CHAPTER 1. PURPOSE AND NEED

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1.1 Introduction

In November 2004, a LBA was filed by ACD to mine federal coal, using primarily surface-mining methods, near the town of Alton, Utah (Case Number UTU 081895). This application was filed under the regulations at 43 CFR 3425, Leasing on Application. This application includes nearly 2,683 surface acres and approximately 38 million tons of recoverable coal. The Division of Lands and Minerals, Solid Minerals Branch at the BLM Utah State Office reviewed the application and determined that it meets the regulatory requirements for an LBA. However, the BLM reconfigured the tract to exclude approximately 40 acres and to include approximately 898 additional acres. Acreage added to the tract during tract reconfiguration was based on the identification of additional recoverable coal reserves not included in the original LBA and on additional surface acreage deemed necessary for mine operations. The Alton Coal Tract LBA (hereafter the Alton Coal Tract or tract), as reconfigured, contains approximately 3,581 surface acres[1] (Table 1.1) and 44.9–49.1 million tons of recoverable coal reserves. Map 1.1 in Appendix A (Maps) shows the tract in relation to the Town of Alton and other area landmarks. At the time of ACD's LBA submittal, the BLM-KFO was operating under the *Zion Management Framework Plan* (BLM 1982). The BLM-KFO completed a RMP in October 2008 and is now operating the KFO RMP.

To process an LBA, the BLM must establish the fair market value of the coal in the tract by evaluating the quantity and quality of the coal reserves. Any subsequent mining plan must achieve maximum economic recovery of the tract's coal resources in the context of applicable laws, regulations, and leasing stipulations (standard and special). In addition, before the BLM can issue a decision to offer a tract for lease, the BLM must fulfill the requirements of NEPA by evaluating the potential environmental impacts of leasing and mining federal coal (a flow chart summarizing the coal LBA process is provided in Appendix B). On November 28, 2006 a NOI to prepare an EIS for the Alton Coal Tract was published in the *Federal Register*. This EIS has been prepared to evaluate the potential direct, indirect, and cumulative environmental impacts of leasing and recovering the federal coal included in the tract, based on ACD's preliminary plan and reasonable alternatives. The BLM will use the analysis in this EIS to decide whether to a) hold a competitive, sealed-bid lease sale for the tract; b) hold a competitive, sealed-bid lease sale for a modified tract; or c) reject the lease application and not offer the tract for sale at this time. The impacts of mining the coal are considered in this EIS because mining the coal is a logical consequence of issuing a lease. A ROD will be issued and, if the decision is to offer the tract for lease, a sale would be held. If a lease sale is held, the bidding at the sale would be open to any qualified bidder; it would not be limited to the applicant. A lease would be issued to the highest bidder at the sale provided that the high bid meets or exceeds the fair market value of the coal, as determined by BLM's economic evaluation and if the DOJ determines that there would be no antitrust violations. If a lease is issued by the BLM, the lessee must file a PAP with the Utah Department of Natural Resources (UDNR), Division of Oil, Gas, and Mining (DOGM) prior to mine development. The Office of Surface Mining Reclamation and Enforcement (OSM) is responsible for preparing and submitting a mining plan approval package to the Assistant Secretary of the Department of the Interior (DOI), Land and Minerals Management. This would take place after the DOGM receives the PAP. In addition to a PAP, the lessee must also prepare a Resource Recovery and Protection Plan (R2P2) for review by the BLM. The R2P2 is approved by the Assistant Secretary based on a determination by the BLM that the R2P2 achieves maximum economic recovery of the coal reserves. Analyses of the site-specific permit application and mining plan would occur at the time of PAP and

[1] The NOI identified 3,581 acres, more or less, in the tract. However, for reasons described in Table 1.1 and Section 3.1.3, Notes on Data Sources and Tract Acreage, the analysis uses tract acreage of 3,576 acres.

R2P2 submittal. OSM is responsible for any subsequent NEPA compliance, as necessary, to support the decisions of the Assistant Secretary. Authorities and responsibilities of the BLM and other concerned regulatory agencies are described in Section 1.6[2]

Other agencies may use this analysis to assist them in making decisions related to leasing and mining the federal coal in this tract. OSM has primary responsibility to administer federal programs that regulate surface coal mining operations. OSM is a cooperating agency on this EIS and, if the tract is leased, they would use the analysis in this EIS to develop recommendations related to the approval of a mining plan under the MLA. If the tract is leased, DOGM would consider the analysis in the EIS in processing a PAP submitted by the lessee under the SMCRA. As part of the permitting process, DOGM would also require additional data gathering and analysis and other work in accordance with their rules and regulations.

In return for receiving a lease, a lessee must pay the federal government a bonus equal to the amount it bids at the time the lease sale is held (the bonus can be paid in five yearly installments), make annual rental payments to the federal government, and make royalty payments to the federal government when the coal is mined. Federal bonus, rental, and royalty payments are equally divided with the state in which the lease is located.

All coal reserves in the Alton Coal Tract are federally owned, though surface ownership is mixed. Under Alternative B (the Proposed Action; discussed in greater detail in Chapter 2) approximately 2,280 surface acres of the tract are in federal (BLM) ownership and 1,296 surface acres are in private ownership (eight different private surface owners) (Map 1.2; see Table 1.1). Private surface owners may be qualified to give consent to mine federal minerals under the private surface owner's estate[3] according to 43 CFR 3400.0-5. Surface ownership under Alternative A (No Action Alternative) and Alternative C is also discussed in greater detail in Chapter 2. If this EIS process results in a competitive lease sale for the tract, a final determination of private surface-owner qualification and private surface-owner consultation would take place prior to leasing. All surface owners have been notified of the Proposed Action. Further, both hardcopy and electronic versions of this EIS have been distributed to surface owners.

[2] State of Utah coal mine permitting requirements (Coal Mining Rules - Utah Administrative Code Title R645) are available at http://www.rules.utah.gov/publicat/code/r645/r645.htm. They may also be viewed at the main office of the Utah Division of Oil, Gas, and Mining at 1594 West North Temple, Suite 1210, Salt Lake City, Utah 84114.

[3] Under the regula ions under 43 CFR 3400.0-5(gg)(1), (2), and (3) qualified surface owner means the natural person or persons (or corporation, the majority stock of which is held by a person or persons otherwise meeting the requirements of this section) who: 1) hold legal or equitable title to the surface of split estate lands; 2) have their principal place of residence on the land, or personally conduct farming or ranching opera ions upon a farm or ranch unit to be affected by surface-mining operations; or receive directly a significant portion of their income, if any, from such farming and ranching operations; and 3) have met the above conditions for a period of at least three years, except for persons who gave written consent less than three years after they met the above requirements. In computing the three year period the authorized officer shall include periods during which title was owned by a relative of such person by blood or marriage if, during such periods, he relative would have met the requirements of this section. A qualified private surface owner is legally qualified to give consent to mine federal minerals under the private surface owner's estate.

Table 1.1. Alton Coal Tract Legal Description and Surface Ownership under the Proposed Action*

Legal Description†	Surface Owner¥	Acres
Township 39 South, Range 5 West, Salt Lake Meridian, Utah		
Section 7, SE¼SW¼ and S½SE¼	3	122
	5	7
Section 18, lots 3 and 4, E ½, E½W½	BLM	357
	3	42
	16	158
	17	3
Section 19, lots 1 through 4, NE¼, E½W½, N½SE¼, SE¼SE¼	BLM	472
	1a	120
Section 20. lots 4 and 5, N½SW¼	BLM	47
	1a	111
Section 30, lots 2 through 4, SW¼NE¼, SE¼NW¼, E½SW¼, W½SE¼	BLM	338
	1a	13
Section 31, lots 1 through 3, NE¼, E½NW¼, NE¼SW¼, N½SE¼	BLM	471
Township 39 South, Range 6 West, Salt Lake Meridian, Utah		
Section 12, SW¼, W½SE¼	Unknown	9
	3	218
	8	16
Section 13, NW¼NE¼, N½NW¼, SE¼NW¼, SE¼	BLM	160
	3	161
Section 24, NE¼, N½NW¼, SE¼NW¼, E½SW¼, N½SE¼, SE¼SE¼	BLM	159
	11	4
	12	313
Section 25, E½NE¼, SW¼NE¼, SE¼	BLM	276
Error†		5
Total Private		**1,296**
Total BLM		**2,280**
Total LBA		**3,581**

* This table also appears in Chapter 2.

