



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 2, 2016

Kirk Nicholes, Resident Agent
Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720

Subject: Approval of North Private Lease Area 1, Coal Hollow Mine, Alton Coal Development, LLC, C/025/0005, Task ID #4942

Dear Mr. Nicholes:

The Division hereby approves the revision of the Coal Hollow Mine Permit to include area 1 of the North Private Lease. I have attached a copy of the Division's Decision Document which includes the Technical Analysis and Findings for this revision. A draft permit document is also enclosed for your information. Please note the special conditions to the permit including the requirement to provide clean copies of the final application.

While we have approved your application, please note that issuance of the final permit is contingent upon your providing the appropriate bonding documentation for the revised area. Once the Division received the required bond documents, we will issue the permit and you will be authorized to proceed with your mining plans.

Thank you for your help in completing this important permitting action. If you have any questions, please call me at (801)538-5325.

Sincerely,

Dana Dean
Associate Director, Mining

DD/DRH/sqs
Enclosure
O:\025005.COL\PERMIT\2016 North Private Lease\Approval.doc

State Decision Document

**Alton Coal Development, LLC
North Private Lease
Area 1
Coal Hollow Mine
C/025/0005**

February 2, 2016

**UTAH DIVISION OF OIL, GAS AND MINING
STATE DECISION DOCUMENT AND
TECHNICAL ANALYSIS**

Alton Coal Development, LLC
North Private Lease Area 1
Coal Hollow Mine
C/025/0005

CONTENTS

- * Administrative Overview
- * Location Map
- * Permitting Chronology
- * Findings, dated February 2, 2016
- * Permit with conditions, dated February 2, 2016
- * Technical Analysis, dated February 2, 2016
- * Affidavit of Publication (Southern Utah News)
- * AVS Recommendation, dated February 2, 2016

ADMINISTRATIVE OVERVIEW

Alton Coal Development, LLC
North Private Lease Area 1
Coal Hollow Mine
C/025/0005

Kane County, Utah

February 2, 2016

PROPOSAL:

Alton Coal Development, LLC proposes to develop a parcel of privately owned land north of the Coal Hollow Project. The development is called the North Private Lease. The center of the North Private Lease is located approximately 0.8 miles south east of the town of Alton, Utah. At this time Alton Coal Development, LLC is proposing to develop only Area 1 of the North Private Lease. The Area 1 boundary contains 51.897 acres.

BACKGROUND:

The Alton coal field is located in T39S, R6W and T39S, R5W SLB&M, Kane County, Utah. The town of Kanab, which is the Kane County Seat, is located about 30 miles south of the Alton coal field. Alton Coal Development, LLC (ACD) is the company responsible for the development of a portion of the Alton coal field which is known as 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.

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. Starting in 2006, ACD submitted an application for a mine permit along with a Mining and Reclamation Plan (MRP) to the Utah Division of Oil, Gas and Mining (UDOGM). It took until November 8, 2010 to complete the permitting process when the Division issued a permit for the Coal Hollow Mine.

The Coal Hollow Project started as a surface mining operation that intended to produce approximately 2,000,000 tons of coal annually using pit mining. Midway through the project, ACD initiated Highwall mining which was used in a portion of the mine. Recently the Company has instigated underground mining, which is still being developed. Production at the mine has been much slower than anticipated.

A bond in the amount of \$12,750,000 has been posted to cover the reclamation of the site. The mine has been reclaiming the pits as they are mined out. Currently, pit 10 remains open as it is the access to the underground mine area. The Company has applied for and received phase I bond release on 113 acres of disturbance. This has allowed them to roll some of the bond money to the Area 1 of the North Private Lease. The amount of bond required to

reclaim the entire mine site including the area 1 of the North Private Lease has been calculated to be \$12,147,598. The current bond is adequate to cover this amount.

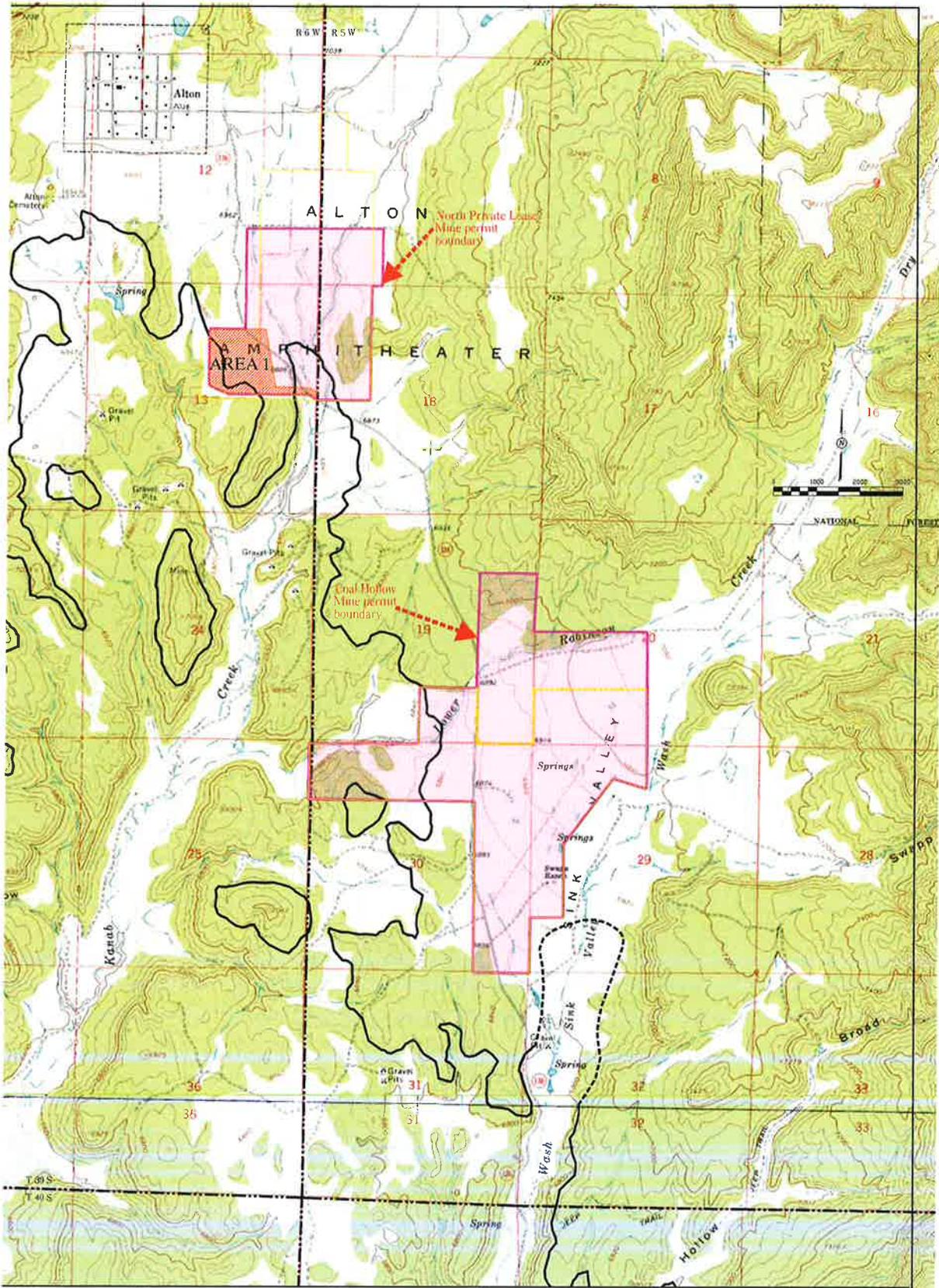
ANALYSIS:

The Division of Oil Gas and Mining has conducted an Administrative and Technical Analysis of the proposed mine Permit Application Package and has produced a written TA. All appropriate State and Federal agencies have been consulted regarding this proposal. It has been determined that the Applicant has the legal right to enter and conduct mining operations in the proposed permit area through acquired lease modification. All requirements for public participation have been satisfied. The application meets the requirements of the Utah Coal Regulatory Program.

RECOMMENDATION:

This recommendation is based on the complete permit application package (PAP), the Technical Analysis (TA) conducted by the Division and the administrative record. Alton Coal Development, LLC has demonstrated that mining within the North Private Lease Area 1 boundary can be done in conformance with the Surface Mining Control and Reclamation Act, and the corresponding Utah Act and performance standards. The 510(c) report on the Applicant Violator System was verified for this mine on February 2, 2016 and there are no violations.

It is recommended that approval be given for mining in the Area 1 boundary to North Private Lease at the Coal Hollow Mine with the conditions summarized as Attachment A to the Permit.



LEGEND:

	PERMIT AREA
	PRIVATE COAL
	COAL LINE BOUNDARY
	COUNTY ROAD

DRAWN BY:	CHCKED BY:
N. BUTKOVICH	APC
DRAWING:	DATE:
1-1	8/16/04
JOB NUMBER:	SCALE:
1400	1" = 1000'
	SHEET

REVISIONS	
DATE:	BY:
8/25/08	CRM
10/18/13	KN
8/7/14	KN

PERMIT AREA

COAL HOLLOW PROJECT
ALTON, UTAH

DRAWING: 1-1



463 North 100 West, Suite 11
Cedar City, Utah 84721
Phone (435)867-5331
Fax (435)867-1192

PERMITTING CHRONOLOGY

Alton Coal Development, LLC
North Private Lease Area 1
Coal Hollow Mine
C/025/0005

Kane County, Utah

February 2, 2016

June 22, 2015	Alton Coal Development, LLC, submits the permit application package for the North Private Lease addition, Area 1 boundary to the Coal Hollow Mine.
July 15, 2015	The permit application was determined administratively complete. Alton Coal Development, LLC is instructed to publish a Notice of Complete Application in the local newspaper and place a copy of the application in the county courthouse.
July 28, 2015	The Division sent letters to state, federal and local planning agencies notifying them of the complete permit application and soliciting their comments.
July 23, 30 and August 6 and 13, 2015	This permitting action for the addition of the North Private Lease, is published in the <u>Southern Utah News</u> for four consecutive weeks.
September 13, 2015	End of public comment period.
February 2, 2016	TA completed.
February 2, 2016	AVS check completed with issue recommendation.
February 2, 2016	Permit approved effective February 2, 2016

FINDINGS

Alton Coal Development, LLC
North Private Lease Area 1
Coal Hollow Mine
C/025/0005

Kane County, Utah

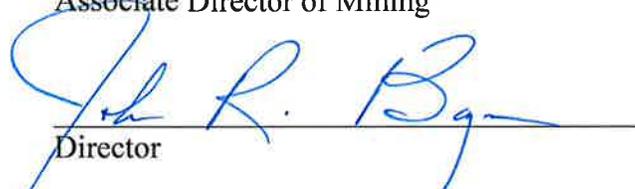
February 2, 2016

1. The permit application for the expansion of mining of coal from the North Private Lease Area 1 boundary at the Coal Hollow Mine is accurate and complete and all requirements of the Surface Mining Control and Reclamation Act, and the approved Utah State Program (the "Act") are in compliance. See Technical Analysis dated February 2, 2016 (R645-300-133.100)
2. The applicant proposes acceptable practices for the reclamation of disturbed lands. The Division has determined that reclamation, as required by the Act can be feasibly accomplished following the approved plan with the attached permit conditions. (R645-300-133.710)
3. The proposed lands to be included within the permit area are:
 - a. Not included within an area designated unsuitable for underground coal mining operation (R645-300-133.220);
 - b. Not within an area under study for designated land unsuitable for underground coal mining operations (R645-300-133.210);
 - c. Not on any lands subject to the prohibitions or limitation of 30 CFR 761.11 {a} (national parks, etc), 761.11 {f} (public buildings, etc.) and 761.11 {g} (cemeteries);
 - d. Not within 100 feet of a public road except at the location where the public road accesses the property(R645-300-133.220); and
 - e. Not within 300 feet of any occupied dwelling (R645-300-133.220).
4. The operation would not affect the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitats as determined under the Endangered Species Act of 1973. See Technical Analysis dated February 2, 2016. (16 USC 1531 et seq.) (R645-300-133.500).
5. The Division's issuance of a permit is in compliance with the National Historic Preservation Act and implementing regulations (36 CFR 800). See Technical Analysis dated February 2, 2016. (R645-300-133.600)

6. A 510 (c) report has been run on the Applicant Violator System (AVS), which shows that: prior violations of applicable laws and regulations have been corrected; neither Alton Coal Development, LLC nor any affiliated company, are delinquent in payment of fees for the Abandoned Mine Reclamation Fund; and the applicant does not control and has not controlled mining operations with demonstrated pattern of willful violations of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (A 510 (c) report was run on February 2, 2016, see memo to file dated February 2, 2016). (R645-300-133.730)
7. The applicant has posted a surety bond for the Coal Hollow Mine in the amount of \$12,750,000 issued by Ironshore Indemnity Inc. (Surety Number SUR60000010). The bond is sufficient for the new disturbance proposed. (R645-300-134).
8. No lands designated as prime farmlands or alluvial valley floors occur on the permit area. See Technical Analysis dated February 2, 2016 (R645-302-313.100 and R645-302-321.100).
9. The proposed postmining land-use will not be affected by this action.
10. The Division has made all specific approvals required by the Act, the Cooperative Agreement, and the Federal Lands Program.
11. All procedures for public participation required by the Act, and the approved Utah State Program are in compliance. The public advertisement was published on July 23, 30, August 6 and 13, 2015 in the Southern Utah News (R645-300-120).
12. All existing structures at the mine comply with performance standards. This application is an extension of an existing mine with no new surface facilities being proposed (R645-300-133.720).


Permit Supervisor


Associate Director of Mining


Director

NON-FEDERAL

PERMIT
C/025/0005

February 2, 2016

**STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340**

This permit, C/025/0005, is issued for the State of Utah by the Utah Division of Oil, Gas and Mining (DOGM) to:

**ALTON COAL DEVELOPMENT, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720
(435)867-5331**

for the Coal Hollow Mine. Alton Coal Development, LLC is the lessee of the entire surface estate included within the permit area and of approximately 573 acres of subsurface coal, including 51.897 acres known as the North Private Lease. A performance bond is filed with the DOGM in the amount of \$12,750,000.00, payable to the state of Utah, Division of Oil, Gas and Mining. DOGM must receive a copy of this permit signed and dated by the permittee.

Sec. 1 STATUTES AND REGULATIONS - This permit is issued pursuant to the Utah Coal Mining and Reclamation Act of 1979, Utah Code Annotated (UCA) 40-10-1 et seq, hereafter referred to as the Act.

Sec. 2 PERMIT AREA - The permittee is authorized to conduct coal mining and reclamation activities on the following described lands within the permit area at the Coal Hollow mine, situated in the state of Utah, Kane County, and located:

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 30: All of Section Lot #1 (NW $\frac{1}{4}$ NW $\frac{1}{4}$); NE $\frac{1}{4}$ NW $\frac{1}{4}$; N $\frac{1}{2}$ NE $\frac{1}{4}$; ALSO:
BEGINNING 3.50 chains West of the East Quarter corner of Said Section 30, and running South 34° 34' West 22.64 chains of the 1/16 section line; thence West 2.64 chains to the Southwest corner of NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Said Section 30; thence North 40.00 chains; thence East 20.00 chains; thence South 14.69 chains; thence southwesterly to the point of beginning...containing 217.64 acres, more or less.

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 29: BEGINNING at the Northwest corner of Said Section 29, and running thence South 34.69 chains; thence North 33° 22' East 35.50 chains; thence North 40° West 0.58 chains; thence North 37° 30' East 12.30 chains; thence West 22.23 chains to the point of beginning...containing 36.04 acres, more or less.

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 19: SW¼ SE¼, E½ SE¼, SE¼ NE¼...containing 160.0 acres, more or less.

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 20: SW¼...containing 160.00 acres, more or less.

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 30: BEGINNING at a point 5.3 I chains North of the E¼ corner of Said Section 30, and running thence South 45.31 chains; thence West 20.00 chains; thence North 20.00 chains; thence East 2.64 chains; thence North 34° 34' East 22.64 chains to the 1/16 section line; thence North 33° 22' East to the point of beginning...containing 61.96 acres, more or less.

TOWNSHIP 39 SOUTH-RANGE 05 WEST, SLB&M

Section 29: BEGINNING at the Northeast Corner of the Northwest Quarter of Said Section 29, and running thence South 14.97 chains; thence West 73 degrees North, 12.41 chains; thence South 36 degrees 45 minutes West to the Quarter Section Line of Section 29; thence South 36 degrees 45 minutes West 15.61 chains; thence South 5.20 chains to the center section line of Section 29; thence South 20.0 chains; thence West 10.96 chains to the west section line of Section 29; thence North 20.0 chains to the Quarter Section Corner of Section 29; thence North 25.31 chains; thence North 33 degrees 22 minutes East 35.50 chains; thence in a Northwesterly direction 2 rods; thence North 37 degrees 30 minutes East 12.30 chains to the North Section Line of Section 29; thence East 17.77 chains to the point of beginning...containing 85.88 acres, more or less.

NORTH PRIVATE LEASE AREA 1

The following described lands located in Kane County, Utah within Sec. 12&13, T39S, R6W and within Sec. 7&18, T39S, R5W:

BEGINNING at N00° 13'43"E a distance of 32.93' from the Quarter Corner of Section 13, T39S, R6W and Section 18, T39S, R5W; thence N 31° 31'50"E a distance of 154.24'; thence N 57° 23'16"W a distance of 226.20'; thence N 88° 59'49"W a distance of 790.60'; thence N 09° 59'55"W a distance of 1362.26'; thence N 90° 00'00"W a distance of 471.76'; thence N 89° 29'27"W a distance of 823.81'; thence 00° 05'35"E a distance of 1314.78'; thence S 65° 46'32"E a distance of 477.33'; thence S 89° 44'30"E a distance of 1861.86'; thence S 53° 54'07"E a distance of 164.78'; which

is the point of beginning, having an area of 22260635.86 square feet, or 51.897 acres.

This legal description is for the permit area (773 acres) of the Coal Hollow Mine and included in the operation and reclamation plan on file at the Division. The permittee is authorized to conduct coal mining and reclamation operations on the foregoing described property subject to the leases and Conditional Use Permit issued by Kane County, including all conditions and all other applicable conditions, laws and regulations.

- Sec. 3 COMPLIANCE** - The permittee will comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State Program.
- Sec. 4 PERMIT TERM** - This permit expires on November 8, 2020.
- Sec. 5 ASSIGNMENT OF PERMIT RIGHTS** - The permit rights may not be transferred, assigned or sold without the approval of the Director, DOGM. Transfer, assignment or sale of permit rights must be done in accordance with applicable regulations, including but not limited to 30 CFR 740.13(e) and R645-303.
- Sec. 6 RIGHT OF ENTRY** - The permittee shall allow the authorized representative of the DOGM, including but not limited to inspectors, and representatives of OSMRE, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay to:
- A. have the rights of entry provided for in 30 CFR 840.12, R645-400-110, 30 CFR 842.13 and R645-400-220; and,
 - B. be accompanied by private persons for the purpose of conducting an inspection in accordance with R645-400-100 and 30 CFR 842, when the inspection is in response to an alleged violation reported by the private person.
- Sec. 7 SCOPE OF OPERATIONS** - The permittee shall conduct coal mining and reclamation operations only on those lands specifically designated as within the permit area on the maps submitted in the mining and reclamation plan and permit application and approved for the term of the permit and which are subject to the performance bond.
- Sec. 8 ENVIRONMENTAL IMPACTS** - The permittee shall minimize any adverse impact to the environment or public health and safety through but not limited to:
- A. accelerated monitoring to determine the nature and extent of noncompliance and the results of the noncompliance;
 - B. immediate implementation of measures necessary to comply; and

- C. warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.

Sec. 9 DISPOSAL OF POLLUTANTS - The permittee shall dispose of solids, sludge, filter backwash or pollutants in the course of treatment or control of waters or emissions to the air in the manner required by the approved Utah State Program which prevents violation of any applicable state or federal law.

Sec. 10 CONDUCT OF OPERATIONS - The permittee shall conduct its operations:

- A. in accordance with the terms of the permit to prevent significant, imminent environmental harm to the health and safety of the public; and
- B. utilizing methods specified as conditions of the permit by DOGM in approving alternative methods of compliance with the performance standards of the Act, the approved Utah State Program.

Sec. 11 EXISTING STRUCTURES - As applicable, the permittee will comply with R645-301 and R645-302 for compliance, modification, or abandonment of existing structures.

Sec. 12 RECLAMATION FEE PAYMENT - The operator shall pay all reclamation fees required by 30 CFR part 870 for coal produced under the permit, for sale, transfer or use.

Sec. 13 AUTHORIZED AGENT - The permittee shall provide the names, addresses and telephone numbers of persons responsible for operations under the permit to whom notices and orders are to be delivered.

Sec. 14 COMPLIANCE WITH OTHER LAWS - The permittee shall comply with the provisions of the Water Pollution Control Act (33 USC 1151 et seq.) and the Clean Air Act (42 USC 7401 et seq), UCA 26-11-1 et seq, and UCA 26-13-1 et seq.

Sec. 15 PERMIT RENEWAL - Upon expiration, this permit may be renewed for areas within the boundaries of the existing permit in accordance with the Act, the approved Utah State Program.

Sec. 16 CULTURAL RESOURCES - If during the course of mining operations, previously unidentified cultural resources are discovered, the permittee shall ensure that the site(s) is not disturbed and shall notify DOGM. DOGM, after coordination with OSMRE, shall inform the permittee of necessary actions required. The permittee shall implement the mitigation measures required by DOGM within the time frame specified by DOGM.

Sec. 17 APPEALS - The permittee shall have the right to appeal as provided for under R645-300.

Sec. 18 SPECIAL CONDITIONS - There are special conditions associated with this permitting action as described in Attachment A.

The above conditions (Secs. 1-18) are also imposed upon the permittee's agents and employees. The failure or refusal of any of these persons to comply with these conditions shall be deemed a failure of the permittee to comply with the terms of this permit and the lease. The permittee shall require his agents, contractors and subcontractors involved in activities concerning this permit to include these conditions in the contracts between and among them. These conditions may be revised or amended, in writing, by the mutual consent of DOGM and the permittee at any time to adjust to changed conditions or to correct an oversight. DOGM may amend these conditions at any time without the consent of the permittee in order to make them consistent with any new federal or state statutes and any new regulations.

THE STATE OF UTAH

By: _____

Date: _____

I certify that I have read, understand and accept the requirements of this permit and any special conditions attached.

