual resource management Class I in any of the LAAs; therefore, this criterion does not apply.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.6 Criterion Number 6 – Land Used for Scientific Study

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 purposes 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.

Findings. No lands within the LAAs are being used for this purpose.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.7 Criterion Number 7 – Cultural Resources

All publicly or privately owned places that are included in the National Register of Historic Places shall be considered unsuitable. This includes any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

Findings.

Liberty West LAA. There are no cultural sites within any of the LAAs that are listed on the National Register of Historic Places.

McCurtain LAA. A review of the McCurtain LAA by the Oklahoma Archaeological Survey indicates that five cultural resource sites are known to be present within the McCurtain LAA; 34HS116, 34HS117, 34HS199, 34HS200, and 34HS201. However, none of these sites is listed on the National Register of Historic Places.

Bull Hill LAA. A review of the Bull Hill LAA by the Oklahoma Archaeological Survey indicates that eight sites are known to be present within the LAA; 34LT139, 34LT110, 34LTF293, 34LF297, and 34LF161; and three structures shown on 1898 Government Land Office plats. However, none of these sites is listed on the National Register of Historic Places.

Recommendation. Although it is interpreted that this also includes cultural resource sites on privately owned land overlying Federal coal, no lands within any of the LAAs meet this criterion as there are no cultural resource sites that are listed on the National Register of Historic Places. While this criterion does not apply in this case, the cultural resource sites present in the McCurtain and Bull Hill LAAs may meet the definition of a resource of a unique nature with local or regional importance. These sites are considered under the multiple-use screen.

2.3.2.8 Criterion Number 8 – Natural Areas

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

Findings. The LAAs do not contain lands designated as natural areas or National Natural Landmarks.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.9 Criterion Number 9 – Critical Habitat for Threatened or Endangered Plant and Animal Species

Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat proposed to be designated as critical for listed threatened or endangered plant and animal species or species proposed for listing, and habitat for Federal threatened or endangered species, which is determined by 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.

Findings. There is no Federally designated critical habitat in any of the LAAs. However, the LAAs contain habitat suitable for the American burying beetle (*Nicrophorus americanus*), which is listed as an endangered species by the USFWS.

Recommendation. Lands in the LAAs are suitable for further consideration for coal leasing with inclusion of the standard stipulation for the American burying beetle contained in the 1994 RMP.

2.3.2.10 Criterion Number 10 – State Listed Threatened or Endangered Species

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.

Findings. The LAAs may contain habitat suitable for the American burying beetle, a species listed by the State of Oklahoma as endangered.

Recommendation. Lands in the LAAs are suitable for further consideration for coal leasing with inclusion of the standard stipulation for the American burying beetle contained in the 1994 RMP.

2.3.2.11 Criterion Number 11 – Bald or Golden Eagle

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 included in the determination of buffer zones. Buffer zones shall be determined in consultation with the USFWS.

Findings. There are no known eagle nests within any of the LAAs.

Recommendation. Lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.12 Criterion Number 12 – Bald and Golden Eagle Roost and Concentration Areas

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

Findings. No eagle roosts or concentrations areas used during migration and wintering are known to exist within the any of the LAAs.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.13 Criterion Number 13 – Falcon Nesting Site(s) and Buffer Zone(s)

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.

Findings. There is no known falcon cliff nesting with an active nest within any of the LAAs.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.14 Criterion Number 14 – Habitat for Migratory Bird Species

Federal lands that 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.

Findings. A wide variety of bird species are found throughout the LAAs including many resident, migratory, wintering, and transient species. Approximately 66 species of birds breed in Oklahoma, and the grasslands and waterways are important for wintering birds. The LAAs are situated in the central flyway and water resources within this area are important for migratory species.

Recommendation. BLM has a cooperative agreement with the Forest Service and USFWS to promote conservation of migratory birds and minimize potential adverse effects of take under the Migratory Bird Treaty Act. Leasing must consider migratory bird conservation by implementing existing BLM policy, Federal laws, and executive orders. All lands in the LAAs would be available for leasing consideration under this criterion.

2.3.2.15 Criterion Number 15 – Fish and Wildlife Habitat for Resident Species

Federal lands that the surface management agency and the State jointly agree are for resident species of fish, wildlife, and plants of high interest to the State and that are essential for maintaining these priority wildlife species shall be considered unsuitable.

Findings. No known essential habitat exists for species of high interest in any of the LAAs.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.16 Criterion Number 16 – Floodplains

Federal lands in riverine, coastal, and special floodplains (100-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

Findings. Floodplains have been mapped by the Federal Emergency Management Agency for the Bull Hill LAA. There are no mapped floodplains for the Liberty West or McCurtain LAAs. As such, a 100-foot buffer zone (200-foot total) has been applied to streams within the Liberty West LAA based upon professional judgment. Within the McCurtain LAA, surface disturbance would only occur at the underground mining portal and in the stockpiling and hauling areas. These areas do not contain applicable streams. Within the McCurtain LAA, the primary mining technique will be underground. In accordance with SMCRA and 30 CFR 817.57 (Hydrologic balance: Stream buffer zones), no land within 100 feet of a perennial stream or an intermittent stream shall be subsided. In lieu of floodplain setbacks, this subsidence buffer has been used for the McCurtain LAA streams.

Recommendation. Identified floodplains potentially could be mined with appropriate runoff control measures. Flooding and stream flow alterations are specifically addressed during the mine permitting process. Section 460:20-27-11 in the Oklahoma Administrative Code addresses the "Probable Hydrologic Consequences on Surface and Ground Water." Because the ODM does not specifically enforce the floodplain laws, the leaseholder must comply with the applicable State authority. Before a mining permit is deemed adequate, and any disturbance could occur, the leaseholder must receive a floodplain permit from the county floodplain administrator. The floodplain administrator reviews the application to determine if the proposed activities (mining) would be safe from flooding and whether it would increase flood hazards elsewhere. The leaseholder must correspond with both the floodplain administrator and the ODM to make any necessary modification to achieve the floodplain permit.

All lands within the LAAs should be available for leasing through the use of site-specific stipulations and resource protection safeguards, which would be described in the operation and reclamation plans submitted to and approved by BLM.

2.3.2.17 Criterion Number 17 – Municipal Watersheds

Federal lands that have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

Findings. The Bull Hill LAA lies within the watershed for Wister Lake, a primary watershed for the City of Poteau and surrounding communities through the Poteau Valley Improvement Authority.

Recommendation. In order for the Bull Hill LAA to be leased, agreements must be reached with the Poteau Valley Improvement Authority to allow surface disturbance within the municipal watershed.

Under this criterion, lands in the Liberty West and McCurtain LAAs are suitable for further consideration for coal leasing. The Bull Hill LAA is suitable for leasing consideration with stipulations.

2.3.2.18 Criterion Number 18 – National Resource Waters

Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of Federal lands 0.25 mile from the outer edge of the far banks of the water shall be unsuitable.

Findings. There are no designated National Resource Waters located within any of the LAAs.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.19 Criterion Number 19 – Alluvial Valley Floors

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 30 CFR 822 § 3400.0-5(a), the final alluvial valley floor guidelines of the OSM when published, and approved state programs under the SMCRA, 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.

Findings. Alluvial valley floors were not identified within any of the LAAs.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.2.20 Criterion Number 20 – State or Indian Tribe Proposed Criteria

Federal lands in a state to which is applicable a criterion (i) proposed by the state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

Findings. There is no criterion proposed by state or Indian tribes that have been approved by the Secretary of the Interior.