† Based on the BLM Status of Public Domain Land and Mineral Titles approved Coal Plats as of August 21, 2002 and July 28, 2006

¥ Where the BLM is the surface owner of the parcel this is explicitly noted. Private surface owners are numbered rather than identified by name due to privacy concerns.

‡ The acreages above were calculated using ESRI ArcGIS 9.2 and NAD 1983 UTM Zone 12N coordinate system. The BLM shapefile of coal ownership is georeferenced (in NAD 1983 UTM Zone 12N), but is not survey accurate. ACD provided a hardcopy map (wi h surface ownership and section boundaries), which was scanned and georeferenced to section corners visible on U.S. Geological Survey (USGS) 7.5-minute topographic maps. Polygons were then digitized to encompass/represent each of the legal descriptions above using the BLM shapefile, ACD's georeferenced map, and he USGS 7.5-minute topographic map as references while digitizing. All acreages are approximate and have not been verified by ground surveys. The error is largely a result of the disparate sources for boundary data. Additionally, he ownership lines from the map provided by ACD do not align well in all locales with the BLM boundary. This suggests that one or both of these datasets are approximate and is ano her potential source of error.

Currently, lands in the Alton Coal Tract are managed for wildlife habitat and livestock grazing. The grazing lands consist of agricultural pasturelands, grasslands, and mixed sagebrush and grasses.

BLM estimates that under the Proposed Action, approximately 44.9–49.1 million tons of recoverable coal reserves are present in the tract. Due to shallow overburden in most of the tract, extraction of federal coal reserves would take place using primarily surface-mining methods. Primary surface overburden removal would be accomplished by truck and shovel methods. Scrapers, dozers, and front-end loaders would assist with bench preparation for the larger equipment and would be used for removal of surface overburden, small or relatively shallow coal areas, and topsoil. Scrapers, dozers, and front-end loaders would also be used for storage and return placement of overburden and topsoil for reclamation. Coal recovery would use underground mining methods (e.g., development mining, auger mining, highwall mining, longwall mining, and/or room and pillar mining) for coal reserves approximately 200 to 300 feet or more below the surface (depth of overburden). A summary of these underground mining methods is presented in Appendix C along with a list of references for further information. The actual maximum depth of overburden could vary from the approximately 200 to 300 feet discussed here, depending on the actual local coal thickness found, overburden types, overburden (highwall) stability, underground techniques available, operating and capital costs, and coal market economics.

After mining, the land would be reclaimed to ecological site functionality suitable for use by livestock and wildlife. Roads in the tract would remain or be reestablished to support post-mining land use. The methods of mining and reclamation are discussed in greater detail in Chapter 2.

1.2 Purpose and Need for Action

The BLM-managed coal leasing program encourages the development of domestic coal reserves. As a result of the leasing and subsequent mining and sale of federal coal resources, the public continues to receive a reliable domestic supply of coal for use in the electric power sector and in the industrial sector. BLM recognizes that the continued extraction of coal is a component of meeting the nation's current and future electrical energy and industrial needs. Therefore, private development of federal coal reserves is integral to the BLM coal leasing program under authority of the Federal Land Policy and Management Act of 1976 and the MLA, as amended by the Federal Coal Leasing Act Amendments of 1976. The MLA requires that all public lands not specifically closed to leasing be open to lease for the exploration and development of mineral resources. A federal coal lease grants the lessee the exclusive right to obtain a mining permit for, and to mine coal on, the leased tract. This lease is subject to the terms of the lease, the mining permit, and applicable state and federal laws. Before a new leased tract can be mined, the lessee must have their detailed plans approved (in the PAP) to conduct mining and reclamation operations. Further, a primary goal of the Energy Policy Act of 2005 is to add energy supplies from diverse sources, including domestic oil, gas, and coal, as well as hydropower and nuclear power.

Given known technology and technological and demographic trends overall, the United States demand for coal is expected to increase by approximately 0.4% per year through the year 2035 (DOE/EIA 2010). Though coal-fired power plants are projected to account for less electricity generation in 2035 compared to 2008 (down from 48% in 2008 to 44% in 2035), in the United States approximately 90% of coal consumption is in the electric power sector, and between 2008 and 2035, total electricity demand in the United States is expected to increase by 30% (DOE/EIA 2010). Furthermore, in Utah, approximately 82% of electrical energy is generated from coal (VandenBerg 2010). Although most (approximately 90%) coal consumption in the United States is in the electric power sector, coal is also used (approximately 10% of total demand) in the industrial sector. In the industrial sector, coal is used in the manufacture or production of cement, paper, chemicals, food, primary metals, and coal-based synthetic fuels (coal-to-liquids). It is also used in the industrial sector as a direct source of heat, as a feed stock, as boiler fuel for

the production of process steam and electricity, and in the production of coke, which is used as an energy source and raw material in steel production. Nonelectric power sector demand for coal is expected to slightly decline by 2035, though demand for coal in the emerging coal-to-liquids industry is expected to increase. Most of the projected increase in overall United States demand for coal, therefore, is expected from the electric power sector (DOE/EIA 2010).

According to the Utah Geological Survey (VandenBerg 2010) coal production in Utah decreased by 4.4 million tons (16.8%) between 2006 and 2009 due to mine closures, difficult mining conditions, and unexpectedly low production from several mines. Utah's long-term (50 years and beyond) coal future is shifting because currently accessible coal reserves are being depleted in the Book Cliffs and Wasatch Plateau coal fields. This makes it necessary for the coal industry to look to other Utah coal fields to meet future demands for coal. Further, most Utah mining companies have leased coal reserves for approximately 10–15 years of production; however, they are having difficulty adding new leases to extend their reserves. As a result Utah coal production is outpacing tonnage leased (VandenBerg 2010).

1.3 Lead Agency and Cooperating Agencies

The BLM is the lead agency responsible for leasing federal coal lands under the MLA, as amended by Federal Coal Leasing Act Amendments, and is also responsible for the preparation of this EIS under NEPA. Cooperating agencies consist of OSM and the State of Utah (including its agencies).

1.4 Additional Agency Coordination

For the analysis of potential impacts to air resources and night sky darkness, the BLM engaged in additional agency coordination. As a result of scoping comments provided by the EPA, an Air Resources Stakeholder Group was convened to guide the air resources analysis, ensuring that impacts to air resources were properly addressed (see Sections 3.3 and 4.3 for Air Resources). This stakeholder group included the EPA, the OSM, the National Park Service (NPS), the BLM, the State of Utah, and ACD. For the analysis of impacts to night sky darkness, the BLM engaged the NPS Night Sky Program for guidance and input.

1.5 Decisions to be Made

This EIS does not contain final decisions regarding the Proposed Action or alternatives. The primary purpose of this EIS is to provide a full and fair disclosure of environmental impacts and to inform decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment. As the lead agency for this EIS, the BLM will document its decisions in a ROD document. These decisions will pertain to actions on BLM-administered lands. OSM and the State of Utah, as cooperating agencies, will make their recommendations and decisions in separate decision documents at a later date if there is a lease sale following the BLM’s ROD. These recommendations and decisions pertain to the OSM’s and State of Utah’s respective permitting responsibilities for actions under their jurisdiction. These agencies have public involvement processes separate from this EIS, per their respective agency policies and other pertinent laws and regulations. Other cooperating and participating agencies that have the expertise needed for the analysis in this EIS or that have permitting responsibilities include the U.S. Fish and Wildlife Service (USFWS), the Utah Department of Transportation (UDOT), the NPS, U.S. Forest Service (USFS) Dixie National Forest, and the EPA. These agencies will also rely on this EIS for their respective needs.

The BLM will document the following decisions in the ROD for this EIS:

- Whether or not to hold a competitive lease sale for the tract as described in the Proposed Action or as described in Alternative C. Not holding a competitive lease sale for the tract, as described in the Proposed Action or action alternatives, is the No Action Alternative.
- If the decision is to hold a competitive lease sale, what special lease stipulations would be attached to the lease. Possible lease stipulations pertain mainly to air resources, cultural resources, grazing, hazardous materials, noise, soils and geology, special status species, paleontological resources, public health and safety, vegetation, visual resources, water resources, and wildlife.