Authorized Representative of the Permittee

Date: _____

ATTACHMENT A
SPECIAL CONDITIONS

1. Alton Coal Development, LLC (ACD) will submit water quality data for the Coal Hollow Mine in an electronic format through the Electronic Data Input web site, <http://linux1.ogm.utah.gov/cgi-bin/appx-ogm.cgi>.
2. In the event that ACD encounters large volumes of groundwater (a sustained flow of more than 1 cfs) in any pit, they will be required to notify the Division, and assess and submit plans to curtail inflows to the pit and reestablish groundwater movement.
3. When filling and reclaiming pits, porous fill material must not be left adjacent to the alluvial aquifers. As mining progresses to the south of Pit 15, if the coarse grained alluvium zone connected to the adjacent artesian water system is intersected by mining and a sustained flow greater than 1 cfs is encountered, the compacted shale barrier constructed in Pit 15 must then be extended south to these points of intersection. This extension of the shale barrier will meet the same specifications described in the application for the Pit 15 permanent barrier.
4. The Applicant will be required to monitor for selenium where water leaves the minesite, during operational and reclamation phases.
5. The Applicant will be required to evaluate discharges from the mine to determine any impacts to the designated AVF on Kanab Creek. An annual finding should be placed in the Annual Report during operation and reclamation of any adverse impacts to the channel, diminution of water quality and impacts to wildlife.
6. Prior to conducting mining operation on the North Private Lease, ACD will meet with the DWR, FWS and DOGM and reach consensus on the development of a long term sage grouse monitoring plan that includes specific criterion for monitoring sage grouse which includes a commitment to (1) meet with Dr. Frey, DWR, FWS and DOGM, other members of the Panguitch Local Sage Grouse Working Group as needed and (2) provide a summary, analysis, findings and recommendations of the data collected from the GPS collars and obtain approval for requisite updates to chapter 3 of the current MRP.
7. ACD will provide documentation of payment for completion of the WRI project #3419 within 30 days of its completion.
8. Within 30 days of permit issuance ACD will submit clean copies of the final application which include housekeeping edits identified during the review.

HOUSEKEEPING ITEMS FOR CLEAN COPIES

1. Chapter 5, page 5-27
 - a. C-2 corrected from 48" to 36"
2. Chapter 5, page 5-60
 - a. C-2 corrected from 48" to 36" and C-3 from 172" to 144"
3. Bonding
 - a. Addition of Drop Structure removal for Area 1
4. Maps and plans
 - a. Correct reference on following Chapter 5 Drawings:
5-47, 5-48, 5-49, 5-51a, 5-65
 - b. Detail reclamation length of C-2 and drop structure
5-76b, 5-59, 5-61
 - c. Add scale bar to following Chapter 5 Drawings:
5-48, 5-49, 5-50, 5-51a, 5-51b, 5-58, 5-59, 5-60, 5-61, 5-62, 5-66, 5-67, 5-68, 5-69,
5-70, 5-71, 5-74a, 5-74b, 5-74c, 5-79
5. Chapter 3, ACD has provided documentation of the re-distribution of the Dames lease mitigation acreage (344 acres) to the North lease as noted on page 9 of appendix 3-8. The text on pages 3, 8 and 9 of Appendix 3-8 will also need to be revised accordingly. Vegetation map #2 should be updated to include Area V22 and a commitment to mitigate impacts to these wetland riparian vegetation communities located along Kanab creek below the southern end of the permit boundary.
6. The Table of Contents for Chapter 4 lists Appendix 4-9 as Cultural Resources Discovery Plan, while Appendix 4-8 is listed as Management Plans for the North Private Lease Properties. The Cultural Resource cover page is erroneously labeled as Appendix 4-8 in the body of the document (PDF submittal page 361). As Appendix 4-8 is the Management Plan, this must be corrected.



State of Utah
 DEPARTMENT OF NATURAL RESOURCES
 MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
 JOHN R. BAZA
Division Director

Technical Analysis and Findings

Utah Coal Regulatory Program

February 2, 2016

PID: C0250005
TaskID: 4942
Mine Name: COAL HOLLOW
Title: NORTH PRIVATE LEASE

General Contents

Identification of Interest

Analysis:

The minimum requirements of R645-301-112 were met.

The Division performed a cross check with the Applicant/Violator System. No errors in the ownership and control information were identified.

Appendix 1-10, Ownership and Control, of the MRP is current. No updates are required at this time.

ssteab

Violation Information

Analysis:

The minimum requirements for R645-301-113 were met.

An AVS evaluation was generated on 6/3/15. No suspensions, revocations or unabated violations were reported. An AVS evaluation was also provided with the application listing no suspensions, revocations or unabated violations of SMCRA dated 7/7/15.

An AVS evaluation was generated on 10/26/15. No suspensions, revocations or unabated violations were reported.

An updated listing of violations within the last 3 years was also provided.

ssteab

Filing Fee

Analysis:

Not Applicable.

ssteab

Public Notice and Comment

Analysis:

The minimum requirements of R645-300-120 were met.

The application was determined administratively complete on July 15, 2015. A proposed public notice was provided with the application which contained all of the required information for publication.

The mine operator was notified to publicize for four consecutive weeks. A 30 day comment period will follow the last date of publication.

The mine operator submitted the affidavit of publication to the Division on September 9, 2015. The Operator publicized in the Southern Utah News on July 23, 30, August 6 and 13, 2015. The comment period ended on September 12, 2015. No comments were received by the Division.

ssteab

Permit Application Format and Contents

Analysis:

The minimum requirements of R645-301-120 were met.

The application to add the North Private Lease contained current information and was filed in a format required by the Division.

ssteab

Completeness

Analysis:

The minimum requirements of R645-301-150 were met.

The application for a permit to conduct coal mining and reclamation operations was determined administratively complete on July 15, 2015 and included the minimum information required under R645-301.

ssteab

Permit Application Format and Contents

Analysis:

The Appendix 5-12 references an Appendix 5-13 which does not exist.

AREA 2, 3:

The amendment does not meet the State of Utah R645 requirements of Clear and Concise.

The amendment has provided well logs for a number of wells, but they do not match the wells stated within the application, including: A-6, PDH-6, PDH-7.

The amendment includes poorly organized drill logs/data sheets and duplicate drill logs. The amendment must organize the drill logs and provide only one copy of each.

Deficiencies for proposed operations in AREA 2 and 3:

AREA 2, 3:

The amendment does not meet the State of Utah R645 requirements of Clear and Concise.

R645-301-121.200: The amendment has provided well logs for a number of wells, but they do not match the wells stated within the amendment, including: A-6, PDH-6, PDH-7.

R645-301-121.200: The amendment includes poorly organized drill logs/data sheets and duplicate drill logs. The amendment must organize the drill logs and provide only one copy of each.

kstorrar

Legal Description

Analysis:

Analysis:

The application meets the requirements of R645-301-820.113, because in the Supplemental bond information addressed to Dana Dean, dated January 18, 2016 accompanying the application, Exhibit A was amended to provide the legal description of North Lease Area 1 (51.897 acres); and the North Lease Area 1/Pit 1 (6.550 acres). Area 1/Pit 1 is the first increment for bonding. The area is shown on Drawing B-2 of the Bond General Purpose Rider, Bond #SUR6000010.

Chapter 1, Section 110 provides the legal description for Area 1 of the North Lease (51.897 acres), which is also depicted on Drawing 1-1 Project Area. (And also shown on Drawing 5-46 Disturbance Sequence, and Dwg. 5-48 Facilities and Structures Construction Sequence- Area 1, and on Topsoil Handling Plan, Dwg 2-4.) A facilities and construction sequence for Area 1 is found in Chapter 5 (p. 5-48).

With this application, the Permittee has chosen to bond for surface disturbance in Area 1 and for overburden and coal removal in Pit 1 only (incremental bonding within Area 1). The Pit 1 bond polygon is shown on Drawing 5-77 Bond Polygons. Drawing 5-77 does not include the Area 1 boundary, however. The extent of Pit 1 in relation to the rest of Area 1 can be seen by viewing Drawing 5-57 Overburden Removal Sequence, which does show the Area 1 boundary.

pburton

Maps and Plans

Analysis:

With regard to post mining topography maps: the application meets the requirements of R645-301-140, Maps and Plans, because the reclamation topography maps Dwg 5-74 A-C and cross sections Dwg 5-75 are on the scale of 1:100 feet for the post mining topography Dwg 5-74. In addition, cross section station locations are shown on Dwg 5-74 and contours are shown in 2 ft intervals. These maps should be printed at 24" X 36" to reproduce the scale and be legible (ANSI D size).

pburton

Reporting of Technical Data

Analysis:

The amendment does not meet the State of Utah R645 requirements for Reporting of Technical Data.

The amendment must report all well completion information for all existing and future wells within and adjacent to the North Private Lease and the production well in the south lease. This information must include:

1. Location, date drilled, and aquifer represented.
2. Ground elevation and elevation of the measuring point.
3. Drill bit and casing diameter.
4. Packer base depth and elevation.
5. Casing depth and total depth.
6. Total hydraulic head elevation.
7. Method of measuring formation pressure.
8. Gravel pack - yes or no.
9. Casing material.
10. Well development techniques.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-130. The amendment does not meet the State of Utah R645 requirements for Reporting of Technical Data.

The amendment must report all well completion information for all existing and future wells within and adjacent to the North Private Lease and the production well in the south lease. This information must include:

1. Location, date drilled, and aquifer represented.
2. Ground elevation and elevation of the measuring point.
3. Drill bit and casing diameter.
4. Packer base depth and elevation.
5. Casing depth and total depth.
6. Total hydraulic head elevation.
7. Method of measuring formation pressure.
8. Gravel pack - yes or no.
9. Casing material.
10. Well development techniques.

Permit Application Format and Contents

Analysis:

The information submitted in the latest response dated 12/18/2015 has not been presented in a format approved by the Division and does not correspond to the deficiencies noted in the R645 coal rules. The applicant needs to address the deficiencies as they are formatted and referenced in accordance with the R645 coal rules.

jhelfric

Maps and Plans

Analysis:

The application does not meet the State of Utah R645 Coal Mining Rule requirements for General Contents: Maps and Plans as it pertains to Historic and Archaeological Resource information.

1. Maps clearly showing areas inventoried to identify extent of cultural resources down-gradient from the ASCA and ponds in Area 1 must be included.
2. Maps clearly showing the proposed locations of the ASCA and ponds in Area 1 in relation to cultural resources must be included

jmontcalm

Legal Description

Analysis:

The amendment now meets the State of Utah R645 requirements for legal description.

The amendment did not meet the minimum requirements of R645-301-820.113 within the included Chapter 1, section 110 and the Supplemental bond information supplied in the January 18, 2016 submission due to errors in the legal description. The Exhibit A provided has errors. The meets and bonds are missing cardinal directions for the beginning points. For Area 1 it should be written N 0°0'0"E a distance of 32.93' from the east quarter corner and for Pit 1, it should be Beginning at N 275°57'30"E. The legal description for Pit 1 has a beginning point roughly 150 feet south of what is shown on Exhibit B within the amendment. The Division created Drawing 1, attached, to show how the bonded pit extent shown in Exhibit B cover Pit 1, including pit set back crests. Drawing 2, attached, was created to show the error in the legal description. The Division created the green polygon, present in Drawing 1 and 2, following the provided legal description. The Division traced the outline of the presumed correct position of Pit 1, based of information shown within Exhibit B, to detail what the believed intended footprint of Pit 1 would look like on Drawing 5-77.

The Permittee was contacted on February 1, 2016 by the Division to address this deficiency. The Permittee provided updated Chapter 1 Section 110 correct legal descriptions on February 2, 2016 that were placed within the amendment to be approved. The Permittee will provided corrected legal descriptions within the supplemental bond information upon approval of the current amendment.

cparker

Maps and Plans

Analysis:

Area 1:

The application still does not meet the minimum requirements of R645-301-121.200 due to missing scale bars and incorrect references on Chapter 5 Drawings.

To address this deficiency as part of the conditional approval of the amendment the Permittee will submit corrected Chapter 5 drawings, detailed below, to the Division within the clean copies.

The table of Contents for Chapter 5 still contained errors in the January 18, 2016 submission. The Division contacted Kirk Nicholes on January 27, 2016 to walk through the error of incorporated Appendix 5-13. The Permittee resubmitted the correct TOC on January 27, 2016.

The Permittee originally included a note to Chapter 5 stating there are three sets of pending edits included within the

Chapter 5 application. The Permittee stated in their December 18, 2015 reply to deficiencies that all edits of the three approved sets of pending edits were properly incorporated within the application before clean copies can be sent. Proof of errors of this manner is Appendix 5-13 being utilized twice. Appendix 5-13 is currently labeled as the "Pit 10 to Pond 3", which was completed in November 2015 and incorporated within the MRP under Task 5012. The current North Private Lease application incorrectly renamed Appendix 5-13 as "Culvert Design for C1 North Private Lease." The Permittee corrected the Table of Contents to show all updated appropriate appendices.

Within the January 18, 2016 resubmission the Permittee changed the USACE appendix to be contained with Appendix 5-14 instead of the original Appendix 5-13. Several chapter 5 drawings reference the incorrect appendix now and need to be updated. Specifically, Drawings 5-47, 5-48, 5-49, 5-51A, 5-6 these drawings will be corrected as part of the conditional approval of this amendment.

The scale bar required to size the sheets per R645-301-141 and is missing on Drawings 5-48, 5-49, 5-50, 5-51A, 5-51B, 5-58, 5-59, 5-60, 5-61, 5-62, 5-66, 5-67, 5-68, 5-69, 5-70, 5-71, 5-74A, 5-74B, 5-74C, and 5-79. The Permittee will amend the drawing to show an appropriate scale bar. These drawings will be corrected as part of the conditional approval of this amendment.

Bonding sheets within Appendix 8-2 detail that only 150 feet of culvert 2, installed in Permit Area 1 will be reclaimed. Details of C-2 contained with Appendix 5-14 show that C-2 is 251 feet in length with a drop structure in place. Drawing 5-76B incorrectly states that C-2 and ASCA 1 will be removed at final closure while Drawing 5-61 and 5-59 detail that C-2 will remain in place and do not show the drop structure. The bond does not detail the reclamation of the ASCA drop structure and details the reclamation of 150 feet of C-2. These drawings will be corrected as part of the conditional approval of this amendment.

cparker

Right of Entry

Analysis:

Analysis:

The information provided meets the requirements of Right of Entry, R645-301-114 for AREA 1.

Area 1 and the re-aligned County road is on land and minerals owned by Heaton Brothers LLC. The Kane County Road 136 Grant of Easement is in Appendix 1-11. Right of Entry, for Area 1, is provided as Exhibit 6 in Appendix 1-2 of Volume 9 (Confidential Incoming folder 10192015). Exhibit 6 is the March 15, 2007 Heaton Brothers LLC Lease. Exhibit 1 of Exhibit 6 provides a legal description of the leased parcel.

Surface ownership parcels are shown on Dwg 1-3. Coal Ownership is outlined on Dwg 1-4. The road re-alignment is shown in Appendix 1-11.

Finding: The information provided meets the requirements of Right of Entry, R645-301-114 for AREA 1.

pburton

Public Notice and Comment

Analysis:

Analysis:

The application meets the requirements of R645-300-120, Public Participation, because an affidavit of the public notice is included in Appendix 1-5.

The application meets the requirements of R645-300-121.150, mining within 100 feet of a public road, because the draft public notice mentions the temporary relocation of the public road.

pburton

Environmental Resource Information

Geologic Resource Information

Analysis:

The application meets the minimum requirements for Geologic Resource information as required by the R645-301-620 regulations.

Chapter 6 has been updated to describe the Geology of the North Private Lease Area. Appendix 6-2 provides an overburden assessment on 8 drill holes located throughout the North Private lease. Information from a 2012 drilling program in the North Private Lease is found in Appendix 7-16. Cross-section showing stratigraphic relationships and overburden thicknesses are found in Appendix 7-16. A geologic map of the North Private lease area is found as Figure 6 in Appendix 7-16.

Chemical information on acid and toxic forming potential are presented in Appendix 6-2 and information on the Smirl Coal Zone is in Appendix 6-1. The overburden suitability was judged on levels of pH, Boron, Selenium, Organic Carbon and Acid Base potential. There are specific zones within the overburden (specifically in the Tropic Shale) where the material would be considered unsuitable for use as growth medium or placed within the upper 4 feet of the backfill. However, the backfill would be selectively placed to avoid having the unacceptable materials within this root zone. Overburden materials and coal from the 8 drill holes in the North Private Lease were analyzed and described in Appendix 6-2 and Appendix 6-1 respectively. The Stratum immediately below the coal seam was also analyzed. Appendix 6-1 is labeled as confidential. There are no oil or gas wells within the proposed permit boundary.

dhaddock

Maps Archeological Site Maps

Analysis:

The application does not meet the State of Utah R645 Coal Mining Rule requirements for Maps, Plans and Cross Sections of Resource Information requirements.

The maps provided that detail the cultural resources and their locations within the North Private Lease are not sufficient. While maps addressing the currently approved permit area are provided, a map showing the area inventoried for cultural resources in the North Private Lease area is not provided.

jmontcalm

Maps Surface and Subsurface Ownership

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.130 through -521.132 minimum requirements for map surface and subsurface ownership.

The amendment includes maps which detail landowners, right of entry, and public interest maps within the amendment for the North Lease in Drawing 1-3 for surface ownership and Drawing 1-4 for subsurface ownership drawings. Chapter 5 Section 521.130 details the above drawings as the surface and subsurface ownership maps with the permit boundaries of the mine and individual landowners.

cparker

Vegetation Resource Information

Analysis:

Vegetation information for the North Lease is included in Volume 12, supplemental report, Vegetation and Wildlife Habitat of the North Private Lease Area. This report focuses on the environmental resource requirements of the regulations. Supplemental Report, Volume 10 of the MRP includes wetland and ordinary high water mark identifications and alluvial valley floor field investigations of North Private Lease area.

The general plant community types within the study area are shown on Vegetation Map 1. The majority of the area was originally comprised of rangelands that have been since converted to pasture lands by the private landowners. According to the information in this volume, the pasture lands were most often dominated by grass species such as: intermediate wheatgrass (*Elymus hispidus*), western wheatgrass (*E. smithii*), thickspike wheatgrass (*E. lanceolatus*), smooth brome (*Bromus inermis*) and crested wheatgrass (*Agropyron cristatum*). Additionally, there was one relatively small area that supported native, mostly undisturbed vegetation (undeveloped rangelands). This area consisted of pinyon-juniper, sagebrush with minor influence of a mountain brush community (including transitional zones between these types). These types comprised nearly 25 acres of the survey area. Examples of plant species common in these communities included: pinyon-pine (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), Gambel's oak (*Quercus gambelii*), Moki-apple

(Peraphyllum ramosissimum), Wyoming big sagebrush (Artemisia tridentata var. wyomingensis), black sagebrush (A. nova) alder-leaf mountain mahogany (Cercocarpus montanus), corymb buckwheat (Eriogonum corymbosum) and snowberry (Symphoricarpos oreophilus). There is one perennial and two ephemeral drainages that contained the following common plants: beaded sedge (Carex utriculata), bluegrass (Poa pratensis), woolly-sedge (Carex pellita), Douglas' sedge (C. douglasii), small-wing sedge (C. microptera), maritime arrowgrass (Triglochin maritima), common threesquare (Scirpus pungens), longstyle rush (Juncus longistylis), Missouri iris (Iris missouriensis), willows (Salix boothii and S. exigua), wiregrass (Juncus arcticus), Wood's rose (Rosa woodsii) and Russian olive (Elaeagnus angustifolia).

In addition, there are also upland plant communities within the referenced drainage channels. These communities were primarily dominated by Wyoming big sagebrush and black sagebrush.

Vegetation sampling includes total living cover, cover by species, and composition for all sample sites are shown Tables 1 through 42. Total annual biomass production estimates for all sample sites are shown on Table 43. Woody species density values for the pasture lands that have been proposed for disturbance by mining activities are shown on Table 44. All vegetation sample site locations are shown on Vegetation Map 2; color photographs of the sample sites are provided in Figures 1 through 21.

The application includes a list of Federally listed threatened, endangered and candidate plant species for Kane County, Utah (Table 45). Each species listed includes supportive documentation stating why there would be no impacts to these plants from the proposed mining operations.

Additional information may be required pending receipt of comments from DWR and FWS.

jhelfric

Prime Farmland

Analysis:

Volume 11 Section One describes the soil temperature as mesic and the precipitation pattern (soil moisture) as ustic. An ustic soil moisture regime indicates moisture is limited but is present at when conditions are suitable for plant growth. (Soil Survey Staff. 2010. Keys to Soil Taxonomy.) Table 4 outlines a requirement for a developed irrigation system on all prime farmlands, but this requirement only applies to xeric or ustic soil moisture regimes. Area 1 is not within the NRCS prime farmland designation shown on Map 8, Vol. 11. Area 1 soils are similar map units, but they are not irrigated.

The NRCS operational conservation planning maps show prime farmland soils in Area 2 and Area 3 (Map 8, Vol 11). The applicant has completed a soil survey of Area 2 and 3 in compliance with R645-302-314. Drawing 2.3 portrays the results of the soil survey provided in Vol 11. Drawing 2-3 distinguishes between Prime Farmland and Farmlands of Statewide importance. The chief distinction is that the latter is gullied land. During a site visit on November 23, 2015, the gullied land was noted to be within the area reached by irrigation wheel lines. Also during the Prime Farmland meeting on 11/23/2015, ACD personnel indicated that Farmlands of Statewide Importance would be handled as Prime Farmland. Therefore the reason for this distinction is unknown.

Productivity information for the North Lease is found in Chapter 4 Section 412.120 and in Appendix 4-8 and Table 43 in Vol. 12.

The Revised Prime Farmland Map 9 must be acceptable to the Natural Resource Conservation Service. The map is currently under review by the NRCS. Area 1 is not within the NRCS prime farmland designation.

In Section 232.600 of the MRP, Dwg 2-3 is compared with Dwg 10 in Vol 11 for information on soil salvage depth. The Permittee has clarified that these two maps are of the same scale (1 in = 500 ft) when Map 10 is printed as 11 x 17 inches and when Dwg 2-3 is printed as 24 X 36 inches. Dwg 2-3 shows the boundary of Area 1.

Findings:

Area 1: There is no prime farmland in Area 1 as shown on Map 8 Volume 11.

Area 2 and Area 3 prime farmland is under joint review by the NRCS and the Division. No determination on Area 2 and Area 3 has been made at this time. Deficiency for Area 2 and Area 3: R645-301-121.200, Specify the acreage of prime farmland soils in Areas 1, 2, and 3 on Table 11 Vol 11.

pburton

Fish and Wildlife Resource Information

Analysis:

According to the information in the application including high-value wildlife habitat data from the Division of Wildlife Resources geographic information system GIS database, habitat of four species have been mapped by DWR within and adjacent to the North Private Lease. These habitats include:

Black bear, *Ursus americanus*, habitat has been mapped in the general area, Wildlife Map 1. This habitat within and adjacent to the study area has been listed as year-long and classified as having substantial value by DWR. Additionally, year long and crucial ratings have been mapped about 2 miles to the east and northeast of the study area;

Mule deer, *Odocoileus hemionus*, habitat has also been mapped in the area by DWR. The habitat has been classified as crucial summer range and was located within and adjacent areas, Wildlife Map 2;

Rocky Mountain elk, *Cervus Canadensis*, habitat was located in the area. Summer habitat has been mapped throughout the entire area as well as assigned a value as substantial and important calving habitat (Wildlife Map 3) and;

Sage-grouse, *Centrocercus urophasianus*, habitat has been mapped in the study area. DWR has mapped much of the area to be occupied nesting and brood-rearing habitat, Wildlife Map 4. Additional data from DWR's Heritage Conservation database suggest there have been 15 occurrences of sage grouse in the proposed North lease area.