Recommendation. Under this criterion, lands in the LAAs are suitable for further consideration for coal leasing.

2.3.3 Results of Multiple-use Analysis

The multiple-use screen is intended to identify lands that should be eliminated from further consideration for coal leasing if resources on those lands, other than those identified through the unsuitability criteria screen, are determined to be locally important or unique. Consideration of these other resources or uses at this stage of planning allow for accommodation of unique, site-specific resource values clearly superior to coal, but that are not included in the unsuitability criteria.

The multiple-use values and management considerations in the three LAAs include wetland and riparian areas, Wister Wildlife Management Area, and cultural resources that are not listed on the National Register of Historic Places.

Wetland and riparian areas deemed important by the USFWS have been identified in their letter from July 9, 2003 (Appendix A). Specific areas to be excluded based on this aspect of the multiple use analysis are indicated in that document.

Wister Wildlife Management Area covers a total of 35,500 acres of central LeFlore and eastern Latimer Counties in southeastern Oklahoma. It is located around the 7,000-acre Wister Lake, along and on either side of Highway 59 and 271 South, and south of the Towns of Wister and Heavener. Provisions for development around the Wister Wildlife Management Area are defined by the 1994 RMP. No surface occupancy is allowed in approximately 23,070 acres around the lake as buffers for recreational facilities, roads, trails, and other developments and within the identified flood pool. Leasing within the Wister Wildlife Management Area must be coordinated with the U.S. Army Corps of Engineers (USACE) and ODWC. Should USACE land at Wister Lake be available for lease, stipulations as described in Section 2.3.5 would apply (BLM 1994).

Cultural resources have been identified in the McCurtain and Bull Hill LAAs that could be affected by mining activities. These areas are identified by reference in letters from the Oklahoma Archeological Survey (on file at the BLM Oklahoma Field Office). BLM would attach the standard archaeological stipulation to new coal leases as stated in Section 2.3.5.

2.3.4 Surface Owner Consultation

The BLM is to consult with qualified surface owners to determine whether they are for or against surface mining. Any surface owner who previously gave written consent to any party to conduct surface mining is considered to have expressed a preference for mining. A qualified surface owner is one who holds legal title to the surface of split estate land, has their principal place of residence on the land, or receives a significant portion of their income from the land and have met these conditions for at least three years. If a significant number of surface owners have expressed a preference against mining, the area may be considered unsuitable for further consideration for surface mining.

Communication to inform landowners and exchange information about the potential mining in the LAAs has been taking place since early in the planning process (and before). Landowners were contacted individually by the applicant to discuss the landowners' opinions, concerns, and preferences, and to invite them to attend and participate in the scoping meetings early in the planning process (May 2003). Also, BLM has responded to and will continue to respond to landowner questions and comments.

During scoping, individuals in the area of the Bull Hill LAA expressed objections to mining activities. (Results of scoping can be reviewed in the Scoping Report for the project issued in June 2003.) BLM has consulted with qualified landowners through Farrell-Cooper Mining Company to determine preference for or against surface mining and to obtain written consent or rejection. At this time, no written rejections to mining have been provided by qualified landowners to the BLM.

Mining within 300 feet of an occupied residence requires a written waiver from the occupant (Oklahoma Administrative Code 460:20-7-4(5)). The operator/lessee would not be allowed to mine closer than 300 feet without this written waiver from the occupant. Also, limits on adverse effects of blasting are set by the Oklahoma Mining Regulations. Maximum acceptable airblast and ground vibration limits are imposed for all blasting operations. These limits cannot be exceeded at occupied dwellings outside the permit area. The proper blast design ensures that the operator does not exceed these limits. Monitoring also is conducted using seismographs that accurately measure ground vibration and airblast levels at the protected structures.

The operator/lessee would not conduct surface mining operations on any land where legal rights have not been granted by the owner of the property to enter and conduct surface mining operations. This "right to enter" is granted through a lease agreement with the landowner.

2.4 MANAGEMENT PLAN AMENDMENT

2.4.1 Description of Typical Operations

The description that follows is a general description of the potential mining operations at each of the three LAAs if Alternatives B or C is selected as the proposed action. Methods would be defined in more detail in the mine plan of operations during the mine-permitting phase.

2.4.1.1 Liberty West Operations

The Liberty West tract would be developed by surface mining methods. Mining would be a continuation of the adjacent permit, ODM Permit #4268. Mining would progress from east to west as overburden from each pit is spoiled in the preceding open pit using the dragline. Mining would progress in a series of long, narrow pits away from the cropline of the Stigler horizon. The pits would be up to 150 feet wide at the bottom, and may range from 60 to 120 feet in depth. The length would vary but would range from 2,000 to 4,000 feet. Excavation of pits would progress at a rate of approximately 1 mile per two years.

The major equipment used in the overburden- and interburden-removing phases of the operation would be a dragline. Bulldozers, scrapers, and front-end loaders may move supplemental yardage.

Surface coal mining operations using a dragline and mobile equipment would be conducted in the permit area. Coal would be uncovered from a relatively flat-lying coal seam by removal of the predominantly shale and sandstone overburden material. Haul roads would be located between the active pits and the coal pad area located on ODM Permit #4257. Pending the County Commissioner's approval, a portion of a county road may be used to support the pit haul operations.

The area disturbed by mining would be isolated from the surface water in the watershed. Diversion berms would be constructed to divert surface water flows around disturbed area. Additionally, diversion berms and sediment ponds would be constructed to control surface water discharges from within the disturbed area.

Before the overburden excavation begins, the topsoil is removed and stockpiled in designated topsoil storage areas, or the topsoil is redistributed over replaced and graded overburden material. If conditions permit, there would be contemporaneous topsoil removal ahead of the active pit and replacing the topsoil behind the active pit. After topsoil is removed, a part of a pit is drilled out in a blast hole pattern, the holes loaded with explosives and the pattern is detonated.

A bulldozer is used to push the blasted overburden material into the previously excavated pit and to prepare a bench for the dragline. The bulldozer pushes material away from the highwall into the open pit until the uphill grade becomes prohibitive to use the bulldozer. The dragline would work from the end of the pit to the center, removing overburden from the coal seam in a side-cast method of operation.

As a supplement to the dragline capacity in the deeper cover, scrapers may be used to remove the spoil material from the coal seams. Scrapers would cycle from the excavation area to the spoil placement area. Any, or all, of the described equipment also may be used to move spoil material away from the excavation to allow operating room for the dragline.

In general the excavation of the successive pits would backfill the previously excavated adjacent pits, and excess material, created by the swell factor of the overburden material, would be placed on top of the

backfilled pits. The handling and subsequent swelling of the overburden material would create somewhat higher topography than there was originally within the permit area.

After the pits are backfilled, topsoil would be redistributed and permanent vegetation would be established on the disturbed areas.

2.4.1.2 McCurtain Operations

Coal from the McCurtain area would be recovered using underground mining methods. The coal would be recovered using continuous miners, shuttle cars, and conveyors. Maintenance crews would be responsible for roof bolting and rehabilitation of access routes. The coal would be conveyed to the surface by belts where it would be crushed and loaded. The exact mix of equipment would be determined by production goals and be reflected in the mine plan filed during the permitting phase of the mine. The portal would remain open for approximately 20 years.

2.4.1.3 Bull Hill Operations

The coal seam would be recovered with a combination of conventional surface mining and auger mining. Mining equipment would include an auger miner, bulldozers, backhoe, front-end loaders, trucks, and motor graders.