Through this EIS process, the BLM will not make decisions regarding either mining activities for fee coal on adjacent lands or transportation routes that may be used by the successful bidder (in the event of a lease sale) to transport mined coal from the tract to market. Activities related to mining fee coal on lands adjacent to the tract are outside the BLM's jurisdiction and are independent of potential mining activities for federal coal reserves located on the tract, because these activities would occur regardless of BLM's decision with respect to federal coal reserves. If this EIS process results in a decision to hold a competitive lease sale for the tract, decisions related to potential transportation routes for mined coal from the tract to market would reside with the successful bidder and would be dictated by existing transportation routes and coal market conditions. However, the impacts of coal truck traffic on the reasonably foreseeable transportation route (see Section 1.9.2.3 Reasonably Foreseeable Future Actions section in this chapter and Section 2.5.4 Reasonably Foreseeable Coal Loadout Location and Transportation Route in Chapter 2) are assessed in Chapter 4 of this EIS.

1.6 Regulatory Authorities and Responsibilities

The Alton Coal Tract LBA was submitted and will be processed and evaluated under BLM statutory mandates and authority governing federal coal leasing and other federal authorities listed below:

- MLA of 1920, as amended by the Federal Coal Leasing Act Amendments of 1976
- Multiple-use Sustained Yield Act of 1960
- NEPA of 1969, as amended
- Federal Land Policy and Management Act of 1976 (BLM's multiple-use mandate)
- SMCRA of 1977
- Energy Policy Act of 2005

BLM regulates surface coal mining operations primarily to ensure that maximum economic recovery of the coal resource is achieved (43 CFR 3480) while maintaining compliance with other applicable laws and regulations. After a federal coal lease is issued, SMCRA gives OSM primary responsibility to administer programs that regulate the effects of surface coal mining operations. Pursuant to Section 503 of SMCRA, DOGM developed a permanent program authorizing DOGM to regulate surface coal mining operations on nonfederal lands in the State of Utah (30 CFR 944, Utah Program). The Secretary of the Interior approved this program in January 1981. In March 1987, pursuant to Section 523(c) of SMCRA, the Governor of Utah entered into a cooperative agreement with the Secretary of the Interior authorizing DOGM to regulate surface coal mining operations on federal lands in the State of Utah. Pursuant to the cooperative agreement concerning surface-mining operations on federal lands, a federal coal lease holder in Utah must submit a PAP to DOGM for any proposed coal mining and reclamation operations on federal lands in Utah. DOGM reviews the PAP to ensure that it complies with the permitting requirements and that the proposed coal mining operation meets the performance standards of the approved State of Utah program. OSM, BLM, and other federal agencies, as appropriate, review the PAP (provided to them

by DOGM) to ensure it complies with the terms of the coal lease (which are based on the disclosures in this NEPA analysis), the MLA, and other federal laws and their attendant regulations (30 CFR 944.30). If the PAP does comply, DOGM issues the applicant a permit to conduct coal mining operations. OSM recommends approval, approval with conditions, or disapproval of the MLA mining plan to the Assistant Secretary of the DOI, Land and Minerals Management. OSM's recommendation must be based, at a minimum, on

- the PAP, including the R2P2;
- information prepared in compliance with NEPA;
- documentation assuring compliance with the applicable requirements of other federal laws, regulations, and executive orders (EO);
- comments and recommendations or concurrence of other federal agencies, as applicable, and the public;
- the findings and recommendations of the BLM with respect to the R2P2 and other requirements of the lease and the MLA;
- the findings and recommendations of DOGM with respect to the PAP and the state program; and
- the findings and recommendations of OSM with respect to the requirements under Chapter VII Subchapter D, 30 CFR 746.13 (a–g).

If a proposed LBA tract is leased next to an existing adjacent mine, the lessee is required to revise its coal mining permit (following the processes outlined above) and obtain mining plan approval from the Assistant Secretary prior to mining the newly leased coal. As a part of that process, a detailed new plan would be developed to outline how the newly leased lands would be mined and reclaimed. Specific impacts that would occur during the mining and reclamation of the LBA tract would be addressed in the permit approval process, and specific mitigation measures for anticipated impacts would be described in detail at that time.

DOGM enforces the performance standards and permit requirements for reclamation during a mine's operation and has primary authority in environmental emergencies (e.g., accidental spills). OSM retains oversight responsibility for this enforcement. Where federal surface or coal resources are involved, BLM has authority in environmental emergency situations if DOGM or OSM cannot act before environmental harm and damage occurs. The Mine Safety and Health Administration (MSHA) monitors and regulates all safety factors related to coal mining on federal and nonfederal lands. In preparing this EIS, BLM has a responsibility to consult with and obtain the comments and assistance of other state and federal agencies that have jurisdiction by law or that have special expertise with respect to potential environmental impacts.

Several federal, state, and local agencies are involved in the coal leasing and mine permitting process. For mining to occur on the tract, a combination of leases, permits, actions, and plans are required (Table 1.2).

Table 1.2. Federal, State, and Local Leasing and Permitting Requirements

Agency	Lease/Permit/Action/Plan
Federal	
BLM	Coal lease R2P2 Exploration drilling permit

Table 1.2. Federal, State, and Local Leasing and Permitting Requirements

Agency	Lease/Permit/Action/Plan
OSM	Preparation of MLA mining plan approval document SMCRA oversight
DOI, Office of the Secretary	Approval of mining plan (the R2P2)
Mine Safety and Health Administration	Safety permit and mine ID number Ground control plan Major impoundment ID numbers (based on impoundment size criteria) Explosives use and storage permit
Bureau of Alcohol, Tobacco, and Firearms	Explosives manufacturer's license Explosives use and storage permit
Federal Communications Commission	Radio permit: ambulance Mobile relay system radio license
U.S. Army Corps of Engineers	Authorization of impacts to wetlands and other waters of the U.S.
U.S. Department of Transportation	Hazardous waste shipment notification
USFWS	Consultation on potential impacts to federally listed species under the Endangered Species Act (ESA)
Federal Aviation Administration	Radio tower permits
State	
DOGM	Coal mine permit Exploration drilling permit
Utah State Engineer's Office	Stream alteration permit
Utah Division of Air Quality	Air approval order
Utah Division of Water Quality	Utah Pollutant Discharge Elimination System permit
Local	
Kane County	Conditional use permit Road relocation agreement

1.7 Relationship to Policies, Plans, and Programs

In addition to the federal acts listed under the previous section, guidance and regulations for managing and administering public lands, including the federal lands in the tract, include the following:

- 40 CFR 1500 (Protection of Environment),
- 43 CFR 1601 (Planning, Programming, Budgeting),
- 43 CFR 3400 (Coal Management; specifically, Leasing on Application Regulations, 43 CFR 3425.1), and
- The KFO RMP (BLM 2008b)

Specific guidance for processing applications is provided in BLM's *Competitive Coal Leasing Handbook H-3420-1* (BLM 1986). In developing this EIS, BLM's *NEPA Handbook H-1790-1* (2008e) was used.

To the extent that the Proposed Action and alternatives are consistent with federal law and regulations, they must also be as consistent as possible with other plans concerning the administration of the public lands in question. BLM must coordinate the Proposed Action and alternatives with the land-use planning and management programs of other federal departments and agencies and of the State of Utah and affected local governments.