Threatened, Endangered & Sensitive Species

Tables 45 and 3-35 of federally listed threatened, endangered and candidate species for Kane County, Utah are included in volume 12 and chapter three of the application. The tables also include the status of the species, along with site-specific notes about the areas proposed for disturbance and the probabilities of their occurrences in the study area. Additionally, GIS data and shape files from the state Utah Conservation Data Center database were accessed for potential habitats of sensitive species. At the time this report was written, the only sensitive species mapped on that database was the greater sage grouse.

The Threatened and Endangered plant and Animal species list found in Table 45, Volume 12, has been updated to include the Yellow billed cuckoo. This list was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System and other federally listed species likely occur in Utah Counties. This list includes both current and historic records. The list was accessed online June 15, 2015. Its last update was dated January 12, 2012. Commitments have been made for additional studies and field surveys, when applicable, on that table.

Species occurrences for the North lease area are also provided by DWR, they include:

Sage-grouse, 15 records, the information in table 45 suggests that impacts to this species should be addressed.

Meager Camissonia, *Camissonia exilis*, 1 record, the information in vegetation and wildlife report suggests that the gypsiferous strata in which the plant occurs is not found in the proposed areas to be surfaced mined.

Northern Leopard Frog, 2 records, the information in table suggests that Although impacts to the local populations may be possible due to mining activities relatively close to the habitat, they area thought to be relatively minor.

These two non-threatened and endangered species Meager Camissonia G1(critically imperiled and the Northern Leopard Frog G5(demonstrably secure) were also included in the list. Biologists from DOGM (Joe Helfrich), DWR (Bill James) and FWS (Lary Crist, Betsy Herrmann and Jay Martini) collaborated on December 2nd, 2015 and determined that no additional conservation measures or mitigation would be required for these species beyond what DOGM and or The Army Corps of Engineers may require for mitigation and reclamation. Additional information regarding the range and current status of the frog has been provided by DWR (Bill James DWR to Joe Helfrich DOGM Status of the Northern Leopard Frog). DOGM (Joe Helfrich) met with ACD (Pat Collins, Mt.Nebo Scientific) on December 7, 2015. Talking points included , updates to Wildlife map # 4 and discussions with DWR and FWS regarding the Northern Leopard Frog and Meager Camissonia. Based on the information presented at the local sage grouse working group meeting in Panguitch on December 8th, the occupied and brood rearing sage grouse habitat in the Panguitch SGMA has been revised to include winter and other habitats and opportunity areas. ACD has updated Wildlife map # 4 and the text on page 33 of volume 12 in the North Lease application to include these habitats in areas 1, 2 and 3. ACD will need to provide a commitment to conduct a Northern Leopard Frog survey in areas 2 and 3 prior to conducting mining and or mine related activities in those areas. DWR, DOGM and FWS concur with ACD's findings that the Meager Camissonia would not be found in the soils identified in the North lease area.

Critical habitat maps for the Yellow billed cuckoo, Meager Camissonia and the Northern Leopard Frog have been included as attachments to Volume 12, Table 45. Chapter 3, Table 3-35 has been updated to reflect the text on pages 34 and 36.

Land Use Resource Information

Analysis:

The current land uses for the proposed North Lease area are grazing and wildlife. The native plant communities of the study area were most likely comprised of sagebrush/grass, pinyon-juniper and small mountain brush areas. They have been replaced by developed rangelands, mostly pasture lands. Consultations have been conducted with all surface landowners of the permit area to provide comments in the plan and attain their expectations for the desired postmining land use. According to the landowners, grazing and wildlife habitat would be the desired postmining land use, with emphasis on grazing by domestic livestock in most of the pasture land areas (these areas are shown on Vegetation Map, Drawing 3-1 of the MRP and on Vegetation Map 1 in Volume 12 (Supplemental Report: Vegetation & Wildlife Habitat of the North Private Lease Area). An exception to this plan is that one area in the current mine site that is currently now pasture land will be reseeded appropriately to provide additional habitat for sage sage-grouse, a sensitive species in the area.

A surface ownership map for the current Coal Hollow Mine area as well as the North Private Lease has been provided in the MRP (Drawing 1-3). Management plans for each property owner include the following information:

Richard Dame Property: The portion of land in the permit area owned by Mr. Richard Dame currently provides forage for domestic livestock and some wildlife species. This land is comprised mostly of unirrigated pasture land but also supports some native stands of pinyon- juniper and sagebrush communities (see Vegetation Map 3-1). Mr. Dame has expressed the desire to return his property to pasture land that focuses on domestic livestock, but also included wants some plant species for wildlife habitat to be seeded. In doing so, the revegetation seed mix is composed primarily of native and introduced grasses and forbs, with no woody species to be planted (for the seed mixture refer to Chapter 3, Table 3-38).

The livestock currently sustained on Mr. Dames property are mostly cattle, with some horses. The animals are kept in the pastures from April through November of each year. A management plan to support this same postmining land use has been designed so that the property will adequately support the animals desired by the landowner and will not be over-grazed. The management plan suggests that 1.125 animalsmonthacre could reasonably be sustained on the property. This figure was derived from the Average Animal Weight Method (Pratt and Rasmussen) and is based on raising 1 cow weighing 1,000 lbs and her calf on pastures that have an annual biomass productivity of 1,800 lbs acre. It conservatively estimates that one-half of the production will be consumed (take half, leave half rational). Therefore, the total number of animals allowed on the property in the postmining land use management plan can be calculated by multiplying the estimated number of animals month acre by the number of pasture land acres available by the number of months the animals are maintained on a given pasture.

Burton Pugh Property: The land in the permit area owned by Mr. Pugh also provides forage for domestic livestock and wildlife habitat. This land is comprised of unirrigated pasture land, meadows, sagebrushgrass, pinyon juniper, and oak brush communities (see Vegetation Map 3-1). The livestock currently sustained on Mr. Pugs pasture land property are mostly cattle, but sometimes horses are also kept on the property. The animals are supported in the pastures from April through November of the year. A management plan to support a similar postmining land use has been designed so that the property will not be over-grazed, yet support the animals desired by the landowner. Following mining and reclamation activities, Mr. Pugh has expressed the desire for his land to be returned to its current or better condition for livestock and wildlife habitat. In accomplishing this, the pasture lands will be revegetated to focus on domestic livestock, but the seed mixtures will also include some plant species used by the resident wildlife species. Because it has been postulated that encroachment of juniper trees into the valley in recent years has had a negative effect on the local sage -grouse populations, the revegetation plan for these areas will also focus on other plant species, or species that could have a positive effect on the birds as well as provide good forage for domestic livestock. The revegetation seed mixes for the Pugh property are shown in Chapter 3 and including: the sage brush grass (Table 3-137), meadows (Table 3-1840), pasture lands (Table 3-1938), oakbrush (Table 3-2141), and pinyonjuniper communities (Table 3-2339).

The management plan for Mr. Pugh suggests that 1.125 animals month acre could reasonably be sustained on the property. This figure was also derived from the Average Animal Weight Method (Pratt and Rasmussen 2001) and is based on raising 1 cow weighing 1,000 lbs and her calf on pastures that have an annual biomass productivity of 1,800 lbs acre.

There is, however, one area within Mr. Pugh's property that currently supports pasture land, but once it is reclaimed, it will be seeded to a mixture that would be conducive to sage grouse enhancement. This field can easily be located on Drawing 3-1 because it is the only pasture land located west of the county road. This land will be seeded with the sage brush grass mixture (Chapter 3, Table 3-37).

A copy of the grazing management plans signed by the landowners along with their comments are provided in Appendix 4-3 and 4-4 of chapter 4 of the MRP.

jhefric

Soils Resource Information

Analysis:

Analysis:

The information provided meets the requirements of R645-301-220, Soil Environmental Description.

The soil survey of the North Lease is found in Volume 11. The survey was completed by Robert Long Associates in 2014. Soil data point locations are identified on Soil Map 1. Prime farmland correspondence with the NRCS is found in Appendix A. Soil profile descriptions are in Appendix B. Soil Laboratory Analysis are found in Appendix C and are summarized in Tables C-1a, b, & c. The list of parameters analyzed is shown in Table 3 and included density and total metals (SW 846 method) for some samples. Soil samples were analyzed by Intermountain Laboratory-Sheridan, WY. Soil profile photographs are in Appendix D. Piezometers were installed at several aquic soil profile locations (Table 2) and the seasonal groundwater fluctuation is described in the NPL geo-hydrology report.

Area 1 is in the SW quarter of the North Lease on hilly land with 0-18% slopes. Area 1 soils are mapped predominantly in the Sideshow family: map units A2 and A3 (silty clays and clay soils represented by soil data locations 12AS013, 12AS014, 12AS017, and 12AS032). The second largest map unit is Teromote soil map unit A1 (clay loam) represented by data location 12AS016. The third and smallest unit is Boxcanyon family soil, map unit F (clay loam represented by soil data location 13AS07). These clay soils have limiting characteristics that must be recognized in reclamation plans.

The plan for soil salvage is provided in Table 14 of Volume 11. In several locations the A horizon is less than six inches and the plan calls for salvaging the A & B horizon together. Clay concentrations in the surface soils is about 32 - 67%, with correspondingly high saturation percentages. These non-carbonate clay soils are overall not sodic, the main cation is calcium in the form of gypsum. The exception is at sample location 12AS032, where the Sideshow soil is a smectite clay soil with shrink-swell characteristics noted by the presence of slickensides. At this location the SAR values range between 7.56 - 10.3 from 25 inches to 56 inches. This is considered only fair quality on the Division's suitability table. (Sample location 12AS032 was evaluated for density and total metals, as well.)

The soil survey describes the vegetation in Area 1 map units as black sagebrush, wheatgrasses, and galleta grass, with Wyoming big sagebrush dominating on Teromote soil (10 - 35% of the area). Pinyon and juniper have recently been removed from Area 1 soils. Productivity information for the North Lease is found in Chapter 4 Section 412.120 and in Appendix 4-8 and Table 43 in Vol. 12. Productivity information in Table 43 is for sample locations shown on Vegetation Map 2 (vol 12). One sample location, V-19, falls within Area 1. At this site the productivity was estimated to fall between 500 lbs/acre - 1,100 lbs/acre. This measurement is in agreement with the data generated by the NRCS for the upland clay loam ecosite. (Vic Parslow. 2015. NRCS Provisional Data for the Kane County Survey. Richfield, Utah.)

The prime farmland status of these soils is presented in Table 11, Volume 11. Map units A1, A2, and A3 are farmlands of statewide importance. Map Unit F is a prime farmland soil when irrigated. Within Area 1, south of the County road, the land is not irrigated.

Drawing 2.3 portrays the results of the soil survey provided in Vol 11. Drawing 2-3 distinguishes between Prime Farmland and Farmlands of Statewide importance. The chief distinction is that the latter is gullied land. During a site visit on November 23, 2015, the gullied land was noted to be within the area reached by irrigation wheel lines. Also during the Prime Farmland meeting on 11/23/2015, ACD personnel indicated that Farmlands of Statewide Importance would be handled as Prime Farmland. This approach is restated in Chapter 2.

The Revised Prime Farmland Map 9 must be acceptable to the Natural Resource Conservation Service. The map is currently under review by the NRCS. Area 1 is not within the NRCS prime farmland designation.

In Section 232.600 of the MRP, Dwg 2-3 is compared with Dwg 10 in Vol 11 for information on soil salvage depth. The Permittee has clarified that these two maps are of the same scale (1 in = 500 ft) when Map 10 is printed as 11 x 17 inches and when Dwg 2-3 is printed as 24 X 36 inches.

See Environmental Resource Prime Farmland section for further review.

Hydro Baseline Cumulative Impact Area

Analysis:

The amendment does not meet the State of Utah R645 requirements for Baseline Information. The following deficiencies must be addressed prior to final approval.

The application does not meet the minimum hydrologic and geologic baseline cumulative impact area requirements for the alluvial aquifer within the permit area. Additional information is needed regarding the vertical and horizontal alluvial aquifer characteristics.

The methodology of determining the aquifers hydrogeologic characteristics and the supporting discussion has a number of short comings. The alluvial aquifer has only one study well, Y-103, and the results from this well are unreliable on a number of levels. 1) The study was conducted by a company (UII) in the 1980's. These out-dated results cannot be used to update the CHIA. 2) It is not possible to quantify the vertical and horizontal characteristics of an alluvial aquifer by performing a slug test at one well site. Slug test results only provide a rough estimate of an aquifer's hydraulic conductivity (K) within the immediate vicinity of the well. 3) Well Y-103 is screened from 17.9 bgl to 77.8 bgl (below ground level) across the water table resting around 30â€™ bgl. This makes interpretation of slug testing results difficult to accurately interpret. 4) The application does not provide a discussion on the development of well Y-103 and a well completion report or if a well efficiency test was performed. In a paper by Butler and Healey (GROUNDWATER, 1998), well development can significantly influence slug-test K resulting in an artificially low value for the aquifer.

A robust study is needed to determine the aquifer's hydrogeologic regime. This study must include:

I. Aquifer Hydraulic Characteristics

Hydrogeologic characterization of the permit area requires a detailed narrative, maps, and supporting calculations of the mining method, extent of disturbance, depth of the pit, duration of the mining, and potential impacts to surrounding water resources and water rights. The amendment must: 1) determine the hydraulic characteristics of the alluvial aquifer that will be affected by mining; 2) estimate the areal extent of static water level declines in the affected aquifer; 3) evaluate potential impacts to water resources due to mining, and 4) estimate groundwater conditions and aquifer characteristics likely to exist after reclamation. The following deficiencies must be addressed prior to final approval:

a. Hydrogeologic Characteristics

The amendment must include a narrative summary of hydrogeologic characteristics including the following:

- (1) Number of aquifers and their intercommunication;
- (2) Aquifer characteristics and variability;
- (3) Direction of flow and significance of recharge and discharge areas to the sites;
- (4) Significance of hydrologic boundary conditions;
- (5) Potentiometric surface(s);
- (6) Water quality; and
- (8) Adjacent and regional potentiometric surface(s)

b. Aquifer Tests

Aquifer tests must be used to determine transmissivities, hydraulic conductivities, storage coefficients, hydrologic boundaries, leakage, aquifer homogeneity, and isotropy. For example, a multi-well pump test evaluation, as described by Theis (1935), Cooper and Jacob (1946), Boulton (1954), or a test as summarized by Lohman (1979). A data log for each aquifer test must be included in the application to identify both a chronological order of events and decisions that were made during testing. The location and number of aquifer tests should be sufficient to characterize the different hydrogeologic environments present within the potentially affected area. At a minimum, at least one aquifer test should be performed for each potentially affected hydrogeologic environment identified during the preliminary geologic investigation.

Within the data log mentioned in the above paragraph, the following information must be submitted for each aquifer or pumping test:

- (1) All data obtained from the aquifer tests and measurements necessary to evaluate the testing results; and
- (2) Methods of analyses:
 - (a) List the methods of analyses and equations used;
 - (b) List the assumptions upon which the equations are based;
 - (c) List how assumptions were met by the physical conditions; and
 - (d) Present sample calculation.
- (3) Graphs which show:
 - (a) All drawdown and/or recovery data;
 - (b) Curve or line fits;
 - (c) Match points, u , $W(u)$;
 - (d) Boundary and casing storage effects;

- (e) Pump breakdown;
- (f) Discharge adjustments; and
- (g) to.
- (4) Correction factors and their associated supportive data and the method used for data adjustment
- (5) Results of analyses:
 - (a) Hydraulic conductivity;
 - (b) Transmissivity; and
 - (c) Storage coefficient or (apparent) specific yield.

II. Potentiometric Surface

a. Affected Alluvial Aquifer

Potentiometric surfaces should be extended into all units which are in good hydraulic communication with the aquifer. The potentiometric surface map must also show well locations, groundwater recharge and discharge areas, and other hydrogeologic features.

In order to better determine the probable hydrologic consequences of the operation upon the quality and quantity of surface and ground water in the permit and adjacent areas a Gain/Loss study will need to be done on Kanab Creek as it passes through the permit area. This study must include a map identifying gaining and losing sections of Kanab Creek during base flow conditions. All wells and surface water monitoring points used to support conclusions must be shown on the map.

The total volume of surface and groundwater outflow from the permit area must be calculated at the location of the monitoring well matrix just south of the permit area (See Groundwater Monitoring Plan for a complete description on the well matrix). The surface flow will be combined with the volume of groundwater discharged through the monitoring well matrix (cross-sectional area of alluvial aquifer perpendicular to flow, hydraulic conductivity, hydraulic gradient, transmissivity, etc.) to determine the total volume water outflow from the permit area. The methodology, calculations, a geologic cross-section(s), and stream cross-section must be given to support how each parameter variable is determined and ultimately used to determine the final outflow variable.

The amendment has expanded upon the statement on p. 15, Appendix 7-16, "It is common for Kanab Creek to have little or no discharge south of the tract during much of the year". The amendment now refers to the surface water monitoring site SW-2 to support this claim. However, since quarterly monitoring began in 2005, a no flow measurement has occurred only once of the 38 monitoring periods, or < 3% of the time. It is a false and misleading statement to say it is common for Kanab to experience no flow conditions. If the amendment cannot further justify this statement with a detailed statistical analysis it must be removed from the narrative.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-725: The amendment does not meet the State of Utah R645 requirements for Baseline Information.

The application does not meet the minimum hydrologic and geologic baseline cumulative impact area requirements for the alluvial aquifer within the permit area. Additional information is needed regarding the vertical and horizontal alluvial aquifer characteristics.

I. Aquifer Hydraulic Characteristics

Hydrogeologic characterization of the permit area requires a detailed narrative, maps, and supporting calculations of the mining method, extent of disturbance, depth of the pit, duration of the mining, and potential impacts to surrounding water resources and water rights. The amendment must: 1) determine the hydraulic characteristics of the alluvial aquifer that will be affected by mining; 2) estimate the areal extent of static water level declines in the affected aquifer; 3) evaluate potential impacts to water resources due to mining, and 4) estimate groundwater conditions and aquifer characteristics likely to exist after reclamation.

a. Hydrogeologic Characteristics

The amendment must include a narrative summary of hydrogeologic characteristics including the following:

- (1) Number of aquifers and their intercommunication;
- (2) Aquifer characteristics and variability;
- (3) Direction of flow and significance of recharge and discharge areas to the sites;
- (4) Significance of hydrologic boundary conditions;
- (5) Potentiometric surface(s);
- (6) Water quality; and
- (8) Adjacent and regional potentiometric surface(s)

b. Aquifer Tests

Aquifer tests must be used to determine transmissivities, hydraulic conductivities, storage coefficients, hydrologic boundaries, leakage, aquifer homogeneity, and isotropy. For example, a multi-well pump test evaluation, as described by Theis (1935), Cooper and Jacob (1946), Boulton (1954), or a test as summarized by Lohman (1979). A data log for each

aquifer test must be included in the application to identify both a chronological order of events and decisions that were made during testing. The location and number of aquifer tests should be sufficient to characterize the different hydrogeologic environments present within the potentially affected area. At a minimum, at least one aquifer test should be performed for each potentially affected hydrogeologic environment identified during the preliminary geologic investigation.

Within the data log mentioned in the above paragraph, the following information must be submitted for each aquifer or pumping test:

(1) All data obtained from the aquifer tests and measurements necessary to evaluate the testing results; and

(2) Methods of analyses:

(a) List the methods of analyses and equations used;

(b) List the assumptions upon which the equations are based;

(c) List how assumptions were met by the physical conditions; and

(d) Present sample calculation.

(3) Graphs which show:

(a) All drawdown and/or recovery data;

(b) Curve or line fits;

(c) Match points, u , $W(u)$;

(d) Boundary and casing storage effects;

(e) Pump breakdown;

(f) Discharge adjustments; and

(g) to.

(4) Correction factors and their associated supportive data and the method used for data adjustment

(5) Results of analyses:

(a) Hydraulic conductivity;

(b) Transmissivity; and

(c) Storage coefficient or (apparent) specific yield.

II. Potentiometric Surface

a. Affected Alluvial Aquifer

Potentiometric surfaces should be extended into all units which are in good hydraulic communication with the aquifer. The potentiometric surface map must also show well locations, groundwater recharge and discharge areas, and other hydrogeologic features.

R645-301-725; R645-301-731.710; R645-301-728: In order to better determine the probable hydrologic consequences of the operation upon the quality and quantity of surface and ground water in the permit and adjacent areas a Gain/Loss study will need to be done on Kanab Creek as it passes through the permit area. This study must include a map identifying gaining and losing sections of Kanab Creek during base flow conditions. All wells and surface water monitoring points used to support conclusions must be shown on the map.

R645-301-725, R645-301-728: The total volume of surface and groundwater outflow from the permit area will be calculated at the location of the monitoring well matrix just south of the permit area (See Groundwater Monitoring Plan for a complete description on the well matrix). The surface flow will be combined with the volume of groundwater discharged through the monitoring well matrix (cross-sectional area of alluvial aquifer perpendicular to flow, hydraulic conductivity, hydraulic gradient, transmissivity, etc.) to determine the total volume water outflow from the permit area. The methodology, calculations, a geologic cross-section(s), and stream cross-section must be given to support how each parameter variable is determined and ultimately used to determine the final outflow variable.

R645-301-725: The amendment must provide a statistical analysis to support the conclusion that it is common for Kanab Creek to have, "no discharge south of the tract during much of the year". If no statistical analysis with supporting graphs are provided the statement must be removed.

kstorrar

Hydro Modeling

Analysis:

The application must provide a groundwater model of the unconfined alluvial aquifer within and adjacent to the permit area. The alluvial aquifer will be modeled in three phases: 1) Pre-mining, 2) Active mining, 3) Post-mining reclamation. Baseline data must be used to model the pre-mining groundwater conditions of recharge and discharge zones as well as no-flow boundaries. The pre-mining phase of the alluvial aquifer model will be calibrated to the pre-mining physical configuration of

the aquifer. The active mining phase will model all associated active mining (pit advancement, highwall mining, etc.) within the alluvial aquifer. The model will predict groundwater drawdown in the surrounding undisturbed alluvial aquifer as pits advance below the water table. The model will show the lateral extent of the radius of influence associated with the maximum expected hydraulic gradient. The active mining model will also estimate the volume of water pumped from the alluvium during each six month interval. A post-reclamation groundwater model will be done on the backfilled pits and the surrounding undisturbed alluvial aquifer's response to these mined through areas as the third phase of modeling. The post-reclamation model will calculate the groundwater recharge rate of the backfilled sediments and the surrounding undisturbed alluvial aquifer. The model will provide an estimate of the time it will take the alluvial aquifer to reach a pre-mining recharge and discharge equilibrium rate and discuss any potential affect this may have on the flow in Kanab creek in the mean time.