Coal would be removed from two steeply dipping coal seams. One pit of coal would be stripped using conventional surface mining methods. The stripping would advance the existing highwall down-dip to a depth of approximately 100 feet to provide additional pit area for the auger mining operations. Auger mining operations would follow the stripping operations and would recover coal 300 to 500 feet into the seam from the highwall. Surface mining operations and reclamation would be similar to the operations described for the Liberty West above. The mining and reclamation sequence would advance as a continuous operation. Excavation of pits would progress at a rate of approximately 1 mile per year.

The coal pad area would be located within the permitted area. Haul roads would be located between the active pits and the coal pad area. Pending the County Commissioner's approval, county roads may be used to support transportation operations.

The mining would have a continuous mining area composed of stripping, augering, and backfilling operations. When mining advances, the stripping operation would advance to the next pit with augering following behind. Blasted material from the stripping operation would be hauled back to the area previously mined by the auger. Backfilling and grading would be an integral part of the mining sequence to achieve contemporaneous reclamation. Stockpiling of spoil would be necessary when auger-mining operations are delayed or when weather interrupts reclamation activities. The handling and subsequent swelling of the overburden material would create somewhat higher topography than there was originally within the permit area.

Auger mining would follow stripping operations closely along the highwall of the coal and would mine 300 to 500 feet down-dip. When the auger miner has reached its limit, it would be withdrawn and moved down the pit to the next auger entry point. The coal would be discharged from the miner's conveyor directly into pit haul trucks and hauled to the coal pad. Mine entries would range from nominally 4.5 feet wide with 1.5-foot-wide pillars to 6 feet wide with 2-foot-wide pillars between entries.

2.4.2 Management Direction

The three LAAs will be offered for lease, allowing development of all lands within the leased areas with the exception of those lands considered to be unsuitable for development (1) in accordance with the

unsuitability criteria and (2) considering the results of the multiple use screen, which includes wetland and riparian areas, Wister Wildlife Management Area, cultural resources, and priority streams. With application of stipulations, approximately 1.62 acres or less than 1 percent of the originally proposed leases would be unsuitable for consideration. Maps 2-1, 2-2, and 2-3 illustrate the areas considered to be unsuitable for development with or without stipulations.

2.4.2.1 Stipulations for Leasing

The coal screen unsuitability criteria and multiple use criteria have identified areas that may be included for leasing consideration with stipulations. The following coal lease stipulations (CLS) have been proposed and have been developed from the 1994 RMP as well as BLM policy documents. Areas may be open to Federal coal leasing under standard lease terms and conditions and any specific stipulations (management decisions) as defined in the 1994 RMP or this Resource Management Plan Amendment (RMPA). Federal coal estate can be considered acceptable for further consideration in the leasing process by application of stipulations. Stipulations are provisions that modify the standard lease rights and are attached and made a part of the lease. Existing stipulations from the 1994 RMP address coal screen Criterion Number 2, Criterion Number 3, Criterion Number 10 and the multiple-use screen conflict identified for riparian and wetland areas.

Existing Stipulations

Coal Lease Stipulation 1 (CLS-1) Rights-of-way: If it is impractical to relocate the right-of-way, mining will be prohibited within the right-of-way and to within a 100-foot buffer zone from the outside of the right-of-way. Relocation approval of both the holder and issuing parties involved in the right-of-way would be required.

Coal Lease Stipulation 2 (CLS-2) Dwellings: The coal lessee will consult with the owners of occupied dwellings and maintain or, with the owner's written consent, adjust the designated 300-foot buffer zone.

Coal Lease Stipulation 3 (CLS-3) Wetland Protection: All or portions of the lands under this lease contain wetland and/or riparian areas. The lessee will not conduct surface-disturbing activities on these areas without the specific approval, in writing, of the authorized officer. Impacts on or disturbance of wetlands and riparian habitats, which occur on this lease, must be avoided, minimized, or compensated. The mitigation goal will be no net loss of in-kind habitats. The mitigation shall be developed in cooperation with appropriate State and Federal agencies. The wetland/riparian stipulation is mandated by EO 11990 "Protection of Wetlands" of May 24, 1977.

Coal Lease Stipulation 4 (CLS-4) American Burying Beetle Protection: The lessee will not conduct surface-disturbing lease activities that will result in unacceptable impacts on the American Burying Beetle, a Federally listed endangered species. The lessee may be required to arrange for a qualified biologist to conduct field surveys that could result in beetle removal and transplant efforts. Such transplant efforts must be accomplished no more than one year before surface-disturbing activities are to begin. Survey requirements, transplant efforts, and Endangered Species Act coordination/consultation will be accomplished cooperatively with the USFWS. This stipulation would be attached to Federal coal leases, which occur in Bryan, Cherokee, Haskell, Latimer, LeFlore, Muskogee, Pittsburg, Sequoyah and Tulsa Counties.

Standard Stipulation for Cultural Resources

In addition, BLM employs a standard overall stipulation for cultural resources that is not stated specifically in the 1994 RMP. The standard stipulation for cultural resources states the following.

Coal lease Stipulation 5 (CLS–5) Cultural Resources: Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized officer of the BLM or of the surface managing agency, if different, on portions of the mine plan area and adjacent areas, or exploration area, that may be adversely affected by lease-related activities and that were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, historical architect, as appropriate), approved by the authorized officer of the surface-managing agency (BLM, if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Manager, Program Support Division, Mid-Continent Coordinating Center (PSD manager) of the OSM, the authorized officer of the BLM, if activities are associated with coal exploration outside an approved mining permit area (hereinafter called authorized officer), and the authorized officer of the surface-managing agency, if different. The lessee shall undertake measures, in accordance with instructions from the PSD manager, or authorized officer, to protect cultural resources on the leased lands. The lessee shall not commence the surface-disturbing activities until permission to proceed is given by the PSD manager or authorized officer. The lessee shall protect all cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of approved mining and reclamation or exploration plan.

The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the PSD manager or authorized officer, or the authorized officer of the surface-managing agency, if the PSD manager is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the PSD manager or authorized officer. Within two working days of notification, the PSD manager or authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface-managing agency unless otherwise specified by the authorized officer of the BLM or of the surface managing agency, if different.

All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

Stipulations Identified Through the Coal Screen

Additional stipulations identified by the coal screen address Criterion Number 16 – Floodplains, Criterion Number 17 – Municipal Watershed, and the multiple-use screen conflict identified for the Wister Wildlife Management Area.

Coal Lease Stipulation 6 (CLS-6) Floodplains: Floodplains (100-year recurrence interval) have been mapped by the Federal Emergency Management Agency for the Bull Hill LAA. The leaseholder must receive a floodplain permit from the county floodplain administrator. The leaseholder must correspond with both the floodplain administrator and the ODM to make any necessary modification to achieve the floodplain permit.

The Liberty West and McCurtain LAAs lie within areas that are unmapped by the Federal Emergency Management Agency for floodplains. As such, within the Liberty West LAA a 100-foot buffer zone (200-foot total) would be applied to perennial and intermittent streams. Mining would not be allowed within this buffer zone unless approval is obtained from the County floodplain administrator. Mining within the McCurtain LAA would be conducted in accordance with SMCRA and 30 CFR 817.57 (Hydrologic

balance: Stream buffer zones). As such, no land within 100 feet of a perennial stream or an intermittent stream shall be disturbed by underground mining activities, unless the regulatory authority specifically authorizes underground mining activities closer to, or through, such a stream.

