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ALL VOLUMES

R645-301-100 Through R645-301-800

INTRODUCTION

The Alton coal field is located in T39S, R6W and T39S, R5W SLB&M, Kane County, Utah. Kane County is located in the southwest quarter of Utah. The town of Kanab, which is the Kane County Seat, is located about 30 miles south of the Alton coal field (see attached vicinity and location drawings).

Alton Coal Development, LLC (ACD) is proposing the development of a portion of the Alton coal field. The proposed development is the Coal Hollow Mining Project. The center of the Coal Hollow Project (CHP) is located approximately 3 miles south of the town of Alton, Utah.

ACD has initiated the processes involved to secure coal leases and a permit to mine coal from the project area. In 2004 ACD negotiated surface and coal leases for the private or fee areas of the Alton coal field. In 2004 ACD submitted a Lease by Application (LBA) to the Department of the Interior, Bureau of Land Management State Office, Salt Lake City, Utah for federal coal acreage contiguous to the secured private lease area. In 2005 ACD submitted a Mining and Reclamation Plan (MRP) to the Utah Division of Oil, Gas and Mining (UDOGM).

The Coal Hollow Project involves a surface mining operation that will produce approximately 2,000,000 tons of coal annually. The coal will be transported from the Alton coal field in trucks to Cedar City where it will be loaded into railcars and hauled to market.

In early 2004, ACD initiated base line studies within the area of the Alton coal field. Base line studies are required by state and federal agencies prior to submitting a MRP application.

In 2004, ACD hand picked consultants and personnel to prepare field and base line studies for the Coal Hollow Project. Consultants were selected based on their technical

expertise and higher personal and professional ethical standards. The CHP will be a flagship coal mining operation and its culture of excellence will not start when the first ton of coal is mined, but rather from project inception. The ACD seeks to develop a culture of high integrity extending to it personnel, mining operations, community relations, and environmental performance.

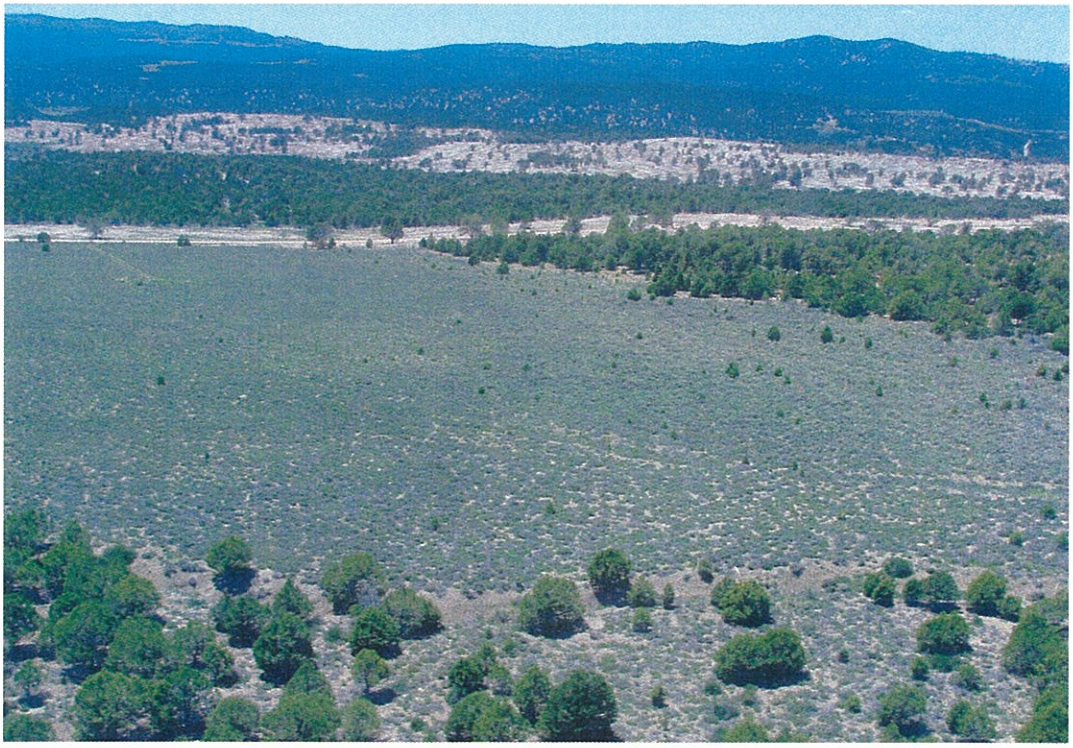
Startup area of the surface mine - phase 1 mining area
View to the south

View of coal seam exposed in Robinson Creek
Phase 1 area of Mining
View to the NE

Phase 1 mining area (lest)
Coal loadout (background)
Phase 2 mining area (foreground) – view to the north

Phase 3 & 4 mining area
View to the west

View of the proposed coal loadout area
The town of Alton (background) – view to the NE



View of proposed coal loadout
View to the NE

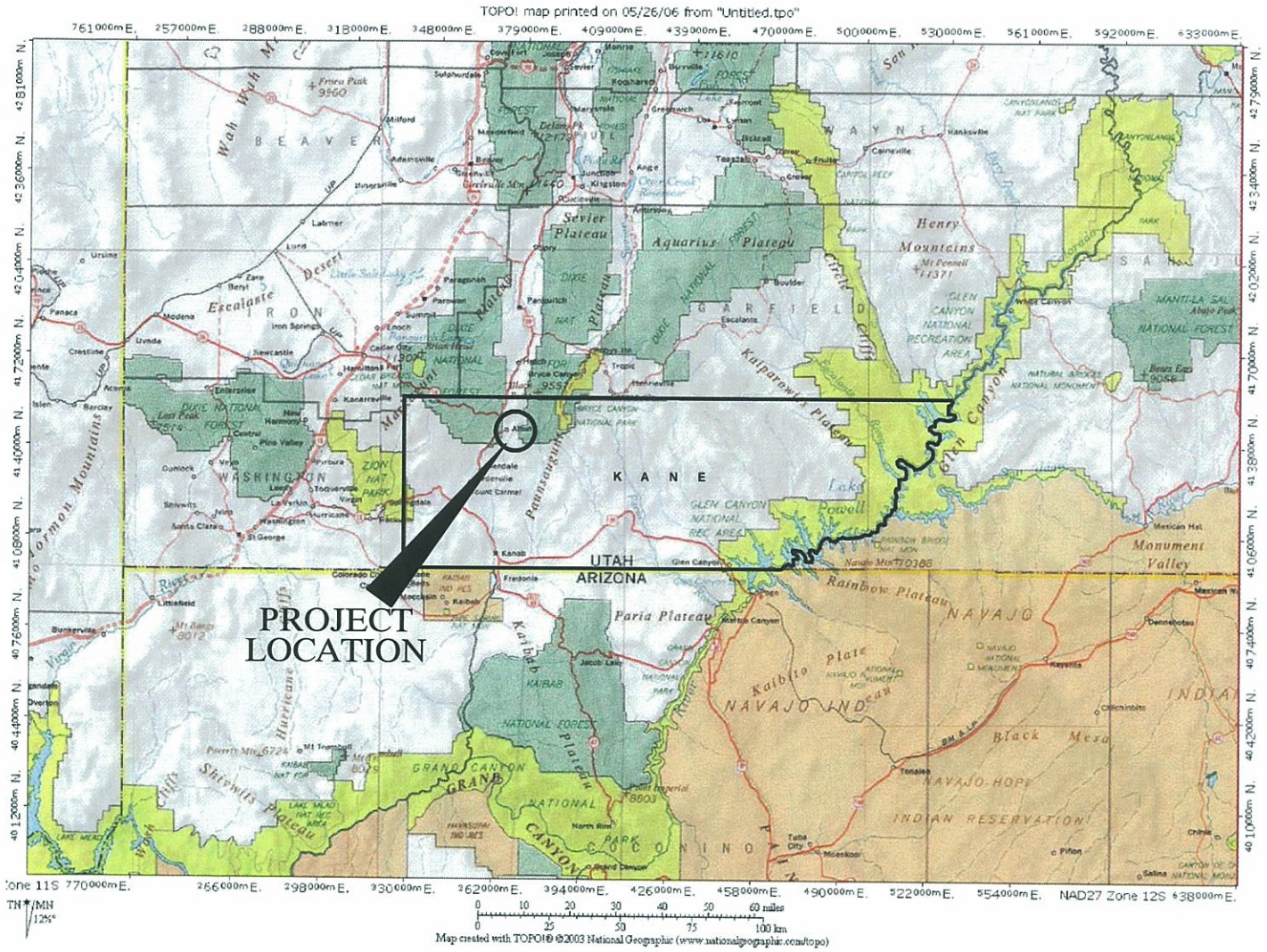
View of area to be mined and reclaimed – view to the south

- BLM Pinion-Juniper 2005 treatment area (foreground)
  - The Pinion-Juniper community has out competed with the other vegetative species, creating barren ground
  - The reclamation process will improve the natural ground and vegetation communities by planting more suited vegetative plant species more suitable to the area (grazing and wildlife)
- County Road # 136 running north/south through proposed permit area
- County road will be relocated to bypass mining operations
- Bypass route will start at the bottom right edge of photo
  - Bypass route will be relocated west of existing county road
  - Bypass route will reconnect with existing county road (top of photo) approximately 3 miles of bypass road
- Mining operations will be cordoned off to civilian traffic
- After coal is removed and the area reclaimed, the surface contour will be reduced by 0.7'

View of area to be mined and reclaimed – view to the north

Location of 1960's reclaimed Alton Coal mine
Portal was in cleared area of hillside

ALTON COAL DEVELOPMENT
KANE COUNTY, STATE OF UTAH
SECTIONS 19, 20, 29, & 30, T39S, R5W, S.L.B.&M.



DRAWN BY:	CHECKED BY:
N. BUTKOVICH	APC
DRAWING:	DATE: 5/26/06
	SCALE: NOT TO SCALE
JOB NUMBER: 1400	SHEET

REVISIONS	
DATE:	BY:
6/6/06	NLB

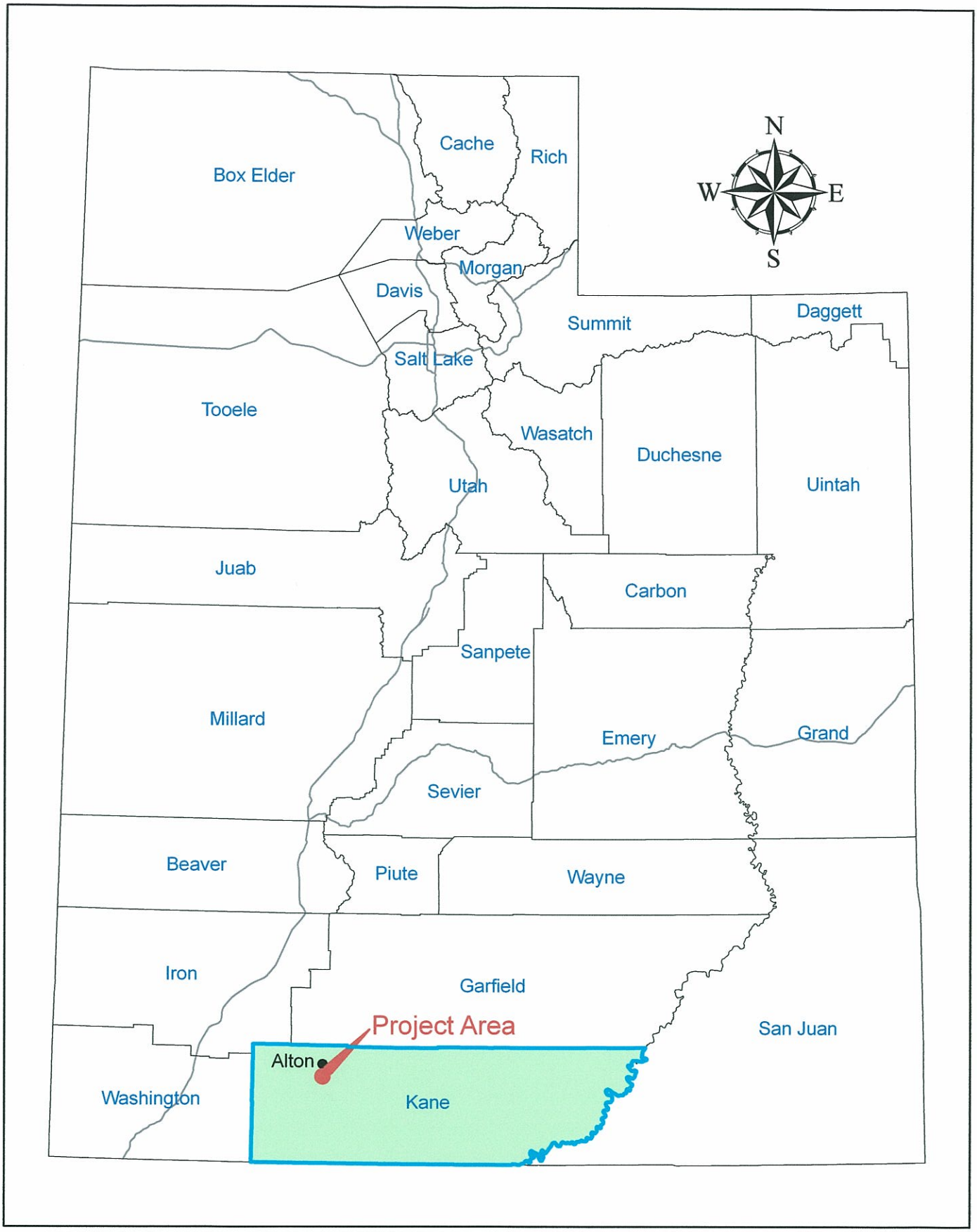
VICINITY MAP

COAL HOLLOW PROJECT
ALTON, UTAH

Registered Professional Engineer
No. 144842
JOHN S. HUEFNER
6.15.06
State of Utah

Alton Coal Development
Coal Hollow Project

195 North, 100 West
P.O. Box 1230
Huntington, Utah 84528
Phone (435)687-5310
Fax (435)687-5311



General Location

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Chapter 1

R645-301-100

Legal, Financial, Compliance and Related Information

CHAPTER 1

R645-301-100. GENERAL CONTENTS

110 LEGAL, FINANCIAL, COMPLIANCE, and RELATED INFORMATION

110 INTRODUCTION

Alton Coal Development, LLC is submitting a Mining and Reclamation Plan for the Coal Hollow Project to the Utah Division of Oil, Gas and Mining pursuant to rules governing coal mine permitting at R645-301-100 et seq. Permit Area Base Drawing – Drawing 1-1.

112 IDENTIFICATION OF INTERESTS

112.100 Business Entity

Applicant, Alton Coal, LLC, is a limited liability company duly organized and validly existing under the laws of the State of Nevada, and authorized to conduct business under the laws of the State of Utah.

112.200 Permit Applicant and Permittee:

Alton Coal Development, LLC
PO Box 1230
Huntington, UT 84528
Telephone (435)-687-5310)
Employer I. D. #42-1655092
Social Security numbers of Alton Coal Development, LLC's members and manager provided in "CONFIDENTIAL BINDER"

112.210 Operator:

Alton Coal Development, LLC
PO Box 1230
Huntington, UT 84528
Telephone (435)-687-5310)
Employer I. D. #42-1655092

112.220 Resident Agent:

Corporation Trust Company of Nevada
6100 Neil Road
STE 500
Reno, NV 89511

For Utah:

Allen P Childs
PO Box 1230
Huntington, Utah 84528
435-687-5310

112.230 Abandoned Mine and Reclamation Fee

Alton Coal Development, LLC, is the sole party in interest and will pay the abandoned mine land reclamation fee.

112.300 Ownership and Control

Alton Coal Development, LLC, is the sole party in interest, owning and controlling this application.

112.310 Members and Managers of Alton Coal Development, LLC

Social Security numbers of Alton Coal Development, LLC's members and manager provided in "CONFIDENTIAL BINDER" Appendix 1-1

Manager - ALLEN P. CHILDS
570 North Main St.
Orangeville, UT 84537

Member STONIE BARKER
714 Bob White Lane
Naples, FL 34108

Member BEVERLY HOLWERDA
960 Cape Marco Drive
Marco Island, FL 34145

Member ROBERT C. NEAD
6602 Ilex Circle
Naples, FL 34109

Member JAMES J. WAYLAND
2841 Capistrano Way
Naples, FL 34105

All members and managers use the employer identification number of Alton Coal Development, LLC No. 42-1655092

112.320 Relationship to the Applicant

Each of the above-listed managers and members owns and controls more than 10% of Alton Coal Development, LLC

112.330 Title and Date of Position

Each of the managers and members listed at 112.310 above was appointed as of September 9, 2004.

112.340. Ownership or control of Other Coal Mining and Reclamation Operations

Neither Alton Coal Development, LLC nor its manager or members owns and has not in the previous five years owned another coal mining and reclamation operation.

112.350 Application Number – Other Pending Coal Mining and Reclamation Operations

Neither Alton Coal Development, LLC nor its manager or members owns any pending coal mine permits.

112.400 Coal Mining and Reclamation Operations Owned or Controlled

Neither Alton Coal Development, LLC nor its manager or members owns or controls any other coal mining and reclamation operations.

112.410 Coal Mining and Reclamation Operations Owned or Controlled by Managers or Members of Alton Coal Development, LLC

Neither Alton Coal Development, LLC nor its manager or members owns or control any other coal mining and reclamation operations.

112.420 Ownership and Control Relationship of Managers and Members of Alton Coal Development, LLC

Each of the managers and members listed at § 112.320 own or control more than 10% of Alton Coal Development, LLC

112.500 Legal or Equitable Owner of the Surface and Mineral Properties

The legal and equitable owners of the surface and mineral properties to be affected by this mining operation during the duration of the permit period are shown below. Surface and coal ownership are shown on Drawings 1- 3 and 1-4.

SURFACE OWNERSHIP:

Owner/Lessor:	*Lessee:*
C. Burton Pugh 533 N 650 E Lindon, Utah 84042-1567 801-785-6220	Alton Coal Development, LLC

COAL OWNERSHIP:

Owner/Lessor:

C. Burton Pugh
533 N 650 E
Lindon, Utah 84042-1567
801-785-6220

Roger M. Pugh, Attorney in
Fact & Power of Attorney for
Verna H. Pugh

116 South 100 West
Kanab, UT 84741

Margaret Moyers
Kanab, Utah

Lessee:

Alton Coal Development, LLC

SURFACE OWNERSHIP:

Owner/Lessor:

Alecia Swapp Dame Trust
Through Richard, Trustee
1620 Georgia Ave.
Boulder City, NV 89
702-293-4773

Lessee:

Alton Coal Development, LLC

COAL OWNERSHIP:

Owner/Lessor:

Alecia Swapp Dame Trust
Through Richard, Trustee
1620 Georgia Ave.
Boulder City, NV 89
702-293-4773

Lessee:

Alton Coal Development, LLC

112.600 Owners of Record of Property Contiguous to Proposed Permit Area

Owners of surface properties contiguous to the proposed permit area are shown on Drawing 1-3 and the name and address of each such owner is as follows:

Department of the Interior, Bureau of Land Management
District and Regional Office
Salt Lake City, Utah

Darlynn and Arlene Sorensen
Orderville, Utah
435-648-2462

112.700 MSHA Numbers

Applications for MSHA identification numbers for the Coal Hollow Mine are pending.