For each of the three modeling phases, the application will provide professionally certified plan view maps and cross-sections, a supporting narrative with calculations, and any appropriate and relevant data that was used in order to fully convey the accuracy and precision of the model. Each phase and interval of the groundwater model must show a West-East A-A cross-section that includes but is not limited to the parameters: equipotential lines; flow lines; the water table; no-flow boundaries; the radius of influence/cone of depression associated with the maximum hydraulic gradient in the active mining areas; and the location and flow response of Kanab Creek to the groundwater radius of influence.

I. Open-Pit Drawdown Modeling

- 1) The drawdown model must be used to predict mine related impacts to the hydrologic system. The modeling results must be used to assess probable hydrologic consequences and cumulative hydrologic impacts.
- 2) A detailed and complete description of the model must be submitted and include:
 - (a) The approach to the problem and the chosen model (ex. finite difference);
 - (b) A written description of all equations;
 - (c) A list of simplifying assumptions, sinks, sources and boundary conditions;
 - (d) The solution techniques for the equations (e.g., strongly implicit procedure (SIP), line successive over-relaxation (LSOR) and alternating direction implicit procedure (ADI));
 - (e) The grid nodes superimposed on a base map of the same scale as the premining potentiometric map;
 - (f) The selection of time steps;
 - (g) A table of the input data; and
 - (h) A sensitivity analysis.
- 3) The maps should be updated with new data every 2 years, at a minimum, unless water level response has changed significantly over the past year, in which case a new map should be submitted.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-726; R645-301-731.800:

I. Open-Pit Drawdown Modeling

- 1) The drawdown model must be used to predict mine related impacts to the hydrologic system. The modeling results must be used to assess probable hydrologic consequences and cumulative hydrologic impacts.
- 2) A detailed and complete description of the model must be submitted and include:
 - (a) The approach to the problem and the chosen model (ex. finite difference);
 - (b) A written description of all equations;
 - (c) A list of simplifying assumptions, sinks, sources and boundary conditions;
 - (d) The solution techniques for the equations (e.g., strongly implicit procedure (SIP), line successive over-relaxation (LSOR) and alternating direction implicit procedure (ADI));
 - (e) The grid nodes superimposed on a base map of the same scale as the premining potentiometric map;
 - (f) The selection of time steps;
 - (g) A table of the input data; and
 - (h) A sensitivity analysis.
- 3) The maps should be updated with new data every 2 years, at a minimum, unless water level response has changed significantly over the past year, in which case a new map should be submitted.

kstorrrar

Probable Hydrologic Consequences Determination

Analysis:

AREA 1:

The amendment meets the State of Utah R645 requirements for Probable Hydrologic Consequences in Area 1. The amendment provides a narrative of the surface and groundwater resources within Area 1 of the North Private Lease. It is determined active mining and reclamation operations within Area 1 have been designed to prevent material damage to the hydrologic balance outside the permitted Area 1.

AREA 1:

The North Private Lease is within the CHIA boundary and the assessment does not change for adding Area 1. The CHIA will need to be revised when future operations progress into Area 2 and Area 3.

AREA 2, 3:

The amendment does not meet the State of Utah R645 requirements for Probable Hydrologic Consequences.

The application does not meet the minimum requirements of considering all the Probable Hydrologic Consequences associated with open-pit mining adjacent to Kanab Creek. Open-pit mining in the alluvial aquifer adjacent to irrigated fields and Kanab Creek will likely disrupt the hydrologic balance and cause material damage to these water resources.

Open-pit mining below an unconfined aquifer's water table and subsequent drawdown of the aquifer during mining operations will cause groundwater held in the surrounding undisturbed alluvium to flow towards and ultimately into the mine workings along a hydraulic gradient. In order for the mine to operate in the bottom of the open-pits, the mine water in-flow will be continually dewatered using pumps and other water conveyance systems. In the North Lease, the open-pits will dig deeper into the alluvium as the mining advances north which will increase the vertical hydraulic gradient and the lateral radius of influence on the surrounding alluvial aquifer. It is important to know how far this radius of influence or cone of depression will extend out from the open-pits. If the cone of depression extends to the edge or beyond Kanab Creek this will likely cause draw down in creek itself because the creek is in a gaining-losing equilibrium with the unconfined water table. The application does not provide a narrative and calculations associated with the cone of depression that will form in the alluvium around the open-pits.

The application must provide calculations and a supporting analysis of the cone of depression associated with each open-pit and highwall auger hole within the North Private lease. This analysis must be supported with cross-sectional and plan view maps, tables, and graphs. The analysis must provide a discussion on the response of flow in Kanab if the cone of depression is expected to extend to and/or beyond the creek. This analysis must also provide a discussion on any stratigraphic units encountered in drill holes that may have a stronger influence on the aquifer's response to drawdown. A discussion must be provided on any interruption of flow along the length of Kanab Creek that may result in material damage to the water resources within and adjacent to the permit area.

The areal extent, magnitude, and duration of static water level declines expected in the affected aquifer should be predicted. This should include a description of the drawdown model results, the extent of the five-foot drawdown contour and measures verification of the drawdown predictions.

The final predicted postmining groundwater flow should be compared to the premining groundwater flow and discussed with respect to the potential for impacts to the local and regional groundwater system. The comparison and discussion should include a description of the anticipated post-reclamation groundwater system. The discussions and maps used in this description should be supported by data and referenced material and should include:

- (1) Final aquifer hydraulic properties (e.g., hydraulic conductivity, storativity, saturated thickness, etc.) including those of backfilled overburden;
- (2) Anticipated post-reclamation potentiometric surface and estimated time to resaturate; and
- (3) Post-reclamation effects on adjacent aquifers, wells, springs, and surface waters.

Deficiencies for proposed operations in AREA 2 and 3:

AREA 2, 3:

The amendment does not meet the State of Utah R645 Requirements on making a Probable Hydrologic Consequences Determination for mining in Area's 2 and 3 of the North Private Lease.

R645-301-728: The application must provide calculations and a supporting analysis of the cone of depression associated with each open-pit and highwall auger hole within the North Private lease. This analysis must be supported with cross-sectional and plan view maps, tables, and graphs. The analysis must provide a discussion on the response of flow in Kanab if the cone of depression is expected to extend to and/or beyond the creek. This analysis must also provide a discussion on any stratigraphic units encountered in drill holes that may have a stronger influence on the aquifer's response to drawdown. A discussion must be provided on any interruption of flow along the length of Kanab Creek that may result in material damage to the water resources within and adjacent to the permit area.

R645-301-728: The areal extent, magnitude, and duration of static water level declines expected in the affected aquifer should be predicted. This should include a description of the drawdown model results, the extent of the five-foot drawdown contour and measures verification of the drawdown predictions.

The final predicted postmining groundwater flow should be compared to the premining groundwater flow and discussed with respect to the potential for impacts to the local and regional groundwater system. The comparison and discussion should include a description of the anticipated post-reclamation groundwater system. The discussions and maps used in this description should be supported by data and referenced material and should include:

- (1) Final aquifer hydraulic properties (e.g., hydraulic conductivity, storativity, saturated thickness, etc.) including those of backfilled overburden;
- (2) Anticipated post-reclamation potentiometric surface and estimated time to resaturate; and
- (3) Post-reclamation effects on adjacent aquifers, wells, springs, and surface waters.

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Hydro GroundWater Monitoring Plan

Analysis:

The amendment does not meet the State of Utah R645 requirements for Ground-water Monitoring.

The current groundwater monitoring plan will not adequately monitor the alluvial aquifer within and adjacent to the permit area. The groundwater monitoring plan does not have enough wells to accurately characterize the aquifer to the north and south and within the permit area. The majority of wells in groundwater monitoring plan lack monitoring the aquifer at varying screened interval depths and a significant amount of monitoring wells will be destroyed during active mining. In order to provide long term monitoring data, the wells will need to be installed in locations that will be undisturbed by all mining activities. More wells are needed in order to be able to provide a clear picture of groundwater movement and how it may be affected by mining activities.

The permit area contains a valley-fill alluvial aquifer formed by quaternary erosional and depositional processes of Kanab Creek. In general, groundwater flows through this large alluvial aquifer that covers the majority of the permit area along a north to south hydraulic gradient. A large volume of flow enters the permit boundary on the north end through a wide and deep deposit of alluvial sediments resting on top of the Tropic Shale and the Smirl Coal seam. As groundwater migrates southward, the alluvial aquifer constricts in 1) width between Tropic shale outcrops to the east and west of the alluvial deposits and in 2) thickness as the updip of Dakota sandstone rises to the surface and eventually outcrops. Groundwater then exits the southern permit boundary primarily contained in a narrow and shallow gravel alluvial deposit resting on top of the Dakota sandstone.

Additional groundwater monitoring wells must be installed in the alluvial aquifer within and adjacent to the North Private lease and positioned so as not to be destroyed by mining activities. The intent of these wells is to monitor any impact that active mining may have on the quantity and quality of groundwater and surface water in Kanab Creek within and adjacent to the permit area. The alluvial aquifer groundwater must be monitored at multiple vertical depths and multiple areal locations in three zones: 1) just north of the permit area, 2) on both the east and west sides of Kanab Creek in-between the creek and the active mine workings, and 3) just south of the permit area. The methodology of selecting the specific well locations and identifying the screened interval lengths and depths based on relevant well log data must be outlined. The alluvial aquifer must be measured at multiple vertical depths and the wells must be tightly grouped, such as the C- and S-well groups found in the southern permit area. The monitoring wells must be screened across gravel lenses with the highest permeability.

The specific locations for these monitoring wells are:

- 1) Groundwater monitoring wells must be installed within the alluvial aquifer directly north of the permit area on the west bank of Kanab Creek. The well will be no more than 100 yards from Kanab Creek and no more than 100 yards north of the permit area.
- 2) Groundwater monitoring wells must be installed on the east and west banks of Kanab Creek. These wells will be installed between active mining and the creek. There will be at a minimum three groundwater monitoring locations that will be roughly equally spaced along the length of the creek through the permit area.
- 3) Groundwater monitoring wells must be installed downstream of the permit area no more than 140 yds downstream of the county road where it crosses Kanab Creek. The monitoring wells will be placed in the gravel alluvium (D50 > 1 cm) at point where the quantity of surface flow in Kanab Creek is readily and accurately measured. A minimum of four wells will be installed in the bottom of the Kanab Creek channel floodplain in a 2 x 2 gridded matrix. The matrix will be positioned to have both the two well arrays running along cross-sections that are perpendicular to flow in Kanab Creek. Both two well arrays will be spaced no more than 15 yards apart. The wells will be fully screened from the water-table to the bottom of the alluvial sediments resting on the bedrock. The two wells along the perpendicular array will be equally spaced along the cross-section in the bottom of Kanab Creek's floodplain channel.

This third location of water monitoring just south of the permit area is a critical location to establish long-term monitoring of groundwater and surface flows in the incised channel of Kanab Creek. Groundwater passing southward through the alluvial aquifer can be the most accurately quantified at this location because it is forced into the narrow bedrock outcrop or bottleneck of the Dakota sandstone near the southern permit boundary. As groundwater enters this transition zone it up-wells and discharges into Kanab Creek leaving a relatively low volume of groundwater held within the shallow gravel

alluvial deposits. At this location both the groundwater discharge and surface runoff from the permit area can be readily and accurately monitored to detect any changes in the hydraulic balance caused by mining.

The prevailing potentiometric gradient must be monitored between the open-pits and Kanab Creek from pre-mining through Final Bond Release. This can only be achieved by having a minimum of two wells that fall along a perpendicular cross-section between the open pits and Kanab Creek. The Division worked in consultation with the mine to develop the current plan, which is to install an additional water monitoring well between Y-103 and Kanab Creek.

The post-mining monitoring network must include the undisturbed monitoring wells and a minimum of one backfill monitoring well.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-724.310, R645-301-731: Additional groundwater monitoring wells must be installed in the alluvial aquifer within and adjacent to the North Private lease and positioned so as not to be destroyed by mining activities. The intent of these wells is to monitor any impact that active mining may have on the quantity and quality of groundwater and surface water in Kanab Creek within and adjacent to the permit area. The alluvial aquifer groundwater must be monitored at multiple vertical depths and multiple areal locations in three zones: 1) just north of the permit area, 2) on both the east and west sides of Kanab Creek in-between the creek and the active mine workings, and 3) just south of the permit area. The methodology of selecting the specific well locations and identifying the screened interval lengths and depths based on relevant well log data must be outlined. The alluvial aquifer must be measured at multiple vertical depths and the wells must be tightly grouped, such as the C- and S-well groups found in the southern permit area. The monitoring wells must be screened across gravel lenses with the highest permeability. The specific locations for these monitoring wells are:

- 1) A groundwater monitoring well must be installed within the alluvial aquifer directly north of the permit area on the west bank of Kanab Creek. The well will be no more than 100 yards from Kanab Creek and no more than 100 yards north of the permit area.
- 2) Groundwater monitoring wells must be installed on the east and west banks of Kanab Creek. These wells will be installed between active mining and the creek. There will be at a minimum three groundwater monitoring locations that will be roughly equally spaced along the length of the creek through the permit area.
- 3) Groundwater monitoring wells must be installed downstream of the permit area no more than 140 yds downstream of the county road where it crosses Kanab Creek. The monitoring wells will be placed in the gravel alluvium (D50 > 1 cm) at point where the quantity of surface flow in Kanab Creek is readily and accurately measured. A minimum of four wells will be installed in the bottom of the Kanab Creek channel floodplain in a 2 x 2 gridded matrix. The matrix will be positioned to have both the two well arrays running along cross-sections that are perpendicular to flow in Kanab Creek. Both two well arrays will be spaced no more than 15 yards apart. The wells will be fully screened from the water-table to the bottom of the alluvial sediments resting on the bedrock. The two wells along the perpendicular array will be equally spaced along the cross-section in the bottom of Kanab Creek's floodplain channel.

R645-301-725.100; R645-301-731.211: The prevailing potentiometric gradient must be monitored between the open-pits and Kanab Creek from pre-mining through Final Bond Release.

R645-301-731.210: The post-mining monitoring network must include the undisturbed monitoring wells and a minimum of one backfill monitoring well through Final Bond Release.

kstorrar

Climatological Resource Information

Analysis:

The amendment meets the State of Utah R645 requirements for Climatological Information. Monthly wind direction and velocity data are provided in updated windrose plots. Temperature and daily and average precipitation data collected at the weather station are also provided.

kstorrar

Historic and Archeological Resource Information

Analysis:

jmontcalm

General

Analysis:

The application does not meet the State of Utah R645 Coal Mining Rule requirements for General Contents: Clear and Concise as it pertains to Historic and Archaeological Resource information.

1. The Table of Contents for Chapter 4 lists Appendix 4-9 as Cultural Resources Discovery Plan, while Appendix 4-8 is listed as Management Plans for the North Private Lease Properties. The Cultural Resource cover page is erroneously labeled as Appendix 4-8 in the body of the document (PDF submittal page 361). As Appendix 4-8 is the Management Plan, this must be corrected.

R645-301-121.200: The Permittee must address the following items to assure the document is clear and concise:

1. The Table of Contents for Chapter 4 lists Appendix 4-9 as Cultural Resources Discovery Plan, while Appendix 4-8 is listed as Management Plans for the North Private Lease Properties. The Cultural Resource cover page is erroneously labeled as Appendix 4-8 in the body of the document (PDF submittal page 361). As Appendix 4-8 is the Management Plan, this must be corrected.

jmontcalm

Maps Subsurface Water Resources

Analysis:

The amendment does not meet the State of Utah R645 requirements for Cross Sections and Maps.

The generalized cross-section in Appendix 16, Figure 7 does not adequately and clearly portray the geologic and hydrologic environment of the permit area. The cross-sections unnecessarily extend beyond the permit boundary and must be cropped to enlarge and more clearly show the area of interest.

Cross-sections extending through the affected area must identify:

- (1) Potentiometric surface(s) and equipotential lines;
- (2) Lithologies;
- (3) The coal seam;
- (4) Geologic features such as faults, paleochannels, gravel deposits, etc.;
- (5) Extent of mining, open-pit and highwall;
- (6) Aquifers and aquitards;
- (7) Areas of aquifer communication;
- (8) Hydrologic boundaries;
- (9) Recharge and discharge areas; and
- (10) Wells used for hydrogeologic interpretations;
- (11) Crop and enlarge cross-sections to the width of permit boundary. It is difficult to view geologic and hydrologic attributes on the generalized cross-sections because they are too small.

Deficiencies for proposed operations in AREA 2 and 3:

The amendment does not meet the State of Utah R645 requirements for Cross Sections and Maps. The following deficiencies must be addressed prior to final approval.

R645-301-512.110; R645-301-512.140; R645-301-724.300; R645-301-728.340; R645-301-121.200: Cross-sections extending through the affected area must identify:

- (1) Potentiometric surface(s) and equipotential lines;
- (2) Lithologies;
- (3) The coal seam;
- (4) Geologic features such as faults, paleochannels, gravel deposits, etc.;
- (5) Extent of mining, open-pit and highwall;
- (6) Aquifers and aquitards;
- (7) Areas of aquifer communication;
- (8) Hydrologic boundaries;
- (9) Recharge and discharge areas; and
- (10) Wells used for hydrogeologic interpretations;
- (11) Crop and enlarge cross-sections to be the width of permit boundary.

kstorrar

General

Analysis:

Area 1:

The application meets the minimum requirements of R645-301-521 relevant to updating the permit footprints and information stated in Chapter 5, Section 521 and Section 523 to include the extent of the mining operations footprint within the existing Coal Hollow Permit area as well as the proposed North Private Lease Area 1. The pit crest of the North Private Lease pits is currently only shown on Drawing 5-77.

In general south lease drawing details are in Drawings 5-1 through 5-44 and appendices 5-1 through 5-10, and 5-13. The North Private Lease Area 1 drawing details are in Drawings 5-45 through 5-78 and appendices 5-11, 5-12, and presumably 5-14. The maximum extent of surface disturbance should be shown on Drawing 5-57 for the proposed North Private Lease. See Mining Operations: Affected Area Boundary deficiency for more details. The Division is reviewing the application to only include mining operations within the extents of Area 1, as shown on Drawing 5-46. Assumptions are being made that all required associated Federal and State agencies permits have been acquired for North Private Lease Area 1 as the Permittee did not include copies of all the other applicable permits required within this application, e.g. Air quality permit, UPDES permits, USACE 404 NWP 14. In the event any of the necessary associated permits require any alterations to the current mining operation detailed within the application, the Permittee must resubmit an update mining and reclamation plan to the Division for approval.

cparker

Permit Area

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.140 minimum requirements for Permit Area.

Drawing 5-45 details the new permit boundary, lease boundary, and adjacent areas to the current mine plan in a clear and concise fashion. The permit boundary being considered by the Division at this time is limited to Area 1. Narrative in Chapter 5 Section 521.132 details that the proposed permit areas are shown on all applicable drawings within the MRP.

The Permittee addressed the previous deficiency (#25) within the December 18, 2015 resubmission in the January 18, 2016 resubmission. The Permittee added area Areas 1-3 shading on the majority of the Chapter 5 drawings along with a note stating that Area 1 is the only area currently under review. The note was added to every drawing in the North Private Lease application. The drawings were amended to call the new lease boundary for the entire Permittee Area 1 through Area 3. The old lease boundary was relabeled as the private coal ownership. The area 1 boundary meets the legal definition for the Permit Area, where Areas 2 and 3 are only adjacent areas at the time of this review. The drawings and narrative need to show the difference.

The Permittee addressed the clarification on the drawing in two sentences added to the Chapter 5 narrative Section 521.140 and 521.150, but did not update relevant sections within the narrative describing the currently proposed scenario of bonding incrementally for Pit 1 alone and how the operations of the development of Pit are all the disturbances currently being acquired within Area. A narrative detailing how operations will continue and how operations will be limited to disturbances was never stated.

cparker

Maps Affected Area Boundary Maps

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521 minimum requirements for detailing environmental resources within the affected area maps.

The minimum requirements of R645-301-521 are met in regards to including relevant maps detailing the affected area in regards to environmental impacts in Area 1 extent in Drawing 5-77. Drawing 5-45 details the North Private Lease permit area with the premining topography at four foot contour intervals. Drawing 5-74 and 5-77 were updated in the December 18, 2015 resubmission to show enough detail of topography and hydrology for the Division to be able to identify what areas will be affected by mining operations. Drawings 5-74A through 5-74C were added to show the specific post mining topography for each sub areas.

Drawing 5-46 details the different sub areas where mining operations will take place, i.e. Area 1 through Area 3. In an effort to expedite the review of the North Private Lease, the Division at this time is only considering the review of the permit area being limited to the Area 1, as detailed on Drawing 5-46. All activates displayed on drawings and narratives throughout the current MRP application that are relevant to Area 2 and Area 3 were not reviewed by the Division at this time and are not approved for mining operations. The information was left within the MRP to allow for a complete demonstration of the intent to mine the North Private Lease area. Area 2 and Area 3 drawings and narrative are still pending approval by other applicable agencies determinations that will affect mining and reclamation operations.

To address the December 18, 2015 deficiency number 8 the Permittee will always address Alton Coal Mine road with both the name and county road number K3100. The original deficiency was written due to the confusion between the historic Alton Coal Mine, for which the county road K3100 leads to and is named after, with the current Coal Hollow Mine owed by Alton Coal Development. The Permittee has reaffirmed that indeed the legal name of the road is Alton Coal Mine Road, therefore, will keep the name on the drawings but will add the county road number to help clarify that it is the historic mine road.

To address the January 18, 2016 deficiency number 31 of Drawings 5-54 through 5-56 showing incomplete information. The far western boundary of the area does not have information present on any of the said drawings. The drawings were amended to include a note explain that the coal seam models shows an erosional boundary on the southwest margin of the lease area.

cparker

Maps Existing Structures and Facilities

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.120 minimum requirements for detailing existing structures and facilities prior to mining.

The application meets the minimum requirements of R645-301-521.120 by clearly showing that there are no buildings within a 1000 ft of the existing and proposed permit areas. Drawings 1-5 and 1-6 along with text within Chapter 5 Section 521.121 of the MRP were updated to include the proposed North Lease within the current application.

cparker

Maps Existing Surface Configuration

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.150 minimum requirements for having a Professional Geologist, Eric Peterson, stamp the relevant geologic maps.

To address deficiency #21 of the December 18, 2015 submission and to meet R645-301-121.200 requirements the Chapter 6 drawings 6-12, 6-13, and 6-14 were added to the MRP to detail the geology drawings consistent with the current Coal Hollow MRP.