Other than BLM land-use planning, no other federal land-use plans apply to the Proposed Action and alternatives. The State of Utah does not maintain planning documents nor do they conduct planning processes relating to the Proposed Action and alternatives. However, the Proposed Action and alternatives would be consistent with the State of Utah Public Lands Policy and Coordination Office's position on 1) uses of public lands for multiple-use, sustained-yield, natural resource extraction, 2) support of the specific plans, programs, processes, and policies of state agencies and local governments, and 3) development of the solid mineral resources of the state as an important part of the state economy and of local regions in the state (Utah Code Section 63-38d-401). Kane County has a land-use ordinance (Kane County 1998) in place, which dictates allowable land uses in designated zones. According to the land-use ordinance, most of the Alton Coal Tract is located on lands zoned by Kane County as agricultural. The land-use ordinance indicates that surface and underground mines are not allowed in agriculturally zoned areas; however, zone modifications are permitted following established procedures subject to Kane County Planning Commission approval (Kane County 1995). A zone change to permit surface and underground mining on the tract would be consistent with the position of the Kane County Commission supporting natural resource extraction in the county. Further, the *Kane County General Plan* indicates that natural resources have historically been the base of the county's economy and that environmentally responsible mineral exploration and development on BLM-administered lands should be facilitated (1998a). Finally, the Kane County Commission has submitted a formal letter to ACD and DOGM expressing support for ACD's proposed operation for adjacent fee coal. The Garfield County General Plan and general plan amendment (2007a) indicate that the county economy is based largely on government, tourism, manufacturing, and agriculture (ranching). The county supports "aggressively pursuing coal and other mineral resource development," including "the highest economically allowable development" of the Alton Coal Field and other regional coal reserves (Five County Association of Governments [FCAOG] 2007a). Finally, the Town of Alton completed a master plan in 1981 (1981) in which development of the Alton Coal Field, including the tract analyzed in this EIS, is recognized as a likely future scenario. The plan notes that coal development could result in a significant increase in the local population and that this could have an adverse effect on the quality of life in Alton. Goals and policies described in the plan do not specifically reference coal development; although, a desire to attract light industry of a low polluting or nonpolluting nature is expressed. Alton's current town council

generally looks favorably on coal development in the area, as evidenced by a formal letter of support for mining operations on fee coal lands adjacent to the tract and by their willingness to work with ACD on implementing these mining operation plans (e.g., leasing water rights and working cooperatively on a regular basis to assist with components of the proposed operation such as road relocations and the construction of short haul routes around the Town of Alton).

1.7.1 Department of Justice Consultation

In the event of a competitive lease sale, but prior to issuance of a lease, the BLM will solicit the opinion of the DOJ on whether the planned lease issuance creates a situation inconsistent with federal antitrust laws. The DOJ is allowed 30 days to make this determination. If the DOJ does not respond in writing within 30 days, the BLM may proceed with issuance of the lease.

1.8 Conformance with Existing Land-use Plans and Bureau of Land Management Coal Planning Screening Procedures

1.8.1 Conformance with Bureau of Land Management Land-use Planning

The Federal Land Policy and Management Act and Federal Coal Leasing Act Amendments require that lands considered for leasing be included in a comprehensive land-use plan and that leasing decisions be in conformance with that plan. The KFO RMP currently governs and addresses the leasing of federal coal in the BLM-KFO, including portions of Kane County and Garfield County. Coal leasing is addressed under Minerals and Energy, Areas Unsuitable for Surface Coal Mining, decisions MIN-9, MIN-10, and MIN-11. Decision MIN-9 identifies the locations and acreage determined to be unsuitable for surface mining and surface operations incident to an underground mine. Through the resource management planning process, the tract is not included in that area determined to be unsuitable. Decision MIN-10 states that additional areas could be found unsuitable based on site-specific analysis. Finally, decision MIN-11 states that mining plans for surface-mining disturbance would incorporate erosion-control stipulations as per SMCRA regulations. Decisions in the KFO RMP do not allow mining where coal unsuitability criteria apply unless the lessee can show that mining would not adversely affect the value that is to be protected. Following a federal decision to lease and securing a federal lease, the successful bidder would also be required to comply with DOGM's coal mine permitting process.

The KFO RMP includes a *Final Coal Unsuitability Report* (2008b) indicating that the tract does not meet any of the coal unsuitability criteria under 43 CFR 3461 and is therefore made available for further coal leasing consideration (following decision MIN-9). However, site-specific unsuitability determinations for some criteria (Criteria 2, 3, 9, 15, 16, 18, and 19) were deferred until an application to lease was filed (following decision MIN-10). A summary of the coal unsuitability findings from the BLM-KFO planning process is presented below. With application of the coal unsuitability criteria and conditions to protect the environment (to be determined through this EIS), the decision to lease coal under either action alternative analyzed in this document would be in conformance with the KFO RMP (BLM 2008b). For purposes of the analysis, it is assumed that a waiver, exception, or modification would be granted with respect to KFO RMP decisions concerning Greater Sage-grouse. This is discussed in greater detail under Unsuitability Criterion Number 15 in the Application of Unsuitability Criteria section of this chapter.

1.8.1.1 BUREAU OF LAND MANAGEMENT COAL PLANNING SCREENING

The major land-use planning decision that the BLM must make concerning federal coal resources in the Alton area is a determination of which federal coal lands are acceptable for further consideration for leasing. There are four screening procedures that the BLM uses to identify these coal lands. These screening procedures require the BLM to

- estimate development potential of the coal lands;
- apply the unsuitability criteria listed in 43 CFR 3461;
- make multiple land-use decisions that may eliminate federal coal deposits from consideration for leasing to protect other resource values; and
- consult with surface owners who meet the criteria outlined in 43 CFR 3400.0-5(gg)(1) and (2).

Only those federal coal lands that pass these screens are given further consideration for leasing. In 2007 the BLM began the process of applying the four screens to federal coal lands in Kane and Garfield counties by estimating development potential of coal lands (screening procedure 1) and applying the unsuitability criteria listed in 43 CFR 3461 (screening procedure 2). A *Final Coal Unsuitability Report* is contained in the KFO RMP (2008b). The results of this report are included as Appendix D. Screening procedure 3 is being conducted as part of this EIS analysis, whereas screening procedure 4 would be conducted prior to issuing the ROD and holding a lease sale if BLM decides to hold a lease sale for the tract. Each coal planning screening procedure, as it applies to the tract, is discussed in further detail in the following four sections.

1.8.1.1.1 Estimate Development Potential of the Coal Lands

Under the first coal screening procedure, a coal tract must be located in an area that has been determined to have coal development potential [43 CFR 3420.1-4(e) (1)]. The tract meets this criterion and is in the area identified as having coal development potential—as noted by the BLM in the *Final Coal Unsuitability Report* in the KFO RMP (2008b).

1.8.1.1.2 Application of Unsuitability Criteria

The second coal screening procedure requires the application of the 20 unsuitability criteria listed in 43 CFR 3461.5. These coal unsuitability criteria have been applied to the known recoverable coal resource areas for the Alton, Kaiparowits, and Kolob coal fields. No lands included in or adjacent to the tract were found to be unsuitable for mining during the application of the unsuitability criteria as part of the KFO RMP (BLM 2008b); however, as indicated above, site-specific unsuitability determinations for Criteria 2, 3, 9, 15, 16, 18, and 19 were deferred until receipt of an LBA.

Unsuitability Criterion Number 2 states that federal lands within rights-of-way (ROW) or easements, or federal lands within surface leases for residential, commercial, industrial, or other public purposes, on federally owned surface shall be considered unsuitable. At this time, no acres are determined to be unsuitable based on this criterion. Further, a lease may be issued for areas where this unsuitability criterion applies if the surface management agency determines that the type of coal development in question would not interfere with the purpose of the ROW or easement; or if the ROW or easement was issued for a purpose for which it is not being used; or if the parties involved in the ROW or easement agree, in writing, to leasing; or if it is impractical to exclude the area due to the location of coal and method of mining and the area or use can be protected through stipulations.

Unsuitability Criterion Number 3 states that lands within 100 feet of the outside line of the ROW of a public road shall be considered unsuitable for surface coal mining, with certain exceptions. One of the

exceptions allows surface coal mining in the ROW and buffer zone for a public road if a) the regulatory authority (or the appropriate public road authority designated by the regulatory authority) allows the public road to be relocated or closed after providing public notice and opportunity for a public hearing, and b) after finding in writing that the interests of the affected public and landowners would be protected [30 CFR 761.11(d) and 43 CFR 4361.5(c) (iii)].

As shown on Map 1.2, portions of KFO Route 116 traverse the tract. At this time, Kane County has not given formal approval to relocate this road; therefore, the exception does not yet apply in this case. Consequently, the BLM has determined that the portions of the tract that include KFO Route 116 and a 100-foot buffer zone on either side of the road are considered unsuitable for mining at this time under Unsuitability Criterion Number 3; however, an exception is likely, as explained below. Although lands within the KFO Route 116 ROW and associated buffer zone are now determined to be unsuitable for mining, they are included in the tract. If the tract is leased, but relocation of KFO Route 116 is not approved and the unsuitability determination remains in place, including these lands in the tract would allow recovery of all the mineable coal adjacent to and outside of the KFO Route 116 buffer zone. It would also comply with the coal leasing regulations, which do not allow leasing in less than 10-acre aliquot parts. Coal recovery in the tract would be reduced in the event that KFO Route 116 was not relocated.