112.800 Interest in Contiguous Lands

The applicant has interest in lands contiguous to the permit area. A Lease by Application (LBA) is currently being processed by the United States Department of the Interior, Bureau of Land Management, Salt Lake City, Utah.

Alton Coal Development, LLC, the sole party in interest, submitted the LBA application in September, 2004. The LBA is contiguous to the permit area and contains approximately 2,746 acres. See Drawing 1-2 for LBA delineation.

112.900 Certification of Submitted Information

After Alton Coal Development, LLC is notified that the application is approved, but before the permit is issued, Alton Coal will update, correct or indicate that no change has occurred in the information submitted under R645-301-112.100 through .800.

113 VIOLATION INFORMATION

Neither the applicant, affiliates, members or managers or persons controlled by or under common control with the applicant has: (i) had a federal or state mining permit suspended or revoked in the last five years; (ii) nor forfeited a mining bond or similar security deposited in lieu of a bond; (iii) nor received a violation during the last three year period.

114 RIGHT OF ENTRY INFORMATION

Applicant bases its right to enter and begin coal mining activities in the permit area and the consent of the surface owner to extract coal by surface mining methods upon the following documents:

Lessor:	*Lessee:*
C. Burton Pugh	Alton Coal Development, LLC

Surface and Mineral Lease, dated 9/10/04.

Lessor:	*Lessee:*
Alecia Swapp Dame Trust	Alton Coal Development, LLC

Surface and Mineral Lease, dated 4/29/05.

Copies of the lease assignments are included in Appendix 1-2.

115 STATUS OF UNSUITABILITY CLAIMS

The permit area is not within an area or under study as an area designated as unsuitable for mining under R645-103-400, nor has any petitions been filed with the UDOGM under R645-103-420 that could affect the proposed permit area. The Coal Hollow Project is located on private lands adjacent to federal lands, which after careful consideration were declared suitable for mining in 1980 by then Secretary of Interior Andrus. Secretary's Decision, Petition to Designate Certain Federal Lands In Southern Utah Unsuitable for Surface Coal Mining, OSM Ref No. 79-5-001, dated December 16, 1980, copy attached at Appendix 1-3.

This petition was filed under the provisions of section 522(c) of the federal Surface Mining Control and Reclamation Act ("SMCRA"). OSM Notice, Receipt of a Complete Petition for Designation of Lands as Unsuitable for Surface Coal Mining Operations, 45 fed. Reg. 3398, Jan. 17, 1980, attached at Appendix 1-3.

Those federal lands in the Petition area found suitable for mining include lands adjacent to the private lands which the Project has included in a federal lease by application and located in Kane County, Utah within Township 39 South, Ranges 5 and 6 West, SLM. Secretarial Decision at Paragraph 4. The Secretarial Decision was based on an extensive Administrative Record, including the Petition filed under Section 533 of SMCRA, 30 U.S.C. Section 1272, public hearings, a combined petition evaluation document and environmental impact statement published in two volumes on November 26, 1980 as, "Southern Utah Petition Evaluation Document" and the "Southern Utah Petition Evaluation Document - Comments and Responses." The Secretarial Decision was further supported by a 52 page Statement of Reasons, dated January 13, 1981, attached at Appendix 1-3.

The Secretarial Decision was upheld by the federal court in *Utah International, Inc. v. Watt*, 553 F. Supp. 872 (D. Utah 1982).

116 PERMIT TERM

116.100 There are 4 mining phase associated this permit term. The first phase of mining is anticipated to start January 1, 2008. Each mining phase has a 1 year term. Phase 4 to conclude in 2

Acres of disturbance per Mining Phase

Phase 1	84 acres
Phase 2	70 acres
Phase 3	37 acres
Phase 4	32 acres

116.200 Permit Term

The Coal Hollow Mine Project is proposed for a 5-year term under the Permanent Regulatory Program for 5 years

117 INSURANCE, PROOF OF PUBLICATION

Proof of publication pursuant to R645-303-322 will be included in Appendix 1-5.

117.100 Certificate of Liability Insurance

A copy of the Certificate of Insurance is found in Appendix 1-4.

118 PERMIT FILING FEE

A copy of this permit is on file with the Utah Division of Oil, Gas and Mining (UDOGM), P.O. Box 145801, Salt lake City, Utah 84114-5801. A filing fee of $5.00 accompanied permit submittal.

120 PERMIT APPLICATION FORMAT AND CONTENTS

This permit application contains information and will comply with R645-301-120. A notarized statement attesting to the accuracy of this information is set forth at Appendix 1-6.

130 REPORTING OF TECHNICAL DATA

All technical data submitted in the permit application will be accompanied by the name or organization responsible for the collection and analysis of data, dates of collection and descriptions of methodology used. Technical analyzes will be planned by or under the direction of a qualified professional in the subject to be analyzed.

The following assisted or were consulted in the preparation of this permit application:

State of Utah, Department of Natural Resources
Division of Oil, Gas and Mining
Salt Lake City, Utah

Department of the Interior, Bureau of Land Management
District and Regional Office
Kanab and Salt Lake City, Utah

United States Geological Survey, Utah Region
Salt Lake City, Utah

United States Department of Agriculture
Soil Conservation Service
Salt Lake City, Utah

State of Utah, Department of Natural Resources
Division of Wildlife Resources (DWR)
Salt Lake City, Price and Cedar City, Utah

Dr. Patrick D. Collins
Mt. Nebo Scientific Research & Consulting
Springville, UT

Talon Resources, Inc
Huntington, UT

Erik Petersen
Petersen Hydrologic, LLC
Lehi, UT

C. Burton Pugh
Lindon, UT

John T. Boyd Company
James Boyd
Mining & Geological Consulting
Canonsburg, PA

Richard Dame
Boulder City, NV

John T. Boyd Company
Rich Bate
Mining & Geological Consulting
Denver, CO

University of Miami
Miami, FL

Keith Montgomery
Montgomery Archaeological
Moab, UT

Dr. Stephen Petersen
Philomath, OR

Larry Hayden-Wing
Hayden-Wing Associates, LLC
Laramie, WY
Mark Page
Water Rights Consultant
Price, UT

D.A. Smith Drilling
Loma, CO

Kane County
76 North Main
Kanab, UT

Heaton Livestock
PO Box 100773
Alton, UT

Geochron Laboratories
Cambridge, MA

Energy Labs
Billings, MT

140 DRAWING AND PLANS

The Drawing and plans in the Mining and Reclamation Plan will be submitted consistent with the requirement of R645-301-140.

150 COMPLETENESS

Alton Coal Development, LLC represents that the information contained in the Coal Hollow Mining and Reclamation Plan permit application to be complete and correct.

APPENDIX 1-3

Exhibit 1 Petition to Designate Certain Federal Lands

Exhibit 2 Lands as Unsuitable for Surface Coal Mining Operations

Exhibit 3 The Secretarial Decision

Exhibit 1

Petition to Designate Certain Federal Lands

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

PETITION TO DESIGNATE CERTAIN FEDERAL LANDS IN SOUTHERN UTAH UNSUITABLE FOR SURFACE COAL MINING	OSM REFERENCE No: 79-5-001

SECRETARY'S DECISION

Under section 522 of the Surface Mining Control and Reclamation Act of 1977, I have been petitioned by the Sierra Club, Environmental Defense Fund, Friends of the Earth and others to declare certain lands adjacent to Bryce Canyon National Park in Southern Utah unsuitable for all types of surface coal mining operations. Other individuals also intervened in support of the petition. Utah International Inc. and Nevada Electric Investment Co., who hold Federal coal leases in the petition area, were granted leave to intervene in opposition to the petition.

As required by sections 522 (c) and (d) of the Surface Mining Act, public comment on the petition was sought, public hearings were held in Utah and a detailed statement was prepared to evaluate the petition and the alternative actions available to me in reaching a decision on the petition. In reaching my decision on the Southern Utah petition, I have considered the information contained in the final combined petition evaluation and environmental impact statement, as well as the information provided by the petitioners, intervenors, Federal agencies, the State of Utah, local agencies, industry and members of the public in the form of testimony at the public hearings and all written comments received up to the close of the comment period on October 20, 1980.

Based upon all of that information, which is in the administrative record of this proceeding, I have reached the following decision:

1. I hereby designate as unsuitable for surface coal mining operations, including surface impacts incident to underground mining which would be visible from Bryce Canyon National Park, all Federal lands in townships T.40S, R. 4W; T. 39S, R. 4W; T. 38S, R. 4W; T. 38S, R. 3W; T. 37S, R. 4W; T. 37S, R. 3W; and T. 36S, R. 3W; of the Salt Lake Meridian; and T. 36S, R. 2W, of the Salt Lake Meridian is designated unsuitable only for mining by surface methods;

2. I base this designation on the criteria of Section 522(a)(3)(B) of the Surface Mining Act which provides that an area may be designated unsuitable for all or certain types of surface coal mining operations if such operations will "affect fragile or historic lands in which such operations could result in significant damage to important historic, cultural, scientific, and esthetic values and natural systems";

3. My statement of reasons, to be issued shortly, will explain the basis for my conclusions that mining in the designated areas would cause significant cumulative impacts on Bryce Canyon National Park by reducing visibility, by creating dust plumes and large disturbed areas which would be visible for long periods of time from the park, and by generating mechanical activity and blasting that would be audible from the park, thereby adversely affecting the values for which the park was established and, thus, the experience of the park's visitors;

4. I decline to designate, and hereby reject the petition as it relates to, remaining areas of Federal lands other than those described above in paragraph 1;

5. Upon review of any specific mining plan and permit application for surface mining of the other Federal leases in the Alton coal field that are not covered by this designation, or underground mining in the designated areas, the Department, through the National Park Service and the Office of Surface Mining, will consider whether potential impacts on the visual resources and noise levels in the park from mining on these leases need to be mitigated by means of special stipulations or conditions;

6. Under no circumstances should this decision become the only basis for protection of the values for which Bryce Canyon National Park was established and I direct that these park values be taken into account in future decisions by the bureaus of this Department on mining plans, permit applications or other activities on undesignated Federal lands near the park;

7. Appropriate bureaus of the Department are hereby directed to take all necessary actions under section 522(b) of the Surface Mining Act or other authority to implement this decision for the areas listed in paragraph 1 above; and

8. The lessee-intervenors' claims of substantial legal and financial commitments in the leased area, under section 522 (a)(6) of the Surface Mining Act, are being processed separately according to the procedures of the Office of Surface Mining, and a decision on those claims will be issued subsequently by that office.

Copies of this decision should be sent simultaneously by certified mail to all parties in this proceeding. This decision will become final upon the date of issuing my statement of reasons. Any appeal from this decision must be filed within 60 days from that date in the United States District Court for Utah, as provided in section 526(a)(1) of the Surface Mining Act.

December 16, 1980
Date

Cecil D. Andrus

Exhibit 2

Lands as Unsuitable for Surface Coal Mining Operations

Office of Surface Mining Reclamation and Enforcement

Extension of Public Comment Period on the Texas Amended Program Submission for the Regulation and Control of Surface Coal Mining

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSM), United States Department of the Interior.

ACTION: Extension of public comment period on the Texas amended program submission of the regulation and control of surface coal mining.

SUMMARY: OSM is extending the period for review and comment on the proposed regulatory program until January 21, 1980. This action further amends procedures announced on December 21, 1979 (44 FR 75733), which extended the public comment period until December 28, 1979. The extended period provides additional opportunity for the public to review and comment on amendments to the proposed regulatory program submitted by Texas and on summaries of meetings and communications between OSM and Texas on these amendments.

DATES: All comments must be received on or before 5:00 p.m. on January 21, 1980, to be considered in the Secretary's decision on the proposed Texas regulatory program.

ADDRESS: The proposed Texas regulatory program, as amended, is available for review during business hours at:

The Office of Surface Mining Reclamation and Enforcement, Scarritt Building, 818 Grand Avenue, Kansas City, Missouri 64106, Telephone (816) 374-3820.

Railroad Commission of Texas, Capitol Station, P.O. Box Drawer 12967, Austin, Texas 78711.

OSM Headquarters, Department of the Interior, Room No. 135, 1951 Constitution Avenue NW., Washington, D.C. 20240, Telephone (202) 343-4728.

Written comments should be delivered by 5:00 p.m. on January 21, 1980 to:

The Office of Surface Mining Reclamation and Enforcement, Region IV, Scarritt Building, 818 Grand Avenue, Kansas City, Missouri 64106.

OSM Headquarters, Department of the Interior, Room No. 135, 1951 Constitution Avenue NW., Washington, D.C. 20240, Telephone (202) 343-4728.

SUPPLEMENTARY INFORMATION: This extended period of of public comment is to allow opportunity for any interested persons to review and comment on a December 31, 1979, letter from the Director of the Texas Surface Mining and Reclamation Division to the Regional Director. The letter concerns those portions of the Texas program dealing with intervention in administrative proceedings, *ex parte* contact during administrative proceedings, and discovery in administrative proceedings. This announcement is made in keeping with OSM's commitment to public participation, as a vital component in fulfilling the purposes of the Surface Mining Control and Reclamation Act of 1977.

Dated: January 11, 1980.

Carl C. Close,

Acting Director.

[FR Doc. 80-1412 Filed 1-16-80; 8:45 am]

BILLING CODE 4310-05-M

Receipt of a Complete Petition for Designation of Lands as Unsuitable for Surface Coal Mining Operations

AGENCY: Office of Surface Mining Reclamation and Enforcement.

ACTION: Notice of Receipt of a Complete Petition for Designation of Lands as Unsuitable for Surface Coal Mining Operations.

SUMMARY: Pursuant to § 769.16 of Title 30, Code of Federal Regulations, notice is given that the Office of Surface Mining has received a petition to designate certain Federal lands in southern Utah as unsuitable for mining. The petition is described below:

Location of Lands Petitioned for Designation

Petitioners: Environmental Defense Fund, Friends of the Earth, Sierra Club Legal Defense Fund, Sylvan Johnsen, Leon Lippincott, Carolyn Lippincott, Jet Mackelprang, Cynthia Myers, Susan Hiltson and Larry Little

State: Utah

Counties: Kane and Garfield

Township, Range, Section: The federal lands within Salt Lake Meridian, Utah

T.40S, R.6W, S.L.M.
T.40S, R.5W, S.L.M.
T.40S, R.4½W, S.L.M.
T.40S, R.4W, S.L.M.
T.39S, R.6W, S.L.M.
T.39S, R.5W, S.L.M.
T.39S, R.4½W, S.L.M.
T.39S, R.4W, S.L.M.
T.38S, R.4W, S.L.M.
T.38S, R.3W, S.L.M.
T.37S, R.4W, S.L.M.
T.37S, R.3W, S.L.M.
T.37S, R.2W, S.L.M.
T.36S, R.3W, S.L.M.
T.36S, R.2W, S.L.M.

Office of Surface Mining Reference Number: 79-5-001.

The petition, filed under Section 522 of the Surface Mining Control and Reclamation Act of 1977, seeks to have specified Federal lands in the area of Bryce Canyon National Park and the Dixie National Forest declared as unsuitable for mining. The petition was submitted to the Office of Surface Mining on November 28, 1979 and was found to be complete on December 27, 1979.

A review of the area's suitability for mining has been undertaken by this office. In addition, the Bureau of Land Management—Utah State Office and the Utah Regional Forester—United States Forest Service as the surface managing agencies for the petitioned area will make recommendations on the petition.

A public hearing is planned for late September 1980, notice of which will be given prior to the hearing. A decision on the petition will be made by November 28, 1980.

This notice is issued at this time for the convenience of the public. The public file on the petition is available for public review during normal working hours at the Division of State and Federal Programs, Office of Surface Mining, Region V, second floor, Brooks Towers, 1020 15th Street, Denver, Colorado and at the Kanab Resource Area Headquarters, Bureau of Land Management, 320 North 1st East, Kanab, Utah.

Copies of the petition are available to the public from the Office of Surface Mining, Region V. Relevant information and comments on the issues raised in the petition are solicited.

FOR FURTHER INFORMATION CONTACT: Barbara J. West, Office of Surface Mining, Region V, Brooks Towers, 1020 15th Street, Denver, Colorado, 80202.

SUPPLEMENTAL INFORMATION: Under Section 522 of the Surface Mining Reclamation and Control Act of 1977 and its implementing regulations, persons with interests which are or may be adversely affected by surface coal mining operations may petition the Office of Surface Mining to have an area designated as unsuitable for all or certain types of surface coal mining operations. In the petition submitted to OSM, the petitioners allege that (1) the lands in question could not be reclaimed in accordance with the requirements of the Act; (2) surface coal mining operations could result in significant damage to important historic, cultural, scientific, and aesthetic values and natural systems of fragile lands; and (3) such operations could result in a substantial loss or reduction of long-range productivity of water supply or of food or fiber products, including damage

to aquifers and aquifer recharge areas of renewable resource lands. The proximity of mineable coal lands to Bryce Canyon National Park and the Dixie National Forest and the possible adverse affects of mining on the Park and Forest are of particular concern to the petitioners.

After completion of the analyses and hearing mentioned above, the Department can designate the area or a portion thereof as unsuitable for all or certain types of surface coal mining operations (which includes the surface effects of underground mining). The agency may also find the area as suitable for surface coal mining operations.

Information on which to base analyses of the issues raised by the petitioners is being sought from all interested parties.

Donald A. Crane,
Regional Director.

[FR Doc. 80-1337 Filed 1-15-80; 8:45 am]
BILLING CODE 1517

INTERNATIONAL TRADE COMMISSION

Certain Rotary Scraping Tools; Commission Determination and Order

[Investigation No. 337-TA-62]

In the matter of certain rotary scraping tools.

The U.S. International Trade Commission conducted an investigation under the authority of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), of alleged unfair methods of competition and unfair acts in the unauthorized importation into or sale in the United States of certain rotary scraping tools by reason of (1) the infringement of U.S. Letters Patent No. 3,958,294, and (2) misleading packaging and/or deceptive advertising of the imported rotary scraping tools, including the simulation of complainant's trade dress. On January 9, 1980, the Commission unanimously determined that there was a violation of section 337 and ordered that rotary scraping tools which infringe U.S. Letters Patent No. 3,958,294 be excluded from entry into the United States for the term of that patent (until May 25, 1993), unless the importation is licensed by the patent owner.

The purpose of the Commission determination and order which follow is to provide for the final disposition of the Commission's investigation on certain rotary scraping tools.

Determination

Having reviewed the record compiled in this investigation, the Commission on January 9, 1980, determined—

1. That with respect to eight of the respondents in this investigation,[1] there is a violation of section 337 of the Tariff Act of 1930, as amended, in the importation and sale by the owner, importer, consignee, or agent of either, of rotary scraping tools which infringe U.S. Letters Patent No. 3,958,294, the effect of which is to substantially injure an industry, efficiently and economically operated, in the United States;

2. That the appropriate remedy for such violation is to direct that rotary scraping tools manufactured abroad which infringe U.S. Letters Patent No. 3,958,294 be excluded from entry into the United States for the term of said patent, except where such importation is licensed by the owner of said patent;

3. That, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the U.S. economy, the production of like or directly competitive articles in the United States, and U.S. consumers, such rotary scraping tools should be excluded from entry for the term of said patent, except where such importation is licensed by the owner of said patent; and

4. That the bond provided for in subsection (g)(3) of section 337 of the Tariff Act of 1930, as amended, be in the amount of 484 percent ad valorem of the imported article (ad valorem to be determined in accordance with sec. 402 of the Tariff Act of 1930, as amended (19 U.S.C. 1401a)).