The original submission contained a deficiency as the amendment did not meet the minimum requirements of R645-301-121.200 by following the establish MRP outline of the current Coal Hollow lease geologic maps contained within Chapter 6, e.g drawing 6-1 through 6-5. The North Private Lease geologic drawings were contained within Chapter 7 Appendix 7-16 sub Figures 6 through 7 and simple referenced as Appendix 7-16 within Chapter 6. Appendix 7-16 remains a detailed PHC that contains extensive information beyond the geologic drawings. The appropriate information was moved to new Chapter 6 drawings discussed above.

cparker

Maps Mine Working

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-512 minimum requirements for detailing mine working maps.

The original application did not meet the minimum requirement of R645-301-512.110, -512.130, and R645-301-521.140 which require certified maps that clearly show all mine plans. Drawings 5-53, 5-55, and 5-77 all detailed the North Lease mining sequence operations footprints thought the proposed North Private Lease area for various sequences of mining and reclamation. The narrative was missing details describing the differences and there was no information presented on the drawings clarifying the difference in pit crests represented.

The updated drawings meet the minimum requirements of R645-301-512.110, -512.130, and R645-301-521.140 as the Permittee amended Drawing 5-53 and 5-77 to show the correctly calculated pit floors and pit crests that remain within the permit boundary. Notes have been added to Drawings 5-53, 5-57, and 5-77 describing the different footprints that are depicted on each of the specific drawings. Drawing 5-53 shows the coal removal sequence and the pit boundaries depicted represent the maximum extent of coal extracted within each pit. Drawing 5-57 shows the overburden removal sequence for each pit. The pit boundaries depicted on this drawing detail the pit crests or maximum surface disturbance associated with each pit. Drawing 5-77 shows the bond polygons and each pit polygons details the approximate crest of the backfill slope during reclamation to achieve the post-mining topography.

cparker

Maps Permit Area Boundary

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.140 minimum requirements for detailing permit area on all maps.

The amendment meets the minimum requirements of R645-301-521.140 as Drawing 5-45 details the new permit boundary, lease boundary, and adjacent areas to the current mine plan in a clear and concise fashion. The permit boundary being considered by the Division at this time is limited to Area 1. Narrative in Chapter 5 Section 521.132 details that the proposed permit areas are shown on all applicable drawings within the MRP.

The Permittee addressed the previous deficiency (#25) within the December 18, 2015 resubmission in the January 18, 2016 resubmission. The Permittee added area Areas 1-3 shading on the majority of the Chapter 5 drawings along with a note stating that Area 1 is the only area currently under review. The note was added to every drawing in the North Private Lease application. The drawings were amended to call the new lease boundary for the entire Permittee Area 1 through Area 3. The old lease boundary was relabeled as the private coal ownership. The area 1 boundary meets the legal definition for the Permit Area, where Areas 2 and 3 are only adjacent areas at the time of this review. The drawings and narrative need to show the difference.

The Permittee addressed the clarification on the drawing in two sentences added to the Chapter 5 narrative Section 521.140 and 521.150, but did not update relevant sections within the narrative describing the currently proposed scenario of bonding incrementally for Pit 1 alone and how the operations of the development of Pit are all the disturbances currently being acquired within Area. A narrative detailing how operations will continue and how operations will be limited to disturbances was never stated.

cparker

Maps Surface and Subsurface Manmade Features

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.122 as Chapter 5 Section 521.122 details existing surface and subsurface facilities within, passing through, or over the permit area limited to Area 1.

The amendment meets the State of Utah rR645-301-521.123 by detailing the two public roads operated by Kane County roads (K3900 and K3100) that are within or in 100 feet of the permit areas as shown on Drawing 5-47 for the North Private Lease.

cparker

Operation Plan

Mining Operations and Facilities

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-512.120 minimum requirements for having certification of all surface facilities and operations as described in Section 521 and 523 of the MRP application.

To meet the minimum requirements of R645-301-140 and address deficiency #28 the Permittee added correct acreages to Areas 1, 2, and 3 instead of the yearly increments. The listed maximum disturbances now in the narrative of Section 521.140 detail a total of 224.8 acres over 6.5 years. Area 1 operations will disturb a total of 51.9 acres. This section of the MRP does include reference to the fact that only Area 1 is currently under review. The narrative needs to be explicit detailing the operations specific to Area 1, as they are the only approved MRP text. Text and drawings specific to Areas 2 and 3 need to be called out as not approved MRP text, e.g. grayed text. A note added to the footer of every page detailing that gray text is not approved by the Division at this time would allow for clear presentation of what information has been approved and what has not.

To meet the minimum requirements of R645-301-522 and address deficiency #28 narrative in Section 523 page 5-35 was updated to reference Chapter 2 section 231.100 and drawing 2-4 for topsoil handling methods, quantities, and plans.

The application meets the minimum requirements of R645-301-523 by including a description of the mining operation, method of coal mining, engineering techniques, anticipated annual and total production of coal by tonnage, and major equipment to be used for all aspects of those operations proposed to be conducted during the life. Equipment utilized at the North Private Lease will be similar to the equipment utilized at the current Coal Hollow Mine, including excavators, a highwall miner, and end-dumping mining haul trucks. Equipment specific to the North Private Lease is that addition of over-the-road coal trucks that will be utilized to haul the raw coal to the Coal Hollow crushing facility within the Coal Hollow mine. The North Private Lease is expected to produce 785 thousand tons of coal within the first year. Clarity is required due to the information presented on Drawing 5-57 that shows Year 1 coal removal outside the Area 1 being considered as the permit boundary. As detailed within Operations, Excess Spoil discussion, the extent of disturbance within Area outlined on Drawing 5-48 require all 51.9 acres of top and sub soil to be salvaged prior to any coal removal operations. See Operations, Excess Spoil, for more details. The pit development within the North Private Lease will follow in a manner similar to the Coal Hollow Mine southern property, as detailed on Drawings 5-11 and 5-12.

Narrative within Chapter 5 section 523 details the initial phase of mining to include pits 1 through 10. The Division is only reviewing coal recovery of Pits 1 through 5, Area 1 alone.

The original application did not meet the minimum R645-524 regulations. The Permittee added text stating that "The overburden of the North Private Lease is not expected to be blasted", but in the event the Permittee must follow the approved blasting plan according to R645-524 regulations. This text and all other references to blasting not being expected will be removed from the MRP as they are misleading, R645-301-121.200. According to R645-301-121.200 and -301-121.100 current information must be utilized and the Coal Hollow Mine blasted overburden on 3/14, 6/14, 10/14, 12/8/14, 2/2/15, 2/9/15, 3/5/15 and the last coal blasting happened on 3/20/15. The historical frequency of blasting at the current Coal Hollow Mine is enough current information to show that blasting will be implemented on the overburden and coal within the North Private Lease and the narrative in the MRP was corrected to reflect as much.

The minimum requirement of R645-301-121.100, R645-301-121.200, R645-301-524 are met with the addition of text to address deficiency #28 by clearly stating that all blasting will be contracted out. The blasting consultant will be in charge of all explosive transportation and inventory.

To meet the minimum requirements of R645-301-528.100 and address deficiency #28 the Permittee added text to Section 521.16 stating that coal loading will occur within the pits on the North Private Lease area. The mine will not use any designated coal loading or stockpile area. The Permittee must clarify a specific expected time frame of individual stockpiles within pits to demonstrate the temporary nature of the piles and remove the need for engineering certifications and map call outs.

To address deficiency # 34 and #35 of the January 18 submission the Permittee to update the narrative of section 521.140 to detail Area 1. Specific narrative describing the progression of Pit 1 single bonding within Area 1 before the progression of the rest of the Pits within Area 1 was updated in the appropriate narrative sections. The amendment now meets the R645-521.140 minimum requirements.

cparker

Mining Operations and Facilities

Analysis:

kstorrar

Existing Structures

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-526 minimum requirements for existing structures.

The application meets the minimum requirements of R645-301-526.110-.116 by providing updated information to include the discussion of the existing buildings associated with the Coal hollow permit. Drawing 5-45 details the public road location associated with the North Private Lease and Figure 12 within Appendix 7-16 details the existing agricultural ponds and pipelines that exist prior to mining operations. Narrative within Chapter 5 section 526 details mining operations taking place within 100 feet of a public road and specific measure taken to protect the public by installing a boundary fence with appropriate signage. See more specifics on review of relocation in analysis of "Operations, Relocation or Use of Public Roads."

The application meets the minimum requirements of R645-301-526.200 by detailing no known existing utilities within the permit area.

The application meets the minimum requirements of R645-301-526.400 by updating the reference appendices 4-2 and 4-5. The MRP text was edited to state that correlation with the Division of Air Quality found that due to the close proximity between permit areas the proposed activities of the North Private Lease will utilize the air pollution control facilities currently constituted at the Coal Hollow Mine. There is now a discussion if more monitoring stations will be added and where. The listed reference appendices were included as copies of the updated permit or signed agreement as to what was agreed upon for the North Private Lease.

To meet the minimum requirements of R645-301-526.400 and deficiency #30 the permittee amended the narrative within Chapter 5 section 526 to reference the updated air approval order, AN14047005-15, with a link to the permit.

cparker

Protection Public Places

Analysis:

The application does not meet the State of Utah R645 Coal Mining Rule requirements for Protection of Public Parks and Historic Places.

Presented in Appendix 4-7 is the draft Archaeological Monitoring & Historical Properties Treatment Plan for the Alton Coal Northern Project Lease Area, Kane County, Utah. As proposed mining activities in the North Lease area have been determined to adversely affect cultural resource sites Eligible for the National Register of Historic Places, appropriate treatment and mitigation measures will be required for sites 42KA3077, 42KA3097, and 42KA6088 (R645-301-411.144). This step is usually taken after a determination of Eligibility and Effect has been made by the Division, and concurrence with said determination is received from SHPO.

In this case, the proposed treatment and mitigation plan was drafted prior to Division coordination with SHPO regarding Eligibility and Effects to cultural resource sites. It does not represent a plan approved by the Division (through consultation with SHPO) to protect historic resources within the North Lease Expansion area. Appropriate treatment and mitigation measures will be decided by the Division in consultation with SHPO. Additional information will be required by the Division (as discussed in R645-301-411.143). The requirements for this additional work must be developed through Division/SHPO consultation and review of the draft Archaeological Monitoring & Historical Properties Treatment Plan for the Alton Coal Northern Project Lease Area, Kane County, Utah presented in Appendix 4-7.

The draft Archaeological Monitoring & Historical Properties Treatment Plan for the Alton Coal Northern Project Lease Area, Kane County, Utah presented in Appendix 4-7 will be utilized by the Division for this purpose. Division comments and edits to said treatment plan will be provided to the archaeological contractor and must be addressed. Once the draft treatment plan meets the Division's standards and expectations, it will be submitted to SHPO for review.

The draft Archaeological Monitoring & Historical Properties Treatment Plan for the Alton Coal Northern Project Lease Area, Kane County, Utah, will be reviewed by the Division and will serve as the basis for developing a treatment and mitigation plan to address Adverse Effects to sites 42KA3067 and 42KA3097. Efforts described in the draft plan to avoid 42KA6088 seek to ensure no project related impacts occur to the site. The Division will review the draft, provide comments/edits, and consult with SHPO regarding said plan. The final treatment and mitigation plan will be developed through that consultation.

jmontcalm

Relocation or Use of Public Roads

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521 minimum requirements for relocation or use of public roads.

The application now meets the minimum requirements of R645-301-521.133 due to information detailing measure to be used such as a general mining method that will be employed under or within 100 ft of public roads to protect interest of the public. Chapter 5 section 521.133.2 details how County Road 136 (K3900) and Alton Coal mine road (K3100) will be temporarily relocated outside the North Private Lease permit area. Temporary bypass roads will be constructed by Alton Coal as detailed in Drawings 5-61 through 5-63. Appendix 1-11 contains the Grant of Easement, Permit and Design by Kane County DOT. The appendix details how the County will hold the required bond amount for the reconstruction of the roads which are expected to be diverted around the mine for approximately 5 years. Chapter 5 Section 521.133.2 details how the public will be protect by each bypass road will constructed, inspected, and certified for public prior to closure of the exiting public road. The Permittee provides a letter from Kane County date January 28, 2016 for the Division to be able to determine that Kane County road K3100 bypass is not a significant bypass or relocation that does not require the same level of grant easement, Permit and Design by Kane County DOT. The relocation of K3100 includes moving approximately 500 feet of roadway and moving the intersection of K3100/K3600 approximately 500 feet south of the current intersection. K3100 and K3900 intersection fall within the published public notice of intent to mine present in the affidavit in appendix 1-5.

The application now meets the minimum requirements of R645-103.224.422 as the North Private Lease area requires rerouting public road K3900 and K3100 as shown in Drawing 5-45. In accordance with R645-103.224.420 through -103.224.422 the Permittee provided proof of a weekly public notice from 7/30/2015 until 8/13/2015 in the Southern Utah New. An affidavit was submitted to the Division on 9/9/2015 detailing the above. Appendix 1-11 details the finding in writing that the interests of the affected public and landowners will be protected. The appendix also include a letter from Kane County date January 28, 2016 for the Division to be able to determine that Kane County road K3100 bypass is not a significant bypass or relocation that does not require the same level of grant easement, Permit and Design by Kane County DOT.

Initially, the Permittee incorrectly submitted a request for finding to the Division on December 15, 2015. The Division makes their findings in the official Findings Database, sent to the Permittee in response to any amendment. The Division's findings are based off information presented in the application. The findings determine if all the R645 required information is present and the application meets the minimum requirements of the R645 regulations. All the information submitted in the "Request for Finding-Relocation of Public Roads..." matches the information presented within Appendix 1-11 and is missing all reference to the 500 feet relocation of K3100 and intersection of K3100/K3600 in the legal description, Grant easement, Permit and Design approved by Kane County DOT. The cover letter incorrectly states that K3100 is included in the information. The Permittee was contacted by the Division on January 28, 2016 to address the concern with Kane County's letter of mentioning left side operations. The Permittee clarified that the original letter was meant to reference over-road-trucks and not traffic operations. To reduce the likelihood of confusion in the future, Kane County re-submitted a new letter dated January 28, 2016 to be included within Appendix 1-11.

Narrative is added to Chapter 5 Section 526.116.1 detailing how K3100 and K3900 will be relocated due to North Private Lease Mining operations. Text details that a fence will be installed between the public road the mining operations to protect the public interests.

cparker

Air Pollution Control Plan

Analysis:

Analysis:

Section 420 states that production rates at the North Lease are expected to exceed 1,000,000 tons of coal per year. However, Chapter 5, page 5-35 provides a more realistic North Lease production schedule of approximately 530,600 tons/year for all of the North Lease (3.4 million tons over 7 years). Production in Year 1 is projected at 485,714 tons from Pit 1 and half of Pit 2 in Area 1.

The application meets the requirements of R645-301-424, Surface Mining Operations, because a fugitive dust control plan is provided in Appendix 4-6 and because Section 244 describes soil stabilizing practices for disturbed and reclaimed areas. The application meets the requirements of R645-301-425, Surface Mining operations with production rates less than 1,000,000 tons per year, because Area 1 is included in the November 10, 2015 Air Quality Approval Order DAQE-AN140470005-15 issued for the North Private Lease area. This document defines the ambient air monitoring requirements in Section II.B.5.

In accordance with the requirements of R645-301-521.168, the location for the air monitoring station specified in the recently issued Air Quality Approval Order Section II.B.5 is shown on Dwg 5-47 and Dwg 5-48. The Area 1 air monitoring station will be installed just north of the topsoil and subsoil stockpiles.

pburton

Coal Recovery

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for coal recovery.

The application meets the minimum requirements of R645-301-522 due to a discussion of the measures to be used to maximize the use and conservation of the coal resources. The coal seam varies from 11 to 18.5 feet thick throughout the permit areas. Drawing 5-52 meets the minimum requirements of R645-301-522 by detailing the how the coal seam will be mined throughout the North Private Lease permit area by tonnage of surface and highwall mining. Drawing 5-53 details the tonnage of coal to be mined by the various mining methods annually. Drawing 5-54, 5-55 and 5-56 detail the strip isopach, coal thickness isopach, and the overburden thickness isopach at meet the minimum requirements as required by R645-301-522. Drawing 5-57 detail that Area 1 pit mining includes only to Pit 5. Chapter 5 Section 522 was updated to detail the operations of the North Private lease to include over the road trucks loaded by the backhole or font end loader and hauled via inpit roads and the primary haul road to the crusher facility.

cparker

Subsidence Control Plan Renewable Resource

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Subsidence Control Plan.

The minimum requirements of R645-301-525.130 are met in the amendment Section 525 details the proposed mining is first mining and conducted a geotechnical report, Appendix 59, to ensure mining methods will not create any subsidence.

cparker

Subsidence Control Plan Subsidence

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Subsidence Control Plan.

The minimum requirements of R645-301-525.400 are met in the amendment Section 525 details the proposed mining is first mining and conducted a geotechnical report, Appendix 59, to ensure mining methods will not create any subsidence.

cparker

Subsidence Control Plan Performance STD

Analysis:

The Applicant has met the minimum regulatory requirements for this section of the regulations. Mining in the North Private Lease area will only be conducted by surface methods (Open pit and Highwall mining). No underground mining is planned. As such, no subsidence is projected to occur and no subsidence monitoring plan is required.

dhaddock

Subsidence Control Plan Performance STD

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for subsidence control plan.

The minimum requirements of R645-301-525.400 are met in the amendment Section 525 details the proposed mining is first mining and conducted a geotechnical report, Appendix 59, to ensure mining methods will not create any subsidence.

cparker

Subsidence Control Plan Notification

Analysis:

The amendment meets the State of Utah R645-301-525.700 are met in the amendment Section 525 details the proposed mining is first mining and conducted a geotechnical report, Appendix 59, to ensure mining methods will not create any subsidence.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-515.100 with procedures already described within the existing MRP detailing the emergency contact procedures in the event of a slide.

The amendment meets the State of Utah R645-301-516 by detailing that a natural barrier will be left undisturbed except as necessary for road, sedimentation control, temporary topsoil storage and similar features, beginning at the elevation of the coal seam and extending from the out slope for a distance of 50 ft.

cparker

Fish and Wildlife Protection and Enhancement Plan

Analysis:

After several recent meetings with Alton Coal Development LLC the Division decided to permit surface mining activities in only 51.9 acres of the North Lease area (area 1) located in the SW corner of the proposed permit area if ACD adequately addresses the deficiencies noted in this document. The Division completed the reviews of Area1(51.9 acres) and the remaining areas 2 and 3 (173.1 acres) on December 7th and December 31. The information presented in the 9/3, 12/07, 12/31/2015 and 1/19/2016 submittals is not sufficient (fourth time) to approve the proposed North Lease application.

Appendix 3-8 (The Greater Sage Grouse Management Plan North Private Lease) is referenced in the second submittal of the North Lease application. The application refers to the (2015) sage grouse monitoring plan (Data collected in 2014 that was due in October of 2014, received by DOGM on January 23, 2015 that has not been approved nor has the monitoring plan submitted in December 2015 for data collected in 2015. The monitoring section of the plan was deficient as determined by the Division's review of the plan on September 3rd, 2015. One of the deficiencies noted in the first round of review of the North lease application requested the permittee to meet with the Division to determine the specific criterion for implementing the monitoring components of the 2015 sage grouse management plan for the North lease area. After three rounds of review (9/3, 12/7 and 12/31/2015) the permittee has neither responded to this deficiency nor consulted with the Division and agencies responsible for fish and wildlife. The plan remains deficient in terms of including an adequate sage grouse monitoring plan using the best technology currently available to monitor impacts to the greater sage grouse from

surface and underground mining activities (R645-301-333).

In order to meet the requirements for the scope and level of information required for the protection and enhancement plan required under this section of the regulations (R645-301-322.100) the Division has been in consultation with the Division of Wildlife Resources (DWR), Fish and Wildlife Service (USFWS), Dr. Nicki Frey (DWR Sage Grouse research professor Panguitch SGMA). The Kanab BLM field office (Harry Barber & Lisa Church) although not directly involved with the review of the North Lease application have been kept informed of the progress of consultation with the affiliated agencies. Comments from DWR and FWS have been scanned in and filed at the Division's Salt Lake City office.

REQUIRED MITIGATION for the NORTH LEASE

The man caused disturbances from mining and mining related activities within the nesting and brood rearing and wintering (basically year-round) buffer will impact the entire north lease area. The total acreage of the proposed permit area is approximately 250 acres which translates into 1000 acres of compensatory mitigation given a ratio of 4 acres of mitigation for each acre of disturbance. It is appropriate to scale the requested habitat mitigation and population monitoring activities to the type and extent of foreseeable impacts associated with the mine application. This ensures fairness and increases the likelihood of attaining desired plan outcomes. The Utah Division of Wildlife Resources have indicated a willingness to cooperate with mine plan implementation, by such measures as carrying out habitat restoration funded by Alton Coal Development (ACD) and vetted through the Watershed Restoration Initiative. And, similarly, Southern Utah University personnel have indicated willingness to conduct appropriate population monitoring to help assess the sage-grouse responses to mine development, mitigation, and restoration activities, in a manner supported by ACD. Although this permit is not driven by the costs of restoration, it is only sensible to recognize that doing work of a certain scale and type will have certain costs. Constructive partnerships leverage available resources, and ACD will receive cost reductions and program efficiencies through these partnerships.

ACD has provided documentation of the re-distribution of the Dames lease mitigation acreage (344 acres) to the North lease as noted on page 9 of appendix 3-8. Documentation for the completion of mitigation for the remaining 556 acres of accessible sage grouse brood rearing habitat and 100 acres of riparian mitigation (subject to Army Corps requirements) for the proposed North Lease area will need to be completed prior to obtaining a permit to commence surface, highwall or mining related activities in areas 2 and 3. The text on pages 3, 8 and 9 of Appendix 3-8 will need to be revised to include this information. This collaborative determination is the result of review and comment and a series of meetings (10/22, 11/23, 12/2 and 12/3/2015) with DWR (Bill James, Ben Nadalowski, Avery Cook, Josh Pollock and Rhett Boswell), The Panguitch Local Sage Grouse Working Group (Dr. Nicki Frey), FWS (Lary Crist, Jay Martini and Betsy Herrmann).

REQUIRED MITIGATION for CURRENT MINING OPERATIONS:

DOGMA in consultation with DWR, FWS and The Panguitch Local Sage Grouse Working Group (Dr. Nicki Frey) had suggested that:

Required mitigation for the Dames lease area should not be used for areas 1, 2 and 3 of the north lease. The area could have been used for alternative mitigation if it had been located outside of the Lekking, nesting and brood rearing buffer, not disturbed, impacted or highwall mined. This area was previously impacted by man caused disturbances when mining and mine related activities eliminated the lek and continued in the areas contiguous to and including the highwall area.