Coal Lease Stipulation 7 (CLS-7) Municipal Watersheds: The Bull Hill LAA lies within the municipal watershed for the City of Poteau. Leasing must be coordinated with the Poteau Valley Improvement Authority, which provides water to the City of Poteau, and agreements must be made with the authorized officer to allow surface mining to occur in this watershed.

Coal Lease Stipulation 8 (CLS-8) Wister Wildlife Management Area: Leasing within the Wister Wildlife Management Area must be coordinated with the USACE and ODWC or authorized officer. If leasing agreements cannot be reached, no surface mining would be allowed in the Wister Wildlife Management Area.

2.4.2.2 Mitigation Planning

Water Quality and Acid Mine Drainage

Exploratory drilling on the Bull Hill LAA should be conducted only if there are means immediately available to plug the drilling holes if acid mine drainage (AMD) were encountered. In the event that AMD is encountered, plugging should be completed in accordance with the American Water Works Association (AWWA) Standard for Water Wells, AWWA A100-97 Wells intended for use as monitoring wells can be completed as such with adequate control to prevent artesian flow. However, there also should be a plan to shut-in the wells permanently at a later date in accordance with the AWWA standard.

It also is recommended that the lessee collect drilled overburden samples during exploratory drilling and conduct Modified Sobek Method-type acid base accounting tests to determine the potential for AMD production (OSM 2004).

There are two primary means of managing water on surface coal mines to prevent AMD. The first is to minimize infiltration into the spoil surface. A second is to minimize the contact time between groundwater and acid-producing mine spoil.

Minimize Infiltration

Reclamation and revegetation can reduce the production of AMD by promoting surface runoff and evapotranspiration, thus minimizing infiltration into the backfilled spoil. AMD problems may decrease significantly when sites are mined and reclaimed quickly (Perry et al.1997). Rapid reclamation reduces the amount of available water as well as its contact time with acid-forming materials and limits the time available for sulfur oxidation, two important items in acid production. One method to help ensure rapid reclamation is to limit the total surface area disturbed and unrevegetated at any one time. Another is to minimize the temporary cessation of backfilling. All of these factors contribute to the potential for impacts on surface and groundwater quality.

Although relatively simple, an adequate erosion and sedimentation plan is an essential component of water management on surface mines. Well-designed erosion and sedimentation controls can prevent a significant amount of infiltration into a mine site. Poor controls may add to the problem. The use of erosion and sedimentation controls has been a recommended practice since the mid-1950s (Braley 1954; Brant and Moulton 1960). Such controls include diversion ditches, collection ditches, and sedimentation and treatment ponds as described below.

Diversion Ditches. These features are positioned where they will divert surface water away from a surface mine site. They usually are located above the final highwall or in areas where it is necessary to divert surface flows away from spoil material. Diversion ditches may not be needed on all mine sites due to topography or the presence of highwall berms or topsoil piles. Their function is to prevent excessive infiltration of surface water into backfilled spoils.

Collection Ditches. The purpose of collection ditches is to collect runoff (mostly from precipitation) from active or recently backfilled areas and convey it to sedimentation ponds in a nonerosive manner. Collection ditches normally are located in undisturbed ground below the mining area; however, they may at times need to be constructed in relatively permeable spoil material. When constructed in spoil, collection ditches may direct large quantities of water into the backfill. To prevent this, ditches in spoil should be lined with impermeable material to prevent infiltration. Additional factors to consider are: (a) the elimination, where possible, of cross-site ditches; and (b) removal of ditches once vegetation is fully established. Promoting rapid reclamation and revegetation of the site allows for rapid removal of these features.

Sedimentation and Treatment Ponds. Like collection ditches, ponds should be located with regard to possible infiltration of water. If constructed in spoil material and not lined properly, large amounts of infiltration are possible. Ponds should be located in original ground, when practical, or lined with impermeable material. Experience has shown that it is better to construct ponds in original ground rather than attempting to line them. Ponds to be left as permanent features or in AMD prone areas should not be constructed in spoil.

Low Permeability Barriers. Reclamation and revegetation can reduce the production of AMD by promoting surface runoff and evapotranspiration, thus minimizing infiltration into the backfilled spoil. Another method to reduce surface water infiltration is the construction of a low-permeability barrier immediately below the topsoil and subsoil. This barrier can be composed of clay or other suitable material such as a fly-ash cement (Sheetz et al. 1997). Barriers to infiltration can be constructed using conventional mining equipment but can significantly increase the cost of reclamation. Also, other considerations such as slope stability and soil suitability for reclamation must be taken into consideration.

Minimize Exposure

AMD problems may decrease significantly when sites are mined and reclaimed quickly (Perry et al. 1997). Rapid reclamation reduces the amount of available water as well as its contact time with acid-forming materials and limits the time available for pyrite oxidation, two important items in acid production. One method to help insure rapid reclamation is to limit the total surface area disturbed and unrevegetated at any one time. Another is to minimize the temporary cessation of backfilling.

Mining operators through the years have used various forms of drains in controlling water on surface mining sites. Some examples are rock drains under spoil piles and the establishment of first (or last) cut drains through the lowwall. The idea behind highwall drains is quite simple; collect groundwater entering a mine site before it comes into contact with mine spoil and convey it rapidly through the site with minimal contact with spoil. In this manner, groundwater largely unaffected by mine drainage will "bypass" most potentially acid-forming material (i.e., pit cleanings and pyritic spoil) and exit the site with minimal chemical change.

Vegetation

General Vegetation

The most appropriate mitigation measures for the Liberty West LAA are to avoid the wetland areas. Mitigation measures that could be used to lessen the impact on vegetation at the Bull Hill LAA include minimizing the area of disturbance within the oak/pine woody vegetation to only the areas that are absolutely needed for coal mining activities and planting trees during revegetation activities, such as the loblolly pine (*Pinus taeda*), red oak (*Quercus rubra*), and the blackjack oak (*Quercus marilandica*). Landowners would be consulted regarding revegetation preference.

Wetlands

The best mitigation measure to prevent impact on wetlands would be avoidance. Care should be taken to avoid these isolated wetlands and streams during mining activities and haul road construction. If this can not be accomplished, then minimizing impact on wetlands through project modifications should be a priority. Lastly, mitigating impacts through wetland creation, enhancement, or restoration also is an option. However, before any construction activities can take place within a wetland, a Section 404 permit must be obtained from the USACE.

Wildlife

Wildlife Habitat

Mitigation for migratory birds includes minimizing the impact on the vegetation that would be utilized by these birds for a habitat. Specifically, the vegetation that extends from the Wister WMA north onto the Bull Hill LAA, where there is the greatest impact, would need to be left in place as much as possible. Only the vegetation needed for coal mining activities should be taken from this area to maintain the potential migratory bird habitat. Though not as practical, another mitigation measure would be to adjust the proposed mine area to avoid any woody vegetation that might be used as a habitat by migratory birds. Though some coal may be left in place by this method, the impact on migratory birds would be lessened.

Big Game

Considering the predominant woodland type of vegetation on the Bull Hill LAA, it appears that removal of the woodland by mining activities would result in a substantial impact on big game wildlife. The alteration in vegetation type from woodlands to a grass community would force big game animals that are most likely located in this area to be displaced. Ways of mitigating the impact on big game include minimizing the number of trees removed to what is necessary for project activities and rehabilitating the area by planting native trees in addition to a standard grass planting rehabilitation efforts. The mining company would consult with the landowners regarding tree removal and rehabilitation.