Order

Accordingly, it is hereby ordered—

1. That rotary scraping tools which infringe U.S. Letters Patent No. 3,958,294 are excluded from entry into the United States for the term of said patent, except where such importation is licensed by the owner of said patent;

2. That rotary scraping tools ordered to be excluded from entry are entitled to entry into the United States under bond in the amount of 484 percent ad valorem (ad valorem to be determined in accordance with sec. 402 of the Tariff Act of 1930, as amended (19 U.S.C. 1401a)) from the day after this order is received by the President pursuant to section 337(g) of the Tariff Act of 1930, as amended, until such time as the President notifies the Commission that he approves or disapproves this action, but, in any event, not later than 60 days after the date of receipt;

3. That this order be published in the Federal Register and that this order and the opinion in support thereof be served upon each party of record in this investigation and upon the U.S. Department of Health, Education, and Welfare, the U.S. Department of Justice, the Federal Trade Commission, and the Secretary of the Treasury; and

4. That the Commission may amend this order at any time.

By order of the Commission.
Issued: January 10, 1980.
Kenneth R. Mason,
Secretary.

[FR Doc. 80-1443 Filed 1-15-80; 8:45 am]
BILLING CODE 7020-02-M

[1] Those eight respondents are as follows: Celestial Tool Company, Inc.; King Imports, Ltd.; Dao Hsing Manufacturing Co.; Eastman Sales Corp.; Dee Fung Industrial Co., Ltd.; V. Lee Industrial Co., Ltd.; Long Lee Industrial Co.; and Chun Hsi Machinery Co.

[701-TA-21 (Preliminary)]

Fresh Cut Roses from the Netherlands; Institution of Preliminary Countervailing Duty Investigation and Scheduling of Conference

Investigation instituted. Following receipt of a petition on January 8, 1980, filed on behalf of Roses Incorporated, a trade association of the U.S. rose growing industry, the United States International Trade Commission on January 11, 1980, instituted a preliminary countervailing duty investigation under section 703(a) of the Tariff Act of 1930 to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of allegedly subsidized imports from the Netherlands of fresh cut roses, provided for in item 192.19 of the Tariff Schedules of the United States. This investigation will be subject to the provisions of Part 207 of the Commission's *Rules of Practice and Procedure* (19 CFR 207, 44 FR 76457) and, particularly, Subpart B thereof, effective January 1, 1980.

Written submissions. Any person may submit to the Commission on or before February 5, 1980, a written statement of information pertinent to the subject matter of the investigation. A signed original and nineteen copies of such statements must be submitted.

Any business information which a submitter desires the Commission to treat as confidential shall be submitted separately and each sheet must be clearly marked at the top "Confidential Business Data." Confidential submissions must conform with the

Exhibit 3

The Secretarial Decision

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

PETITION TO DESIGNATE CERTAIN FEDERAL LANDS IN SOUTHERN UTAH UNSUITABLE FOR SURFACE COAL MINING OPERATIONS	)	OSM Reference No: 79-5-001

STATEMENT OF REASONS

I. Introduction

On December 16, 1980, in response to a petition filed by the Sierra Club and others, I issued my written decision declaring unsuitable for surface coal mining operations certain Federal lands in the Alton coal field and adjacent to Bryce Canyon National Park in Southern Utah. As noted in that document, I based my decision on all of the information contained in the administrative record of this proceeding. This record includes the final combined petition evaluation and environmental impact statement document and information provided by the petitioners, intervenors, Federal agencies, the State of Utah, local agencies, industry and members of the public. This document constitutes the Statement of Reasons underlying my conclusion that mining in the designated areas would cause significant cumulative adverse impacts on Bryce Canyon National Park and supporting my decision to reject all of the petitioners' other claims.

II. Background

This decision is the first made under Section 522 of the Surface Mining Control and Reclamation Act of 1977 (Surface Mining Act), 30 U.S.C. § 1272. Section 522 establishes procedures that enable states

and the federal government to respond to the conflicts between surface coal mining operations and other uses of land. Section 522 contains two general categories of designation -- statutory designations and designations by petition. Subject to exceptions for valid existing rights and existing operations, mining is statutorily prohibited in certain nationally significant areas (e.g., the National Park System, the National Wildlife Refuge System) and within certain specified distances of dwellings, public buildings, communities and parks and cemeteries. Section 522(e)(1) and (e)(5). Subject to those same exceptions, mining in national forests and near public roads and mining which adversely affects public parks or National Register sites may also be prohibited or limited by the Surface Mining Act. Section 522(e)(2), (e)(3) and (e)(4). Lands within the petition area on which surface coal mining operations are already prohibited under these sections of the statute include Bryce Canyon National Park, the town of Alton and the Alton cemetery.

In addition, Section 522(c) allows any person having an interest which is or may be adversely affected by surface coal mining to petition the regulatory authority to have an area designated unsuitable. The specific procedures for acting on a petition to designate Federal lands appear in Section 522(c) and 30 CFR Part 769. As the regulatory authority for Federal lands (Sections 523 and 701(22)), the Department followed these procedures in acting on the instant petition. See Section III below. The regulatory authority must designate an area unsuitable for all or certain types of surface coal mining operations if the regulatory authority determines that

reclamation pursuant to the Surface Mining Act is not technologically and economically feasible. Section 522(a)(2); 30 CFR 762.11(a). The regulatory authority has discretion to designate an area unsuitable if mining operations will (1) be incompatible with existing state or local land use programs, (2) affect fragile or historic lands by causing significant damage to important historic, cultural, scientific, and esthetic values and natural systems, (3) affect renewable resource lands by causing a substantial loss or reduction of long-range productivity of water supply, food or fiber products, or (4) affect natural hazard lands so as to endanger life and property. Section 522(a)(3); 30 CFR 762.11(b). The petition in this case (as described in detail below) states that designation is mandatory under Section 522(a)(2) and also requests designation based on the fragile or historic lands and renewable resource lands criteria of Section 522(a)(3)(B) and (C).

The boundaries of the entire petition area enclose approximately 325,200 acres or slightly more than 500 square miles of land in Southern Utah. About 203,900 acres, excluding Bryce Canyon National Park, are in Federal ownership. About 16,300 acres are owned by the State of Utah and 68,600 acres are privately owned. Page I-1 of the Southern Utah Petition Evaluation Document (PED). By law the petition applies only to the Federal lands within the petition area. See map attached as Appendix A; see also Figure IIB8-1 at PED II-12a.

III. CHRONOLOGY

On November 28, 1979, the Environmental Defense Fund, Friends of the Earth, Sierra Club Legal Defense Fund, Sylvan Johnson, Leon Lippincott, Caroline Lippincott, Jet Mackelprang, Cynthia Myers, Susan Hittson and Larry Little submitted to the Department's Office of Surface Mining Reclamation and Enforcement (OSM), a petition to designate certain Federal lands in southern Utah unsuitable for surface coal mining operations. The petition was found to be complete on December 27, 1979. Notice of receipt of the complete petition was published on January 17, 1980. 45 F.R. 3398. The notice described in detail the lands in the petition area.

On April 24, 1980, OSM published notice of intent to prepare a statement of coal resources, demand for coal, and impact of the designation in accordance with Section 522(d) of the Surface Mining Act, in combination with preparation of an environmental impact statement 45 F.R. 27836. That notice described the major issues derived from the petition and, in addition, gave notice to the public of a scopin meeting to be held on May 6, 1980. At the public meeting, relevant issues to be addressed by the combined statement were raised by citizens.

The Surface Mining Act provides that designation of Federal lan shall be within the exclusive authority of the Secretary of the Inte ior after consultation with the states involved. Section 503(a)(5). Under the Department's regulations implementing the Surface Mining A the OSM Regional Director within whose region the petition area is l cated normally is delegated the authority to issue the final written

decision on a petition. 30 CFR 769.18(b). However, by Federal Register notice of May 20, 1980, I announced that I would exercise my retained authority to make the decision in this important and novel proceeding. 45 F.R. 33738.

To aid in preparing the combined petition evaluation and environmental impact statement document, studies of the potential impacts of surface coal mining operation in the petition area, particularly as identified in the petition and at the scoping meeting, were conducted by various federal agencies and contractors. The petitioners and intervenors also conducted studies of potential impacts of such mining. On September 12, 1980, OSM announced the availability to the public of the draft combined petition evaluation and environmental impact statement document. 45 F.R. 60495. That notice summarized available information, including related NEPA reviews, as well as the information generated by the new studies. The notice required comments on the draft document to be received by October 15, 1980, and announced the times and format of the public hearings on the petition, noting that anyone wishing to speak would be given the opportunity to do so.

On September 16, 1980, Utah International, Inc. (UII) and Nevada Electric Investment Company filed with OSM a petition in intervention to the original petition. Each of these companies holds federal coal leases in the Alton coal field and within the petition area. The lands in these leases are hereafter referred to as the Alton leasehold or leasehold. On September 26, 1980, Gary A. Kalpakoff, Joan A. Kalpakoff, Henry Carroll, Norman H. Carroll and East Canyon Irrigation

Company filed with OSM an intervention petition supporting the original petition. On October 3, 1980, an amended petition was filed that removed the names of Henry Carroll and Norman Carroll.

The public hearings on the petition were held on September 29, 1980, at Kanab, Utah; on September 30, 1980, at Kanab and Panguitch, Utah; and on October 10, 1980, at Kanab. Testimony at the hearings was received by a panel of officials from the Office of the Secretary, OSM, and Office of the Solicitor. Members of the panel asked clarifying questions at the conclusion of witnesses' testimony. Attendance at the hearings totalled nearly 600 persons and 102 witnesses were heard. Witnesses included numerous local citizens, the intervenors, and representatives of various local and Federal agencies and the State of Utah.

On October, 16, 1980, OSM extended the comment period for written comments on two reports. 45 F.R. 68762. The reports, a U.S. Environmental Protection Agency noise study report and a UII air quality report, were not submitted until the October 10, 1980, hearing. Because of the length and detail of the reports, the comment period on the two reports was extended until October 20, 1980.

More than 100 written comments were received during the public comment period. Commenters included industry, environmental groups, citizens, and local, State and Federal agencies. As required by 30 CFR 769.4(a), I have solicited and obtained the views of the appropriate State and local agencies. In addition, I obtained the detailed recommendations of Governor Matheson of Utah. Letter of Scott M. Matheson to Paul Bodenberger, OSM, dated October 14, 1980. All

substantive comments were considered and the comments and responses to them are included in the final combined petition evaluation and environmental impact statement document.

On November 26, 1980, OSM announced the availability of the final combined petition evaluation and environmental impact statement document. 45 F.R. 78816. The notice described the document itself, as well as the procedure for obtaining copies. The document was pub- published in two volumes: the text, Southern Utah Petition Evaluation Document (PED) and the comments with responses, Southern Utah Petition Evaluation Document - Comments and Responses (PED Comments). The notice also indicated that a decision on the petition would follow shortly. On December 16, 1980, I issued my decision on the petition.

IV. BRYCE CANYON NATIONAL PARK AND DIXIE NATIONAL FOREST ISSUES

A. Allegations of Petitioners and Intervenors

Petitioners alleged, under Section 522(a)(3)(B) of the Surface Mining Act, that surface coal mining operations in the petition area would significantly damage Bryce Canyon National Park, Dixie National Forest and other fragile lands. Specifically, petitioners alleged that:

1. Surface coal mining operations in part of the petition area would cause significant adverse visual impacts on Bryce Canyon Nationa Park. Those impacts would include mining activities, raw and disturbe earth, dust plumes from mining operations and potentially permanent alteration of the vegetation visible from the park (Pet. ¶24);

2. Surface coal mining operations would produce noise and

industrial odors that would diminish the experiences of visitors to the park (Pet. ¶24);

3. Surface coal mining operations would significantly increase ambient particulate concentrations in the vicinity of the park, which would impair scenic attractions in the park, as well as the vistas from the park (Pet. ¶25);

4. Blasting associated with surface coal mining operations could harm the erosional formations for which Bryce Canyon is famous (Pet. ¶26);

5. Surface coal mining operations would disrupt the park's natural systems and destroy local wildlife habitats (Pet. ¶27);

6. Surface coal mining operations would damage important esthetic and recreational values in Dixie National Forest, including hiking, camping, hunting and fishing; and mining operations would impair vistas and visibility, increase noise and disrupt wildlife habitats of the forest (Pet. ¶¶28-29);

7. Surface coal mining operations would destroy the present diverse vegetation of the petition area and severely disrupt the natural systems of the petition and adjacent areas, irreparably damaging wildlife habitats and the ecological, esthetic and recreational values of the Alton area (Pet. ¶30).

In response, the intervenors who opposed the unsuitability petition contended:

1. Surface coal mining operations would not adversely affect lands within the park or forest and would not adversely affect the experience of visitors to the park or forest. In particular, no

harmful effects on erosional structures, odor levels, animal migration or habitat, or air quality within the park or forest would result from surface coal mining operations in the petition area (UII Pet. Int. ¶28);

2. Any such adverse impacts that might be found must be balanced against loss of coal supplies and injuries to the local economy that would result from designation of all or part of the petition area as unsuitable for surface coal mining operations (UII Pet. Int. ¶27);

3. The Surface Mining Act contains no authority for the creation of buffer zones around Bryce Canyon National Park in the absence of competent scientific evidence supporting designation of such lands as unsuitable for surface coal mining operations (UII Pet. Int. ¶29).

B. Description of Bryce Canyon National Park

The authorities establishing and enlarging Bryce Canyon National Park explicitly refer to, and direct the preservation of, the scenic values of the park. Presidential Proclamation No. 1665, 43 Stat. 1914 (June 8, 1923); letter to House Committee from the Department of the Interior, incorporated into H.R. Rep. No. 554, 68th Cong., 1st Sess. 2 (1924); Presidential Proclamation No. 1952, 47 Stat. 2455 (May 4, 1931). In addition, the Clean Air Act Amendments of 1977, 42 U.S.C. §§ 7401 et seq., grant the Secretary of the Interior authority and responsibility for protecting the air quality related values of class I Federal areas, which include Bryce Canyon National Park. These values are defined as visibility and those scenic, cultural, biological and recreational resources of a park that are affected by or dependent on air quality. Thus, Bryce Canyon National Park's charter and subsequent legislation require preservation of

the park for the enjoyment of present and future generations and preservation of the scenic, visibility and air quality resources of the park. See PED I-5 to I-6.

Bryce Canyon National Park comprises approximately 34,715 acres of the petition area. PED II-12. The park receives about 620,000 visitors each year who use the park for sightseeing, hiking, camping, horseback riding and other activities. The park is used throughout the year, though most visits are from May through September. PED II-17.

The park is a Class I attainment area under the Prevention of Significant Deterioration (PSD) increment system of the Clean Air Act Amendments of 1977, which means that very little deterioration of its ambient air quality is allowed. The park has some of the highest visual ranges in the United States. Typically, points as distant as 150 kilometers (93 miles) are visible. PED II-3. Yovimpa Point and the Southern Amphitheater, located in the southern portion of the park, offer vistas including such features as the Kaiparowits Plateau, Navajo Mountain, the Kaibab Plateau, the Coral Pink Sandunes, the Kanab Canyon system and the Grand Staircase. Also, about 2,000 acres of the Alton leasehold are visible from Yovimpa Point, extending 5 to 11 miles from the Point. PED II-4.

Measurements by EPA have indicated that background sound levels at Bryce Canyon National Park are comparable to those in a high-qualit sound studio. The park is the quietest area yet measured in EPA's Region VIII. PED II-17. In some areas, the background noise levels

are below the level of detection of current sound recording instruments. PED II-18.

Bryce Canyon is famous for its exceptional erosional features. Its bedrock is characterized by a complex system of "master" joints and differences in erodibility among rock layers. These have resulted in the formation of the fantastic walls and pinnacles (also called "hoodoos") for which the park is reknowned. PED II-10.

The most common wildlife species in the petition area are mule deer, cottontail rabbit, mourning dove, blue grouse, cougar, wild turkey, band-tailed pigeon, beaver, pronghorn antelope and sage grouse. A variety of other large and small mammals inhabit the area. PED II-1 The Utah prairie dog, which is protected under the Endangered Species Act of 1973, 16 U.S.C. §1361, inhabits a small area in the northwester corner of the petition area. Bald and golden eagles, protected under the Bald Eagle Protection Act, 16 U.S.C. §668, also may be found in the petition area. Certain migratory bird species, protected under the Migratory Bird Treaty Act, 16 U.S.C. §703, inhabit the forests within the petition area. PED II-16.

The southern and northern portions of the petition area have bee surveyed for wildlife values. The southern portion is characterized by high-priority and, in the Dixie National Forest, critical wildlife values. The northern portion exhibits mostly substantial or limited wildlife values. In addition, deer summer and winter ranges are located within the petition area. While deer herds tend to move from summer to winter range along creek bottoms through the petition area, the petition area contains no mass migration corridors. PED II-15.

The East Fork Virgin River has limited fishery values, but is classified as sportfish waters. This river flows into the Virgin River, which is of critical value to the woodfin minnow, a federall listed endangered species. The Virgin River roundtail chub, which being considered for listing as an endangered species, and the Virg River spinedace, which the Utah Department of Wildlife Resources considers a declining species, also are present in the Virgin River. PED 11-16.

C. Findings

My findings that relate to impacts on Bryce Canyon National Pa and the Dixie National Forest are based upon consideration of the full administrative record of this proceeding. This record include the PED, as well as information provided by the petitioners, intervenors, Federal agencies, the State of Utah, local agencies, indust and members of the public in the form of petitions, materials submitted for the record, testimony at the public hearings, and all written comments received up to the close of the comment period on October 20, 1980.

1. Air Quality

The record does not support petitioners' allegation that partic ulate concentrations in the park's air would increase by as much as 29 ug/m^3. Pet. Ex. 4, ¶6. The record on air quality impacts consi primarily of three studies. Analyses of the probable air quality pacts of mining the petition area were prepared by EPA Region VIII OSM, by Environmental Research and Technology, Inc. (ERT) for UII the Sierra Club Legal Defense Fund. The EPA and ERT studies were

based on information supplied by UII concerning its proposed methods for mining its leasehold.

EPA Class I and Class II PSD increments for fugitive dust emissions were utilized in the PED as a device for comparing the results of these studies. In response to the invalidation of EPA's prior fugitive dust PSD regulations in Alabama Power Company v. Costle, 602 F.2d 1068 (D.C. Cir. 1979), EPA has exempted surface coal mining operations as sources of fugitive dust emissions for PSD purposes. 45 F.R. 52675 (August 7, 1980). Accordingly, the PSD increments for Class I and Class II areas were utilized only as references; they have not been used to determine whether surface coal mining in the petition area might result in violations of these incremental standards.

The EPA study (discussed at PED III-2 to III-4) yielded predictions for 1994, the year of maximum mining activity, and 2014 when mining would be closest to the park. The EPA study predicted that annual total suspended particulate (TSP) concentrations in the park would not exceed 5 ug/m^3, the Class I annual PSD increment. PED figures IIIB1-2 and IIIB1-3 at PED III-4a and III-4b. The study did show that 24-hour particulate concentrations might exceed the 24-hour Class I PSD standard on 1 or 2 days per year in the southeast corner of the park. PED III-3 to III-4.