The Division was provided with documentation (a pdf sent to Priscilla from ACD) from ACD verifying highwall mining in the 88.5 acre parcel during the partial inspection conducted by Priscilla Burton in November of 2015. However additional information provided by ACD indicated that mining did not occur in the Dames lease (revised MSHA map submitted in December, 2015). The Division has determined that although the area is permitted it has not been mined and that ACD can apply the Dames lease mitigation acreage of 344 acres to the 1000 acres of mitigation required for the North Lease application. ACD will not be allowed to conduct mining or mining related activities in the Dames lease. The following commitment is suggested; ACD will provide for 344 acres of wet meadow brood rearing habitat prior to conducting mining or mining related activities in the Dames lease.

There is a potential loss of sub-irrigation to the Dames lease. The current ground water monitoring data for that area indicates that the water level has dropped 7.5' to 12' (which will eliminate the sub-irrigation by the Spring of 2016 according to the Division's staff) that supported the wet meadow habitat and a critical food source for sage grouse chicks. That being the case the Division will address mitigation under the material damage section of the coal regulations. ACD is currently required to maintain the wet meadow habitat.

The DOGMA/BLM specifications for the 355 acre BLM parcel have been completed. Documentation of payment for completion of 265 acres and the remaining 178 acres to be completed in 2016 of the 443 acre WRI project # 3419 will need to be provided prior to conducting mining or mining related activities in areas 1,2 and 3 of the North Lease.

MONITORING

ACD will need to monitor impacts to wildlife and natural resources throughout the life of the mine and the 10 year

reclamation liability period. The enhancement phase of the required protection and enhancement plan is implemented during the reclamation phase of mining operations.

Representative statistical sampling using GPS collars for the Alton sage grouse population is estimated at a minimum of 5 and a maximum of 10 collars. Hens should be collared as an essential component of recruitment monitoring. Although 5 collars are not statistically adequate to publish the data collected; that is the number (Using a simple estimation (12 attending males = ~ 15-24 hens or 25% of the hen population) preferred in light of variables associated with impacts to the sage grouse, (personal communication with DWR (Bill James, Avery Cook, Rhett Boswell), The Panguitch Local Sage Grouse Working Group (Dr. Nicki Frey) and BLM (Lisa Church).

Alton Coal will need to include in Appendix 3-8 a long term 5 year sage grouse monitoring plan. The plan shall include a written contract that includes the following:

Funding and associated costs for the purchase of 3 global positioning system (GPS) tracking collars and the monitoring of 5; Associated costs will be defined in the terms of the contract that include at a minimum: supplying necessary operational funding to permit monthly data download from satellites, basic operational expenditures by qualified individuals involved in accessing, parsing, and ensuring minimal ground truthing and cleaning of locational data for the first 5 years of this mining permit operation.

A commitment to (1) analyze the data, (2) meet with Dr. Frey, DWR, DOGM, FWS quarterly and other members of the Panguitch Local Sage Grouse Working Group if needed and (3) provide a summary, analysis, findings and recommendations of the data from the 5 GPS collars.

With the habitat mitigation offered in the mine application, these population monitoring steps will take the mine through the first five years of operation in the North Private Lease area. Prior to the initiation of the second 5 year period, a new monitoring and assessment plan will be needed. ACD will need to provide a commitment to that effect. Although additional habitat restoration is not expected, continued monitoring of sage-grouse populations and habitat use will be required throughout the life of the mine and the 10 year reclamation liability period. Appendix 3-8 needs to include a monitoring plan for the 10 year reclamation liability period as well.

The application refers to the (2015) sage grouse monitoring plan (Data collected in 2014 that was due in October of 2014, received by DOGM on January 23, 2015 that has not been approved. Neither has the monitoring plan submitted in December 2015 for data collected in 2015. ACD will need to consult with the Division to determine the specific criterion for implementing the following components of the sage grouse management plans for the North lease area:

Employee Observations;
Monthly Bird Surveys;
GPS Collaring and Monitoring;
Noise Detection and Sound Assessment;
Habitat Mitigation;
Vegetation Improvements and Monitoring and;
Predator Control Activities.

Deficiencies Details:

The information in the application is not adequate to meet the requirements of this section of the regulations. The following information is required in accordance with R645-301-320, 330 and 342 for area 1. The information needs to be complete and adequate and incorporated into the MRP:

REQUIRED MITIGATION for the NORTH LEASE

REQUIRED MITIGATION for CURRENT MINING OPERATIONS:

Alton Coal will provide documentation of payment for completion of the WRI project # 3419 within 30 days of completion.

MONITORING:

Prior to conducting mining operations on the North Private Lease, ACD will meet with the DWR, FWS and DOGM and reach consensus on the development of a long term sage grouse monitoring plan that includes specific criterion for monitoring sage grouse which includes a commitment to (1) meet with Dr. Frey, DWR, FWS, DOGM and other members of the Panguitch Local Sage Grouse Working Group as needed and (2) provide a summary, analysis, findings and recommendations of the data collected from the GPS collars and obtain approval for requisite updates to chapter 3 of the current MRP.

Topsoil and Subsoil

Analysis:

Analysis:

The information meets the requirements of R645-301-230, because the plan indicates that prior to mining Pit 1, topsoil will be removed from all of Area 1 except beneath the topsoil and subsoil pile locations (Section 231.100 outlines the timeline and details). Drawing 2-4 illustrates removal of subsoil (B & C horizon) from all of Area 1 except from the access road and beneath the topsoil, subsoil, and spoil pile locations. Subsoil will be kept in place in roadways and beneath stockpiles during operations.

Drawing 2-4 provides a table of area and volumes of topsoil and subsoil salvage in Area 1. Dwg 2-4 calculations use topsoil salvage of 1.17 ft (14 inches) and subsoil salvage of 2.67 ft (32 inches). Section 232.100 also provides a table of projected salvage depths for each mining area. In the Section 232.100 Table, Area 1 is estimated to have 18 inches of topsoil and 24 inches of subsoil salvaged. Both estimates would provide between 44- 46 inches of total salvage from Area 1. The soil scientist on site during soil salvage will monitor soil depths and provide accurate, as built volume information by filling out the table in Section 234.230 (per communication with Kirk Nichols, 1/28/2016).

The soil survey presents Map 10, a map of the soils within mine development Areas 1, 2, and 3. In Section 232.600 of the MRP, Dwg 2-3 is compared with Map 10 in Vol 11 for information on soil salvage depth. (The Permittee has clarified that these two maps are of the same scale (1 in = 500 ft) when Map 10 is printed as 11 x 17 inches and when Dwg 2-3 is printed as 24 X 36 inches.) The application states that a soil scientist will be consulted to interpret the mapping during soil salvage of all areas, including Area 1.

The plan for soil salvage is provided in Table 14 of Volume 11. This plan will be implemented by a soil scientist, because of the complexities of the soil survey and varying depth of suitable surface soils. Table 14 and Soil Map 10 in Vol 11 show the average salvage depths for soils A1, A2, A3 and F in Area 1. All A1, A2 and A3 soils will have 3.8 feet (45.6 inches) recovered and stockpiled. Area F soils will have 4.0 ft recovered and stockpiled. The A horizon varies from 4 inches to 7.5 inches in these soils and therefore A and B horizons will be salvaged together. An average depth of 1.2 feet (14 inches) is proposed in Table 14 for topsoil salvage. Since Area 1 is 51.9 acres, an average topsoil salvage of 1.2 feet could produce 100,478 CY from the entire area. The remaining 2.6 ft of salvage could produce 217,703 CY of subsoil from the entire area.

In several locations the A horizon is less than six inches and the plan calls for salvaging the A & B horizon together. Clay concentrations in the surface soils is about 32 - 67%, with correspondingly high saturation percentages. These non-carbonate clay soils are overall not sodic, the main cation is calcium in the form of gypsum. The exception is at sample location 12AS032, where the Sideshow soil is a smectite clay soil with shrink-swell characteristics noted by the presence of slickensides. At this location the SAR values range between 7.56 - 10.3 from 25 inches to 56 inches. This is considered only fair quality on the Division's suitability table. (Sample location 12AS032 was evaluated for density and total metals, as well.) The Teromote (Map Unit A1) and Boxcanyon (Map Unit F) soils have the lowest percentage of clay in surface horizons. They are the best available material in Area 1.

Pit1/Area 1 Topsoil Pile:

Drawing 5-48 labels an 84,000 CY topsoil stockpile. Dwg 2-4 shows the topsoil stockpiled approximately 30 feet deep over an area that is approximately 500 ft long X 300 ft wide or roughly 3.55 acre. Dwg 2-4 shows the side slopes of the topsoil pile to be about 40% on the south to 34% on the north side (approaching 2.5h:1v). From this drawing the Division estimates a volume of 166,666 CY could be contained within the topsoil stockpile. Thus, the area designated for topsoil storage is more than adequate.

Pit 1/Area 1 Subsoil Pile:

Drawing 2-4 labels a 60,000 CY subsoil stockpile. It shows the subsoil stockpiled approximately 20 feet deep over an area that is approximately 650ft long X 200 ft wide or roughly 3+ acres. Dwg 2-4 states that the subsoil stockpile will have a maximum slope of 3h:1v; the side slopes portrayed on Drawing 2-4 are about 32% or 3h:1v. From this drawing the Division estimates a volume of 96,800 CY could be contained within the subsoil stockpile. Thus, the area designated for subsoil storage is more than adequate.

Pit 1/Area 1 Spoil Pile:

Drawing 5-48 labels a 505,866 CY subsoil stockpile. Drawing 2-4 shows the spoils pile to be a trapezoidal wedge 20 ft

deep on the north and 50 feet deep on the south side (average depth 35 ft). The spoils will cover an area that is approximately 800 ft long X 600 ft wide or roughly 12 acres. Dwg 2-4 shows the side slopes of the subsoil pile to be about 33% on all sides (3h:1v). From this drawing the Division estimates a volume of 622,222 CY could be contained in the pile. Therefore this spoil pile is adequately sized.

Sections 231.400, 234.200 and 244.100 describes measures to be taken to stabilize stockpiled soils. All stockpiles will be surface roughened and bermed immediately (Section 244.100) and seeded with an interim mix (Section 231.400) or coated with a tackifier (Section 244.100) by the next appropriate seeding period (Section 231.400). Partially utilized stockpiles will be reshaped, bermed and seeded by November 30th of each year (Section 234.230). The temporary spoil pile will be roughened and a tackifier applied to the outslope as the pile rises (Section 244.100). Kane County will be encouraged to remove and store topsoil and subsoil in berms along the roadway (personal communication with A. Christiansen, 1/12/2016).

Surface facilities and Pit development areshown on Drawing 5-53, Coal Removal Sequence. Overburden removal sequence is shown on Dwg 5-57. The plan under review is for Area 1, with Pit 1 being the first bonded increment of Area 1. Topsoil volumes are consistent across all maps: Dwg 2-4, 5-47, 5-48, 5-51, and 5-76. V (Drawing 5-51A illustrates the temporary excess spoil pile in detail.) A notation on Dwg 5-76B indicates that all three stockpiles in Area 1 will be rehandled for reclamation of Area 1 within a year. Section 232.720 describes replacement depths of 13 inches of topsoil over 31 inches of subsoil.

pburton

Vegetation

Analysis:

As required by R645-301-356.110 the Division is responsible for consulting with the applicant in determining appropriate reference area(s) as the benchmark for revegetation success of reclaimed disturbed areas. The Division's biologist assigned to this permit expansion (Joe Helfrich) conducted a field investigation of the proposed reference areas with the applicant's consultant, (Pat Collins of Mt. Nebo Scientific) on August 13, 2015. For the three vegetative communities identified, two reference areas were proposed V03 Sagebrush and Wetland V06. An alternative reference area for site V03 has been established as Site V05. The third community (pasture lands) will be reclaimed in accordance with the species composition of the plants identified and surveyed within the proposed area to be surfaced mined. There are three potential impacts to these two reference areas, air quality, water quality and available ground water in light of the 100' buffer of no disturbance on either side of Kanab creek. The riparian wetland vegetation communities located along Kanab creek below the southern end of the permit boundary will be sampled annually during the life of the mine. This area has been established as site (V22), DOGM/Mt. Nebo Scientific site visit 10/28/2015.

The application should include the following information to address these potential impacts:

A monitoring frequency for the proposed reference areas V03, V05 and V06 and site V22 during the reclamation liability period;

Vegetation map #2 should be updated to include Area V22 and;

A commitment to mitigate impacts to these wetland riparian vegetation communities located along Kanab creek below the southern end of the permit boundary.

jhelfric

Road Systems Classification

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Road classification.

The application meets the minimum requirements of R645-301-527.100 by classify each road as primary or ancillary. Section 527 was updated to include the one additional primary haul roads that will be located in the North Private Lease, as detail in Drawing 5-60. All temporary roads that will be constructed and utilized throughout the mining operations, though temporary in nature, will be designed to R645-301-534.110-.150 regulations. No permanent roads will be installed within the permit area.

cparker

Road System Plans and Drawings

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Road plans and drawings.

The amendment for Area 1 meets the minimum requirements of R645-301-527.210 and R645-301-534.100 by including details of the access in addressing the minimum requirements of R645-301-527.100, -527.200 and deficiency # 49. The Permittee originally added an square polygon labeled as the access point to Drawing 5-47 and 5-48 and referenced said access in the narrative of section 527.100 and .200 but there are no details shown on Drawing 5-60 showing the designed access. In the January 18, 2016 submission the Permittee included a 28 foot wide access driveway will designs added to Drawing 5-60.

To address deficiencies of missing USACE permit information, narrative describing the Nationwide Permit 14 was added to Chapter 5. Alton submitted a pre-construction notification, SPK 2011-001248, describing the disturbances and mitigation to the USACE. The permittee failed to include a copy of the pre-construction notification in the original submission. Since the narrative states that the sizing of culvert C-3 will be determined by USACE a copy of the approval needs to be submitted with Appendix 5-12. Within the January 18, 2016 resubmission the Permittee included the USACE permit information within Appendix 5-14.

cparker

Road System Performance Standards

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for road performance standards.

The amendment meets the minimum requirements of R645-301-527.230 by detailing the general maintenance of all roads within the permit area. Narrative within Section 527.230 details the required statement stating that in the event of a catastrophic event the repairs to the roads will be made as soon as possible.

The amendment meets the minimum requirements of R645-301-527.250 with no alternative specification or steep cut slops associated with roads to be anticipated or contemplated at the time of this application.

The amendment meets the minimum requirements of R645-301-534.150 by submitting plans and drawing for each road to be maintained within the permit area to prevent and control erosion.

cparker

Road System Certification

Analysis:

Area 1:

The application meets the minimum requirements of R645-301-512.250 by having all primary haul roads designed and certified by Dan Guy, a professional engineer. All primary haul roads will be built in a stable manner to ensure environmental protection and safety with no stream fords.

The application now meets the minimum requirements of R645-301-521.170 by addressing deficiency # 51 by updating the narrative to include reference to required USACE NWP permit acquired. Narrative was also added detailing NWP-14 and that the pre-construction notification was acquired and a copy of all documents was included in Appendix 5-14.

The application did meet the minimum requirements of R645-301-232.600 detailing specifically that top soil and sub soil will be salvaged for temporary haul roads and active surface mining areas, but failed to discuss the specific arrangement of the leaving of topsoil and subsoil during the development of Pit 1.

The application meets the minimum certification requirements by submitting plans and drawing for each road to be prepared by or under the direction of and certified by a qualified registered professional engineer. Chapter 5 Section 521.170 details each road that will be constructed and maintained within the North Private Lease. Drawing 5-60 details the primary haul road that will be located within the North Private lease permit area. The above stated drawing details that the haul road will be approximately 2,700 feet long with three culverts. The maximum grade of the haul road will be 7.1% to get the haul around the location of Pond 6. The narrative and drawing 5-60 detail that C-2 has pending USACE approval but did not

include a copy of any correspondence or USACE 404 NWP permit.

cparker

Road System Other Transportation Facilities

Analysis:

Area 1:

The amendment meets the State of Utah R645-301-521.170 by as there are no conveyors or rail systems to be used within the proposed permit area.

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for noncoal mine waste.

The amendment meets the minimum standards of R645-301-528.330 due detailing the disposal of noncoal mine waste disposal located in the current MRP Chapter 5 Section 528.330. Noncoal mine waste will be temporary stored in appropriate containers and removed from the permit area to be properly disposed of according to applicable State and Federal regulations.

Section 528.332 contains a discussion of the proposed alluvial ground water drains to be left in place. These drains were not installed at the site due to the site spoil having such a low permeability that the drains would not facility any collection. This narrative was removed in December 18, 2015 to address deficiency # 54.

cparker

Spoil Waste Coal Mine Waste

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Coal Mine waste.

The amendment meets the minimum standards of R645-301-513.300 due to not changes in the MRP text. The application does not change the approved MRP that states no underground development, coal processing waste, or excess spoils will be disposed of underground.

The amendment original application did not meet the minimum requirements of R645-301-528.320, -301-536.300- through 563.330, and -542.730 due to missing information detailing the handling of the coal mine waste associated with the development of Pit 1 to meet R645-301-528.333. The text meets the minimum requirements of R645-301-528.320 as all coal mine waste generated past Pit 1 will be backfilled in other subsequent pits as part of the contemporaneous reclamation and operations meeting R645-301-528.333.

To address deficiency #55 the December 18, 2015 submission added clarifying text detailing that coal mine waste developed during the extraction of Pit 1 will be stored on top of the unmined coal until enough coal has been removed to place the coal mine waste on the floor of the pit. This narrative was added to Chapter 5 Section 522 and 528 to meet the minimum requirements of R645-301-528.320, -301-536.300- through 563.330, and -542.730.

cparker

Spoil Waste Refuse Piles

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for R645-301-513.400, R645-301-514.200-.250, and R645-301-528.322 due to not changes in the MRP text. The MRP does not contemplate any refuse piles within the current Coal Hollow Mine and the North Private Lease.

cparker

Spoil Waste Impounding Structures

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Impounding Structures, on the condition that Chapter 5 page 5-27 has C-2 as a 36 inch culvert instead of the current amendment text which states an 48 inch.. Chapter 5 page 5-60 has C-2 as a 48 inch culvert instead of the approved 36 inch within Appendix 5-14 and C-3 as 172 inch instead of the approved 144 inch. These pages will be corrected within the clean copies to meet the minimum requirements.

The amendment meets the minimum requirement of R645-301-512.140 by having all hydrology maps as described under -301-722 certified by a professional geologist Eric Petersen.

The amendment meets the minimum requirements of R645-301-512.240 by having a professional engineer, Dan Guy, who has experience in design and construction of impoundments certify the designs of Ponds 5 through Pond 9.

The Permittee amended text within Chapter 5 Section 512.240 to clarify that a detailed geotechnical analysis was only conducted for the south Coal Hollow private lease in and the report can be found in Appendix 5-1. Text was added to the section stating how the detail field investigation that was conducted for the North Private Lease found the soils to be representative of the south lease negating the need for another detailed geotechnical analysis, specific slope stability, as demonstrated in Appendix 5-12 for the North Private Lease. The original text did not take into account the additional ponds added since the last submission of the permit application. The Permittee further amended this section to address all ponds in the north lease. The December 18, 2015 submission did update the pond and ditch information to match the updated proposed structures, and the January 18, 2015 narrative was added to this section detailing the limited review of the various ditches and ponds; specifically that only Pond 5, Pond 6, and Ditches 5 through 11 are the only structures currently under review.

The amendment meets the minimum requirements of R645-301-513.200 by detailing within the MRP that no impoundments and sedimentation ponds meet the size or other qualifying criteria of MSHA 30 CFR 77.216.

The amendment meets the minimum requirements of R645-301-514.310-313 by text within Section 514.310-313 and 514.320 detailing inspection made regularly during construction, upon completion, and at least yearly until removal at final reclamation.

The application meets the minimum requirements of R645-301-532 by adding a detail to Drawing 5-48 stating the sediment control measures carried out within the disturbed area to prevent untreated runoff along the eastern edge of Area 1 with a berm and silt fence.

The application meets the minimum requirements of R645-301-533.110 -220 by detailing that a geotechnical report was completed for the impoundments. The expected consolidation of the native soils around the ponds is expected to be minimal, approximately 1%.

The amendment meets the minimum requirements of R645-301-533.300 due to similar soils experienced in the south lease, as detailed in Appendix 5-11, so an expected slope stability factor range of 1.2 to 1.9 can be expected.

The amendment meets the minimum requirements of R645-301-533.400-500 by detailing that slopes will be protected by seeding and prior to construction all vegetation, topsoil, and sub soil will be removed.

The amendment meets the minimum requirements of design drawings as detailed on Drawing 5-67 and 5-68 for the north private lease permit area 1. Drawing 5-76B details the reclamation sequence of the facilities to meet R645-301-356.300 and -763 by retaining all ponds until the second year of seeding to facility erosion control treatment.

cparker

Spoil Waste Burning and Burned Waste Utilization

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for R645-301-513.800 and R645-301-528.323 due to not changes in the MRP text that no waste will be burned within the Permit area.

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for R645-301-528.340 due to not changes in the MRP text stating that no coal processing waste will be returned to the underground workings at the Coal Hollow Mine.

cparker

Spoil Waste Excess Spoil

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for Excess spoil.

To address deficiency # 58 of the December 18, 2015 resubmission and to meet the minimum requirements of R645-301-521.143, R645-301-745.111, R645-745.113: The Permittee added reference to Appendix 7-16 to Chapter 5 Section 521.143 subsection 745.111 and 745.113 to support the statements made in regards to the soil toxicity within each section.

The amendment meets the minimum requirements of R645-301-512.210 due to new slope stability calculations provided for the North Lease temporary excess spoil pile in Appendix 5-11. Chapter 5 Section 512.210, 521.143 and various other sections call out that a professional engineer has certified the designs of the North Private Lease temporary excess spoil pile according to 535.100 and that the analysis can be viewed in Appendix 5-11. The Permittee submitted text detail the design, placement, and disposal sequencing of the North Private Lease temporary spoil pile with applicable designs and slope stability analysis as required by R645-301-535.

The amendment meets the minimum requirements of R645-301-514.100 detailing inspection of the excess spoil pile during construction, completion and quarterly. There was no change was made to Chapter 5 Section 514.100-.120.

To address deficiency # 60 of the December 18, 2015 resubmission and to meet the minimum requirements of R45-301-532.200: The permittee amended the narrative of Section 532.200 to stat that in the event the temporary spoil pile is left in place beyond six months it will be covered with tackifier or some other means of stabilization.

The amendment now meets the minimum requirements of R645-301-521.143 due to text referencing and detailing the specific operations to be utilized within regards to the temporary excess spoil pile on the North Private Lease during Pit 1 development. The submitted application states that topsoil and subsoil will be separately removed and segregated from other material prior to placement of any spoil, as shown with the hatch on Drawing 2-4. Drawing 2-4 does indeed show the typical salvage plan for continuous pit development. The Permittee amended Drawing 2-4 to show the hatch indicating topsoil and subsoil recovery to extend below the entire extent Area 1 between Pit 1 and the area expected to be disturbed by the construction and maintenance of the topsoil, subsoil, and spoil piles. Corresponding volumes of topsoil and subsoil were updated to account for the addition soil. The Permittee failed to adequately address deficiency # 59 in the December 18, 2015 submission but amended the amendment in the January 18, 2015 submission. Section 521.143 details how the temporary spoil pile will be 23 to 59 feet tall and cover approximately nine acres.