Wildlife Management Areas

A portion of the Bull Hill LAA is located within the Wister WMA and Wister Lake State Park. Surface mining would not be allowed within Wister Lake State Park. However, since the Wister WMA extends into the areas of the LAA, it appears that coal mining activities on the Bull Hill LAA could result in an adverse impact on the Wister WMA.

Measures to mitigate impact on migratory birds include minimizing the impact on the vegetation that would be utilized by these birds for a habitat. Specifically, the vegetation that extends from the Wister WMA north onto the Bull Hill LAA, where there would be the greatest impact, would need to be left in place to the extent possible. Only the vegetation needed for coal mining activities should be taken from

this area to maintain the potential migratory bird habitat. Though not as practical, another mitigation measure would be to adjust the proposed mine area to avoid any woody vegetation that might be used as a habitat by migratory birds. Though some coal may be left in place by this method, the impact on migratory birds would be lessened.

Noise

Noise associated with mining activities may impact residences. Effective noise abatement measures are unique for each situation. The physical techniques to mitigate noise vary in their noise-reduction capabilities. Potential noise mitigation evaluation factors include the amount of noise reduction desired and the situations where physical techniques would be most effective.

Noise barriers such as walls and earthen berms are used commonly to mitigate noise. The effectiveness of a barrier depends upon factors such as the distance from the barrier to the source and the relative height of the barrier above the line-of-sight between the source and receiver. To be effective, a barrier must block the line-of-sight from the source to the receiver. On-site equipment, structures, and displaced earth can be used as barriers when placed correctly. A properly designed barrier can provide up to approximately 20 dBA of noise reduction.

Blasting

Blasting in proximity and direct line-of sight of residences may result in complaints and possible damage to buildings. Blasting should be conducted in accordance with guidelines established by the Bureau of Mines or other governmental agency. A blasting noise model should be used prior to a blasting event to determine the resultant peak sound level at the closest receptors based on the parameters of the blast. The effects of weather conditions and intervening topography should be factored into the calculations. Blasting should not be conducted if the projected level exceeds 133 dBA at any residence.

2.5 PUBLIC INVOLVEMENT

At the time of the lease sale, a qualified surface owner, as defined in 43 CFR 3400.0-5, will be solicited by BLM to provide written consent in order for a coal operator to enter and commence surface mining. If the applicant cannot provide written consent from the qualified surface owner to enter and commence surface mining, the BLM would issue the lease for coal underlying that particular parcel for underground mining only.

2.6 PLAN AMENDMENT IMPLEMENTATION

This Decision Record and RMPA constitute the final step in amending the 1994 RMP. The 1994 RMP is hereby amended to incorporate the three LAAs, which now become part of the approved RMP. Following this Decision Record, BLM will offer the LAAs for bid and issue the leases to the successful bidder. Once the leases are issued, lead-agency responsibility shifts and the lessee must submit a mine permit application, including mine operation and reclamation plans, to the ODM. The ODM is the State agency given the authority for review and approval of mining and reclamation in Oklahoma through designation by the OSM. The ODM and OSM are responsible for completing site-specific environmental evaluation and mitigation planning at the time the mine permit application is submitted. BLM participates in review of the mine plan to ensure that the lease stipulations are upheld and the economic recovery of the Federal coal is maximized.

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Glossary

GLOSSARY

Adaptive Management—A systematic process for continually improving management policies and practices by learning from the outcomes of actions over time.

Advisory Council on Historic Preservation—A Federal council that reviews the actions taken by agency officials, which affect historic properties (cultural resources).

Affected Environment—Surface or subsurface resources (including social and economic elements) within or adjacent to a geographic area that potentially could be affected by development. The environment of the area to be affected or created by the alternatives under consideration (40 CFR 1502.15).

A-weighted—Weighting function applied to the noise spectrum, which approximates the response of the human ear.

Alkalinity—Quantity and type of compounds in water that collectively cause a pH shift to alkalinity.

Alluvial Plains—Floodplains produced by the filling of a valley bottom and consisting of fine mud, sand, or gravel.

Alternative—The different ways of addressing the planning issues and management activities considered in a planning process. These provide the decision maker and the public a clear basis for choices among options. Every planning effort involves the development of several complete, reasonable alternatives for resolving the issues. One of the alternatives offered is the continuation of present management (no change) while the other alternatives provide a range of choices for resolution of the issues. One of the alternatives is selected at the end of the planning process and approved as the plan.

Ambient (air)—The surrounding atmospheric conditions to which the general public has access.

Application—A written request, petition, or offer to lease lands for the purpose of minerals exploration and/or right-of-extraction.

Aquifer—A water-bearing layer of permeable rock, sand, or gravel. A formation, group of formations, or part of a formation that contains sufficient saturated permeable material to conduct groundwater and yield large quantities of water to wells and springs.

Aspect—The direction in which a slope faces.

Authorized Officer—Any person authorized by the Secretary of the Interior, or his representative, to administer regulations.

Basin—A depressed area having no surface outlet (*topographic basin*); a physiographic feature or subsurface structure that is capable of collecting, storing, or discharging water by reason of its shape and the characteristics of its confining material (*water*); a depression in the earth's surface, the lowest part often filled by a lake or pond (*lake basin*); a part of a river or canal widened (*drainage*, *river, stream basin*).

Big Game—Large species of wildlife that are hunted, such as elk and deer.

Biodiversity—The diversity of living organisms considered at all levels of organization including genetics, species, and higher taxonomic levels, and the variety of habitats and ecosystems, as well as the processes occurring therein.

Bureau of Land Management—An agency of the U.S. Department of the Interior responsible for managing most Federal government subsurface minerals. It has surface management responsibility for Federal lands designated under the Federal Land Policy and Management Act of 1976.

Cambrian—The oldest of the periods of the Paleozoic Era; also the system of strata deposited during that period.

Candidate Species—Category I: Plant and animal species for which the USFWS currently has on file substantial information to support a proposal to list as threatened or endangered. Category II: Plant and animal species for which current information indicates that a proposal to list as threatened or endangered is possibly appropriate, but for which more information is needed to support a listing proposal.

Carbonaceous—Coaly; pertaining to, or composed largely of, carbon.

Casual Use—Activities that ordinarily lead to no significant disturbance of Federal lands, resources, or improvements.

Clean Air Act—Federal legislation governing air pollution. Prevention of Significant Deterioration classifications define the allowable increased levels of air quality deterioration above legally established levels include the following:

Class I – minimal additional deterioration in air quality (certain national parks and wilderness areas)

Class II – moderate additional deterioration in air quality (most lands)

Class III – greater deterioration for planned maximum growth (industrial areas)

Coal—A readily combustible rock containing more than 50 percent weight and more than 70 percent by volume of carbonaceous material including inherent moisture, formed from compaction and induration of variously altered plant remains similar to those in peat. Differences in the kinds of plant materials (type), in degree of metamorphism (rank), and in the range of impurity (grade) are characteristic of coal and are used in classification.

Colluvium—A general term applied to loose and incoherent deposits, usually at the foot of a slope or cliff and brought there chiefly by gravity. Talus and cliff debris are included in such deposits.

Corridor—For purposes of this environmental assessment, a wide strip of land within which a proposed linear facility (e.g., pipeline, transmission line, road) could be located.

Council on Environmental Quality—An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effect on the environment, conducts environmental studies, and advises the president on environmental matters.