The ERT study (discussed at PED III-4 to III-5; see also PED Comments at 390-393 (comments of UII)) utilized the same emission rates, particle size distributions, control efficiencies and meteorological data used in the EPA study, but employed a different diffusion

modeling approach. The particulate concentrations resulting from the ERT study were below both the annual and 24-hour Class I increments. PED Table IIB1-3 at PED III-6a.

The study conducted by the Sierra Club used different modeling assumptions than were used in the EPA and ERT studies. PED III-5. Th Sierra Club concluded that the 24-hour Class I increments would be exceeded by mining near the park. PED Table IIIB1-4 at PED III-6a. How ever, the Sierra Club modeling (1) did not consider mining operations other than dragline operations, (2) assumed a mining rate three times that planned by UII in the eastern part of the Alton leasehold, (3) as sumed that mining would occur within 5 km of the park although 7 km is a more realistic distance, and (4) used a dragline emission rate that is higher than the rate used by EPA. Corrections for these factors would tend to reduce the 24-hour concentrations to near the Class I increment level. PED III-5.

Based on these studies and the PED, I find that (1) the annual average TSP concentrations in the park would not exceed the Class I annual PSD increments and (2) the 24-hour Class I PSD increments would be exceeded in the park only rarely and only in one area. I find that these small increases in particulate concentrations do not in themselves constitute a basis for an unsuitability determination.

2. Visibility

The petition alleges that increased ambient particulate concentrations caused by surface coal mining operations in the petition are would impair visibility in the park and reduce visual ranges from viewpoints in the park. As explained below, the record demonstrates

that mining in the petition area would lead to impairment of visibility, particularly with respect to views from the park in the direction of active mining operations near the park.

Three visibility studies were conducted with respect to potential mining of the petition area. Each of these studies focused on impacts to the south-facing scenic overlooks of the park, especially Yovimpa Point. Yovimpa Point is the developed scenic overlook from which mining activities would primarily be visible. The study conducted by Systems Applications, Inc. (SAI) for EPA (discussed at PED III-6 to III-7 indicated a strong possibility of perceptible, localized impairment of the view from Yovimpa Point caused primarily by dust plumes resulting from mining activities. Because of the transient nature of the dust plumes, however, the photo analyses of the potential visual impact of mining on the view from Yovimpa Point that were enclosed in the PED do not reproduce the visual effects of dust plumes. PED Comments at 121 (OSM response to comments of Environmental Defense Fund). The SAI study showed that plumes would be perceptible as whitish-gray clouds or large layers that would be visible against the darker tree-covered background of the view from Yovimpa Point. The largest and most visible plumes would occur infrequently and usually during the early morning, but plumes would be visible near mining operations two-thirds of the daylight hours. SAI concluded that the plumes would reduce visual ranges in the direction of the plumes. PED III-6 to III-7 and Figure IIIB2-1 at PED III-6b. The light and moderate winds characteristic of the petition area would contribute to frequent reductions of visual range. PED III-7.

SAI predicted insignificant increases in regional haze as opposed to localized plumes. PED III-7. This prediction was corroborated by the ERT study performed for UII, which concluded that, under worst case conditions, regional haze would noticeably reduce visual ranges in the direction of mined areas only 1 percent of the time. PED III-7. This conclusion is consistent with the SAI prediction of visual reductions in the direction of plumes because the SAI study focused on the visual impact of plumes, while the ERT study was concerned with regional visibility. PED Comments at 358-359 (comments of Sierra Club and Friends of the Earth) and 394-395 (comments of UII).

A Sierra Club study evaluated the visibility impact of a single dragline. Using two different assumed particle size distributions, the study predicted visual range reductions from the dragline operation. PED III-7. However, the accuracy of the particle size distribution which formed the basis for the larger visual range reduction was not adequately demonstrated. Insufficient information was provided to confirm that the downwind monitors used in the separate study which derived the distribution were placed so as to record representative particle size distributions or that the distribution was representative of typical emissions from a dragline. PED III-7; see PED Comments at 357-358 and 361-362 (comments of Sierra Club and Friends of the Earth) and 157-158 (comments of ERT). The Sierra Club study did show that dust plumes created by a dragline would be dense enough so that viewers from the park would see opaque plumes near the plume point of origin, thus obscuring the view beyond the plumes. PED III-8.

Based upon these three studies, I find that the park's visibilit would be impaired by surface coal mining operations in the petition area. Some reduction in visual range from the park to the south is likely. Plumes resulting from surface coal mining would reduce visua range in the directions of the dust plumes created by mining. Therefore, I have concluded that surface coal mining operations whose plum would be visible from the park, especially from mining operations eas and south of the park, would have severe impacts on visibility from t park.

3. Visual Resources

The record demonstrates that surface coal mining operations in the portions of the petition area nearest Bryce Canyon National Park would adversely impact the significant visual resources of the Park a well as its visibility. Visibility refers to the clarity and visual range of the views in and from the park, whereas visual resources are the scenic objects, such as the Grand Staircase, Kaiparowits Plateau Navajo Mountain, and the relatively unspoiled scenery visible in and around the park. Adverse impacts on visibility include reductions i clarity and visual range; adverse impacts on visual resources includ visible uncharacteristic activities that are visible from the park and obstruction of scenic objects.

The record shows that surface coal mining operations in the eas ern part of the Alton leasehold, due south of the park, would result in approximately 25 years of visual intrusion upon the visual resour of the park. Blasting and operation of heavy mining equipment would generate dust plumes in this area that would be visible from Yovimpa

Point and other south-facing park overlooks. PED III-11. During mining in the eastern part of the Alton leasehold, visibility from Yovimpa Point could be reduced so that portions of the landscape from five to fifteen miles from Yovimpa Point could be obscured by plume blight (visible emissions traceable to the source of the plume). PED III-11 to III-12; see also visibility finding above.

Much of the eastern portion of the Alton leasehold is visible from Yovimpa Point. See Figure IIB3-1 at PED II-4a. In addition, other vista points in the park overlook potentially surface mineable areas outside the Alton leasehold east and south of the park. PED III-12. Surface coal mining activities in any of these areas, particularly dragline operations, would be visible to park visitors using these overlooks until mining activities in each area are terminated. PED III-9 and III-12. Moreover, for some years following commencement of reclamation operations, viewers would be able to perceive differences in landscape color and texture and see that these areas had been altered, although, this effect would lessen over time as the reclaimed areas become fully revegetated. PED III-12 to III-13. Thus, I find that there will be adverse visual impacts on the park and its esthetic values if portions of the petition area, as described in paragraph 1 of my decision, are ever mined and that surface coal mining operations would adversely affect those areas because they are fragile lands, as defined in 30 CFR 762.5.

4. National Park Services Visitor Survey.

The National Park Service (NPS) conducted a survey at Bryce Canyon National Park from mid-June to mid-September, 1980. The survey

was designed to determine: (1) why visitors go to Bryce Canyon National Park; (2) what visitors perceive as the important values of the park; and (3) how visitor enjoyment of the values might be affected by surface coal mining operations near the park. The methodology and results of the visitor survey are described in the PED at III-8 to III-11, V-2 through V-20, and in the NPS report of September, 1980 entitled Results of the NPS-Visitor Survey Conducted at Bryce Canyon National Park - Summer 1980.

The survey received heavy criticism during the comment period, mostly from UII. In particular, K.L. Berry, a social psychologist hired by UII to analyze the survey, presented extensive comments. NPS responded to these criticisms. The specific criticisms and responses appear in the PED Comments at 405, 452-470, 673-680 (comments of UII including K.L. Berry and Frank K. Vance); 38-39 (comments of NPS); 65-66 (comments of the State of Utah); and 79-80 (comments of Garfield County Commission).

These critics did not dispute, however, that hundreds of thousands of people do visit Yovimpa Point and other points overlooking potentially mineable areas in the petition area. Nor did they dispute that views of surface coal mining operations in the eastern Alton leasehold would have adverse impacts on many visitors. I have treated the NPS survey as a source of broad trends but have not relied on it for specific numbers. PED Comments at 405 (response of NPS to comments of UII). These trends identified by the survey are as follows: park visitors value clean (fresh) air, scenic views, rock formations and solitude; and degradation of these values would decrease their

enjoyment of visits to the park and reduce their time spent in the park. Thus, the survey confirms my finding that surface coal mining operations in the designated portions of the Alton leasehold would ha an adverse impact on the experiences of visitors to Bryce Canyon Nati al Park and result in significant damage to the esthetic values of th park and surrounding area, especially the extraordinary scenic qualit

5. Fish and Wildlife Resources

Petitioners' allegation regarding the destruction of wildlife and wildlife habitats by surface coal mining operations in the petition area are not supported by the administrative record. A number of potential impacts were presented by petitioners or discussed in the PED, but none will result in irretrievable destruction of wildlif resources. There are generally two types of impacts on wildlife and fish: those resulting directly from the mining operations and those resulting from reclamation after the mining operations have terminate

Four direct impacts of mining were identified by petitioners and the PED:

1) Destruction of wildlife due to general human activity (PED III-35);

2) Loss of habitat, and thus destruction of wildlife, due to the presence of mining operations (PED III-34);

3) Destruction of wildlife due to loss of water resources (Pet. ¶14); and

4) Destruction of wildlife due to the disruption of migration patterns (Pet. ¶27).

The PED indicates that, while reduced populations will result from increased human activity in the area and from the loss of habita no adverse long-term impact is anticipated. PED III-26. The annual

disturbance resulting from mining operations would be limited and temporary because the area would be mined in blocks and reclamation would occur concurrently. Ibid.; see also PED Comments at 21 (statement of District Manager, BLM Cedar City, Utah, District Office). It is therefore doubtful that increased activity or loss of habitat will cause sufficient destruction of wildlife to support a finding of unsuitability.

The effect of surface coal mining operations on water resources in the petition area is discussed in detail in Section V B of this Statement. Depletion of the flow in the East Fork Virgin River by pumping ground water from the Navajo Sandstone aquifer might adversely affect endangered and other species in the Virgin River (the woodfish minnow, Virgin River roundtail chub and Virgin River spinedace). PED III-35. Available data are not sufficient, however, to determine the extent of the adverse impact on wildlife that might result from pumping water from the Navajo aquifer. PED III-36; Section V B 4 below. Nor are there sufficient data to support a finding of unsuitability because of adverse impacts on wildlife. Any future specific proposals to conduct surface coal mining operations in the Alton leasehold will be reviewed in compliance with Section 7 of the Endangered Species Act (16 U.S.C. § 1536) in order to determine potential adverse effects of mining on fish and wildlife. See, e.g., 30 CFR 779.20, 780.16 and 816.

I also find that the surface coal mining operations will not disrupt migration patterns for the mule deer from summer to winter ranges. Although major movements of deer occur within the petiton area, no migration corridors can be identified. The winter range south of

Alton leasehold is sufficiently widespread to permit the deer to circ vent any mining operations. PED III-35; see also PED Comments at 21 (comments of UII). Furthermore, the Utah Big Game Range Inventory in cates that deer which summer in Bryce Canyon usually winter in the Sevier and Virgin River drainages rather than south of the coal field PED III-35.

Two potential wildlife impacts after mining were identified by petitioners:

1) Non-native plant species introduced in the revegetation efforts will invade the park and alter the natural plant communities within the park (Pet. ¶27); and

2) Revegetation will destroy the diverse vegetative mosaic of the area (Pet. ¶30).

Non-native plant species may be used to revegetate the mined areas. PED III-25. However, the Department's regulations already contain stringent requirements to ensure that introduced plant speci do not interfere with natural systems. 30 CFR 816.111 and 816.112. addition, non-native species have been introduced by BLM in close proximity to the park and there is no indication that these species invading the park despite their close proximity to it. PED III-25 t III-26; see also PED comments at 20-21 (statement of BLM District Ma ager).

The PED indicates that, rather than destroying the current vege tative diversity, revegetation will increase it and provide for im proved forage. PED III-29 to III-30. The creation of open-spaces w provide a diversity of foods not currently available to the wildlife

community. The creation of a maximum "edge" (the border between wooded and non-wooded areas) will particularly benefit the summer range of the mule deer. Moreover, a variety of predators would also be benefited by the increase in open space. PED III-34 to III-35; see also PED Comments at 60-61 (comments of the State of Utah). Thus, I have concluded that reclamation after mining will not adversely affect wildlife.

In summary, I find that the administrative record does not substantiate the petitoners' allegations that wildlife in the petition area will be adversely impacted by surface coal mining operations.

6. Impact on Hoodoos.

Petitioners allege that surface coal mining operations in the petition area would threaten the delicate erosional formations and unique vertical features, known as "hoodoos," that are located within Bryce Canyon National Park. (Pet. ¶¶23 and 26). In particular, petitioners claim that "vibrations from blasting operations could be transmitted directly to these formations, causing their destruction." (Pet. ¶26). Studies performed to determine the validity of these statements, however, indicate that blasting from mining operations will have no adverse impact on the park's erosional formations.

In support of their claims, petitioners cite a letter dated November 28, 1979, from Glen Bean, Regional Director of the National Park Service, Rocky Mountain Region, to the Sierra Club Legal Defense Fund and the Environmental Defense Fund. In his letter, Mr. Bean speculated that "[t]he delicately carved limestone spires are indeed fragile; blasting, as a part of the mining operations, may cause

seismic waves and air overpressure which could damage rock formations inside the Park." (Pet. Ex. 3) (emphasis added).

As further noted by Mr. Bean in his letter, OSM and NPS conducted a study designed to predict the effects of blasting on the hoodoos. The methodology used in the study is described in the PED in Chapter V, Section C. The techniques employed in the study are described as representing the state-of-the art. PED V-21 to V-26. The results of this investigation are summarized in the PED: "[V]ibration associated with blasting from the proposed Alton mine will have no adverse impact on the erosional forms of the Bryce Canyon National Park or Dixie National Forest." PED III-32; see also 9/29-30/80 Tr. at 110 (statement of James Thompson, NPS). The record contains no other evidence supporting petitioners' claims and includes another study which supports the conclusion that blasting will not adversely affect the hoodoos. L. L. Obriand examined this potential problem for UII and concluded that "the proposed blasting operations will have no detrimental effect on the erosional features of Bryce Canyon National Park." PED Comments at 227, 231 and 236-243 (statement of L. L. Obriand). I therefore conclude that blasting from mining operations will not harm the hoodoos.

7. Noise

The petition alleges that surface coal mining operations in the Alton leasehold and other petition areas near Bryce Canyon National Park would adversely impact the experiences of visitors to the park due to noise from mining machinery and blasting. Pet. ¶24. The park currently is one of the quietest places in the United States, with

background noise levels in some areas that are undetectable by sound recording instruments. PED II-17 to II-18. Because Bryce Canyon National Park is extremely quiet, noise intrusion from sources external to the park will be particularly noticeable to visitors in the park. PED II-18 to II-19.

The 170-ton trucks and scrapers used in surface mining will be the principal equipment that produces noise. Truck noise from surface mining activities in the Alton leasehold alone can be expected to increase significantly the nocturnal sound levels at Yovimpa Point and other areas of the park during summer months. PED Figures IIIB11-1 and IIIB11-2 at PED III-38b and III-38c. Even at the farthest point in the Alton leasehold which is visible from Yovimpa Point, trucks will be distinctly audible throughout the park 10 percent of the time in the early morning hours. PED III-37; Figure IIIB11-2 at PED III-38c. During the daytime in the summer, truck noise from mining operations in the portion of the Alton leasehold nearest to the park will be perceptible throughout much of the park. PED III-37; Figure IIIB11-3 at PED III-38d. Truck noise from daytime summer operations at the farthest point in the Alton leasehold visible from Yovimpa Point would be audible mainly by persons on trails south of Yovimpa Point. PED III-38; Figure IIIB11-4 at PED III-38e. Truck noise from mining operations east of the park in the vicinity of Horse Mountain, Willis Creek and Sheep Creek will have a greater impact on the park than would operations anywhere in the Alton leasehold. PED III-39; Figure IIIB11-7 at PED III-40d.

Truck noise generated in the western portion of the Alton leasehold will have a less significant impact due to greater distances from the park and the intervening topographical barriers. PED III-38 to III-39. Thus, truck noise from mining operations in the area of the Alton leasehold farthest from the park would be distinctly audible in the southwestern part of the park during summer only 10 percent of the time in the early morning. Figure IIIB11-5 at PED III-40b. That noise would be marginally perceptible in the southwestern part of the park during the evening 50 percent of the time. PED III-39; Figure IIIB11-6 at PED III-40c.

Blasting is the other major source of noise associated with surface mining that would affect the park. The methodology utilized by OSM in the prediction of blasting noise impact on the park is described at PED III-39 to III-40. The analysis addressed the three types of blasting used in surface mining; they are, in order of loudness, parting blasting, coal blasting and overburden blasting.

Because blasting noise travels over long distances, the effect of atmospheric absorption must be considered in determining noise levels. In particular, the effect of winds in increasing or decreasing blasting noise impact on the park was considered. The results of OSM's analysis of blasting noise impact on the park during the summer months are found in PED Tables IIIB11-2 through IIIB11-8 at PED III-4 III-40e and III-42a and Figure IIIBII-8 at PED III-40f.

The Committee on Hearing, Biacoustics, and Biomechanics of the National Research Council (PED III-40), has issued recommended criter for assessing noise impacts on critical use areas such as national

parks. Based on its criteria, surface mine blasting noise generated anywhere in the Alton leasehold would create significant adverse impacts in the park during summer months whenever 10 m.p.h. winds blow from the Alton leasehold toward the park, which is a characteristic condition. PED III-40 to III-41. When winds are not blowing or blow from the park towards the leasehold, as occurs during early evening, only blasting noise from the eastern portion of the leasehold would adversely impact the entire park. PED III-40. Blasting noise from the western portion of the leasehold would not significantly impact high use areas of the park, except that parting blasting noise would adversely impact trails and campsites throughout the park. PED III-40.

In summary, OSM's analysis of expected truck and blasting noise indicates that surface coal mining operations in the eastern portion the Alton leasehold can be expected to cause significant adverse nois impacts on the park. Mining east of the park would have an even more severe adverse impact on the park. However, truck noise from mining in the western portion of the Alton leasehold would seldom adversely affect visitors to the park. Blasting noise from the western portion of the Alton leasehold would not usually have an adverse impact on high use areas of the park, although parting blasting noise from this area would adversely affect trails and campsites in the park. I therefore conclude that surface coal mining operations in the portions of the petition area south and east of the park, including the eastern portion of the Alton leasehold, would significantly damage the exceptional sound qualities of the park. I also conclude that noise from mining operations in the petition area to the west of the eastern

portion of the Alton leasehold would not significantly damage the sour qualities of the park.

8. Dixie National Forest.

The U.S. Forest Service manages an estimated 57,200 acres within the boundaries of the petition area known as the Dixie National Forest PED II-12. Petitioners allege (Pet. ¶28) that "surface coal mining operations would also damage important aesthetic and recreational values in Dixie National Forest which include hiking, camping, hunting, and fishing." They allege that mining activities would impair visibility and air quality values and diminish the recreational value of the forest lands. (Pet. ¶29). UII claims that petitioners have not adequately supported their claims regarding impacts on forest lands. PED Comments at 429 (comments of UII). The Forest Service recommended rejection of the petition as it related to National Forest System lands. Letter from Regional Forester, U.S. Forest Service, to Region Director, OSM, Denver, dated October 21, 1980.