The amendment in Chapter 5 Section 521.143, subsection 745.111 and 745.113 states that the excess spoil piles in the current Coal Hollow Mine permit are and the temporary North Private Lease spoil pile will be composed of high-clay tropic shale that will limit infiltration and has a minimal potential for leaching of pollutants. The section is missing a reference for the stated Laboratory data where various leaching tests are presented.

R645-301-528.310 is now met due to references of geotechnical review of the overburden. The MRP now references the geotechnical report the shows swell factor for how the volumes depicted in the table are arrived at. Appendix 5-11 details a new the swell factor of 10.7% with a 3:1 shale alluvium composition. The consolidation test shows approximately a 5% consolidation at 4000 psf with water. Section 528.310 does detail that the temporary spoil will be in place for less than six months before being rehandled as pit backfill.

To address deficiency # 61 of the December 18, 2015 resubmission and meet the minimum requirements of R645-301-528.200 the Permittee added a reference to Appendix 5-11 for geotechnical properties of spoil to section

528.310.

R645-301-535.100 Long term static safety factor for the temporary spoil pile is 1.6 to 1.7 with lifts not to exceed four feet. The MRP states that the spoil structure will be rehandled to backfill the open pit in a short time frame, defined as six months. The spoil pile within the North Private Lease will not be covered with subsoil or topsoil. The geotechnical report in Appendix 5-11 contains a sufficient foundation investigation for the temporary spoil pile, with an expected consolidation of the area of approximately 5% meeting R645-301-535.112, -535.151, and -535.152.

cparker

Hydrologic General

Analysis:

The amendment does not meet the State of Utah R645 requirements for Water Rights and Replacement. An updated analysis on Water Rights and Replacement must be completed to determine the total volume of state appropriated groundwater and surface water within and adjacent to the North Private Lease. Baseline hydrologic information must be supported with a hydrogeologic groundwater model of the alluvial aquifer within and adjacent to the North Private Lease.

Deficiencies for proposed operations in AREA 2 and 3:

The amendment does not meet the State of Utah R645 requirements for Water Rights and Replacement. The following deficiency must be addressed prior to final approval:

R645-301-727, R645-301-731.800: An updated analysis on Water Rights and Replacement must be completed to determine the total volume of state appropriated groundwater and surface water within and adjacent to the North Private Lease. Baseline hydrologic information must be supported with a hydrogeologic groundwater model of the alluvial aquifer within and adjacent to the North Private Lease.

kstorrar

Hydrologic Ground Water Monitoring

Analysis:

The amendment does not meet the State of Utah R645 requirements for Groundwater Monitoring.

Backfilling Tropic Shale in Pit 20 and Pit 21 will increase TDS in the alluvial aquifer. The amendment must address how earth materials will be handled to protect groundwater quality and prevent the harmful infiltration of increased TDS into the alluvial aquifer.

The application must provide a monitoring plan for alluvial groundwater discharged into the open-pits. Ground-water will be monitored and data will be submitted at least every three months.

The amendment must demonstrate ground-water quantity in the alluvial aquifer will be protected during open-pit mining using a hydrogeologic groundwater model of the alluvial aquifer that rests within and is adjacent to the North Private Lease.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-731.112; R645-301-731-121: Backfilling Tropic Shale in Pit 20 and Pit 21 will increase TDS in the alluvial aquifer. The amendment must address how earth materials will be handled to protect groundwater quality and prevent the harmful infiltration of increased TDS into the alluvial aquifer.

R645-301-731.211; R645-301-731.212: The application must provide a monitoring plan for alluvial groundwater discharged into the open-pits. Ground-water will be monitored and data will be submitted at least every three months.

R645-301-731.112: The amendment must demonstrate ground-water quantity in the alluvial aquifer will be protected during open-pit mining using a hydrogeologic groundwater model of the alluvial aquifer that rests within and is adjacent to the North Private Lease.

kstorrar

Hydrologic Water Quality Standards

Analysis:

AREA 1:

The amendment meets the State of Utah R645 requirements for Sediment Control Measures. The amendment provides designs and calculations demonstrating runoff will be reduced and sediment will be retained within ASCA-1 through the use of straw bale check dams and silt fences. The amendment also includes a narrative on the sediment clean out level behind the erosion control structures.

AREA 2, 3:

The amendment does not meet the State of Utah R645 requirements for Water Quality Standards in Area's 2 and 3. From the outfall of Pond 7, discharged effluent will flow for 200' within the permit area before draining through the southern permit boundary. While effluent passes through this disturbed area drainage it will pick up additional pollutants prior to leaving the site. Thus, effluent discharging the permit area at the outlet of C-2 does not accurately represent effluent levels discharging from Pond 7. Effluent discharging from Pond 7 from both the decant pipe and large runoff events must be sampled prior to mixing with ASCA-1 runoff. Effluent discharges through the emergency spillway samples must be taken at the inlet of C-2.

Deficiencies for proposed operations in AREA 2 and 3:

AREA 2-3:

The amendment does not meet the State of Utah R645 requirements for Water Quality Standards in Area's 2 and 3. R645-301-751, R645-301-752.230: Based on conversations with the Division of Water Quality it is determined decant effluent from Pond #7 may not flow through the disturbed permit area and mix with ASCA-1 effluent. Sediment Pond #7 decant effluent must be piped separately under the haul road and county road and sampled at the edge of the permit boundary.

kstorrar

Hydrologic Diversion Perennial and Intermitten

Analysis:

The amendment does not meet the State of Utah R645 requirements for the Diversion of Perennial Streams that drain a watershed of at Least One Square Mile. The amendment must provide a certified engineered design of Kanab Creek reconstruction after the haul road crossing is removed.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-742.320: The amendment does not meet the State of Utah R645 requirements for the Diversion of Perennial Streams that drain a watershed of at Least One Square Mile. The amendment must provide a certified engineered design of Kanab Creek reconstruction after the haul road crossing is removed.

kstorrar

Hydrologic Diversion Misc. Flows

Analysis:

The amendment does not meet the State of Utah R645 requirements for Diversion of Miscellaneous Flows. A narrative is needed justifying the boundary of the undisturbed watershed UA-4 in Drawing 5-66.

Deficiencies for proposed operations in AREA 2 and 3:

R645-301-742.330: A narrative is needed justifying the boundary of the undisturbed watershed UA-4 in Drawing 5-66.

kstorrar

Hydrologic Sediment Control Measures

Analysis:

AREA 1:

The amendment meets the State of Utah R645 requirements for Sediment Control Measures. The amendment provides a narrative and designs showing how runoff will be contained within the AREA 1 permit boundary. A combination of silt fences and a berm will be installed along the eastern boundary of AREA 1 to contain runoff and direct it toward either the impoundments or the ASCA-1.

Hydrologic Siltation General

Analysis:

The amendment does not meet the State of Utah R645 requirements for Siltation Structures. The amendment must include an engineered design with supporting calculations of the open-pit dewatering system for the maximum expected volume of 360,000 gpd to Sediment Pond #7.

Deficiencies for proposed operations in AREA 2 and 3:
R645-301-742.220: The amendment must include an engineered design with supporting calculations of the open-pit dewatering system for the maximum expected volume of 360,000 gpd to Sediment Pond #7.

kstorrar

Hydrologic Discharge Structures

Analysis:

R645-301-742.323; R645-301-744.100: The amendment does not meet the State of Utah R645 requirements for Diversions and Discharge Structures. The post-mining topography map shows multiple areas where water is routed from the elevation of the fields down to the elevation of Kanab Creek. The most notable diversion is the new bowl that will be created instead of reforming the ephemeral channels to the west of Kanab Creek. The amendment must include a narrative with supporting calculations for the post-mining topography of permanent diversions that drain miscellaneous flows from the height of the fields bordering Kanab Creek down to the elevation of Kanab Creek.

Deficiencies for proposed operations in AREA 2 and 3:
R645-301-742.323; R645-301-744.100: The amendment does not meet the State of Utah R645 requirements for Diversions and Discharge Structures. The amendment must include a narrative with supporting calculations for the post-mining topography of permanent diversions that drain miscellaneous flows from the height of the fields bordering Kanab Creek down to the elevation of Kanab Creek.

kstorrar

Hydrologic Impoundments

Analysis:

pburton

Hydrologic Impoundments

Analysis:

AREA 1:
The amendment meets the State of Utah R645 requirements for Sedimentation Ponds. The amendment provides a detailed water and sediment management plan for Ponds 5 and 6 to capture and contain a 10-year 24-hour event. The Permittee is currently applying for UPDES outfalls at each of the ponds and in the interim the containment plan will prevent the ponds from discharging.

kstorrar

Support Facilities and Utility Installations

Analysis:

Area 1:
The amendment meets the State of Utah R645 requirements for support facilities and utility installations.

The amendment meets the minimum requirements of R645-301-521.180 by referencing Section 526.220 for details of the narrative of each support facility and drawing 5-47. The support facilities depicted on Drawing 5-48 for Area 1 were the only facilities shown on Drawing 5-47 that were reviewed by the Division at this time.

The amendment meets the minimum requirements of R645-301-526 that requires the description, plans, and drawing for each support facility to be constructed, used, or maintained within the proposed permit area, drawing 5-47 details the support facilities locations for the North Private Lease. All references to relocation of the public road were updated in relation to the North Private Lease in Chapter 5 Section 526.

cparker

Signs and Markers

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for R645-301-521.200-270.

The general requirements are met by the general discussion of signs detailing the required signs will be maintained during all activities including: Mine Permit Identification signs, Permit markers, buffer zone markers and topsoil markers. In addition, the January 18, 2016 submission included added narrative to the section detailing that due to the sub area bonding within Areas the bonded area will be staked and marked at all points of operation.

cparker

Explosives General

Analysis:

The amendment meets the State of Utah R645 requirements for R645-301-521.167 as the narrative within Chapter 5 Section 521.167 details that blasting operations conducted at the Coal Hollow Mine and North Private Lease were and will be conducted by a consultant that will handle and control the handling of all explosive onsite and that all explosive storage is controlled by the consultant offsite.

cparker

Explosives Preblasting Survey

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting: Preblasting Survey.

The application essentially restates rules R645-301-524.310 thru 350, which includes all the requirements for preblasting surveys. The application also states that there are no dwellings or structures within one-half mile of the proposed North Lease permit area, which means that there will probably not be surveys done. The application does state that in 2011, preblasting surveys were done for the Swapp and Sorensen Ranches.

On December 18, 2015, the Division received additional information that clarified that the nearest structures, which they had previously just said was 2,686 feet away, was measured from the northwest corner of the proposed North Lease permit area. This structure has been identified on Drawing 1-7. This is extremely close to within one half mile of the proposed permit area, and while according to the rules, they do not have to offer a preblast survey, the Division would highly recommend offering surveys to structures that are this close to one half mile. Also, it is unclear whether any ranch structures outside of Alton town have been evaluated as to how close they are to the permit boundary. It would be very beneficial to have a map that includes the entire proposed North Lease permit boundary, a one half mile boundary line around the permit boundary, and any structures within or near this boundary. During a Divisions cursory review (see attached figure), it appears that there are some type of ranching structures directly west of the proposed permit boundary that are within one half mile that have not been identified by the Permittee.

On January 18, 2016, the Permittee sent in additional information regarding the preblast surveys. Drawing 1-7 was revised to include the ranching structures to the west of the site (a pole barn and a pond with an earthen dam), and the distances to the five nearest structures to the proposed mining area. The Permittee has committed to offer preblast surveys to each of these five property owners prior to any blasting taking place in the proposed North Lease area.

cparker

Explosives General Performance Standards

Analysis:

The amendment meets the State of Utah R645 rules for Blasting: General Performance Standards.

The application includes a general blasting plan in Appendix 5-4 of the approved MRP. This plan states that blasting will be necessary, and details explosive handling, storage, transportation and use. Each blasting hole will be loaded with a booster with a delay cap and ANFO (or packaged emulsion for wet holes).

According to appendix 5-4, the blasting schedule is defined as Monday through Friday, between 1 pm and 6 pm. This schedule will be published in the Southern Utah News, a newspaper of general circulation for the area, and will be provided to the Town of Alton, Kane County, Kana Field Office BLM, and when blasting at the Coal Hollow Mine only, the Sorensen and Dame Ranches. This blasting plan needs to be re-published for blasting in the North Lease due to the change in location, and this schedule will be re-published every 12 months or anytime the schedule changes. The scheduling and publishing information described in Appendix 5-4 should be included in Chapter 5 as well. Currently the Chapter 5 information is not specifically defined.

The information that is committed to be provided in each blasting schedule is sufficient to meet the R645-301-524.460-465 rules.

The design of the general blasting plan was reviewed. With the information provided in the application, the following information was calculated to verify that they were falling in the general design standard ranges: burden, hole spacing, stemming, powder column, loading density, charge weight, powder factor, scale distance, and peak particle velocity. The information provided in the example blasting design appears to fall within acceptable ranges.

On December 18, 2015 the Permittee provided additional information regarding the blasting schedule and public notice information. Appendix 5-4 was updated to include an example of the blasting notice that would be published in the Southern Utah New as well as various government agencies, neighbors, and municipalities. The example notice appears to include all required publication information. References to this information were added to Chapter 5.

cparker

Explosives Blasting Signs Warnings Access Control

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting: Blasting Signs, Warnings, and Access Control.

The application provides a commitment to place signs indicating "Blasting Area" along the edge of any blasting area and at the point of access to the area. The also commit to place a sign reading "Warning! Explosives in Use", and listing the meaning of audible blast warnings at the entrance to the mine.

The application defines the blasting warning and all-clear signals. These are spelled out the Chapter 5 of the proposed MRP as well as Appendix 5-4.

Commitments were listed in the application to prevent the presence of livestock or unauthorized people during blasting, and a Certified Blaster will be responsible to determine when travel within the blasting area can resume.

cparker

Explosives Control of Adverse Effects

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting: Control of Adverse Effects.

The application limits airblasts due to blasting operations to a maximum of 133 dB at any structure outside the mine permit area. To evaluate compliance with this limit, the Permittee has committed to monitor once per quarter, unless there are no blasts. The plan states that these measurements will be taken, "as required by the Division at locations specified by the Division".

The application also indicates that seismographic (ground vibration) monitoring will occur once per quarter, unless there are no blasting activities. They commit to notify the Division prior to their first blast, and to conduct monitoring on the first blast.

The Permittee has provided information on how the public access on this road will be restricted during a blast. The MRP states that blockers will be placed on the County Road west of the permit boundary at least 1000 feet from the nearest blast hole. This location will be established by the blaster at the pre blast safety meeting.

The Permittee has committed to monitor for air blast and ground vibration at the earthen dam of the pond located west of the lease on the Heaton Brothers property (see Drawing 1-7), during all blasting activities in permit area 1 of the proposed North Lease. During the first blast, monitoring will take place at this dam as well as 2500 feet away from the blast along County Road 136. Periodic monitoring will also take place quarterly. Results of these monitoring activities will be kept for Division review.

cparker

Explosives Records of Blasting Operations

Analysis:

The amendment meets the State of Utah R645 requirements for Records of Blasting Operations.

Chapter 5 of the proposed MRP and Appendix 5-4 outline the records to be kept of each blasting event. The Permittee has provided an example form that will be used to log and record each blast.

cparker

Maps Affected Area

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for maps of the mining operations affected areas.

Drawings 5-45 and 5-46 of the pre-mining topography meets the minimum requirements of R645-301-521.100 by accurately showing the proposed North Lease permit boundary according to the pre mining topography.

The original application did not meet the minimum requirements of R645-301-141 in Drawing 5-74 and 5-75 due to the scale. The reclamation scenario drawings must match the scale of bond release figures. Division standard in Technical Directives and R645-301-141 regulations require a larger scale (1":100') for the post mining topography and two foot contour intervals. To address this deficiency, #78 of the December 18, 2015 resubmission, and meet the minimum requirements of R645-301-141, R645-301-121.200, R645-301-521.151: Drawing 5-57 was amended to include alluvium overburden. Drawings 5-74 and 5-75 scales and contours were amended to two foot contours to match the bond release map designs of a 1:100 scale with two foot contours. The Permittee also added Drawing 5-74A through Drawing 5-74C detailing the post mining topography for each Area 1 through 3.

To address deficiency # 79 of the December 18, 2015 resubmission and meet the minimum requirements of R645-301-121.200, R645-301-521 Text was added to Section 521.150 detailing reclamation plans are approved only within the permit area, limited to Area 1 footprint for clarity.

The application meets the minimum requirements of R645-301-521.110 which requires previously mined areas to be show. Within the application Chapter 5, Section 521.110 details the previously historic mining operations within the Alton Amphitheater. The text also details how none of these previous mining operations are within the permit areas or adjacent to the permit areas, as defined in R645-100-200.

cparker

Maps Facilities

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for operations facility maps.

The amendment meets the minimum requirements of R645-301-521.161 by detailing the proposed facilities to be constructed within the permit area on Drawing 5-47 and specifically limited to the facilities shown on Drawing 5-48 are only being considered for this review.

The amendment meets the minimum requirements of R645-301-521.162 by providing a map detailing the yearly and overall disturbance for the North Private Lease within Drawing 5-46, however, to meet R645-301-800 and R645-301-521.163 the Permittee is only allowed to disturb areas where adequate bond has been approved.

The amendment meets the minimum requirements of R645-301-521.163 as there is a clear narrative, or reference to a narrative or drawing, that details what pits will be bonded for within Area 1 as the approved permit area.

The minimum requirements of R645-301-521.164 are met as updated information in the December 18, 2015 submission was included in Section 164 and 528 detailing all coal storage and loading will happen within active pits.

cparker

Maps Facilities

Analysis:

AREA 1:

The amendment meets the State of Utah R645 requirements for Mining Facilities. The amendment provides a narrative for when siltation structures will be constructed.

kstorrar

Maps Mine Workings

Analysis:

Area 1:

The application meets the minimum requirements of R645-301-521.140 which requires maps that clearly show all mine plans. Drawings 5-53, 5-57, and 5-77 we updated with notes detailing the specific phase of operations or reclamation depicted by each pit extent shown respectively.

cparker

Maps Certification Requirements

Analysis:

The amendment meets the State of Utah R645 requirements for map certification.

R645-301-512 minimum requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, Dan Guy, with experience in underground and surface mining operations.

cparker

Reclamation Plan

General Requirements

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for general reclamation details.

The amendment meets the minimum requirements of R645-301-513 by detailing no ponds meet the MSAH, 30 CFR 77.216 requirements, no refuse piles will be constructed and all sealing of underground openings shall meet MSHA, 30 CFR 75.1711 and R645-301-551 requirements.

The amendment meets the minimum requirements of R645-301-541.200 by detailing that all pits will be backfilled and the site will be reclaimed by the approximate time table shown on Drawings 5-74 through 5-76B.

The amendment meets the minimum requirements of R645-301-553 in the narrative of Section 542-100 through 600 as conflicting text stating that pits will be backfilled within 60 days or 1500 linear feet was corrected. The Permittee has never been granted additional time under R645-301-542.200 for the current Coal Hollow Mine and specific variance would need to be applied for under the proposed North Private Lease before text could be incorporated into the MRP. Pit 10 is the only pit that is except from this rule due to the state of the underground mining portals at the base of the pit.

cparker

PostMining Land Use

Analysis:

Analysis:

The Area 1/Pit 1 application meets the requirements for post-mining land use, Area 2 does not. R645-302-316.100 requires that designated special areas of prime farmland may be mined, if the approved proposed postmining land use of the designated special prime farmlands area is cropland. The application states Section 222.400 that the soils in the northern portion of the North lease are in agricultural production of alfalfa and small grains. The plan states in Section 410 that the North Private Lease area consists of cropland and pastureland and undeveloped rangeland. These areas are shown on Exhibit 4.2. Section 411.100 states that after reclamation the land will be restored to its pre-mining uses.

The North lease permit/disturbed area has been reduced and no longer includes the crop lands. Area 1 within the North Lease permit boundary is shown on Exhibit 4-2.

The Area 1 land is pastureland in the SW corner of the North Lease. Area 1 lands are owned by Heaton Brothers LLC. Area 1 lands are pasturelands and will be returned to pasturelands.

Area 2 of the North Lease contains wetlands and occasionally irrigated pasturelands that have prime farmland status or are farmlands of statewide importance. These lands are owned by Heaton Brothers LLC, Orval Palmer and Greta Palmer, Dean R Heaton, Ferril and Dorothy Heaton. These lands will be returned to pasturelands. Chapter 4, page 4-21 through 4-23 describes current land use. Appendix 4-8 provides post mining productivity goals and statements by Dean R Heaton and Ronald W. Heaton (for Heaton Brothers LLC) concerning the removal of ponds and erosional features from their properties.

Area 3 of the North Lease contains pasturelands and rangeland owned by Ferril and Dorothy Heaton. Productivity of Ferril (and Dorothy) Heaton's land is stated in Appendix 4-8. Kanab Creek and the uplands adjacent to the riparian area will not be disturbed. Sloping rangeland on the east side of the permit area will be reclaimed to more gentle slopes (Dwg 5-74) and will be seeded to pasture. Exhibits 7, 8, 9 and 12 of the Confidential folder contains the Ferril and Dorothy Heaton Lease Agreements. Restoration of fences, reclamation of private roads, drainage and irrigation ditches and weed control are agreed to in the lease.

Area 2: Buried irrigation pipe in Greta and Orval Palmer's property is described in Section 521.122 of the MRP and shown in Figure 12 of App. 7-16. There is nothing specified in Exhibit 16 (the Palmer's lease) with regard to replacing this irrigation system. Therefore, Appendix 4-8 must include a statement from Greta and Orval Palmer regarding the replacement of agricultural water lines in Tract 9-6-12-3. The Permittee responded on 12/18/2016 that the Palmer lease provides concurrence with the post-mining land use as discussed in R645-301-412.200. However, the application was not written until after the date of execution of the lease (June 30, 2014). Therefore they could not have agreed to what was written. The Permittee further states on 12/18/2015 that the Palmers accept compensation for damage to existing facilities in lieu of replacement. The lease does state in Section 3.06 that compensation arrangements (fees, royalties, payments) are sufficient for reasonable and customary damages and losses, but such a statement does not indicate to the Division that the irrigation system is not to be restored. The Permittee should request of the Palmers a statement similar to that received from Dean Heaton and the Heaton Brothers for the post mining irrigation system.