Critical Habitat—An area occupied by a threatened or endangered species "on which are found those physical and biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection" (16 USC 1532 (5)(A)(I)1988). Unoccupied by suitable habitat for the threatened or endangered species is not automatically included unless such areas are essential for the conservation of the species (50 CFR 424.12(e)).

Crucial Habitat—An area that is essential to the survival of a wildlife species sometime during its life cycle.

Cultural Resource Inventory Classes:

Class I – a review of previously conducted inventory results

Class II – a sampling field inventory (all sample units inventoried to a Class III level)

Class III – an intensive field inventory (covers 100 percent of the area on foot)

Cultural Resources—Any cultural, archeological, historical, or architectural site, building, structure, District, or object. Also any location or object that is sacred or ceremonial to any modern Indian tribe, including any unmarked graves and grave goods.

Cumulative Impact—The impact on the environment that results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Depth of Burial—The depth below the ground surface and/or thickness of overlying stratum over a particular rock unit of geologic interest.

Depth to Coal Pay—The depth below the ground surface of a potential economic coal unit.

Desiccation—The removal of moisture; to become dried up.

Dewatering—The act of removing water.

Distribution Line—An electric power line operating at a voltage of less than 69 kilovolts.

Diversity—The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

Easement—A right afforded a person or agency to make limited use of another's real property for access or other purposes.

Emission—Air pollutant discharge into the atmosphere, usually specified by mass per unit time.

Endangered Species—An animal or plant whose prospects of survival and reproduction are in immediate jeopardy, and as further defined by the Endangered Species Act of 1973, as amended.

Endangered Species Act of 1973—(as amended): Federal law to ensure that no federal action will jeopardize federally listed or proposed threatened or endangered species of plants or animals.

Enhanced Recovery—The use of artificial means to increase the amount of hydrocarbons that can be recovered from a reservoir. A reservoir depleted by normal extraction usually can be restored by secondary or tertiary methods of enhanced recovery.

Erosion—The group of processes whereby earthy or rocky material is worn away by natural means such as wind, water, or ice and removed from any part of the earth's surface.

Ephemeral Stream—A stream that flows only in direct response to precipitation.

Evapotranspiration—Loss of water from a land area through transpiration of plants and evaporation from the soil.

Eyrie—The nest of birds of prey.

Fan—An accumulation of debris brought down by a stream descending through a steep ravine and debouching in the plain beneath, where the detrital material spreads out in the shape of a fan, forming a section of a very low cone.

Federal Candidate Species—Sensitive wildlife species currently under consideration for inclusion on the list of Federal threatened or endangered species.

Federal Land Policy and Management Act of 1976 (FLPMA)—Public Law 94-570 signed by the President of the United States on October 21, 1976. Established public land policy for management of lands administered by BLM. FLPMA specifies several key directions for the BLM, notably (1) management on the basis of multiple use and sustained yield; (2) land plans prepared to guide management actions; (3) public land management for the protection, development, and enhancement of resources; (4) public land retention in Federal ownership; and (5) public participation in reaching management decisions.

Federal Listed Species—Animal or plant species listed by the U.S. Fish and Wildlife Service as threatened or endangered.

Fiduciary—Held in trust.

Floodplain—The nearly level alluvial plain that borders a stream or river and is subject to inundation during high water periods; the relatively flat area or lowland adjoining a body of standing or flowing water which has been or might be covered by floodwater.

Forage—All browse and herbaceous foods available to grazing animals, which may be grazed or harvested for feeding.

Foreground View—The landscape area visible to an observer within a mile.

Formation—A body of rock identified by lithic characteristics and stratigraphic position; it is prevailingly, but not necessarily tabular, and is mappable at the earth's surface or traceable in the subsurface (NACSN, 2984, Art. 24).

Fossil—Any remains, trace, or imprint of a plant or animal that has been preserved by natural processes in the earth's crust since some past geologic time.

Fragile Soil—A soil that is especially vulnerable to erosion or deterioration due to its physical characteristics and/or location. Disturbance to the surface or the vegetative cover can initiate a rapid cycle of loss and destruction of soil material, structure, and ability to sustain a biotic community.

Fragmentation—See Habitat Fragmentation.

Free Market—An economic market operating by free competition.

Fugitive Dust—Airborne particulate matter emitted from any source other than through a stack or vent.

Geophysics—Study of the earth by quantitative physical methods.

Graben—Fault block valley; elongated, depressed crustal block bounded by faults on its long side.

Habitat—A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

Habitat Fragmentation—The disruption (by division) of extensive habitats into smaller habitat patches. The effects of habitat fragmentation include loss of habitat area and the creation of smaller, more isolated patches of remaining habitat.

Habitat Management Plan—A written and officially approved plan for a specific geographical area of public land that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

Habitat Type—An aggregation of all land areas potentially capable of producing similar plant communities at climax.

Herpetofauna—Reptiles and amphibians.

Highest and Best Use—Use of a resource (i.e., property) that maximizes its potential.

Historic—Archaeological and archivally known sites related to the activities of non-native peoples, whether they be of Euro-American, Afro-American or Asian-American origin, in the period after the European discovery of the New World (circa A.D. 1492).

Historic Property—Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

Historic Site—The specific location of any cultural resource created after the time of first contact between European explorers and native Indians in each local area.

Hummocky—Like a hummock, full of hummocks (a low, rounded hill, knoll, hillock; a tract of wooded land higher than a nearby swamp or marsh).

Hydric Soils—Saturated soils.

Hydrophytic—Water-loving; ability to grow in water or saturated soils.

Immigrant—Individual who moves into the project area from another part of the country.

Impact—A modification of the existing environment caused by an action (such as construction or operation of facilities).

Incised Channels—Deeply and sharply cut stream channels.

Increments (air quality)—Maximum allowable increases over legally established baseline concentrations of pollutants covered by the Prevention of Significant Deterioration provisions designated as Class I, II, or III areas.

Indian Mineral Estate—A mineral estate owned by the Federal government and held in trust for the American Indian people. The Bureau of Indian Affairs and BLM, as agents of the Secretary of the Interior, have the responsibility for administering the leasing and development of mineral resources in such a case. However, under the auspices of the Indian Self Determination Act of 1968 and the Indian Mineral Development Act of 1982, American Indian people may take a leadership role in the management of their mineral resources.

Indian Tribe—The governing body of any Indian tribe, band, nation, or other group that is recognized by the Secretary of Interior and for which the United States holds land in trust or restricted status for that entity or its members.

Indicator Species—A species of animal or plant whose presence is a fairly certain indication of a particular set of environmental conditions. Indicator species serve to show the effects of development actions on the environment.

Indirect Impacts—Secondary effects that occur in locations other than the initial action or later in time.

Indurated—Said of a compact rock or soil hardened by the action of pressure, cementation, and especially heat.

Infrastructure—The facilities, services, and equipment needed for a community to function including roads, sewers, water lines, police and fire protection, and schools.

Insignificant or Nonsignificant Impacts—Impacts that are perceptible or measurable relative to those occurring naturally or due to other actions, but would not exceed significance criteria.

Interest—The most general term that can be employed to denote a property in lands or chattels. In its application to lands or things real, it is frequently used in connection with the term “estate,” “right,” and “title,” and includes them all. The terms “interest” and “title” are not synonymous. “Interest” more particularly means a right to have the advantage accruing from something; a partial or undivided right, but less than title.

Intermittent Stream—A stream or reach of a stream that is below the local water table for at least some part of the year.

Invertebrate—An animal lacking a backbone or spinal column.