If the decision (as a result of this EIS) is to offer the tract for competitive leasing, the successful bidder, Kane County, and the BLM would work on a plan to relocate KFO Route 116, which would allow recovery of the coal underlying the road and the buffer zone. If the road relocation is approved, the exception to Unsuitability Criterion Number 3 would be applicable and the unsuitability determination for the coal underlying KFO Route 116 and the associated buffer zone could be reconsidered. If a permit to relocate the road is approved, including these lands in the tract would allow recovery of the coal underlying KFO Route 116 and its associated buffer zone. A stipulation stating that "no mining activity may be conducted within the KFO Route 116 100-foot buffer zone until a permit to move the road is approved" would be attached if a lease is issued for the tract. The exclusion of the coal underlying KFO Route 116 and its associated buffer zone from mining activity by lease stipulation honors the finding of unsuitability for mining under Unsuitability Criterion Number 3.

Other public roads, in addition to KFO Route 116, may exist in the tract. Unsuitability Criterion Number 3 would apply to these roads in the same way that it applies to KFO Route 116 once a determination of road status (public or not) is made.

Unsuitability Criterion Number 9 states that the following are of essential value: a) federally designated and proposed critical habitat for listed, threatened, or endangered plant and animal species, and b) habitat for threatened or endangered plant and animal species (as determined by the USFWS and the surface management agency). This criterion then states that areas where threatened and endangered plant and animal species have been scientifically documented shall be considered unsuitable. However, a lease may be issued and mining operations may be approved if, after consultation with the USFWS, the USFWS determines that the mining activity is not likely to jeopardize the continued existence of the listed species, its critical habitat, or both. According to the *Final Coal Unsuitability Report* contained in the KFO RMP (2008b) the BLM would inventory coal areas for threatened and endangered species as part of any leasing-related EIS analysis. Based on the analyses conducted and documented in this EIS, the conditions necessary to meet this unsuitability criterion are not present, and the area, therefore, remains suitable.

Unsuitability Criterion Number 15 states that the following shall be considered unsuitable: federal lands that the surface management agency and the state jointly agree are habitat for resident species of fish, wildlife, and plant species also of high interest to the state and that are essential for maintaining these high interest species. Examples of lands that serve a critical function for these species include but are not

limited to 1) active dancing and strutting grounds for Greater Sage-grouse, Sharp-tailed Grouse (*Tympanuchus phasianellus*), and Prairie Chicken (*T. cupido*); 2) winter ranges crucial for mule deer (*Odocoileus heminonus*), pronghorn antelope (*Antilocapra americana*), and Rocky Mountain elk (*Cervus canadensis*); 3) migration corridors for elk; and 4) extremes of range for plant species.

Greater Sage-grouse dancing and strutting grounds exist adjacent to the tract. Further, Greater Sage-grouse nesting/brood rearing and winter habitat exists on portions of the tract. The KFO RMP (2008b) includes the following decisions with regard to Greater Sage-grouse habitat management:

- SSS-54: All surface-disturbing activities would be prohibited within 0.5 mile of Greater Sage-grouse leks on a year-round basis. Oil and gas leasing would be open subject to major constraints (no surface occupancy).
- SSS-55: Allow no surface disturbing or otherwise disruptive activities within 2.0 miles of Greater Sage-grouse leks from March 15 to July 15 to protect nesting and brood rearing habitat. Oil and gas leasing would be open subject to controlled surface use and timing stipulation.
- SSS-56: Allow no surface disturbing or otherwise disruptive activities within Greater Sage-grouse winter habitat from December 1 to March 14. Oil and gas leasing would be open subject to controlled surface use and timing stipulations.
- SSS-57: Exceptions, modifications, or waivers to decisions SSS-54, SSS-55, and SSS-56 may be granted on a case-by-case basis.

As a result of decisions SSS-54, SSS-55, and SSS-56 a decision to lease would not be in conformance with the KFO RMP. However, for purposes of analysis in this EIS, it is assumed that an exception, modification, or waiver would be granted in the event of a lease. Appendix 3 of the KFO RMP describes the mechanisms by which exceptions, waivers, or modifications would occur (Table 1.3).

The tract also includes known pygmy rabbit habitat, and individuals have been observed on the tract. The KFO RMP includes the following decisions with regard to the management of pygmy rabbit habitat:

- SSS-60: Apply restrictions (e.g., avoidance or mitigation) to surface-disturbing and disruptive activities on a case-by-case basis in occupied and potential pygmy rabbit habitat for protection of this species and its associated habitat. Site-specific NEPA documentation would address restrictions around pygmy rabbit habitat.

In conformance with the KFO RMP, Section 4.17 of this analysis addresses impacts to and restrictions around pygmy rabbit habitat.

Unsuitability Criterion Number 16 states that the following shall be considered unsuitable for all or certain stipulated methods of coal mining: federal lands in riverine, coastal, and special floodplains (100-year floodplains) on which the surface management agency determines that mining could not be undertaken without a substantial threat or loss of life or property. Section 4.17 of this analysis indicates that mining on the tract could be undertaken without a substantial threat or loss of life or property, and therefore the area remains suitable for mining under this criterion.

Unsuitability Criterion Number 18 states that federal lands with National Resource Waters, as identified by states in their water quality management plans ("High Quality Waters" in the State of Utah), and a buffer zone on federal lands 0.25 mile from the outer edge of the far banks of the water, shall be considered unsuitable. However, the buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters. According to the *Final Coal Unsuitability Report* contained in the KFO RMP (2008b) Kanab Creek and tributaries from the irrigation diversion at the confluence with Reservoir Canyon to its headwaters are designated Category 1 High Quality Waters. These waters are located upstream of the tract and would not

be affected by mining activities on the tract. The analyses in Section 4.17 indicate that Kanab Creek and Robinson Creek are the only waterways in the tract. Neither of these is considered High Quality Waters in this location and therefore the area remains suitable for mining under this criterion.

Table 1.3. Conditions for Exceptions, Waivers, or Modifications with Respect to Decisions SSS-54 through SSS-56 in the Kanab Field Office Resource Management Plan

KFO RMP Decision	Applicable Area	Conditions for Exceptions, Waivers, or Modifications
SSS-54	Within 0.5 mile of a Greater Sage-grouse lek	**Exception**: An exception may be granted by the field manager if the operator submits a plan that demonstrates that impacts from the Proposed Action can be adequately mitigated.
		Waiver: A waiver may be granted if there are no active lek sites in the leasehold and it is determined the lek sites have been completely abandoned or destroyed or occur outside the current defined area, as determined by the BLM.
		Modification: The field manager may modify the boundaries of the stipulation area if 1) portions of the area do not include lek sites, 2) the lek sites have been completely abandoned or destroyed, or 3) occupied lek sites occur outside the current defined area, as determined by the BLM.
SSS-55	Within 2.0 miles of a Greater Sage-grouse lek in the nesting and brood-rearing habitat from March 15 to July 15	**Exception**: An exception could be granted if surveys determine that the Greater Sage-grouse leks in nesting and brood-rearing habitat are not occupied. An exception may also be granted by the field manager if the operator submits a plan that demonstrates that impacts from the Proposed Action can be adequately mitigated or it is determined the lek sites are not active.
		Waiver: A waiver may be granted if it is determined the habitat no longer exists or has been destroyed.
		Modification: The field manager may modify the boundaries of the stipulation area if portions of the area do not include habitat or are outside the current defined area, as determined by the BLM.
SSS-56	Within Greater Sage-grouse winter habitat from December 1 to March 14	**Exception**: An exception could be granted if surveys determine that the Greater Sage-grouse leks in winter habitat are not occupied, and that snow depths in the area allow continued sage-grouse use. An exception may also be granted by the field manager if the operator submits a plan that demonstrates that impacts from the proposed action can be avoided, sufficiently minimized, or adequately mitigated.
		Waiver: A waiver may be granted if it is determined the habitat no longer exists or has been destroyed.
		Modification: The field manager may modify the boundaries of the stipulation area if portions of the area do not include habitat or are outside the current defined area, as determined by the BLM.