The Department's studies show that proposed mining activities would adversely affect the recreational and visual resources of the Dixie National Forest. PED III-4, III-33, III-36, and III-39. Moreover, because Dixie National Forest and Bryce Canyon National Park are contiguous within the petition area (see PED Figure IIIB8-1 at II-12a), the adverse impacts of mining on the park, as discussed abov are equally applicable to the forest. For the reasons stated above, therefore must designate the Dixie National Forest lands within the petition area which are contiguous to the park as described in paragraph 1 of my decision. This designation does not apply, however, to

portions of the forest within the petition area and west of R. 4W, nor to portions of the forest outside the petition area. In T. 36S, R. 2W, underground mining operations may be allowable, subject to the requirements of Section 522(e)(2) of the Surface Mining Act.

Conclusion

All of the evidence before me, including comments, hearing testimony, the PED and other materials, demonstrates that surface coal mining operations in most areas east and south of the park, including the eastern portion of the Alton leasehold, will adversely impact the visibility, visual resources and noise levels of Bryce Canyon National Park. The park now possesses exceptionally clean air and offers views characterized by their high visual range and unique, interesting features. In addition, the park is one of the quietest places in the United States.

For these and all of the above-stated reasons, I find that coal mining by surface methods, and coal mining by underground methods, where the surface impacts would be visible from Bryce Canyon National Park, on Federal lands in townships T. 40S, R. 4W; T. 39S, R. 4W; T. R. 3W; T. 37S, R. 4W; T. 37S, R. 3W; and T. 36S, R. 3W, of the Salt Lake Meridian, would significantly damage the values for which Bryce Canyon National Park was created. Designation of this area affects Federal coal leases U 0115938, U 0122582, U 0122623, U 0122647, U 012 U 0122650, U 0122651, U 0122652, U 0124768, U 0126916, U 0149582, and part of U 098774, all held by UII. I also find that coal mining by surface methods on Federal lands in townships T. 36S, R. 2W, of the S Lake Meridian, would significantly damage the values for which Bryce

Canyon National Park was created. Designation of this area affects Federal coal lease SL 071561, held by Caesar Fulton.

I reject, however, all of petitioners' allegations relating to impacts on the air quality, fish and wildlife and erosional forms of Bryce Canyon National Park. In Section V below, I explain my reasons for rejecting petitioners' other claims that do not relate to alleged damage to the park.

V. OTHER REJECTED PETITION CLAIMS

As stated in paragraph 4 of my decision of December 16, 1980, I have rejected some of petitioners' claims. These claims are as follows: (1) the lands within the petition area cannot be reclaimed as required by the Surface Mining Act (Pet. ¶¶2, 3, 11-20); (2) surface coal mining operations could affect renewable resources resulting in a substantial loss or reduction of long-range productivity of water supply, food or fiber products (Pet. ¶¶2, 3, 31-34); and (3) alternative energy sources to the Allen-Warner Valley Energy System, such as conservation, solar, cogeneration, geothermal, wind and hydropower, could provide more energy with fewer environmental and economic costs (Pet. ¶¶4, 35-38).

A. Reclamation of Lands Within the Petition Area.

Petitioners stated that these lands "could not be reclaimed after surface coal mining operations" (Pet. ¶2). As a result, petitioners alleged that I must designate these areas as unsuitable under Section 522(a)(2) of the Surface Mining Act and 30 CFR 762.11(a).

Petitioners contended that revegetation of the petition area after surface coal mining operations will be impossible or highly unlikely. They attacked the numerous studies and other evidence of revegetation success in the petition area as not representative of the soils and other conditions (topography, size of disturbed area, climatological information) that will be present after the proposed mining Petitioners also stated that successful revegetation will not occur because of lack of topsoil, lack of suitable overburden and adverse climatological factors. The Forest Service, Bureau of Land Managemer (BLM), and intervenors vigorously defended the methodology and conclusions of the studies. Utah believed that reclamation is not only possible, but would enhance the wildlife and grazing capabilities of the area.

1. Studies of Soils and Revegetation.

None of the land within the petition area has ever been disturbed by large scale surface coal mining operations. PED III-26. Numerous studies of the soils and the potential for revegetation of the petition area have been conducted. These studies include the En ergy Mineral Rehabilitation Inventory and Analysis (EMRIA) evaluatio (a cooperative study by the BLM, Bureau of Reclamation and Geologica Survey), revegetation studies by Dr. Neil Frischknecht and Robert Fe guson (U.S. Forest Service), in cooperation with BLM and UII, and and soils studies by BLM, UII and the NUS Corporation. Revegetation data have also been developed from chained and/or plowed areas. The areas are Alton, Black Rock, Deer Springs, Swallow Park and First Point. Removal of existing vegetation by chaining, spraying or plow

is a common practice used to improve the utility of the land for grazing. PED III-24. Climatological information was gathered by the Geological Survey and UII.

Petitioners and other commenters objected to the use of these data stating that the soils in the areas studied are flat, well-drained rich, sandy loams ideally suited for plant growth. In contrast, they stated, the areas that will be mined are steep and stony and the reconstructed soils in these areas will be a poor medium for growth. In addition, petitioners claimed that management practices such as chaining do not disturb the natural soils as do the earth-moving operations associated with mining. Petitioners also claimed that many of the areas studied by the Forest Service and BLM are too small to produce the representative data necessary to study the potential for reclamation.

Although the studies did not precisely simulate the conditions associated with mining, revegetation has been successful in large areas of surface disturbance (chaining) and in the smaller plots where soil movement and redistribution were used to simulate major surface disturbances. PED III-26. In addition, the studies have shown that chemical and physical characteristics of soils in the EMRIA study area are very similar to the major soils found in the Alton area. PED III-26 and Table IIIB6-7 at PED III-26b. Significant vegetative cover was established in all of the areas studied. In the majority of areas studied, the vegetative cover either exceeded or was not significantly different from the major plant communities existing within the petition area. PED III-24 and III-25. The methodology for determining

vegetative cover is described in the PED, Chapter V, Part B. Petitioners' statements regarding potential insect infestation and slow growth rates are not substantiated. PED III-24 and III-25.

As stated in the PED, it is appropriate to extrapolate from these studies in order to determine whether revegetation after mining is feasible. PED Comments at 588-590 (response to comments of Robert Curry). Based upon the numerous studies, the variety of study conditions and the fact that no vegetation type conversions have failed within the petition area during the past 20 years, I conclude that petitioners' contentions on this issue must be rejected.

2. Topsoil.

Petitioners claimed that insufficient topsoil exists in the petition area to support successful revegetation and that the physical and chemical characteristics of the overburden (including sodium content and lack of nutrients) will inhibit plant growth. As noted above, a large amount of information about the soils in the petition area can be used to evaluate this contention. Even assuming disturbance of all 16,747 acres containing surface strippable coal (PED III-27), the studies show that sufficient "good" and "fair" material is available for replacement on the stripped area to a depth of six inches and sufficient "poor" material is available for replacement to a depth of 23 inches. The characteristics of the "good," "fair," and "poor" categories of reconstructed soils for drastically disturbed areas are shown on Table IIIB6-10 at PED III-28d. This estimate of about 30 inches for the total depth of suitable plant growth material is further substantiated by UII's study which shows that 22

to 37 inches of suitable material is available for reclamation. Western Ecological Services Co., July 1980, PED VIII-12; see also PED Comments at 420 (comment of UII). These depths may be increased with the use of approved overburden materials as a supplement to or substitute for topsoil. 30 CFR 816.22(e).

Petitioners also claim that topsoil stored in piles during mining operations is subject to some erosion and degradation of biological activity. Current regulations, however, require that temporary topsoil piles be protected from erosion and contaminants. 30 CFR 816.23; PED III-28. Petitioners' allegation that topsoil suffers biological degradation when stored for long periods is not supported by current dat PED III-28. I therefore conclude that the petition area contains sufficient topsoil that is suitable for plant growth to support successfu revegetation of surface mined areas.

3. Overburden.

Three studies, the EMRIA report cited above, the SWA report prepared for UII, and a study of 18 drill holes performed by UII, have demonstrated that suitable overburden for reclamation exists in the petition area. PED III-28. Estimates of the depth of suitable plant growth material in the petition area ranged from 15 to 298 feet. PED III-28. These studies, however, do substantiate petitioners' claims that the overburden has a high sodium content. The effects of a high sodium content (measured as sodium absortion ratio--SAR) are detailed in Dr. Coats' affidavit, Pet. Ex. 2 ¶¶10-11. The problems of sodic overburden can be controlled, however, by burial under topsoil and better quality overburden. Burial with four feet of good quality

overburden or comparable treatment is required by applicable regulations. 30 CFR 816.103; PED III-29. Such burial or treatment should suffice because studies show that burial with far less good quality topsoil (only 5 cm.) can substantially reduce sodic damage. While upward movement of sodium may occur over time, research suggests that proper burial mitigates the effects of this migration. PED III-29. Dr. Frischknecht has found no increase in sodium in four years of testing soil samples. Tr. 9/29-30/80, p. 89.

Accordingly, I conclude that suitable overburden for reclamation exists in the petition area.

4. Vegetation Diversity.

Petitioners claimed that non-native species should not be permitted to spread to Bryce Canyon National Park and interfere with the park's natural systems. Pet. Ex. 2 ¶26. They also argued that any attempted reclamation will be lacking in vegetation diversity. Pet. Ex. 2 ¶27.

Revegetation with native species is required by the Surface Mining Act, although introduced species may be used if it is shown that they will not interfere with natural systems. 30 U.S.C. § 1265(b)(19 Non-native species have been introduced in the study areas close to Bryce Canyon National Park. These species of plants have not been shown to be a threat to the park. PED III-26.

Specific diversity tests on the vegetation in the petition area were conducted by OSM. Tabulated results appear in Tables IIIB6-11, IIIB6-12, and IIIB6-13 at PED III-29 to III-30. These studies indicate that the vegetation communities are generally more evenly dis-

tributed within the areas that have been revegetated than in the existing communities of the petition area. PED III-30. It is significant that this distribution occurred even though the revegetated portions of the study area were planted with seed mixtures containing onl one or two species. PED Comments at 419 (comments of UII). Seed mix design will be critical to the achievement of postmining vegetation diversity requirements; however, numerous different species have been successfully established on experimental plots within the petition area. Table IIIB6-14 at PED III-30b.

I therefore reject petitioners' claims that non-native species should not be used in revegetation and that revegetation would result in a lack of vegetation diversity.

5. Climate.

Petitioners stated that the climatic conditions in the area also would impede revegetation because large storms common to the area woul increase erosion and replacement of forest cover with alternating area of grassland and bare soils would cause changes in climate ("dessication"). Pet. ¶18. Variability in precipitation and evaporation make irrigation essential for plant growth but an adequate supply of suitable water for irrigation is not present. The available water is of poor quality and its use would aggravate the sodium and erosion problems associated with reconstructed soils. Pet.¶19.

Severe spring thunderstorms, accompanied by high winds, and less severe summer convective storms occur in the petition area. Such storms can cause significant damage, including erosion. PED II-2,

III-32. Furthermore, the drying or "dessication" effect caused by the increased surface temperatures of disturbed soils and wind may be enhanced when the predominant pinyon-juniper community is removed. PED III-32. However, substantial surface acreage within the petition area has been disturbed and successfully revegetated. These revegetation successes have occurred over long periods of time (10-20 years) and on plots of land ranging from 2,000 to 3,300 acres, surface disturbances which far exceed the annual disturbance of potential mining operations assumed in the Department's analysis. PED II-9, III-32. Furthermore, these areas have been successfully revegetated under a variety of weather conditions and no large scale revegetation failures have been reported or observed. PED II-32; PED Comments at 600-601 (response to testimony of Robert Curry).

Petitioners' claim that disturbed areas will have to be irrigated is also refuted by the available evidence. The annual precipitation characteristic of this area (PED II-2, III-27 and Table IIIB6 at PED III-28c) is apparently sufficient for revegetation since large disturbed areas in this region have been successfully reseeded without the aid of irrigation. PED III-31. Petitioners and other commenters characterize the precipitation of the last four years (when the studies were conducted) as atypical. PED Comments at 324 (comments of Sierra Club Legal Defense Fund) and 601 (testimony of Robert Curry). They suggest that more representative data is available in sources analyzing the historical weather conditions in the region and in Utah. Ibid. The Department has relied on site-specific data obtained from the

surrounding areas rather than "precipitation data extrapolated from r gional or State averages." PED Comments at 599 (response to testimon of Robert Curry). These precipitation measurements, together with 20 years of success on chained areas and experimental plots without the aid of irrigation, demonstrate that vegetation can be established on disturbed soils in this area under natural weather conditions. I therefore find that petitioners have not shown that climatic conditions will be an insurmountable barrier to successful revegetation of disturbed soils in the petition area.

B. Hydrologic Balance.

Petitioners claimed that surface coal mining operations in the petition area would irreparably harm the hydrologic balance and water quality and quantity both within and without the petition area. Pet. ¶¶12-15. Such operations allegedly would destroy and permanently alt aquifers and associated springs (including the Navajo Sandstone aquifer) which are the principal sources of water for many important land uses in the area. Pet. ¶13. Agricultural activity would be adversely affected because the essential hydrologic functions of alluvial valley floors would be altered and damaged. Pet. ¶15. The erosion, flooding and sediment caused by mining operations and aggravated by revegetation failures would adversely affect streams in the area and result in loss of pasture and cropland. Pet. ¶15.

The quality and quantity of water is a major concern in the State of Utah and is of special concern in the petition area. Springs and wells in the area are important sources of water for agricultural, livestock and other uses. PED II-5 to II-6. The

major ground water resource in the petition area is the Navajo sandstone aquifer, an aquifer of good chemical quality. PED II-7 to II-8. While the Department's studies suggest that mining operations may alter the hydrologic balance in and around the petition area, uncertain, insufficient and conflicting data concerning the hydrologic balance preclude accurate assessment of potential changes or adverse impacts, at least until specific mining and reclamation plans/permit applications are evaluated in the future. PED Comments at 301 (response to comments of Sierra Club Legal Defense Fund). I therefore find, as described below, that petitioners' contentions that surface coal mining operations would adversely affect the hydrologic balance are not supported by the record.

1. Destruction of Aquifers and Associated Springs

The Department's studies indicate that proposed mining operations will not destroy all local aquifers as claimed by petitioners. Only parts of one localized aquifer -- the aquifer in the Dakota sandstone coal-bearing formation -- would be destroyed by mining. PED II 14. Other local aquifers that supply springs in the petition area w not be affected because a 650-700 foot shale barrier separates the a fers from the coal-bearing material that will be mined. PED III-14. This separation is graphically displayed in Figure IIA-2 at PED II-2

Extensive information is available on springs in the area. PED III-13. Of the 44 springs in or near proposed mining areas that are shown in existing reports and on existing maps, 20 springs in or nea the Dakota formation would be destroyed or significantly affected, while 24 springs are not likely to be affected. PED III-13. The lo

of water for the 20 affected springs is estimated to be 132 acre-feet per year. Ibid. Distribution of replacement water from the affected springs will not be difficult, and there will be sufficient time before loss occurs to conduct necessary studies and provide for water replacement. Ibid. In addition, UII has committed to develop alternative surface water sources as necessary to replace spring waters lost during mining operations. PED Comments at 411-412. Finally, the yields of the unaffected springs are appreciably greater than the yields of the affected springs. The estimated annual yield of the 24 unaffected springs is 550 acre-feet, as opposed to 132 acre-feet for the 20 affected springs. PED III-13 to III-14.

Underground mining in the petition area could cause local water-level declines, changes in direction of water flow, increased discha to lower beds and diversion of surface runoff into the ground. PED I 15. The amount of diversion would not exceed average annual runoff 20 to 25 acre-feet per square mile, but probably would range from ze to one-fourth of the annual runoff. PED III-15. Moreover, runoff s diverted would not be lost, but would be stored and eventually discharged, probably elsewhere in the same drainage area. PED III-15.

The water needs of an increased population created by mining in the petition area are estimated at 700 acre-feet per year and are probably the only long-term unavoidable impact on water supplies (assuming a long-term increase in population). PED III-15. UII assert that consumptive use of water by humans should be considered "a long term beneficial and best use" of the resource. PED Comments at 412. Water supplies for increased population would have to be developed

or diverted from present uses. Ibid. The deep ground-water source of the Navajo sandstone aquifer has not been developed or appropriated for use by the State of Utah. PED II-8. The effects on the Navajo sandstone aquifer discussed below would be increased proportionately if an additional 700 acre-feet per year were pumped from it. PED III-15.

I find that the record does not support petitioners' allegations that mining in the petition area would destroy all local aquifers and associated springs.

2. Alluvial Valley Floors.

The Department sponsored a study which identified alluvial valley floors that may underlie agricultural portions of the petition area. This 1980 study by Jack C. Schmidt, Earth Resources Consulting, updated a 1977 study that found no alluvial valley floors in the Alton coal lease area. PED Comments at 133-134 (comments of Environmental Defense Fund) and 32 (Comments of UII). The location of possible alluvial valley floors is depicted in Figure IIB4-1 at PED II-8a. No commenter (including the petitioners and intervenors) has been able to determine whether the "essential hydrologic functions" of alluvial valley floors, as defined at 30 CFR 701.5, in the petition area will be damaged. The Surface Mining Act and applicable regulations require, however, that any future mining in these areas must be conducted so as to preserve or reestablish the essential hydrologic functions of identified alluvial valley floors. Sections 510(b)(5) and 515(b)(10); 30 CFR 785.19 and 822. A final determination on this issue will thus be made in reviewing specific mining and reclamation plans/permit applications in the future. I find that sufficient evidence is not availabl

upon which to determine whether mining in the petition area will damage the essential hydrologic functions of alluvial valley floors.

3. Erosion and Effects on Streams Channels.

The record does demonstrate that surface coal mining operations in the petition area will cause increased erosion and surface runoff. This short-term impact would result from the removal of vegetation, topsoil and overburden handling and road construction associated with mining. PED III-15 and III-16. Reclamation activities such as regrading have similar effects. In particular, the longer post mining slopes resulting from regrading steep slope areas and the decreased infiltration on reclaimed lands may cause an increase in erosion. PED III-16. In turn, increased sediment in streams may change the sediment-carrying characteristics and locations of receiving streams. Ibid.

The presence of significant amounts of gravel in the stream beds of all major streams crossing strippable lands in the petition area and applicable regulations (concerning post mining topography, stabilization of gullies and rills created by erosion and general hydrologic balance) would limit long term effects on stream channels. Ibid.; 30 CFR 816.41-.57 and .100-.106; PED Comments at 24 (comments of BLM Cedar City, Utah, District Office) and 299 (comments of Sierra Club Legal Defense Fund). Furthermore, the record contains strong evidence that revegetation of mined areas will be successful. See findings on soils and revegetation above. Accordingly, any short term erosion and sediment effects will decrease and productivity of soils will increase as slopes become stabilized and vegetation reestablishe

I therefore conclude that surface coal mining operations in the petition area will not cause long term adverse erosion and sediment effects, and that the short term impacts of mining will not inhibit reclamation of mined areas.