Issue—A matter of controversy over resource management activities that is typically discrete and provides alternatives for a decision. Typically the causal relationship between the activity and undesirable results is documentable and the level of controversy is high enough to merit further analysis.

Joint Patterns—The patterns made by fractures in rock, generally vertical or transverse to bedding, along which no appreciable movement has occurred.

Jurisdiction—The legal right to control or regulate and the areal extent of that right. Jurisdiction requires authority, but not necessarily ownership.

K-factor—Soil erodibility factor.

Lacustrine—Of or pertaining to a lake.

Landscape—An area composed of interacting ecosystems that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape, and pattern, which is determined by interacting ecosystems.

Landscape Character—Particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable or unique.

Landscape Setting—The context and environment in which a landscape is set; a landscape backdrop.

Leasable Minerals—Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium, sodium minerals, oil, gas, and geothermal resources.

Lease—(1) A legal document that conveys the right to use or occupy a property for a specific length of time; (2) the tract of land, on which a lease has been obtained.

Lease Stipulations—Additional specific terms and conditions that change the manner in which operation may he conducted on a lease, or that modify the lease rights granted.

Liquefaction—A change in the phase of a substance to the liquid state; usually a change from the gaseous to the liquid state, especially of a substance that is a gas at normal pressure and temperature.

Lithic Scatter—A scatter of chipped stone materials, which may include fragments, flakes, or stone tools.

Lithology—The physical characteristics of a rock, generally as determined megascopically or with the aid of a low-power magnifier.

Management Indicator Species—Those species that are commonly hunted or whose habitat requirements and population changes are believed to indicate effects of management activities on a broader group of wildlife species in the ecological community.

Management Situation Analysis (MSA)—A step in the BLM planning process that identifies existing management, physical resources, and opportunities to meet the needs, concerns, and issues identified through resource management planning. The MSA results in a reference document, which is kept in the field office. The MSA document is open for public inspection but is not distributed to the public.

Memorandum of Understanding (MOU)—Signed pact between two entities agreeing to some course of action or inaction.

Middleground View—One of the distance zones of a landscape being viewed. This zone extends from the limit of the foreground to 3 to 5 miles from the observer.

Mineral Estate (Mineral Rights)—The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Mineral Reserves—Known mineral deposits that are recoverable under present conditions but are as yet undeveloped.

Mineral Rights—Mineral rights outstanding are third-party rights, an interest in minerals not owned by the person or party conveying the land. It is an exception in a deed that is the result of prior conveyance separating title of certain minerals from the surface estate.

Mitigation—The abatement or reduction of an impact on the environment by (1) avoiding a certain action or parts of an action, (2) employing certain construction measures to limit the degree of impact, (3) restoring an area to preconstruction conditions, (4) preserving or maintaining an area throughout the life of a project, (5) replacing or providing substitute resources to the environment or (6) gathering archaeological and paleontological data before disturbance.

Mineral Estate—Mineral and/or subsurface ownership.

Mitigation Measures—Methods or procedures committed to by BLM for the purpose of reducing or lessening the impacts of an action.

Modification—A fundamental change in the provisions of a lease stipulation, either temporarily or for the term of the lease. A modification may, therefore, include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which restrictive stipulation applies.

Multiple Use— The Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579; the BLM's founding organization act) provides that the Secretary shall manage the public lands under principles of multiple use and sustained yield, in accordance with the land use plans developed by him under section of this title when they are available, except that where a tract of such public land has been dedicated to specific uses according to any other provisions of law it shall be managed in accordance with such law.

National Ambient Air Quality Standards—The allowable concentrations of air pollutants in the air specified by the Federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare) from any unknown or expected adverse effects of air pollutants.

National Environmental Policy Act of 1969 (NEPA)—Public Law 91-190. Establishes environmental policy for the nation. Among other items, NEPA requires Federal agencies to consider environmental values in decision-making processes.

National Historic Preservation Act—The primary federal law providing for the protection and preservation of our cultural resources. Making it a national policy to preserve our cultural heritage, the National Historic Preservation Act established the National Register of Historic Places, the Advisory Council on Historic Preservation and State Historic Preservation Officers.

National Natural Landmarks—Sites designated by the Secretary of the Interior as containing the best representative examples of geologic features and natural communities composing the nation's natural

history. The purpose of the designation is to encourage preservation of such sites through well-informed management and use, and consideration of these sites in public and private land use planning. Designation has no legal effect on land ownership, use, or management.

National Register of Historic Places (NRHP)—The Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the National Register include districts, sites, buildings, structures and objects significant in American history, architecture, archaeology and culture. The National Register is administered by the National Park Service, which is an agency of the U.S. Department of the Interior.

National Register Quality Site—A cultural resource site determined to be eligible for nomination to the *National Register of Historic Places* by virtue of its local, state or national significance.

Negligible Impact—Impact that is small in magnitude and importance and is difficult or impossible to quantify relative to those occurring naturally or due to other actions.

Notice of Review Species—A species that is being considered as a candidate for listing as either endangered or threatened under the Endangered Species Act of 1973, as amended.

Notice to Lessees—A written notice issued by the BLM to implement regulations and operating orders, and serve as instructions on a specific item of importance within a state, district, or area.

Noxious Weed—An undesirable plant species that can crowd out more desirable species.

Off-Highway Vehicle—A vehicle (including four-wheel drive, trail bikes, all-terrain vehicles, and snowmobiles but excluding helicopters, fixed-wing aircraft, and boats) capable of traveling off road over land, water, ice, snow, sand, marshes, and other terrain.

Off-Road Vehicle—Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain.

One-Hundred-Year Flood—A hydrologic event with a magnitude that has a recurrence interval of 100 years.

Operating Rights (working interest)—Any interest held in a lease with the right to explore for, develop, and produce leased substances.

Operator—Any person who has taken formal responsibility for the operations conducted on the leased lands.

Paleontological Resource—Any impressions, footprints, trackways, fossilized, or preserved organic remains not associated with a cultural resource.

Paleontology—A science dealing with the life of past geological periods as known from fossil remains.

Palustrine—A system of wetlands that includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens.

Particulate Matter—Particulate matter less than 10 microns in effective diameter (also called Fine Particulate Matter).

Peidmont—Lying or formed at the base of mountains.

Perennial Stream—A stream receiving water from both surfaces and underground sources that flows throughout the entire year.

pH—A numeric value that gives the relative acidity or alkalinity of a substance on a 0 to 14 scale with the neutral point at 7. Values lower than 7 show the presence of acids, and values greater than 7 show the presence of alkalis.

Physiognomic Physiographic Province—A region, all parts of which are similar in geologic structure and climate and which has consequently had a unified geomorphic history; a region whose pattern of relief features or landforms differs significantly from that of adjacent regions.

Prehistoric—Archaeological sites resulting from the activities of aboriginal peoples native to this region, and because dating is often difficult, extending up to the reservation era (ca. A.D. 1868).

Prehistoric Site—(opposite of historic site) the specific location of a cultural resource created before the time of the first contact between European explorers and the native tribes of that area.

Prevention of Significant Deterioration—A regulatory program based not on the absolute levels of pollution allowable in the atmosphere but on the amount by which a legally defined baseline condition will be allowed to deteriorate in a given area. Under this program, geographic areas are divided into three classes, each allowing different increases in nitrogen dioxide, particulate matter, and sulfur dioxide concentrations.

Prime Farmland—Land that is best suited for producing food, feed, forage, fiber, and oilseed crops. The inventory of prime agricultural land is maintained by the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service).