Unsuitability Criterion Number 19 states that the following shall be considered unsuitable where mining would interrupt, discontinue, or preclude farming: federal lands identified by the surface management agency (in consultation with the state in which they are located) as AVFs according to the definition in Section 3400.0-5(a) of this title, the standards in 30 CFR 822, the final AVF guidelines of OSM when published, and approved state programs under SMCRA. Also, when mining federal land outside an AVF would materially damage the quantity or quality of water in surface or groundwater systems that would supply AVFs, the land shall be considered unsuitable. The presence of an AVF in or near the tract would not necessarily preclude mining. According to the regulations at 30 CFR 822 the operator of a surface coal mine must:

- minimize disturbances to the hydrologic balance by preserving throughout the mining and reclamation process the essential hydrologic functions of an alluvial valley floor [AVF] not within the tract, and
- minimize disturbances to the hydrologic balance within the tract by reestablishing throughout the mining and reclamation process the essential hydrologic functions of alluvial valley floors [AVFs].

Further, statutory exclusions listed in 30 CFR 822.12 for surface-mining prohibitions where surface mining would interrupt, discontinue, or preclude farming include

- where the premining [pre-mining] land use of an alluvial valley floor [AVF] is undeveloped rangeland…not significant to farming;
- where farming on the alluvial valley floor [AVF] that would be affected by the surface coal mining operation is of such small acreage as to be of negligible impact on the farm's agricultural production;
- any surface coal mining and reclamation operation that, in the year preceding August 3, 1977, (i) produced coal in commercial quantities and was located within or adjacent to an alluvial valley floor [AVF]; or (ii) obtained specific permit approval by the State [state] regulatory authority to conduct surface coal mining and reclamation operations within an alluvial valley floor [AVF]; and
- any land that is the subject of an application for renewal or revision of a permit issued pursuant to the Act [SMCRA] which is an extension of the original permit, insofar as (i) the land was previously identified in a reclamation plan submitted under either part 780 or 784 of this chapter [30 CFR], and (ii) the original permit area was excluded from…[the protection of surface-mining prohibitions because the land was in operation before 1977].

Though initial, reconnaissance-level mapping of AVFs has occurred in the Alton area, according to the *Final Coal Unsuitability Report* contained in the KFO RMP (2008b), a more detailed investigation became necessary following the submittal of the Alton Coal Tract LBA and the initiation of this EIS process. This investigation includes an additional reconnaissance-level study (Appendix E) to determine potential AVFs according to OSM regulations and guidance. Impacts to potential AVFs, as identified in this reconnaissance study, are discussed in Chapter 4. If BLM decides to offer the tract for competitive leasing and a lease is issued, a more detailed study of potential AVFs would be required as part of the permitting process under SMCRA and State of Utah coal mine permitting requirements.

All potential AVFs (57 acres) present on the tract occur in the no-coal zone (an area of the tract where no coal is present; additional discussion of the no-coal zone is provided in subsequent sections of the EIS) and would not be directly affected by pit disturbance. However, direct impacts would result from construction of dispersed facilities and relocation of KFO Route 116. Potential AVFs make up 5% of the total no-coal zone available for dispersed facilities (1,131 acres). Assuming that impacts from dispersed facilities (160 acres) are proportional, 8 acres of potential AVFs would be impacted due to the temporary loss of unconsolidated deposits suitable to flood-irrigated agriculture. The 8 acres affected by dispersed facilities and roads would be rehabilitated upon completion of mining, restoring the function of the potential AVF. Thus, due to the absence of coal, small acreage affected, and temporary nature of the disturbance, at this time none of the tract would be considered unsuitable for surface mining under this criterion.

1.8.1.1.3 Multiple Land-use Conflict Analysis

The third coal screening procedure, a multiple land-use conflict analysis, must be completed to identify and "eliminate additional coal deposits from further consideration for leasing to protect resource values of a locally important or unique nature not included in the unsuitability criteria," in accordance with 43 CFR 3420.1-4(e)(3). The KFO RMP (2008b) addresses seven types of multiple land-use conflicts: recreational conflicts, wildlife conflicts, livestock grazing conflicts, water resource conflicts, air resource conflicts, cultural resource conflicts, and paleontological resource conflicts. The land-use conflict analysis, largely contained in the KFO RMP (2008b), did not result in the proposed elimination of coal deposits in the tract from further consideration for leasing. The impacts analyses in this EIS represent an additional multiple land-use conflict analysis addressing, but not limited to, the seven types of multiple land-use conflicts included in the KFO RMP (2008b).

1.8.1.1.4 Surface Owner Consultation

The fourth coal screening procedure requires consultation with surface owners who meet the criteria outlined in 43 CFR 3400.0-5(gg)(1), (2), and (3) (See footnote on page 1-2). No federal coal lands in the tract have been eliminated from further consideration for leasing due to qualified surface owner conflicts at this time. If the decision is to hold a lease sale for the tract, the BLM will review the surface ownership in the tract prior to issuing the ROD and holding the lease sale, and qualified, private, surface owners will be provided the opportunity to express their preference for or against surface mining of federal coal under their private surface estate. All surface owners have been notified of the Proposed Action and offered the opportunity to participate in the preparation of this EIS. Further, both hardcopy and electronic versions of this EIS have been distributed to surface owners.

1.9 Scope of this Environmental Impact Statement

This EIS analyzes and discloses the environmental impacts of the Proposed Action (Alternative B), a No Action Alternative (Alternative A), and a reasonable range of alternatives to the Proposed Action (i.e., Alternative C). It does so at a level of detail that allows the lead agency decision maker to make an informed decision regarding implementation of any one of the alternatives. This EIS also serves to disclose the potential impacts of these alternatives to the public, other agencies, and interested stakeholders (e.g., nonprofit organizations representing interests of local and nonlocal constituents, businesses interested in or affected by the Proposed Action and alternatives, and nonprofit trade associations interested in or affected by the Proposed Action and alternatives). Accordingly, this EIS assesses the direct, indirect, and cumulative impacts of each alternative. The alternatives identify mitigation measures necessary to reduce or eliminate impacts. Throughout this EIS process, the BLM will continue to solicit and incorporate public input into the alternatives formulation and analysis process. This EIS provides additional analysis required for conformance with the KFO RMP (2008b) and meets the requirements of the DOI secretarial decision document, *Petition to Designate Certain Federal Lands in Southern Utah Unsuitable for Surface Coal Mining* (DOI 1980b).

The scope of this EIS is largely characterized by the issues raised during the public and agency (BLM internally, as well as other state and federal agencies) scoping process and by past, present, and reasonably foreseeable future actions. The issues and past, present, and reasonably foreseeable future actions are summarized below in Section 1.9.1 and Section 1.9.2, respectively.

1.9.1 Issues Raised During Public Scoping

Issues were identified through consideration of comments from the public and from federal, state, and local agencies interested in and/or potentially affected by the Proposed Action and alternatives. Public comments were solicited during the public scoping process, which is described below.

1.9.1.1 THE PUBLIC SCOPING PROCESS

The public scoping process was initiated on November 28, 2006 when the BLM published a NOI to prepare an EIS to offer the tract for competitive leasing. Five public scoping meetings followed. These were held at the locations and on the dates identified in Table 1.4. Each meeting was conducted in an open house format with BLM and ACD personnel present to answer questions and provide information. Other resources available at the public scoping meetings included informational display boards; one video explaining the conceptual mining and reclamation sequence; one video explaining a potential transportation route, including truck details; and comment forms on which to submit comments at the meetings. Informational display boards and comment forms are available in the *Alton Coal Tract LBA EIS Public Scoping Report* (SWCA 2007b) prepared following completion of the scoping process. Copies of the videos are available at the BLM-KFO. The 90-day scoping period closed on February 26, 2007.