4. The Navajo Sandstone Aquifer.

The relationship between the coal within the petition area and the proposed Allen-Warner Valley Energy System is described in the Bureau of Land Management's environmental impact statement on that system. Allen-Warner Valley Energy System Final Environmental Impact Statement (AWV EIS), Volume 1, Chapter 2. Briefly, under the AWV proposal, coal within the Alton leasehold would be crushed, cleaned and combined with water at a preparation plant to form a coal slurry. AWV EIS, Volume 1, p. 2-5. The coal slurry would be pumped from the preparation plant in two separate steel 12-inch diameter pipelines to two power plants. Water needed for the preparation plant and coal slurry pipelines would be supplied from deep wells drilled in the Navajo sandstone aquifer. Ibid.

The State of Utah (PED Comments at 56 and 72), El Paso Coal Company (PED Comments at 107) and UII (PED Comments at 435-436) have steadfastly maintained that the question of pumping water from the Navajo sandstone aquifer for the slurry pipelines is not a proper issue in this designation proceeding, but is an issue solely within the jurisdiction of the State of Utah. In contrast, petitioners have maintained that the slurry system and its potential effects on the Navajo sandstone aquifer must be considered in the context of whether reclamation is technologically and economically feasible (PED Comment at

113-114 (comments of Environmental Defense Fund)) and that pumping i within the Surface Mining Act's definition of "surface coal mining o ations" (PED Comments at 321 (comments of Sierra Club and Friends of the Earth)).

The Department, through the Assistant Secretary for Energy and Minerals, has acknowledged during public hearings that the issue of water rights is within the exclusive domain of the State of Utah and not within the Secretary of the Interior's authority (9/29-30/80 Tr. p. 472-473); see also PED Comments at 663 (response to testimony of John Ferrell). The Department's specific responsibility, if any, to consider the impacts of the proposed coal slurry pipeline on wate quality and quantity (see Section 515(b)(15) of the Surface Mining Act) can only be determined once a specific mining and reclamation plan/permit application is filed.

Petitioners' claims concerning the Navajo sandstone aquifer we analyzed by the Department because petitioners alleged that pumping from the aquifer would adversely affect users who depend on it for water supplies. 9/29-30/80 Tr. p. 473. The PED analysis of this i indicates that pumping water from the Navajo sandstone aquifer for years may adversely affect the quantity of water in springs and wel the petition area. PED III-19. These effects may extend well beyo life of the mine because the petition area's ground water system ha slow response time. Ibid; PED Comments at 35 (comments of National Park Service, Rocky Mountain Regional Office).

As noted in both the PED (III-20) and the AWV EIS (4-3), there conflicting information on the characteristics and recharge capabil

of the Navajo sandstone aquifer. As a result, accurate predictions of timing and location of impacts on water quantity could not be made. See also, PED Comments at 24-25 (comments of BLM, Cedar City, Utah, District Office), 123-128 (comments of Environmental Defense Fund) and 293-295 and 297 (comments of Sierra Club Legal Defense Fund)). The Utility Commission of the City of St. George, Utah, reported that it has pumped millions of gallons of water from wells drilled in the Navajo formation with no effect on springs in the area either upstream or downstream. PED Comments at 85. Other commenters noted that substantial quantities of water have been pumped from the Navajo sandstone aquifer for many years (PED Comments at 106 (comments of Bingham Engineering)) and that public demand could never exceed the available water in the aquifer (PED Comments at 413 (comments of UII)). Pumping tests and other studies now being performed by UII should provide additional information on pumping effects that can be analyzed in the context of a specific mining and reclamation plan/permit application for the Alton leasehold. PED III-20; PED Comments at 35 (comments of National Park Service, Rocky Mountain Regional Office), 295 (comments of Sierra Club Legal Defense Club) and 436 (comments of UII).

Finally, insufficient data exist to evaluate fully whether loss of good quality water available for public and irrigation use and degradation of aquifer quality by leakage from adjacent areas containing water of poor quality would affect water quality. PED III-19. I therefore conclude that present data are inadequate to determine whether pumping from the Navajo sandstone aquifer would adversely affect present users of the aquifer.

In summary, I find that the record does not support petitioners' allegations that surface coal mining operations would significantly damage the hydrologic balance of the petition and surrounding areas by destroying aquifers and associated springs, by damaging the essential hydrologic functions of alluvial valley floors, by increasing erosion and sedimentation, and by reducing discharge from the Navajo sandston aquifer.

C. Renewable Resource Lands.

Petitioners claimed that I should exercise my discretion to desi nate the petition area unsuitable for surface coal mining operations because proposed mining operations would adversely affect renewable r source lands and result in substantial loss or reduction of long-rang productivity of water supply or of food or fiber products. Pet. ¶¶ 31-34. "Renewable resource lands" are defined to include "aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvacultural production of food and fiber and grazing lands." Section 522(a)(3)(C); 30 CFR 701.5 and 762.11 (b)(3).

Petitioners' allegations concerning this designation criterion are closely related to the effects of mining on revegetation and hyd logic balance discussed above. Impacts cited by petitioners include destruction of aquifers and aquifer recharge capacity, accelerated erosion and sedimentation, and withdrawal of water from the Navajo sandstone aquifer. Pet. ¶¶12-15. Based on my prior statements and findings concerning revegetation and hydrologic balance, I decline to designate any of the petition area as unsuitable for mining on

the basis of the renewable resource criterion.

D. Alternative Energy Sources.

Finally, petitioners alleged that "the planned AWV System (including the proposed Alton Coal Mine in the affected area) is not necessary to meet electrical energy needs." Pet. ¶36. They drew the conclusion that damage to important resources within the petition area can be avoided by developing other environmentally preferable and economically superior alternative energy sources, such as solar, conservation, cogeneration, geothermal, wind and hydropower. Pet. ¶¶35 and 36. Several commenters disagreed with petitioners' conclusions tha alternative energy sources are preferable or stated that any considera tion of such alternatives is more appropriate in the context of the De partment's forthcoming decision on the Allen-Warner Valley System. PEI Comments at 56 (comments of the State of Utah), 611 (testimony of Rob Houston), 640 (testimony of Jeannine Holt) and 682 (comments of M. Douglas Ahlstrom).

The issue of alternative energy sources has been evaluated in th PED, as provided by Section 522(d) of the Surface Mining Act and 30 C 769.17(e). This issue was also appropriate for consideration in compliance with the National Environmental Policy Act. 40 CFR 1502.14. Several specific alternatives to the Allen-Warner Valley System have been analyzed in detail in BLM's Environmental Impact Statement on that system. AWV EIS, Volume 1, Chapters 2 and 4.

I have concluded, however, that possible alternative energy sources do not constitute a basis for designating lands unsuitable for mining under Section 522(a) of the Surface Mining Act. Accord-

ingly, I have deferred consideration of those alternatives to my consideration of the rights-of-way for the Allen-Warner System.

VI. FUTURE FEDERAL ACTION.

Under the terms of my decision dated December 16, 1980, as explained in the above Statement of Reasons, I have designated certain F eral lands unsuitable for surface coal mining operations in order to p vent significant damage to Bryce Canyon National Park. I have decline to designate other areas of Federal lands unsuitable for mining. None theless, it is likely that a variety of future Federal actions may be quested either in undesignated areas or for underground mining in the designated areas. In the future, specific proposals may be received b Federal agencies, such as right-of-way or mineral lease applications o mining claim plan of operations to the Bureau of Land Management, oil and gas drilling permit applications to the U.S. Geological Survey or mine plan/permit applications to the Office of Surface Mining. Whe ever bureaus of the Department receive such applications or requests, they are directed by paragraphs 6 and 7 of my decision to take all nec essary actions to implement this decision, including referral to the National Park Service of applications and requests that may affect Bryce Canyon National Park or the values for which it was established, and to take these factors into account in deciding whether to allow such activities on non-designated Federal lands near the park or underground mining in the designated area.

As set forth in the proclamation establishing Bryce Canyon National Park (Presidential Proclamation No. 1665, 43 Stat. 1914 (June 8, 1923)), the park's significant values are "unusual scenic

beauty, scientific interest and importance." This proclamation is reinforced by the mandates of the Act of August 25, 1916 creating the National Park Service (National Park Service Organic Act), as amended, 16 U.S.C. §§ 1,2,3 and 4, to preserve the "scenery and the natural and historic objects and the wildlife therein" and to "leave them unimpaired for the enjoyment of future generations," and the directive of 16 U.S.C. § 1a-1 to protect, manage and administer the park in light of the "high public value and integrity of the National Park System" and in conformity with the values and purposes for which the park was established. In order to fulfill these responsibilities the Department bureaus that review future potential actions on Federal lands must ensure that such activities will not cause significant adverse impacts on Bryce Canyon National Park and that the values for which the park was established will be protected.

On the other hand, exploration for coal and other minerals may be conducted on Federal lands within the designated area and throughout the Alton and Henderson coal fields, so long as the requirements of applicable mining and minerals laws are satisfied. Those laws include Section 522(a)(1) of the Surface Mining Act (30 U.S.C. § 1272(a)(1)), Sections 2(b), 8A, 9 and 23 of the Mineral Leasing Act (30 U.S.C. §§ 201(b), 208-1, 211 and 261), Sections 302(b) and 504(f) of the Federal Land Policy and Management Act (43 U.S.C. § 1732(b) and 1764(f)), and Sections 2 and 9 of the Mining in the Parks Act (16 U.S.C. §§ 1902 and 1908). The procedural and substantive requirements for such exploration include the Department's regulations at 30 CFR Part 744 and 43 CFR 3410 and 3416.6

(coal exploration), as well as 36 CFR Part 9 (mining in the parks) and 43 CFR Parts 3045, 3802 and 3809 (other mineral exploration).

On undesignated areas of the Alton and Henderson coal fields wher Federal coal has already been leased, the lessees must file with OSM specific mining plans/permit applications in order to obtain permissic to conduct surface coal mining. Within the designated area, lessees r apply to conduct underground mining so long as that mining will not pr duce surface impacts that are visible from Bryce Canyon National Park except in T. 36S, R. 2W, of the Salt Lake Meridian, where visible sur- face impacts from underground mining may be permitted. See paragraph: 1 and 5 of my decision. In order to obtain approval to conduct minin the lessees must comply with the Department's regulations governing mining on Federal lands (30 CFR Subchapter D), as well as any applic- able regulatory requirements of the State of Utah.

If Utah obtains my approval to assume exclusive jurisdiction over the regulation of surface coal mining and reclamation operations under Section 503 of the Surface Mining Act, it will then be eligible to enter into a cooperative agreement with the Department to regulate mining on Federal lands within Utah. Upon signing such an agreement, Utah would be primarily responsible for implementing and enforcing th permanent regulatory requirements of the Surface Mining Act for coal mining on Federal lands. The Department will still retain authority to approve mining plans, designate lands unsuitable for mining and regulate other activities on Federal lands, as provided in Sections 503(a)(5) and 523(c) of the Surface Mining Act.

Once a mining plan/permit application for the Alton or Henderson coal field is received, it will then be reviewed by the Department and the State of Utah according to applicable State and/or Federal regulations. Upon receipt of an application, public notice will be issued and public hearings conducted pursuant to Section 513 of the Surface Mining Act. Federal, State or local governmental agencies will have an opportunity to file written objections to the application. 30 CFR 786.12.

At that time, the National Park Service and the Office of Surface Mining will review the application to determine, as required by paragraph 5 of my decision, whether mining of these Federal leases would cause adverse impacts on the visual resources and noise levels in Bryce Canyon National Park. They may then recommend that special stipulations or conditions to mitigate such damage be included in the Department's decision on the mining plan/permit application, as provided in 30 CFR 741.18, 761.12 and 786.19.

As to any Federal lands within the designated area that are not ready subject to Federal lease, the Bureau of Land Management shall, under paragraph 7 of my decision, ensure that surface coal mining options are limited in accordance with Section 552(b) of the Surface Mining Act. Such limitations may include appropriate conditions on any leasing of the area for coal development or withdrawal of the land from leasing, as provided in 43 CFR 1601.6-6.

VII. LESSEE-INTERVENOR'S CLAIMS OF SUBSTANTIAL LEGAL AND FINANCIAL COMMITMENTS.

Section 522(a)(6) of the Surface Mining Act provides that an unsuitability designation shall not apply to lands "where substantia

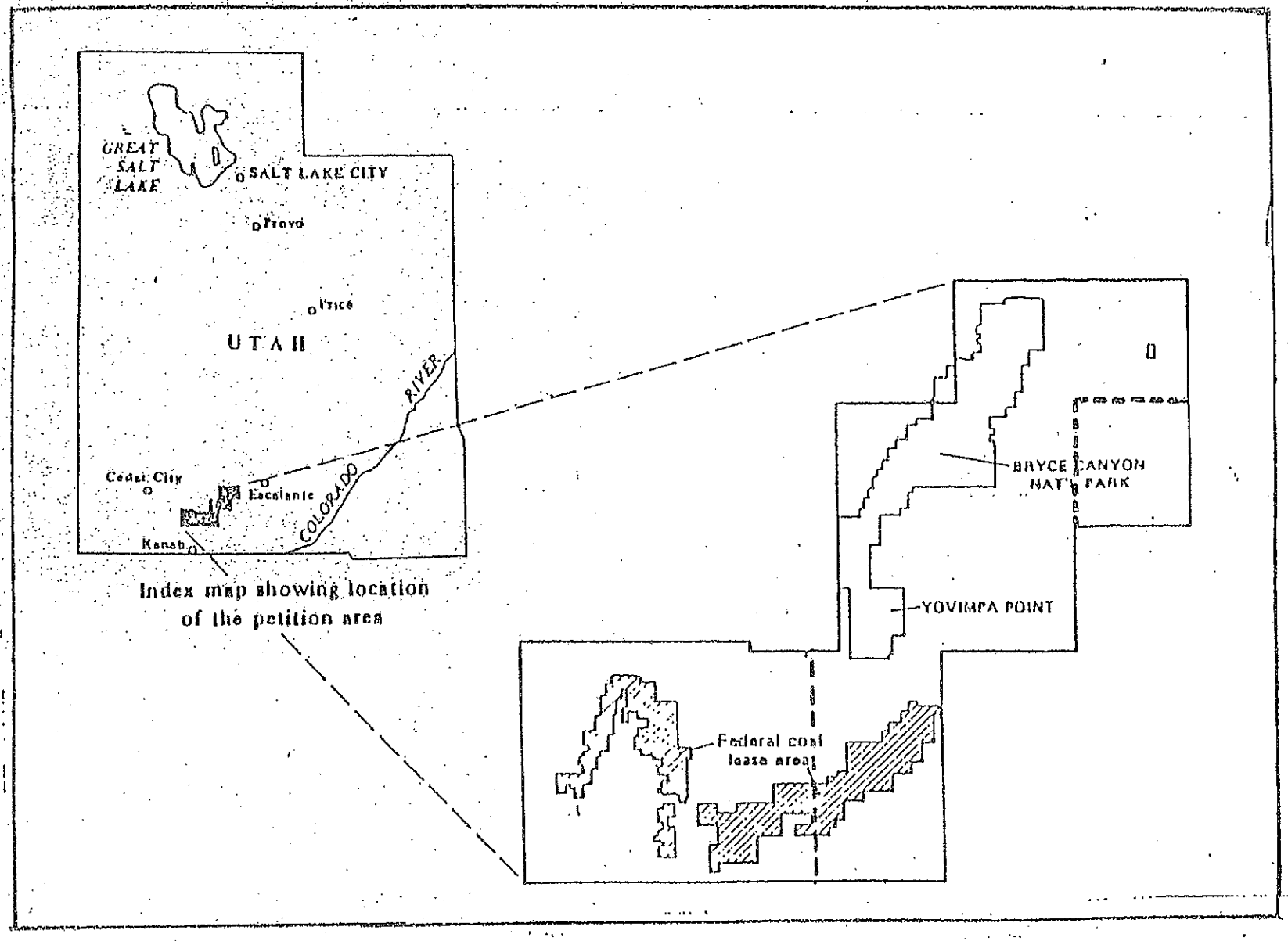
legal and financial commitments in [a surface coal mining] operation were in existence prior to January 4, 1977." 30 U.S.C. § 1272(a)(6). I understand that various companies holding leases in the petition area have intervened in this proceeding and have requested determinations by OSM, in accordance with 30 CFR Part 762. A preliminary decision by the Director of OSM on lessees' requests will be published subsequently in the Federal Register. Thereafter, all interested persons will be afforded an opportunity to comment on OSM's preliminary findings and to provide OSM with additional information concerning the requested exemptions. A final decision will then be issued by the Director of OSM, taking into account all such comments. Any appeal of that decision may be taken to the Department's Office of Hearings and Appeals, as provided in 43 CFR 4.1280-4.1286. I will therefore refrain from rendering any decision on those requests because I have delegated to the Board of Surface Mining Appeals the authority to make a final decision for the Department on such matters.

VIII. CONCLUSION.

The provisions of 30 CFR 769.18 will be followed in issuing this statement of reasons. Copies will be sent simultaneously by certified mail to the petitioners, the State of Utah, the intervenors and every other party to the petition proceeding. My decision of December 16, 1980, becomes final upon the date of signing this statement and any appeal from this decision must be filed within 60 days from this date in the United States District Court for Utah, as required by Section 526(a)(1) of the Surface Mining Act, 30 U.S.C. § 1276(a)(1).

1-13-81
DATE

Cecil D. Andrus
CECIL D. ANDRUS



Index map showing location of the petition area

Appendix A

ALTON MINE PETITION RULING -- Magnified area at right includes the 325,200-acre portion of southern Utah that was studied in the Alton mine petition. Secretary Andrus banned surface mining and surface effects of underground mining in the area nearest to Bryce Canyon National Park. The box area at upper right, cut off by dotted lines, and the portion of the Federal coal lease area at lower left west of the vertical dotted line, would be open to mining under the decision. Shaded area is the Alton coal field. About 10 percent of the mineable coal would be excluded from surface mining by the decision. -- Interior Dept. Map

APPENDIX 1-4

Certificate of Liability Insurance

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/20/2006

PRODUCER (435) 637-7803 FAX (435) 637-7811
James Banasky Insurance Inc.
6 West Main Street
PO Box 728
Price UT 84501

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
Alton Coal Development, LLC
PO Box 1203
Huntington UT 84528

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: FEDERAL INSURANCE CO.	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC	PENDING	5/19/2006	5/19/2007	EACH OCCURRENCE	$ 1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
						MED EXP (Any one person)	$ 10,000
						PERSONAL & ADV INJURY	$ 1,000,000
						GENERAL AGGREGATE	$ 2,000,000
						PRODUCTS - COMP/OP AGG	$ 2,000,000
		AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident)	$
						BODILY INJURY (Per person)	$
						BODILY INJURY (Per accident)	$
						PROPERTY DAMAGE (Per accident)	$
		GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY - EA ACCIDENT	$
						OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
		EXCESS/UMBRELLA LIABILITY [ ] OCCUR [ ] CLAIMS MADE [ ] DEDUCTIBLE [ ] RETENTION $				EACH OCCURRENCE	$
						AGGREGATE	$
							$
							$
							$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS / OTH-ER	
						E.L. EACH ACCIDENT	$
						E.L. DISEASE - EA EMPLOYEE	$
						E.L. DISEASE - POLICY LIMIT	$
		OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
Includes use of explosives, C/025/0005.