Proposed Action—Construction activities, alignments, and other activities proposed by the applicant.

Public Land—Any land or interest in land (outside Alaska) owned by the United States and administered by the Secretary of the Interior through the BLM.

Public Participation—Part of the BLM's planning system that provides the opportunity for citizens individuals or groups to express local, regional and national perspectives and concerns. This includes public meetings, hearings or advisory boards or panels that may review resource management proposals and offer suggestions or criticisms for the various alternatives considered.

Quaternary—The younger of the two geologic periods or systems in the Cenozoic Era.

Rangeland—Land used for grazing by livestock and big game animals on which vegetation is dominated by grasses, grass-like plants, forbs, or shrubs.

Raptor—Bird of prey with sharp talons and strongly curved beak; e.g., hawk, owl, vulture, eagle.

Rare or Sensitive Species—Species that have no specific legal protection under the Endangered Species Act as threatened or endangered species, but are of special concern to agencies and the professional

biologic community due to low populations, limited distributions, ongoing population decline, and/or human or natural threats to their continued existence.

Reasonable Foreseeable Development Scenario—The prediction of the type and amount of activity that would occur in a given area.

Reclamation—Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with a predetermined land management plan.

Resource Management Plan (RMP)—A land use plan that establishes land use allocations, multiple-use guidelines, and management objectives for a given planning area. The RMP planning system has been used by the BLM since 1980.

Record of Decision—A document separate from, but associated with, a management plan that publicly and officially discloses the responsible official's decision on the proposed action.

Riparian—Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to the plants of all types that grow along, around, or in wet areas.

Riparian Habitat (Areas)—Areas of land directly influenced by permanent water and having visible characteristics, e.g., vegetation, reflective of the presence of permanent water, i.e., surface and/or subsurface.

Riverine—A system of wetlands that includes all wetland and deep-water habitats contained within a channel that lacks trees, shrubs, persistent emergents, and emergent mosses or lichens.

Roads—Vehicle routes that are improved and maintained by mechanical means to ensure relatively regular and continuous use.

Salinity—A measure of the amount of dissolved salts in water.

Saline Water—Water containing high concentrations of salt (see also brine).

Scoping—A term used to identify the process for determining the scope or range of issues related to a proposed action and for identifying significant issues to be addressed in a management plan.

Secondary Succession—The process by which ecosystems recover toward pre-existing conditions after removal of a disturbance, such as the recovery process of a forest after a fire.

Sediment—Soil or mineral transported by moving water, wind, gravity, or glaciers, and deposited in streams or other bodies of water, or on land.

Sediment Yield—The amount of sediment produced in a watershed, expressed in tons, acre feet, or cubic yards, of sediment per unit of drainage area per year.

Sedimentary Rock—Rock resulting from consolidation of loose sediment that has accumulated in layers.

Sensitive Plant Species—Those plant or animal species susceptible or vulnerable to activity impacts or habitat alterations.

Sensitivity Levels (visual resources)—A measure of people's concern for scenic quality.

Significant—An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of importance of the effect, either beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts.

Significance Criteria—Criteria identified for specific resources used to determine whether or not impacts would be significant.

Slope—The degree of deviation of a surface from the horizontal.

Soil Horizon—A distinct layer of soil, approximately parallel to the land surface, and different from adjacent, genetically related layers in physical, chemical, and biological properties or characteristics.

Soil Productivity—The capacity of a soil to produce a plant or sequence of plants under a system of management.

Soil Series—A group of soils having genetic horizons (layers) that, except for texture of the surface layer, have similar characteristics and arrangement in profile.

Soil Texture—The relative proportions of sand, silt, and clay particles in a mass of soil. Basic textural classes, in order of increasing proportions of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, and clay.

Special Status Species—Wildlife and plant species either Federally listed or proposed for listing as endangered or threatened, state-listed or BLM-determined priority species.

Split Estate—Refers to land where the mineral rights and the surface rights are owned by different parties. Owners of the mineral rights generally have a superior right. The most common split estate is Federal ownership of mineral rights and other interest ownership of the surface.

State Historic Preservation Officer (SHPO)—Officials appointed by the Governor of each state or territory to administer the national historic preservation program at the state level, review National Register of Historic Places nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with Federal agencies during Section 106 review.

Stipulations—Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all Federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency or owner to protect valuable surface resources and uses.

Stratigraphy—The arrangement of strata, especially as to geographic position and chronological order of sequence.

Surface Management Agency—Any agency, other than the BLM, with jurisdiction over the surface overlying Federal minerals.

Sustainability—The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

Sustained Yield—The achievement and maintenance, in perpetuity, of a high-level annual or regular periodic output of the various renewable resources on public lands consistent with multiple use.

Tertiary—The older of the two geologic periods comprising the Cenozoic Era; also the system of strata deposited during that period.

Threatened Species—Any plant or animal species that is likely to become an endangered species throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the *Endangered Species Act of 1973*.

Toe-slope—The most distant part of a landslide; the downslope edge of a landslide or slump.

Total Dissolved Solids—A term that describes the quantity of dissolved material in a sample of material.

Total Suspended Particulates—All particulate matter, typically less than 70 microns in effective diameter.

Total Suspended Solids—A term that describes the quantity of solid material in a sample of material.

Transmissivity—The rate at which water is transmitted through a unit width of aquifer under a hydraulic gradient.

Valid Existing Rights—Legal interests attached to a land or mineral estate that cannot be divested from the estate until those interests expire or are relinquished.

Vandalism—Willful or malicious destruction or defacement of public property; e.g., cultural or paleontological resources.

Vegetation—Plants in general or the sum total of the plant life above and below ground in an area.

Vegetation Manipulation—Planned alteration of vegetation communities through use of prescribed fire, plowing, herbicide spraying, or other means to gain desired changes in forage availability or wildlife cover.

Vegetation Type—A plant community with distinguishable characteristics described by the dominant vegetation present.

Vertebrate—An animal having a backbone or spinal column.

Visual Resources—The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Visual Resource Management (VRM)—The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values. Also, management actions taken to achieve the established objectives.

Visual Resource Management Classes—VRM classes identify the degree of acceptable visual change within a particular landscape. A classification is assigned to public lands based on guidelines established for scenic quality, visual sensitivity, and visibility.

> VRM Class I – This classification preserves the existing characteristic landscape and allows for natural ecological changes only. Includes Congressionally authorized areas (wilderness) and areas approved through an RMP where landscape modification activities should be restricted.

VRM Class II – This classification retains the existing characteristic landscape. The level of change in any of the basic landscape elements (form, line, color, texture) due to management activities should be low and not evident.

VRM Class III – This classification partially retains the existing characteristic landscape. The level of change in any of the basic landscape elements due to management activities may be moderate and evident.

VRM Class IV – This classification applies to areas where the characteristic landscape has been so disturbed that rehabilitation is needed. Generally considered an interim short-term classification until rehabilitation or enhancement is completed.

Visual Sensitivity—Visual sensitivity levels are a measure of public concern for scenic quality and existing or proposed visual change.

Waiver—Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

Water Table—The surface in a groundwater body where the water pressure is atmospheric. It is the level at which water stands in a well that penetrates the water body just far enough to hold standing water.

Wetland—Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. BLM Manual 1737, *Riparian-Wetland Area Management*, includes marshes, shallow swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas as wetlands.

Work Force—The total number of workers on a specific project or group of projects. The work force also is referred to as direct employment and primary employment.