Table 1.4. Public Scoping Meeting Dates, Times, and Locations

Date	Time	City	Address
January 30, 2007	5:00–8:00 pm	Alton	Alton Town Hall 11 South 100 West, Alton, Utah 84710
January 31, 2007	5:00–8:00 pm	Kanab	Kanab City Library 374 North Main Street, Kanab, Utah 84741
February 1, 2007	5:00–8:00 pm	Panguitch	Triple C Arena 50 East 900 North, Panguitch, Utah 84759
February 6, 2007	5:00–8:00 pm	Cedar City	Cedar City L brary 303 North 100 East, Cedar City, Utah 84720
February 7, 2007	5:00–8:00 pm	Salt Lake City	Salt Lake City Public Library 210 East 400 South, Salt Lake City, Utah 84111

1.9.1.2 SUMMARY OF ISSUES

Issues and concerns raised during the public scoping process were divided into three categories: 1) those to be addressed through implementing and documenting certain elements of the NEPA process; 2) those to be addressed through analysis of direct, indirect, and cumulative impacts; and 3) those to be addressed through the formulation of alternatives. The substantive issues and concerns, along with the chapter (or chapters) of the document in which they are addressed, are outlined below. A complete list of comments received during the scoping period (and their dispositions) can be found in the *Alton Coal Tract LBA EIS Public Scoping Report* (SWCA 2007b).

1.9.1.2.1 National Environmental Policy Act Process

This section summarizes the substantive issues and concerns (i.e., those that require analysis in the NEPA process) related to the NEPA process that were identified through the public scoping process. These issues underscore the importance of implementing and documenting (in this document and/or in the administrative record) certain elements of the NEPA process to ensure full public disclosure. The chapter (or chapters) of the document where each issue is (or are) addressed are provided in italics following each bullet.

1.9.1.2.1.1 Leasing Timeline

- When is the appropriate time to begin the analysis of the EIS and consideration of leasing? Following submission of a detailed mining plan? Following a commitment to mine and sell coal? (*Chapter 1 Introduction, Chapter 2 Proposed Action and Alternatives*)

1.9.1.2.1.2 Previous Decisions and Legislation and Need for an Environmental Impact Statement

- Previous studies of coal mining at Alton have been completed. Why is additional environmental analysis required? (*Chapter 1 Introduction, Chapter 2 Proposed Action and Alternatives*)
- How will the proposed lease meet the suitability requirements of SMCRA? (*Chapter 1 Introduction, Chapter 2 Proposed Action and Alternatives*)

1.9.1.2.1.3 Bureau of Land Management's Role and Policies Regarding Public Land Use

- What is BLM's responsibility to protect the public lands, while providing for their use and sustainability? (*Chapter 1 Introduction, Chapter 2 Proposed Action and Alternatives*)

1.9.1.2.1.4 Scope

- Is coal mining on private lands and public (BLM) lands a connected action under NEPA requiring analysis in a single EIS? (*Chapter 1 Introduction, Chapter 2 Proposed Action and Alternatives*)

1.9.1.2.1.5 Purpose and Need

- What are the public purposes and needs for this action and how will they affect the eventual decision to offer the tract for leasing or not? (*Chapter 1 Introduction*)
- How will energy demand affect BLM's decision to lease the tract (*Chapter 1 Introduction*)?

1.9.1.2.1.6 Alternatives

- What reasonable alternatives to the applicant's proposal to lease and mine federal coal reserves in the tract should BLM consider? (*Chapter 2 Proposed Action and Alternatives*)

1.9.1.2.1.7 Affected Environment and Impacts Analysis

- What would be the effects of the coal mine on the natural and cultural environment in and near the tract, and the human values connected to those resources and their uses? (*Chapter 4 Environmental Consequences*)

1.9.1.2.1.8 Data and Expertise for Impacts Analysis

- What data and scientific literature must be collected and analyzed to ensure an adequate analysis of the effects of the Proposed Action and alternatives? (*Chapter 4 Environmental Consequences*)

1.9.1.2.1.9 Cooperating and Consulting Agencies

- What role will BLM's partners play in the EIS analysis of the Proposed Action and the alternatives? (*Chapter 1 Introduction*)

1.9.1.2.1.10 Public Involvement

- What opportunities for public involvement should BLM provide to ensure disclosure of information and informed decision making? (*Chapter 1 Introduction, Chapter 5 Consultation and Coordination*)

1.9.1.2.1.11 National Environmental Policy Act Decisions

- What role will local residents play in the decision-making process? (*Chapter 1 Introduction*)
- How will impacts to Bryce Canyon National Park affect the LBA tract leasing decision at Alton? (*Chapter 2 Proposed Action and Alternatives, Chapter 4 Environmental Consequences*)

1.9.1.2.2 Direct, Indirect, and Cumulative Impacts from the Proposed Action and Alternatives

This section summarizes the substantive issues and concerns related to impacts analysis that were identified through the public scoping process. These issues were used to determine which resources to address in the EIS and to what level of analysis. Past, present, and reasonably foreseeable future actions (summarized in Section 1.9.2) were also used in determining resources to address and at what level of analysis. Substantive issues and concerns related to impacts analysis are listed below.

1.9.1.2.2.1 Resources and Uses Covered by Supplemental Authorities

Potential impacts to resources and uses addressed by supplemental authorities are of concern during the NEPA process (2008e). For the Alton Coal EIS scoping process the BLM considered potential impacts to 17 resources and uses covered by supplemental authorities:

- Water Quality (surface and ground)
- Wetlands and Riparian Zones
- Farmlands, Prime and Unique
- Air Quality
- Rangeland Standards
- Cultural Resources
- Threatened and Endangered Species
- Paleontological Resources
- Wild and Scenic Rivers
- Hazardous Material and Waste
- Migratory Birds
- Floodplains
- Areas of Critical Environmental Concern
- Wilderness Areas and Wilderness Study Areas (WSA)
- Native American Trust resources
- Environmental Justice
- Native American Religious Concerns

Wild and scenic rivers, wilderness areas and WSAs, Native American trust resources, and areas of critical environmental concern would not be affected by the Proposed Action and alternatives and are therefore not analyzed in detail in this EIS. Impacts on the remaining 13 resources and uses covered by supplemental authorities are analyzed in this EIS. Impacts on rangeland health standards are analyzed under the components of the standards (e.g., vegetation, soil, water, and air) but are not discussed in a section under that heading. The issues and concerns listed below are addressed in Chapter 4 Environmental Consequences.

1.9.1.2.2.2 Issues and Concerns Regarding Impacts on Resources and Uses

Aesthetic Resources

- What effect would noise created by coal mining and coal truck traffic have on the relative noise levels existing in the area, including the town of Alton, adjacent public lands, and nearby parks and monuments?
- What effect would the coal mining operation, coal truck traffic, and dust and smoke caused by mining have on the local landscape (scenic quality) and surrounding viewshed?
- How would lighting for nighttime mining operations affect the darkness of the night sky from key nighttime-sky viewing points such as Bryce Canyon National Park?

Air Resources[4]

- How would development and operation (i.e., construction, heavy equipment use, transportation of coal, etc.) of the coal mine affect local and regional air quality?
- What effect would deposition of dust and other pollutants produced by mining have on water, wildlife, vegetation, recreation uses, and structures in and adjacent to the mining operations?
- What contribution would emissions produced from the mining operation, transportation of coal, and ultimate use of the coal add to the cumulative effect of carbon emissions on global warming?

Cultural Resources

- What impact would coal mining and transporting coal have on prehistoric and historic cultural resources in the tract and along transportation routes?
- How would coal mining and transporting coal impact existing and eligible National Register sites and TCPs?

Fire Management

- What impact would coal mining, including truck traffic to transport coal, have on air quality; and how would those changes in air quality affect BLM's ability to conduct prescribed burning in WUI areas to reduce threats of wildfire?
- What impact would revegetation required for tract reclamation have on wildland fire frequency and severity?

Geology and Minerals

- How would coal mining on the tract affect geologic and mineral resources present there?
- What geologic hazards exist on and near the tract and how would they be affected by mining operations and vice versa?
- What is the potential for underground coal fires and what are the environmental consequences of an underground fire?

[4] As a result of scoping comments provided by EPA, an Air Resources Stakeholder Group (including EPA, OSM, NPS, BLM, OSM, the State of Utah, and ACD) was convened to guide the air resources analysis, ensuring that air resources impacts were properly addressed. See Sections 3.3 and 4.3 for Air Resources.

Hazardous Materials

- What impact would generation, temporary storage, and disposal of hazardous materials (such as those regulated under the Comprehensive Environmental Response, Compensation, and Liability Act, the Superfund Amendments and Reauthorization Act, the Resource Conservation and Recovery Act, and the Toxic Substances Control Act) have on people and the environment?