CERTIFICATE HOLDER

State of Utah
Department of Natural Resources
Division of Oil, Gas & Mining
Salt Lake City, UT

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ~~XXXXXXXX~~ MAIL 45 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT ~~XXX~~ FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

APPENDIX 1-5

Proof of Publication

Proof of Publication

TBD

APPENDIX 1-6

A notarized statement attesting to the accuracy

VERIFICATION STATEMENT

STATE OF UTAH)
: ss
COUNTY OF EMERY)

I, Allen P. Childs, hereby certify that I am the manager for the applicant, Alton Coal Development, L.L.C., and that the information contained in this application for the Coal Hollow Mining and Reclamation Plan is true and correct to the best of my knowledge and belief, in all respects, with the laws of Utah, specifically in reference to the applicant's commitments, undertakings and obligations herein.

Signed: _____
Position: Manager

SUBSCRIBED and SWORN TO by ALLEN P. CHILDS, the Manager of Alton Coal Development, L.L.C., before me this 12 day of June, 2008.

Notary Public: _____

My Commission Expires: 1-23-09

NOTARY PUBLIC
STATE OF UTAH
My Commission Expires
January 23, 2009
DEEDEE R. BELL
215 South 200 West
PO Box 715
Orangeville, Utah 84537

TABLE OF CONTENTS

Chapter 2

R645-301-200

SOILS

R645-301-200. SOILS

210. INTRODUCTION

211. Soil Removal

In this section, the Alton Coal Project will present a description of the premining soil resources as specified under R645-301-221. Topsoil and subsoil to be saved under R645-301-232 will be separately removed and segregated from other material.

212. Soil Redistribution

After removal, topsoil will be immediately redistributed in accordance with R645-301-242 and stockpiled pending redistribution under R645-301-234.

220. ENVIRONMENTAL DESCRIPTION

221. Prime Farmland Investigation

Many previous soil surveys have been conducted in the Alton area. After completion of soil surveys conducted in 1981 of the permit area by Western Ecological Services Company (WESCO) for Utah International Inc. (UII), it was determined at that time by the Soil Conservation Service (now called NRCS) that no soils in the permit area met the criteria for prime farmland [see letter dated November 25, 1981 from George D. McMillan, USDA Soil Conservation Service to John C. Ferrell, UII (**Appendix 2-1**)].

222. Soil Survey

As mentioned much soils work has been conducted previously in the Alton area for earlier proposed coal mining activities. The earlier proposed permit area was much larger than the one proposed by the Coal Hollow Project. Some of the earlier soil resource information for the area specific to the Coal Hollow Project has been submitted in this document. Nonetheless, a complete soil survey of the new permit area has been scheduled for the field season of 2006. When results from this survey is available, they will be submitted as an amendment to this Mining & Reclamation Plan (MRP).

222.100. Soils Map

Comprehensive soil mapping has also been conducted in the Alton area in the past. One such map was prepared by Intermountain Soils and WESCO (13 July 1987) in coordination with Order I and Order II soil surveys that were conducted at that time. The mapping was accomplished in the field by plotting soil boundaries on 1:12,000 scale color aerial photography. In this study, soil boundaries were considered accurate to +100 feet with one-acre minimum size delineations for

contrasting soils and 10 acres for non-contrasting soils.

The Coal Hollow Project has prepared the initial soils map by extracting the map units for the new permit area from Intermountain Soils/WESCO study (see Soils Map, Drawing 2-1). The map will be refined and updated following the soil surveys that are planned for the Coal Hollow permit area in 2006.

222.200. Soil Identification

Based on the previous soil surveys the following soils have been identified in the Coal Hollow Project area. The map units are shown on the Soils Map (Drawing 2-1) included in this MRP.

Map Symbol, Soil Identification	Soil Taxonomic Classification
El/Mb Complex, 0 to 4% slopes	El Fine, mixed (calcareous), frigid Aquic Ustifluvents Mb Fine-loamy, mixed Fluvaquentic Haploborolls
Md Clay, 5 to 9% slopes	Fine, montmorillonitic Pachic Haploborolls
Mb Sandy clay loam, 0 to 4% slopes	Fine-loamy, mixed Fluvaquentic Haploborolls
Ei Clay, 0 to 4% slopes	Fine, montmorillonitic (calcareous), frigid Vertic Ustorthents
Ei+ Clay, 5 to 9% slopes	Fine, montmorillonitic (calcareous), frigid Vertic Ustorthents
Ej Loamy fine sand, 5 to 9% slopes	Coarse-loamy, mixed, frigid Typic Ustifluvents
Mn Sandy clay loam, 0 to 4% slopes	Coarse-loamy, mixed, Fluventic Haploborolls
Eh Silty clay loam, 5 to 9% slopes	Fine, mixed (calcareous), frigid Typic Ustorthents
Eh+ Silty clay loam, 10 to 19% slopes	Fine, mixed (calcareous), frigid Typic Ustorthents
Eh++ Silty clay loam, 20 to 29% slopes	Fine, mixed (calcareous), frigid Typic Ustorthents
Ef Clay loam, 5 to 9% slopes	Fine-loamy, mixed (calcareous), frigid Typic Ustorthents
Eg Silty clay loam, 5 to 9% slopes	Fine, mixed (calcareous), frigid Typic Ustorthents
Eg+ Silty clay loam, 10 to 19% slopes	Fine, mixed (calcareous), frigid Typic Ustorthents
Ec Very channery clay loam/Rock outcrop complex, 20 to 29% slopes	Clayey, mixed (calcareous), shallow, frigid Typic Ustorthents
Mn/Mb Complex, 0 to 4% slopes	Coarse-loamy, mixed, Fluventic Haploborolls; Fine-loamy, mixed Fluvaquentic Haploborolls
Np Sandy loam, 0 to 4% slopes	Coarse-loamy, mixed (calcareous), frigid Typic Ustifluvents

222.300 - 222.400 Soil Descriptions - Present and Potential Productivity of Existing Soils

Extensive soil surveying, mapping and sampling has been conducted in previous studies in the Alton area, including the Coal Hollow permit area. Those soils that were identified and mapped within the Coal Hollow permit area are shown in section R645-301-222.200 above. The descriptions and productivity of these soils are described below and were taken almost verbatim from the WESCO study called *Soil Resource Assessment of the Alton Coal Lease Area, Kane County, Utah* (1981).

Rather than attempt to update the soil taxonomic nomenclature used in the previous soil surveys to those standards as dictated by USDA (2004), and make interpretations about these soils, a new

Order I to Order II soil surveys will be conducted in 2006 within the boundaries of the Coal Hollow permit area. This study will be used to provide an update to soil information provided herein, or completely replace it.

EI/Mb Complex, 0 to 4 percent slopes.

This map unit is in valleys. Slopes are level to gently sloping. Areas are irregular in shape and are 20 to 200 acres in size. A few areas are ponded during wet seasons. The vegetation is mainly annual grasses sedges, and low lying shrubs. Elevation ranges from 6,700 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

This unit is generally 45 percent EI soils and 35 percent Mb soils. The EI soils are on areas of upper portions of alluvial fans. The Mb soils are on areas of lower portions of alluvial fans. They occur in an intricate pattern in the landscape.

Included in this unit are small areas of Mn soils and fine-loamy, mixed (calcareous), frigid, family of Aquic Ustifluvents. Included areas make up about 20 percent of the total acreage.

The EI soil is very deep and poorly drained. It is formed on alluvial fans and valley plains draining watersheds dominated by calcareous shales and sandstones. Typically the surface layer is grayish brown stratified sandy loam, clay, and clay loam about 16 inches thick. Heavy silty clay loam surfaces predominate. The underlying material to a depth of 60 inches is light gray stratified clays, clay loams, and sandy clay loams. Lenses of tight clays which restrict permeability typically occur within 20 inches of the surface. Reaction is moderately alkaline throughout the profile. The soil is calcareous-throughout the profile. Strongly mottled colors occur within 20 inches of the surface.

Permeability of this EI soil is very slow. Available water capacity is high. Effective rooting depth is 40 inches. The water table is within 84 inches of the surface and fluctuates to within 20 inches of the surface during the wet seasons. Runoff is medium and the hazard of erosion is slight.

The Mb-soil is very deep and poorly drained. it is formed on alluvial fans and valley plains draining watersheds dominated by calcareous shales and sandstones. Typically the surface layer is grayish brown sandy clay loam or clay loam about 12 inches thick. The underlying material to a depth of 60 inches is very pale brown intricately stratified clays, clay loams, and sandy clay loams. Reaction is mildly alkaline throughout the profile. The soil is calcareous throughout the profile. Gleyed and strongly mottled colors occur within 40 inches of the surface.

Permeability of this Mb soil is very slow. Available water capacity is high. Effective rooting depth is 60 inches. The water table is within 84 inches of the surface and fluctuates to within 20 inches of the surface during wet seasons. Runoff is medium and the hazard of water erosion is slight.

Most areas are used for ranger improved pasture and field crops. Field crops in some areas have been abandoned because of apparent drainage problems.

This unit is fairly suited for range and improved pasture. It is limited mainly by the high water table during wet seasons. During these periods, surface traffic by browse animals is difficult and tends to compact the surface layer. Care must be taken to avoid overgrazing in order to enhance the browse species. Flood irrigation is preferred for slopes 0 to 3 percent due to slow infiltration of the heavy textured and compacted surface. Sprinkler irrigation is appropriate throughout this unit. The characteristic plant community is wheatgrass, clover and sedges with scattered big

sagebrush and rabbitbrush.

This unit is somewhat poorly suited for field crops. It is limited by the fluctuating high water table, very slow permeability, cold weather and in places by the moderate alkalinity. Flood irrigation is preferred for slopes 0 to 4 percent. Sprinkler irrigation is appropriate throughout this unit. Potassium and sulphur in the form of superphosphate may improve the fertility, especially in regard to alfalfa. Nitrogen is needed for wheat crops.

Md Clay, 5 to 9 percent slopes.

This very deep, well drained soil is formed on alluvial fans and valley plains draining watershed dominated by calcareous shales and sandstones. Slopes are convex and gentle. Areas are irregular in shape and are 10 to 100 acres in size. A few areas are dissected by deep drainageways.

The hazard of water erosion is moderate. Sprinkler irrigation is preferred over flood irrigation for improved pasture and field crops.

Mb Sandy Clay Loam, 0 to 4 percent slopes.

This very deep, somewhat poorly drained soil is formed on alluvial fans and valley plains draining watersheds dominated by calcareous shales and sandstones. Slopes are plane to slightly convex. Areas are irregular in shape and are 50 to 250 acres in size. A few small areas are ponded during wet seasons. The vegetation is mainly annual grasses, sedges, and reedgrass. Elevation ranges from 6,700 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

Typically the surface layer is grayish brown sandy clay loam about 14 inches thick. The underlying material to a depth of 60 inches is very pale brown sandy clay loam. Water table is at 60 inches. Reaction is mildly alkaline throughout the profile. The soil is calcareous throughout the profile.

Included in this unit are small areas of Mc soils. Small areas of Ma soils occur surrounding springs in Sink Valley. Included areas make up about 20 percent of the total acreage.

Permeability of this Mb soil is very slow. Available water capacity is high. Effective rooting depth is 60 inches. The water table is within 60 inches of the surface and fluctuates to within 20 inches of the surface during wet seasons. Runoff is medium and the hazard of water erosion is slight.

Most areas are used for range, improved pasture and field crops.

This unit is fairly suited for range and improved pasture. It is limited mainly by the high water table during wet seasons. During these periods, surface traffic by browse animals is difficult and tends to compact the surface layer. Care must be taken to avoid overgrazing in order to enhance the browse species. Flood irrigation is preferred for slopes 0 to 4 percent due to the slow infiltration of the compacted surface. Sprinkler irrigation is appropriate throughout this unit. The characteristic plant community is wheatgrass, clover and sedges.

This unit is fairly suited for field crops. It is limited by the fluctuating high water table, very slow permeability and the cold weather. Ditching may improve yields in some areas. Appropriate irrigation is the same as indicated above. Potassium and sulfur may improve fertility.

Ei Clay 0 to 4 percent slopes.

This very deep, well drained soil is formed on colluvial toe slopes, alluvial plains and small valleys draining watersheds dominated by calcareous shale of the Tropic shale formation. Slopes are plane to slightly convex. Areas are irregular in shape and are 10 to 100 acres in size. A few areas are dissected by deep drainageways. The vegetation is mainly low shrubs and grass with scattered scrub species. Elevation ranges from 6,700 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

Typically the surface layer is grayish brown clay about 9 inches thick. The underlying material to 72 inches is light brownish gray clay. Reaction is mildly alkaline in the surface layer and moderately alkaline in the underlying material. The soil is calcareous throught the profile. In some areas the underlying material is stratified.

Included in this unit are small areas of Ej soils. Also occuring with this soil are similar deep heavy textured alluvial soils with stratified subsoils. These included areas make up about 15 percent of the total acreage and are similar in use and management.

Permeability of this Ei soil is very slow. Available water capacity is high. Effective rooting depth is 60 inches. Runoff is medium and the hazard of water erosion is slight. Shrink swell potential is high.

Most areas are used for range and improved pasture.

This unit is fairly suited for range and improved pasture. It is limited mainly by the moderate alkalinity water availability, and fine texture. Surface flooding on slopes 0 to 4 percent is the preferred method of irrigation due to the slow infiltration rate. Sprinkler irrigation is appropriate throughout this unit. Care must be taken to avoid overgrazing in order to enhance browse species. The characteristic plant community on this unit is mainly black sagebrush, rabbitbrush, western wheatgrass, and Indian ricegrass with scattered oaks and juniper.

Ei+ Clay, 5 to 9 percent slopes.

This very deep well drained soil is formed on alluvial toe slopes, alluvial plains, and small valleys draining watersheds dominated by calcareous shale of the Tropic shale formation. Slopes are slightly convex and are gentle. Areas are irregular in shape and are 10 to 100 acres in size. A few areas are dissected by deep drainageways.

The rate of surface runoff is high. The hazard of water erosion is moderate. Sprinkler irrigation is preferred over flood irrigation for improved pasture.

Ej Loamy Fine Sand, 0 to 4 percent slopes.

This very deep, somewhat excessively drained soil is formed on alluvial fans draining watersheds dominated by fine-grained calcareous sandstones. Slopes are nearly level to gentle. Areas are irregular in shape and are 50 to 200 acres in size. The vegetation is mostly low lying shrubs and annual grasses. Elevation ranges from 6,000 to 7,200 feet. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

Typically the surface layer is grayish brown loamy fine sand about 4 inches thick. The underlying

material is very pale brown loamy fine sand and sandy loam to a depth of greater than 60 inches. Reaction is neutral in the surface and is neutral or mildly alkaline in the underlying material.

Included in this unit are small areas with gravelly underlying materials. Included areas make up about 20 percent of the total acreage.

Permeability of this Ej soil is rapid. Available water is low. Effective rooting depth is 60 inches. Runoff is medium. The hazard of water erosion is moderate.

Most areas in this unit are used for range and improved pasture.

This unit is fairly suited for range and improved pasture. It is limited mainly by its rapid permeability and somewhat excessive drainage. The characteristic vegetation consists of sagebrush, rabbitbrush, western wheatgrass, Indian ricegrass, and scattered juniper.

Mn Sand Clay Loam, 0 to 5 percent slopes.

This very deep, somewhat poorly drained soil is formed on alluvial fans and flood plains draining watersheds dominated by fine-grained calcareous sandstones. Slopes are gentle. Areas are irregular in shape and are about 200 acres in size. The vegetation is mostly low lying shrubs and annual grasses. Elevation ranges from about 6,500 to 7,000 feet. The average annual air temperature is about 45 F, average precipitation is about 15 inches, and the average frost free season is about 140 days.

Typically the surface layer is grayish brown sandy clay loam about 15 inches thick. The underlying material is very pale brown stratified sandy loam and loam to depths of greater than 60 inches. The surface is mildly alkaline and the underlying material is calcareous and moderately to strongly alkaline.

Permeability of this Mn soil is moderate. Available water capacity is high. Effective rooting depth is 60 inches. Runoff is medium. The hazard of water erosion is moderate.

Most areas in this unit are used for range and improved pasture.

This unit is well suited for range and improved pasture. It is limited mainly by its alkalinity and local drainage problem. The chracteristic vegetation consists of sagebrush, rabbitbrush, western wheatgrass and Indian ricegrass.

Eh Silty Clay Loam, 5 to 9 percent slopes.

This moderately deep, well drained soil is formed in residuum weathered from calcareous fine grained sandstones and shales of the Tropic and Dakota formations. Slopes are gentle. Areas are irregular in shape and are 5 to 200 acres in size.

Included in this unit is an area of about 60 acres of silt loam and silty clay loam soils developed from green siltstone with a cover of sagebrush in section 30, southwest of Sink Valley.

The rate of surface runoff is medium. The hazard of water erosion is moderate.

Eh+ Silty Clay Loam, 10 to 19 percent slopes.

This moderately deep, well drained soil is formed in residuum weathered from calcareous fine-grained sandstones and shales of the Tropic and Dakota formations. Slopes are undulating to steep. Areas are irregular in shape and are 10 to 200 acres in size. The typical vegetation consists of stands of scrub species interspersed with low shrubs and annual grasses. Elevation ranges from 6,500 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

Typically, the surface layer is light olive gray silty clay about 6 inches thick. The underlying material is light gray silty clay about 32 inches thick over fractured, soft, highly calcareous shale. Reaction is moderately alkaline throughout the profile. The soil is calcareous throughout the profile.

Included in this unit are small areas of Ef soils, similar soils with clay loam subsoils, and soils with heavy clay subsoils. Included areas make up about 20 percent of the total acreage.

Permeability of this Eh soil is slow. Available water capacity is high. Effective rooting depth is 20 to 40 inches. Runoff is medium. The hazard of water erosion is moderate. Some areas have large slump blocks.

Most areas are used for rangeland.

This unit is fairly suited for range. It is limited by the availability of water and the heavy textures. In areas of juniper, germination of grasses and other browse species is inhibited by toxins transmitted by juniper needles. This situation of reduced browse cover also increases sheet and gully erosion and is undesirable from these standpoints. The characteristic vegetation is pinyon pine, juniper, oakbrush, bitterbrush, western wheatgrass, and Indian ricegrass.

Eh++ Silty Clay Loam, 20 to 29 percent slopes.

This moderately deep, well drained soil is formed in residuum weathered from calcareous fine grained sandstones and shales of the Tropic and Dakota formations. Slopes are steep. Areas are irregular in shape and are 10 to 200 acres in size.

The rate of surface runoff is high. The hazard of water erosion is high. A few areas are dissected by shallow gullies and soils are generally less than 30 inches to weathered shale.

Ef Clay Loam, 5 to 9 percent slopes.

This deep, well drained soil is formed in colluvium and residuum weathered from calcareous shales and fine grained sandstones. Slopes are gentle. Areas are irregular in shape and are 20 to 100 acres in size. The typical vegetation consists of pinyon-juniper areas interspersed with low shrubs and grasses. Elevation ranges from 6,000 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average frost free season is about 140 days.

Typically, the surface layer is pale brown clay loam about 15 inches thick. It is mildly alkaline. The underlying material is pale brown clay loam about 40 inches thick over soft degraded calcareous shale. It is moderately alkaline. The soil is calcareous throughout the profile.

Included in this unit are small areas of Eh soils. Included areas make up about 15 percent of the total acreage.

Permeability of this Ef soil is slow. Available water capacity is high. Effective rooting depth is 40 to 60 inches to weathered shale. Runoff is medium and the hazard of water erosion is moderate.

Most areas are used for rangeland.

This unit is fairly suitable for range. It is limited by the availability of water and local high clay content. In areas of juniper, germination of species is inhibited by toxins transmitted by juniper needle fall. This situation of reduced browse cover also increases sheet and gully erosion and is undersirable from these standpoints. The characteristic vegetation is juniper, pinyon pine, oakbrush, bitterbrush, western wheatgrass, and Indian ricegrass.

Eg Silty Clay Loam, 5 to 9 percent slopes.

This very deep, well drained soil is formed in colluvial material derived from calcareous shales of the Tropic formation. Slopes are gentle. Areas are irregular in shape and are 20 to 100 acres in size. The vegetation is mainly stands of scrub species interspersed with low lying shrubs and annual grasses. Elevation ranges from 6,600 to 7,200 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average annual frost free season is 140 days.

Typically, the surface layer is grayish brown silty clay loam about 6 inches thick. The underlying material to a depth of 60 inches is grayish brown silty clay. Reaction is moderately alkaline throughout the profile. The soil is calcareous throughout the profile.

Included in this unit are small areas of Ei soils. Included areas make up about 10 percent of the total acreage.

Permeability of this Eg soil is very slow. Available water capacity is high. Effective rooting depth is 60 inches. Runoff is medium and the hazard of water erosion is moderate. Some areas appear to be older, stable landslides.

Most areas are used for range and improved pasture.

This unit is fairly suited to range and improved pasture. It is limited mainly by the availability of water, the moderate alkalinity and the high clay content. Compaction of the surface by forage animals at times of high surface water content is a problem. Sprinkler irrigation is appropriate. Sulfer and potassium in the form of superphosphate may improve the fertility. The characteristic plant community consists of western wheatgrass, rabbit brush, big sagebrush and scattered juniper.

Eg+ Silty Clay Loam, 10 to 19 percent slopes.

This very deep, well drained soil is formed on colluvium and alluvial fan material derived from calcareous shales of the Tropic formation. Slopes are steep. Areas are irregular in shape and are 20 to 100 acres in size.

The rate of surface runoff is high. The hazard of water erosion is high. This unit is poorly suited for improved pasture.

Ec Very Channery Clay Loam/Rock Outcrop Complex, 20 to 29 percent slopes.

This shallow, well drained soil is formed in residuum weathered from calcareous sandy shales and sandstones of the Dakota formation. Slopes are steep. Areas are irregular in shape and are 20 to 150 acres in size.

The hazard of water erosion is high. About 25 percent of the landscape consists of slabs and small outcrops of sandstones.

Mn/Mb Complex, 0 to 4 percent slopes.

This map unit is in valleys. Slopes are level to gently sloping. Areas are irregular in shape and are 400 acres in size. A few areas are ponded during wet seasons. The vegetation is mainly annual grasses, reedgrasses, sedges, and low lying shrubs. Elevation ranges from 6,900 to 7,100 feet. The average annual precipitation is about 15 inches. The average annual air temperature is about 45 F and the average annual frost free season is about 140 days.

This unit is generally 45 percent Mn soils and 35 percent Mb soils. Mn soils are on areas of upper portions of alluvial fans. Mb soils are on areas of lower portions of alluvial fans. They occur in an intricate pattern in the landscape.

Included in this unit are small areas of Mc soils and fine-loamy, mixed (calcareous), frigid, family of Aquic Ustifluvents. Included areas make up about 20 percent of the total acreage.

The Mn soil is deep and somewhat poorly drained. Typically the surface layer is grayish brown sandy clay loam about 15 inches thick. The underlying material is very pale brown stratified sandy loam, loam and sandy clay loam to depths of greater than 60 inches. The surface is mildly alkaline and the underlying material is calcareous, and moderately to strongly alkaline. Mottled colors occur within 40 inches of the surface.

Permeability of this Mn soil is moderate. Available water capacity is high. Effective rooting depth is 60 inches. Runoff is medium. The hazard of water erosion is moderate. The water table fluctuates between 36 inches and 120 inches in these soils.

The Mb soil is very deep and somewhat poorly drained. It is formed on alluvial fans and valley plains draining watersheds dominated by calcareous shales and sandstones. Typically the surface layer is grayish brown sandy clay loam about 12 inches thick. The underlying materials to a depth of 60 inches are very pale brown intricately stratified clays, clay loams, and sandy clay loams. Reaction is mildly alkaline throughout the profile. The soil is calcareous throughout the profile.

Permeability of this Mb soil is very slow. Available water capacity is high. Effective rooting depth is 40 inches, or to the water table. The water table is within 84 inches of the surface and fluctuates to within 20 inches of the surface during wet seasons. Runoff is medium and the hazard of water erosion is slight.

Most areas in this unit are used for range and improved pasture, with some areas mowed for native hay and alfalfa.

This unit is well suited for range and improved pasture. It is limited mainly by its alkalinity and local drainage problem. The characteristic vegetation consists of sagebrush, rabbitbrush, western wheatgrass and Indian ricegrass.

This unit is fairly well suited for hay meadows and alfalfa. The main limiting factor is a high groundwater table in wet years and cold weather. Flood irrigation is preferred for slopes 0 to 4 percent. Sprinkler irrigation is appropriate throughout this unit. Potassium and sulfur in the form of super phosphate may improve the fertility, especially in regard to alfalfa. Nitrogen is needed for other crops.

Np Sandy loam, 0 to 4 percent slopes.

This very deep, well drained soil occurs on alluvial fans and valleys draining watersheds dominated by fine-grained calcareous sandstones and shales. Slopes are gently sloping. Areas are irregular in shape or follow valley bottoms and are 50 to 200 acres in size. The native vegetation is mostly low lying shrubs and annual grasses. Oakbrush occurs in some areas.

Typically the surface layer is a brown sandy loam about 7 to 15 inches thick. The subsoils are brown thickly stratified sandy loams and loams to depths of greater than 60 inches. Where this mapping unit occurs in narrow valley positions the substratums commonly are moderately calcareous and gravelly. On fans in the Sink Valley area, the soil substratum commonly have few faint mottles at depths greater than 40 inches. Reaction is neutral to mildly alkaline throughout the soil profile.

Included in this unit are areas of gravelly substratums and fine-loamy, Typic Ustorthents. Included areas make up about 20 percent of the total acreage.

Permeability of this Np soil is moderate. Available water is medium. Effective rooting depth is 60 inches. Runoff is slight. The hazard of water erosion is slight to moderate.

Most areas of this unit is used for range and improved pasture. Some historically farmed areas have apparently been abandoned because of water availability problems.

This unit is used mainly for range and improved pasture, to which it is well suited. Field crops generally require an irrigation water supply. The main limitation is cold weather and the soil erosion hazard.

223. Soil Characterization

The surveys referenced in this document were conducted as defined in their methods sections to meet the standards of the National Cooperative Soil Survey as incorporated by reference in R645-302-314.100.

224. Substitute Topsoil

At this time, the Coal Hollow Project does not plan to use substitute material for topsoil at the time of reclamation. However, if in the future the Coal Hollow mine plan proposes to use selected overburden materials as a supplement or substitute for topsoil, an application will be provided to the DOGM that includes results of analyses, trials, and tests as described under R645-301-232.100 through R645-301-232.600, R645-301-234, R645-301-242, and R645-301-243. DOGM may also require the results of field-site trials or greenhouse tests as required under R645-301-233.

230. OPERATION PLAN

231. General Requirements

231.100. Methods for Removing and Storing Subsoil and Topsoil

The methods for removing and storing topsoil, subsoil, and other materials will be to first remove the woody plants from the area and place them in piles for removal, wildlife enhancement, burning or other disposal procedures. Next, scrapers will remove the topsoil layer to a depth determined by the soil survey scheduled for 2006. The topsoil will be stockpiled and protected from wind and water erosion by seeding it with an interim seed mix. The subsoils will then be removed and stockpiled by specific horizons using the same scrapers. The depth of each horizon or stratigraphic layer will be determined by the aforementioned soil survey.

231.200. Suitable Substitute Topsoil

Demonstration studies of the suitability of topsoil substitutes or supplements will be submitted to the DOGM if topsoil substitutes are needed for future reclamation and revegetation.

231.300. Soil Testing for Reclamation

The final seedbed of the reclaimed areas will be prepared by first replacing the subsoil and topsoil in the same order it existed prior to removal by the mining activities. Next, a basic soil sampling regime will be implemented prior to seeding that should identify fertility problems and will provide a basis for determining necessary soil amendments. The parameters analyzed will be:

- Electrical conductivity (EC)
- Sodium adsorption ratio (SAR)
- pH
- Texture
- Organic matter
- Available phosphorus (P)
- Potassium (K)
- Nitrate

231.400. Topsoil Handling

A brief narrative that describes the construction, modification, use, and maintenance of topsoil handling and storage areas is given below.

The topsoil and subsoil will be removed from the mine area and stored by soil profiles and appropriate stratigraphic units. All soil piles will be seeded with an appropriate interim seed mix to prevent loss and deterioration by wind and water erosion. Soil piles will be bermed or

otherwise treated to prevent the transport of sediments from the pile.

232. Topsoil and Subsoil Removal

232.100. Separate Layers

All soil materials will be removed in separate layers from the area to be disturbed, and segregated.

232.200. Topsoil of Insufficient Quantity or Quality

Where the topsoil is of insufficient quantity or poor quality for sustaining vegetation, other materials approved by the DOGM in accordance with R645-301-233.100 will be removed as a separate layer from the area to be disturbed, and segregated.

232.300. Shallow Topsoil Handling

If topsoil is less than six inches thick, the operator may remove the topsoil and the unconsolidated materials immediately below the topsoil and treat the mixture as topsoil.

232.400 - 232.420. Topsoil Removal Exceptions

DOGM will not require the removal of topsoil for minor disturbances which occur at the site of small structures, such as power poles, signs, or fence lines. Removal of topsoil will not be required when the disturbances will not destroy the existing vegetation and will not cause erosion.

232.500. Subsoil Segregation

The Coal Hollow Project plans to remove soils by their horizons as dictated by the soil survey scheduled for 2006. DOGM may require that the B horizon, C horizon, or other underlying strata, or portions thereof, be removed and segregated, stockpiled, and redistributed as subsoil in accordance with the requirements of R645-301-234 and R645-301-242 if it finds that such subsoil layers are necessary to comply with the revegetation requirements of R645-301-353 *through* R645-301-357.

232.600. Timing

All material to be removed under R645-301-232 will be removed after the vegetative cover that would interfere with its salvage is cleared from the area to be disturbed, but before any drilling, blasting, mining, or other surface disturbance takes place.

232.700. Topsoil & Subsoil Removal Under Adverse Conditions

An exception to the requirements of R645-301-232 to remove topsoil or subsoils in a separate layer from an area to be disturbed by surface operations may be granted by DOGM where the

operator can demonstrate the following conditions.

232.710. Unsafe Conditions

The removal of soils in a separate layer from the area by the use of conventional machines would be unsafe or impractical because of the slope or other conditions of the terrain or because of the rockiness or limited depth of the soils.

232.720. Lack of On-Site Material Available

If the requirements of R645-301-233 have been or will be fulfilled with regard to the use of substitute soil materials unless no available substitute material can be made suitable for achieving the revegetation standards of R645-301-356, then the operator will, as a condition of the permit, be required to import soil material of the quality and quantity necessary to achieve such revegetation standards.

233. Topsoil Substitutes and Supplements

233.100. Substitute Material

Selected overburden materials may be substituted for, or used as a supplement to topsoil if the operator demonstrates to DOGM that the resulting soil medium is equal to, or more suitable for sustaining vegetation on nonprime farmland areas than the existing topsoil, has a greater productive capacity than that which existed prior to mining for prime farmland reconstruction, and results in a soil medium that is the best available in the permit area to support revegetation.

233.200. Substitute Material Suitability Parameters

The suitability of topsoil substitutes and supplements will be determined on the basis of analysis of the thickness of soil horizons, total depth, texture, percent coarse fragments, pH, and areal extent of the different kinds of soils. DOGM may require other chemical and physical analyses, field-site trials, or greenhouse tests if determined to be necessary or desirable to demonstrate the suitability of topsoil substitutes or supplements.

233.300. Results of Analyses

Results of physical and chemical analyses of overburden and topsoil can be used to demonstrate that the resulting soil medium is equal to or more suitable for sustaining revegetation than the available topsoil, provided that field-site trials, and greenhouse tests are certified by an approved laboratory in accordance with any one or a combination of the following sources:

233.310. (a) NRCS published data based on established soil series.

233.320. (b) NRCS Technical Guides.

233.330. (c) State agricultural agency, university, Tennessee Valley Authority, Bureau of Land Management of U.S. Department of Agriculture Forest Service published data based on soil series properties and behavior.

233.340. (d) Results of physical and chemical analyses, field-site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area.

233.400. Testing of Substitute Materials

If the operator demonstrates through soil survey or other data that the topsoil and unconsolidated material are insufficient and substitute materials will be used, only the substitute materials must be analyzed in accordance with R645-301-233.300.

234. Topsoil Storage

234.100. Stockpiles

Materials removed under R645-301-232.100, R645-301-232.200, and R645-301-232.300 will be segregated and stockpiled when it is impractical to redistribute such materials promptly on regraded areas.

234.200. Requirements of Stockpiles

Stockpiled materials will be subject to the following conditions.

234.210. (a) They will be selectively placed on a stable site within the permit area.

234.220. (b) They will be protected from contaminants and unnecessary compaction that would interfere with revegetation.

234.230. (c) They will be protected from wind and water erosion through prompt establishment and maintenance of an effective, quick growing vegetative cover or through other measures approved by the DOGM.

234.240. (d) They will not be moved until required for redistribution unless approved by the DOGM.

234.300. Long-Term Disturbance & Stockpiling

When long-term disturbed areas will result from facilities and preparation plants and when stockpiling of materials removed under R645-301-232.100 would be detrimental to the quality or quantity of those materials, DOGM may approve the temporary distribution of the soil materials removed to an approved site within the permit area to enhance the current use of that site until later when needed for reclamation, provided that the following conditions occur.

234.310. (a) Such action will not permanently diminish the capability of the topsoil of the host site.

234.320. (b) The material will be retained in a condition more suitable for redistribution than if stockpiled.

240. RECLAMATION PLAN

241. General Requirements

Considerable soil surveys that included soil sampling has been conducted in the past in the Alton area. The Coal Hollow Project will include more specific plans for redistribution of soils, use of soil nutrients and amendments and stabilization of soils when the results from laboratory analyses from new soil sampling and surveys scheduled in 2006 become available. This information will also provide greater detail for onsite soil salvageability and volumes available for reclamation of the mine site. Scrapers will replace the subsoil and topsoil layers to depths determined by the soil survey.

242. Soil Redistribution

242.100. Topsoil materials removed under R645-301-232.100, R645-301-232.200, and R645-301-232.300 and stored under R645-301-234 will be redistributed in a manner that meets the following conditions.

242.110. (a) The material achieves an approximately uniform, stable thickness consistent with the approved postmining land use, contours, and surface-water drainage systems.

242.120. (b) Material handling prevents excess compaction of the materials.

242.130. (c) Handling procedures protects the materials from wind and water erosion before and after seeding and planting.

242.200. Treatments of Material to be Redistributed

Before redistribution of the materials removed under R645-301-232, the regraded land will be treated if necessary to reduce potential slippage of the redistributed material and to promote root penetration. If no harm will be caused to the redistributed material and reestablished vegetation, such treatment may be conducted after the material is replaced.

242.300. Soil Redistribution on Impoundments & Roads

DOGM may not require the redistribution of topsoil or topsoil substitutes on the approved postmining embankments of permanent impoundments or roads if it determines the following.

242.310. (a) Placement of topsoil or topsoil substitutes on such embankments is inconsistent with the requirement to use the best technology currently available to prevent sedimentation.

242.320. (b) Such embankments will be otherwise stabilized.

243. Soil Nutrients & Amendments

Nutrients and soil amendments will be applied to the redistributed material when necessary to establish the vegetative cover. The final seedbed of the reclaimed areas will be prepared by first replacing the subsoil and topsoil in the same order it existed prior to removal by the mining activities. Next, a basic soil sampling regime will be implemented prior to seeding that should identify fertility problems and will provide a basis for determining necessary soil amendments. The parameters analyzed will be:

- Electrical conductivity (EC)
- Sodium adsorption ratio (SAR)
- pH
- Texture
- Organic matter
- Available phosphorus (P)
- Potassium (K)
- Nitrate

244. Soil Stabilization

244.100. Erosion Protection from Wind & Water

All exposed surface areas will be protected and stabilized to effectively control erosion and air pollution attendant to erosion.

244.200. Mulch

Suitable mulch and other soil stabilizing practices will be used on all areas that have been regraded and covered by topsoil or topsoil substitutes. DOGM may waive this requirement if seasonal, soil, or slope factors result in a condition where mulch and other soil stabilizing practices are not necessary to control erosion and to promptly establish an effective vegetative cover.

Mulch is to be used on the reclaimed areas of the Coal Hollow Project is described in Chapter 3, section 341.230.

244.300. Rills & Gullies

Rills and gullies that form in areas that have been regraded and topsoiled that cause the following conditions will have the topsoil replaced followed by reseeding or replanting if the following occurs.

244.310. (a) If they disrupt the approved postmining land use or the reestablishment of the vegetative cover.

244.320. (b) If they cause or contribute to a violation of water quality standards for receiving streams will be filled, regraded, or otherwise stabilized.

250. PERFORMANCE STANDARDS

251. Topsoil & Subsoil Removed

All topsoil, subsoil and topsoil substitutes or supplements will be removed, maintained and redistributed according to the plan given under R645-301-230 and R645-301-240.

252. Topsoil & Subsoil Stockpiled

All stockpiled topsoil, subsoil and topsoil substitutes or supplements will be located, maintained and redistributed according to plans given under R645-301-230 and R645-301-240.

APPENDIX 2-1

United States Department of Agriculture
Soil Conservation Service
P. O. Box 11350
Salt Lake City, UT 84[illegible]

November 25, 1981

John C. Ferrell, Project Manager
Alton Development
550 California Street
San Francisco, CA 94104

Dear Mr. Ferrell:

Another careful review of the original data and the supplemental information furnished in response to my letter of June 23, 1981, has been made and our evaluation completed by my staff.

The information on water rights assisted materially in making a final decision concerning prime farmland. In Utah, without irrigation water, our soils do not meet the standards for prime farmland.

Based on all the available information, we find no significant, contiguous areas of soils in the Alton tract that meet the standards for prime farmland. The very small parcels of soil that meet the standards are so intermingled with other soils and in such a fine mesh pattern that their impact on the production of food, feed or fiber crops is of little significance, especially when considered in the circumstances of pronounced, climatic limitations.

This decision has taken longer than anticipated but hopefully will meet your schedule.

Sincerely,

GEORGE D. MCMILLAN
State Conservationist