Land Use and Access

- What impact would development and operation of a coal mine have on local private property values and future development potential of those lands?
- What effect would coal truck traffic have on private property values along transportation routes (KFO Route 116, US-89, etc.)?
- What impact would development and operation of a coal mine have on the town of Alton (e.g., air quality, aesthetics, water quality, and public health and safety)?
- How would public lands be used and managed following reclamation of the coal mine?

Livestock Grazing

- How would coal development, mining, and reclamation impact grazing and pasturelands around Alton (i.e., removal of vegetation, restricted access to grazing land for ranchers, etc.), and how would that affect short-term and long-term livestock grazing and production?
- How would road dust and exhaust from passing coal truck traffic affect vegetation growth and palatability of the vegetation for livestock forage?

Paleontology

- How would surface disturbance (i.e., surface mining, road construction, facilities construction, etc.) created by coal mining impact fossils in the tract?

Public Health and Safety (Discussed under Socioeconomics in Chapter 4)

- How would coal truck traffic through towns along potential transportation routes affect public safety in those towns, and along the travel routes?
- What risk of injury and adverse health effects would the mine workers and local public face as a result of mine development?

Special Designations (Discussed under Aesthetic Resources, Air Resources, and Recreation in Chapter 4)

- How would coal mining impact the air quality, viewshed, and nighttime sky of Bryce Canyon National Park?
- How would coal mining impact the resources (air quality, viewsheds, recreation, etc.) of other nearby parks and monuments, including the Grand Staircase-Escalante National Monument; Arches, Canyonlands, and Zion national parks; Kodachrome State Park; and Red Canyon and other public lands?
- How would the noise and presence of coal truck traffic affect the visitor experience at these parks, monuments, and public lands?

Special Status Species (Discussed under Wildlife and Special Status Species in Chapter 4)

- How would development and operation of a coal mine impact special status species and their habitat, including Greater Sage-grouse, Utah prairie dog, Burrowing Owl, Bald Eagle, Golden Eagle, pygmy rabbit, Northern Goshawk, Ferruginous Hawk, Bonneville cutthroat trout, and Utah *Physa*?
- What effect would noise from coal truck traffic have on special status species? How would wildlife mortality from vehicle collisions affect wildlife populations?

Socioeconomics

- What opportunities for employment would development and operation of the coal mine create?
- How would development and operation of a coal mine affect local businesses and tourism?
- How would development and operation of a coal mine affect tax revenues to Kane and Garfield counties? What, if any, additional county services (i.e., ambulance, fire fighting, sheriff, etc.) would be required to support the mine?
- What effect would coal truck traffic have on tourism and local businesses along potential transportation routes?
- What are the economic benefits of development and operation of a coal mine?
- How would development of the tract contribute to the supply of coal available for use in the region?

Soils

- What impact would development and operation of a coal mine (including final reclamation) have on productivity of soils, including biological soil crusts?
- How would coal mining affect farmland productivity?
- What impact would development and operation of a coal mine have on soil stability and rates of erosion?
- What effect would road and coal dust and exhaust from mining-related traffic have on soil productivity in proximity to roads in the tract and along potential transportation routes?

Transportation

- What effect would coal truck traffic for transporting coal to market have on traffic conditions along the transportation route?

Vegetation

- How would coal development, mining, and reclamation affect vegetation communities in the tract?
- What effect would coal mining, including truck traffic to transport coal, have on the introduction and spread of exotic vegetation?
- What effect would road and coal dust and exhaust from mining-related traffic have on the health and growth of vegetation adjacent to roads in the tract and along potential transportation routes?

Water Resources

- What effect would development and operation of a coal mine have on surface-water quality and quantity?

- What effect would development and operation of a coal mine have on groundwater quality and quantity?
- How would mining operations impact riparian areas and wetlands?
- How would coal mining affect the possible existence of an AVF near the town of Alton?
- How would road and coal dust and vehicle exhaust, resulting from operation of coal trucks, impact the quality of water bodies adjacent to transportation routes?

Wildlife

- What effect would development and operation of a coal mine, including reclamation and coal truck traffic, have on wildlife and their habitat, including nocturnal wildlife?

1.9.1.2.3 Alternatives Formulation

This section summarizes the comments provided in the public scoping process that specifically refer to or specifically indicate the need for the development of alternatives to the Proposed Action. Issues summarized above (Sections 1.9.1.2.1 and 1.9.1.2.2) were also considered in the alternatives development process along with past, present, and reasonably foreseeable future action discussed in Section 1.6.2.

Chapter 2 provides a complete description of the alternatives analyzed in detail, and those alternatives considered but eliminated from detailed analysis. A brief rationale for the dismissal of alternatives is provided there.

1.9.1.2.3.1 Decision to Lease

- Should the BLM delay offering the tract for lease until less-impacting extractive processes are developed?

1.9.1.2.3.2 Mining Methods and Coal Production

- What are practical alternatives to surface mining in the tract?

1.9.1.2.3.3 Alternative Sources of Energy

- The BLM should consider foregoing the coal lease and instead promote development of alternative forms of energy such as solar and wind.

1.9.1.2.3.4 Air Quality

- How would operations be designed and controlled to prevent the release of unsafe levels of NO_2?

1.9.1.2.3.5 Special Designations

- Coal mining should be designed, and modified if needed, to reduce impacts to Bryce Canyon National Park.

1.9.1.2.3.6 Transportation

- What methods of coal transportation (e.g., slurry, rail, truck) should be considered to reduce impacts to the environment, nearby communities, and public safety?
- Construction of a power plant next to the mine should be considered as a way to eliminate impacts from coal truck traffic.

1.9.2 Past, Present, and Reasonably Foreseeable Future Actions

This section lists past, present, and reasonably foreseeable future actions in and near the tract. These past, present, and reasonably foreseeable future actions will be used to guide the analysis of cumulative impacts of the Proposed Action and alternatives. A more detailed discussion of these actions can be found in Section 4.18, Cumulative Impacts.

1.9.2.1 PAST ACTIONS

- Historical uses of tract lands and surrounding lands (such as livestock grazing, hunting, coal exploration and production, mineral material extraction, paleontological prospecting, and coalbed methane [CH_4] exploration)
- Vegetation treatments
- ROWs for roads and utilities and road and utility construction

1.9.2.2 PRESENT ACTIONS

- Sand and gravel development
- Livestock grazing
- Big game hunting operations
- Road relocations and utility ROWs
- Tourist and local traffic use of Johnson Canyon Alton Amphitheater Scenic Backway
- Surface-mining operations at the Coal Hollow Mine for private fee coal (approximately five million tons) on 636 acres of privately owned land adjacent to the tract (see Maps 1.1 and 1.2)
- Construction and use of haul roads for transporting coal from the Coal Hollow Mine to KFO Route 116 north of the town of Alton
- Use of an existing transportation route US-89 to SR-20 to I-15 to Iron Springs along U.S. Route 56 for transporting coal from the Coal Hollow Mine to market
- Dispatch, fueling, and washing facilities related to coal haulage for the Coal Hollow Mine

1.9.2.3 REASONABLY FORESEEABLE FUTURE ACTIONS

- Surface-mining operations for private fee coal on approximately 378 acres of private, surface-owned land adjacent to the tract to the north (see Maps 1.1 and 1.2)
- Future energy corridor development related to the *West Wide Energy Corridor Programmatic EIS*
- Development of wind energy
- Construction of a Garkane Energy 138-kilovolt transmission line in Garfield County, Utah between the towns of Tropic and Hatch
- Construction of the Lake Powell pipeline
- Construction of the Jackson Flat Reservoir
- Vegetation treatments including but not limited to prescribed fire, herbicide applications, and mechanical thinning and grubbing
- Coalbed CH_4 exploration
- Oil and gas exploration (seismic exploration) and development
- Mining alabaster and Septarian nodules

- Sand and gravel production
- Building stone collection
- Motorized travel on existing roads and trails
- Clay development

1.10 Consultation and Coordination

Initial involvement with respect to BLM's receipt and review of ACD's LBA and details on the public notification, public scoping process, and the cooperating agencies are described above. Chapter 5, Consultation and Coordination, provides further detail on consultation and coordination for the proposed tract and preparation of this EIS.

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