Deficiency R645-301-412.200, AREA 2, Buried irrigation pipe in Greta and Orval Palmer's property is described in Section 521.122 of the MRP and shown in Figure 12 of App. 7-16. There is nothing specified in Exhibit 16 (the Palmer's lease) with regard to replacing this irrigation system. Therefore, Appendix 4-7 must include a statement from Greta and Orval Palmer regarding the replacement of agricultural water lines in Tract 9-6-12-3.

pburton

WildLife Protection

Analysis:

The application needs to include a commitment to implement the criterion included in the sage grouse management plan for the North lease area during the reclamation liability period. An additional seed mix for reclamation of wetland habitat has been added for the North Private Lease as a protection and enhancement measure for that high value habitat. Include this in our meeting on monitoring and mitigation.

jheltric

Approximate Original Contour Restoration

Analysis:

The amendment meets the State of Utah R645 requirements for approximate original contour restoration.

The amendment meets the minimum R645-301-512.200 due to no variance from a and -553.110 through -553.150 as the MRP narratives and certified drawings provides a basis for the Division to be able to determine that the proposed backfill and grading plan will minimize off-site effects, achieve a final surface configuration which closely resembles the general surface configuration of the land prior to mining, provide a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion, and support the approved post mining land use.

cparker

Backfill and Grading General

Analysis:

The application now meets the general requirements of R645-301-553 by detailing a general backfill and grading plan.

The plan details how disturbed areas will be backfilled and graded to achieve the approximate original contour, eliminate all highwalls, spoil piles, and depressions, and achieve a post mining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long term static safety factor of 1.3 and to prevent slides, minimize erosion and water pollution both on and off the site, and support the approved post mining land use. However, the narrative on page 5-98 does not demonstrate understanding of the R645-301-553 rule. The application of the 1500 linear feet is the linear distance in the direction of the working face and that backfill and grading must commence within 60 days of coal removal. The pits as depicted on Drawing 5-53 show that no pit is longer than approximate 1000 linear feet, therefore the ruling factor of R645-301-553 is that rough backfill and grading will begin in each pit 60 days after coal removal for the area within the pit. The pit development, as discussed and depicted in the Chapter 5 drawings, show work will move from south to north. Backfill and grading of each pit will then progress 60 days following from south to north behind the working coal removal face. The Permittee will amend the narrative of section 553 to state as such.

To address deficiency #92 of the December 18, 2015 submission R645-301-121.200: The narrative stating R645-301-553.800 applies to the North Private Lease area will be removed. The narrative in the Section -553.800 was corrected to only reference the current south Coal Hollow Mine and all North Private Lease references will be removed. Section 553.110 originally incorrectly stated that R645-301-553.800 apply as the North Lease Permit area does not meet the conditions listed within R645-301-553.110. A site having a swell factor alone does not qualify the -553.800 thick overburden regulations. Thick overburden regulations only apply when the site has a swell factor, cannot achieve AOC due to underground coal mining fill, has permanent features such as spoil, waste, or refuse piles, previously mined areas, and underground mining regraded fills.

To address deficiency # 93 of the December 18, 2015 resubmission and meet the minimum requirements of R645-301-553.140,-527.220, 542.620 the Permittee added a new Drawing 5-79 and discussion in Appendix 5-12, Chapter 5 section 527.220 and chapter 5 section 542. Clarify if any of the culverts will remain and how the changed slope will control drainage without erosion. The original application contained no discussion how R645-301-527.220 and R645-301-542.620 will be address with the change of the drainage of the area by no replacing the arroyo and what culverts, if any, will remain post reclamation.

To address deficiency # 77 in the January 18, 2016 submission the Permittee added additional narrative along with supplemental bonding information to clarify that all pits will be backfilled within 60 days to Section 553.

cparker

Backfill and Grading Previously Mined

Analysis:

The amendment meets the State of Utah R645 requirements for backfill on previously mined areas.

R645-301-521.152 and R645-301-553.500 are met within the application as there are no previously mined areas with the mining operations.

cparker

Backfill and Grading on Steep Slopes

Analysis:

The amendment meets the State of Utah R645 requirements for backfill on steep slopes.

R645-301-553.200 are met within the application as there is no area where backfilling on a steep grade or slope will exist within the North Private Lease.

cparker

Backfill and Grading Steep Special Provisions

Analysis:

The amendment meets the State of Utah R645 requirements for backfill on steep special provisions.

The minimum requirements of R645-301-537 and -553 are met within the application as there is no area where backfilling on a steep grade or slope will exist within the North Private Lease.

cparker

Mine Openings

Analysis:

The applicant has met the minimum regulatory requirements for the closure of wells and boreholes. The plans for Casing and Sealing of holes is located in the original MRP Section 631. No changes have been proposed with this application. Boreholes will be backfilled to within 1 foot of the land surface with concrete or other materials approved by the Division as necessary to prevent contamination of groundwater or surface-water resources or to protect the prevailing hydrologic balance. The upper approximately 1 foot will be backfilled with native materials to facilitate reclamation (see Drawing 6-11). Exploration holes and boreholes that may be uncovered during mining and reclamation activities will be permanently closed unless approved for water monitoring or otherwise managed in a manner approved by the Division. Permanent closure methods will be designed to prevent access to the mine workings by people, livestock, fish and wildlife, and machinery and to keep acid or other toxic drainage from entering water resources.

dhaddock

Mine Openings

Analysis:

Coal Hollow Mine:

The minimum requirements of R645-301-513.500, R645-301-529, and R645-301-551 are not met within the application due to a missing narrative of how the drift portals will be sealed. The current section meets the regulations in regards to a discussion detailing how all exploration borehole and existing wells will be sealed to meet all pertinent State and Federal regulations. Specifically, the MRP Chapter 5 Section 513.500 details how water wells will be capped, sealed, and backfilled to meet all pertinent federal and state regulations. Wells with a depth greater than 30 feet will be sealed in accordance with the requirements of "Administrative Rules for Water Well Drillers."

Coal Hollow Mine:

R645-301-513.500, R645-301-529, R645-301-551: The Permittee will amend Chapter 5 Section 513.500 to include the reclamation of the underground portals within Pit 10 by backfill of approximately 135 ft of vertical backfill, meeting MSHA 30 CRF 1711-2 requirements. The portals need to be called out on Drawing 5-37A detailing the backfill as the seal.

cparker

Topsoil and Subsoil

Analysis:

Analysis:

The application meets the requirements of R645-301-240, soils reclamation plan.

The Table in Section 232.100 describes replacement depths between 44 and 49 inches in the North Lease. In Area 1, the replacement depth will be 44 inches (Sections 232.100 Table and 232.720). To ensure four feet of suitable material in the root zone, a plan for sampling and analysis of the replaced spoil is proposed for Area 1 (Section 232.720), because Appendix 6-2 describes several limitations in the suitability of the overburden. This plan describes grabbing one composite sample every 2.5 acres of the regraded spoil surface to a depth of eight inches, as depicted in the grid on Dwg 5-76A. The samples will be analyzed in accordance with Tables 3 and 7 of the Guidelines for Management of Topsoil and Subsoil (2008). The plan describes additional sampling to define the extent of unsuitable spoil. And the plan states additional subsoil will be placed over unsuitable spoil.

Stockpiles may not be entirely used in contemporaneous reclamation each year. Therefore, partially utilized stockpiles will be reshaped, bermed and seeded by November 30th of each year (Section 234.230).

Section 242.200 states that spoils graded to a slope greater than 3h:1v will be ripped prior to subsoil placement; and compacted subsoil will be ripped to a depth of 18 inches prior to topsoil placement. Section 341.220 states that an environmental professional will determine whether ripping is required. Furthermore, Section 242.200 states that when subsoil placement is not immediately followed by topsoil placement (within a month), the graded subsoil will be treated with mulch or tackifier (per Section 244.200) to prevent erosion in the interim; and the subsoil will be ripped to a depth of 18 inches prior to topsoil placement.

Section 243 plans for composite sampling of replaced topsoil every 2 acres at final reclamation. The composite sample will be analyzed for N:P:K. This sampling will be completed within three months of topsoil placement.

Section 234.230 includes a topsoil/subsoil balance table that will be updated as reclamation progresses in each Area. It is expected, but not explicitly stated that the topsoil/subsoil balance table will be provided to the Division with the Annual Report. Drawings 5-76A Earthworks Reclamation Sequence and 5-76B Facilities Reclamation Sequence, as-builts, will be included with the annual report (Chapter 5, page 5-106).

Drawing 3-11 Reclamation Treatment Map show Area 1 will be seeded with Pasture Mix, Table 3-38.

pburton

Road System Reclamation

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for road reclamation.

The minimum requirements of R645-301-534 are met within the amendment as all primary roads will be designed to R645-301-534.300 and all temporary ancillary roads will meet the general 534 design requirements. There are not any roads with the permit area that R645-301-537 would apply.

The minimum requirement of R645-301-542.600, R645-103-224.420 through -224.422 are met due to January 28, 2016 letter from Kane County detailing that the relocation of county road K3100 is except from within the attached Kane County Agreements, see Operations Relocation and/or Use of a Public Road.

cparker

Road System Retention

Analysis:

The amendment meets the State of Utah R645 requirements for road retention.

The minimum requirements of R645-301-534 and -552 are met within the application all primary and ancillary roads within the MRP will be reclaimed at the end of mining. Drawings 5-59, 5-61 and 5-63 detail how K3100 and K3900 will be reconstructed post mining operations to meet Kane County requirements.

cparker

Contemporaneous Reclamation General

Analysis:

The amendment meets the State of Utah R645 requirements for contemporaneous reclamation.

The minimum requirements of R645-301-553 in regards to contemporaneous reclamation and backfilling activities are met within the application. The MRP details the sequencing of mining and backfilling of the operation in Chapter 5 Section 526, 528 and 553 mentions the partial bonding of pits within each Area and how reclamation and bonding will be incremental after the January 18, 2016 resubmission of the amendment.

cparker

Revegetation General Requirements

Analysis:

The existing seed mixtures and reclamation techniques in the MRP (Chapter 3, Section 3.41) are also applicable in the North Private lease area. For the additional plant communities that were found and described in the Vegetation & Wildlife Habitat of the North Private Lease Area {Volume 12}, seed mixtures were added to the MRP (Chapter 3, Section 3.41) in the first submittal. New reference areas and revegetation success standards for the additional plant communities of the North Private Lease are proposed in the DISCUSSION section (Volume 12). An additional seed mix for reclamation of wetland habitat has been added for the North Private Lease as a protection and enhancement measure for that high value habitat. The information is adequate to meet the requirements of this section of the regulations. Additional information may be required pending receipt of comments from DWR and FWS.

jhelfric

Revegetation Standards for Success

Analysis:

Analysis:
R645-302-317.600 outlines revegetation and and restoration of soil productivity. MRP Section 317.620 et seq describes the implementation of a plan yet developed for the measurement of soil productivity within 10 years after completion of soil replacement. Productivity will be measured for three consecutive years before bond release. The level of management will be the same as for non-mined prime farmland in the surrounding area. R645-302-317.622, R645-302-317.627 and R645-302-317.628 require the the Division consult with the NRCS State Conservationist for the reference crop and the post mining land use evaluation. That coordinated review is ongoing.

AREA 2 Deficiency:

R645-302-317.622, R645-302-317.627 and R645-302-317.628 require the the Division consult with the NRCS State Conservationist for the reference crop and the post mining land use evaluation. That coordinated review is ongoing and the recommendations made by the NRCS will be incorporated into the mining plan.

pburton

Stabilization of Surface Areas

Analysis:

Analysis:
The application meets the requirements of R645-301-244, soil stabilization.

To prevent the alluvium contributing to unwanted water into working areas, Section 532.200 describes protecting mining areas and reclamation areas with temporary berms. All pits will be bermed.

Topsoil and subsoil stockpiles will have slopes less than 3h:1v. They will be bermed. They will be seeded with an interim mix or coated with tackifier until the next seeding window (Sections 231.400, Section 234.200 and 244.100). The spoil pile

will be roughened and coated with a tackifier as the pile rises (Section 244.100). Partially utilized stockpiles will be reshaped and bermed and treated with a tackifier until being seeded by November 30th of each year (Section 234.230).

Section 242.200 routine ripping of the regraded spoil on all slopes 3h:1v or steeper prior to subsoil placement and on all compacted subsoil prior to topsoil placement. Section 341.220 states that an environmental professional will determine whether ripping is required.

Regraded areas will be mulched (Section 244.200). The use of mulch is described as being one or more of four methods: straw, hydromulch, a sterile nurse crop or Nutri-Mulch. In past practice, the Permittee has successfully utilized certified weed free straw and a quick growing sterile nurse crop and an application of nutrimulch (Turkey manure) to stabilize and fertilize the reclaimed surfaces.

pburton

Cessation of Operations

Analysis:

Coal Hollow Mine:

The amendment meets the State of Utah R645 requirements for cessation of operations.

To address deficiency # 105R645-301-515.321 and -515.322 The Permittee addressed errors within said sections. Section 515.320 labeled was corrected 515.321 and is pertinent to Underground mining which requires beyond the exact number of surface acres affected, the horizontal and vertical extent of subsurface strata which have been in the permit area prior to cessation. The section labeled 515.321 within the application was corrected to 515.322 which is pertinent to Surface mining operations

Area 1:

The original application did not meet the minimum requirements of R645-301-515 by not detailing a clear procedure to be followed in the event of temporary cessation of coal mining and reclamation activities after Pit 1 in the North Private Lease. The application did not detail temporary cessation procedures in the event mining and pit development may be halted beyond the 60 days allowed by R645-301-553. The application does include that 30 days or more before temporary cessation the Permittee will notify the Division.

To address deficiency # 106 of the December 18, 2015 resubmission and meet the minimum requirements of 515.312 the narrative was added how the temporary excess spoil pile would be stabilized to meet R645-301-532.200 minimize erosion and sediment transport off site, e.g tackifier.

cparker

Maps Affected Area Boundary

Analysis:

The amendment meets the State of Utah R645 requirements for reclamation of affect area maps.

See analysis under MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

cparker

Maps Bonded Area

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for bonded area maps.

The minimum requirements of R645-301-800 are met within the application as the bonded area map was updated in Drawing 5-77 to show the reclamation backfill crest of the individual pits.

cparker

Maps Reclamation BackFilling and Grading

Analysis:

The amendment meets the State of Utah R645 requirements for backfill maps.
The minimum requirements of R645-301-542 are met within the amendment with extraction footprints of the individual pits detailed on Drawing 5-55 and reclamation backfill crest shown on Drawing 5-77.

cparker

Maps Reclamation Facilities

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for reclamation of facilities maps.

The minimum requirements of R645-301-542 in reference to R645-301-121.200 are met due labeling of the topsoil and subsoil piles located within Area 1 on various drawings throughout the MRP.

The remainder of the minimum requirements of R645-301-542 are met within the amendment as included the addition of Drawing 5-79 detailing the proposed design of the replacement of the natural drainages that will be destroyed due to mining operations will be placed back in a stable manor meeting the requirements of R645-301-358.400, R645-301-521.100 through-521.130, R645-301-731.610, R645-301-527.220 and R645-301-121.200

cparker

Maps Reclamation Final Surface Configuration

Analysis:

Areas 1:

The minimum requirements of R645-301-542 are met within the application as there engineering designs provided on Drawing 5-79 to show that the natural drainages that will be destroyed due to mining operations will be placed back in a stable manor meeting the requirements of R645-301-358.400, R645-301-521.100 through-521.130, R645-301-731.610 and R645-301-121.200.

cparker

Maps Reclamation Surface and Subsurface Man Made

Analysis:

Area 1:

The amendment meets the State of Utah R645 requirements for reclamation of man made surface and subsurface features within maps.

The minimum requirements of R645-301-542 are met within the application due to information in regards to K3100 replacement in Appendix 1-11 letter from Kane County dated 1/28, 2016.

cparker

Maps Reclamation Certification Requirments

Analysis:

The amendment meets the State of Utah R645 requirements for map certification.

R645-3010-512 minimum requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, Dan Guy, with experience in underground mining operations.

cparker

Bonding and Insurance General

Analysis:

The amendment meets the State of Utah R645 requirements for insurance general details.

The application meets the minimum requirements of R645-301-850 as the applicant currently holds liability insurance through American Mining Insurance Co, effective until 12/10/16. The insurance includes the required Marsh from, explosives and claims made per occurrence.

cparker

Bonding Form of Bond

Analysis:

The amendment meets the State of Utah R645 requirements for form of bond.

The application meets the minimum requirements of R645-301-860.100 as the applicant currently maintains a surety bond amount of \$12,750,000 which is held by Lexon Insurance Co with a rider held by Ironshore Indemnity Inc for 342 disturbed acres.

cparker

Bonding Determination of Amount

Analysis:

Analysis:
AREA 2 R645-302-317.220, The Division will use the soil-reconstruction specifications of R645-302-317.210 to carry out its responsibilities under R645-302-310 through R645-302-316 and R645-301-800. Soil reconstruction specifications must be considered adequate prior to approval of Area 2.

pburton

Bonding Determination of Amount

Analysis:

The amendment does not meet the minimum requirements of R645-301-830.140 for determination of amount. As part of the conditional approval of the amendment the permittee will meet R645-301-830.140 by clarifying how the ASCA/drop structure associated with C-2 will remain in place at reclamation or add reclamation cost to line items.

The January 18, 2016 address several of the previous deficiencies but still has conflicting information. The bond sheets show partial reclamation of culvert c-2 (120 ft from the original 251 ft) but does not include the reclamation of the concrete drop structure associated with the ASCA above C-2. Drawing 5-59 and 5-61 show the drop structure removed. The Permittee is currently proposing to post bond for an additional \$899,345 to cover the development of facilities within Surface 1, detailed on drawing 5-77, and development of pit 1. See Division drawing for the footprint of the bonded area over Drawing 5-77.

The amendment includes the line item cost of the north Area facilities. For the development of mining operations of Pit 1 within Area 1 the bond must include the reclamation cost of: Pond 5, Pond 6, Diversion Ditches 05 through 09, Culvert C-1, Culvert C-2, Perimeter fencing, backfill from spoil pile for Pit 1 and Pit 2, and contemporaneous backfill for Pit 3 through 5. Equipment costs include the use of a 7 CY excavator, 40 ton haul truck, water truck, grader and several dozers. The Area 1 bond shows the calculations for one culvert, all diversion ditches, Pond 5 and Pond 6.

There are errors on the structure demolition and disposal due to missing information. The table only includes one 24 inch and one 144 inch culvert, while Drawing 5-65 details four culverts. The current bond for Area 1 shows only one culvert while Drawing 5-48 shows C-1 and C-2 within Area 1.

Originally there was a note on the bond calculations states that all surface disturbances includes all ditches, ponds, and roads outside the pit areas. However, the line item breakout of the facilities and special areas already accounts for the ponds and ditches. The note was misleading and was removed in the January 18, 2016 re-submission.

The Permittee added narrative specify what bond incremental will be applied for, specifically as of 12/1/15 disturbances associated only with Pit 1 and all surface soil salvage and erosion control features within Area 1 to appropriate section within the MRP and added the supplemental Bond information to the amendment.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

The amendment meets the State of Utah R645 requirements for terms and conditions of liability insurance.

The application meets the minimum requirements of R645-301-850 as the applicant currently holds liability insurance through American Mining Insurance Co, effective until 12/10/15. The insurance includes the required Marsh from, explosives and claims made per occurrence.

cparker

Special Categories

Operations Alluvial Essential Hydrologic Functions

Analysis:

The application meets the minimum requirements of R645-302-322. A report entitled "Alluvial Valley Floor Field Investigation in the North Private Lease" was developed and submitted to the Division on July 17, 2014. This report along with supplemental information submitted on October 10, 2014 allowed the Division to make a determination regarding the existence of any alluvial valley floor within the proposed permit and adjacent areas. It was determined by the Division that an alluvial valley floor does not exist in the area being proposed for mining, however, there is an alluvial valley floor to the North on adjacent property.

Further, the hydrologic monitoring data indicate that the alluvial groundwater systems present within and adjacent to the North Private Lease area do not contribute to the essential hydrologic function of agricultural lands within the North Private Lease area. No irrigation wells are present in the shallow alluvial groundwater system within the North Private Lease area. Waters that are currently or have historically been utilized for irrigation of lands within the North Private Lease area have been derived from the Kanab Creek surface-water system. The surface-water diversions to the existing and historic irrigation systems are located up-stream of the North Private Lease area. The depths to water in the shallow groundwater systems within agricultural areas in the North Private Lease area are too deep to facilitate subirrigation of agricultural vegetation within the area. Additionally, the water quality of shallow groundwaters in much of the North Private Lease area is poor (Table B-2a, Table B-2b in appendix B), which would likely limit its usefulness for flood irrigation and/or subirrigation even if it were accessible for use.

Consequently, there is essentially no potential for mining-related activities to affect the water supply of any potential AVF areas in the North Private Lease area. Also, because it is possible to successfully restore the flat land surface and associated soils during reclamation, the potential for mining-related activities to cause material damage to the land resource within potential AVF areas is very low. In other words, proposed mining operations in the North Private Lease area will not cause damage to the water source of any identified alluvial valley floors in the North Private Lease.

dhaddock

Operations Alluvial Protection of Agricultural

Analysis:

The Division finds that the regulatory requirements for the protection of farming have been met. A determination has been made that the proposed mining area does not contain an AVF, but that the AVF is to the north of the proposed permit area. Mining in the proposed permit area will not interrupt, discontinue, or preclude farming on the adjacent area AVF. Recharge to the AVF is from the North and would not be disrupted by mining in the proposed permit area, which is to the south of the AVF.

dhaddock

Auger Mining

Analysis:

The amendment does not meet the State of Utah R645 requirements for Auger Mining. The location of auger holes and operations plan is unclear. The application does not include a written commitment to Special Categories of Mining R645-302-240 Auger Mining and Remaining Operations in the North Lease area. The rules require an evaluation of the

proposed auger mining areas and any potential mitigative measures that need to be addressed. These rules include, but are not limited to: R645-302-241.200, R645-302-242, R645-302-243, R645-302-244.200, R645-302-245.110, R645-302-245.120, R645-302-245.130, R645-302-245.210, R645-302-245.220, R645-302-245.221, R645-302-245.222, R645-302-245.230, R645-302-245.231, R645-302-245.232, R645-302-245.300

R645-301-722: The application does not provide planned locations of highwall mining locations in Appendix 7-16 Figure 3.

Deficiencies for proposed operations in AREA 2 and 3:

R645-302-240: The application does not include a written commitment to Special Categories of Mining R645-302-240 Auger Mining and Remining Operations in the North Lease area. The rules require an evaluation of the proposed auger mining areas and any potential mitigative measures that need to be addressed. These rules include, but are not limited to: R645-302-241.200, R645-302-242, R645-302-243, R645-302-244.200, R645-302-245.110, R645-302-245.120, R645-302-245.130, R645-302-245.210, R645-302-245.220, R645-302-245.221, R645-302-245.222, R645-302-245.230, R645-302-245.231, R645-302-245.232, R645-302-245.300

R645-301-722: The application does not provide planned locations of highwall mining locations in Appendix 7-16 Figure 3.

kstorrar

Operations In Alluvial Monitoring

Analysis:

The application does not include a written commitment to Special Categories of Mining R645-302-332. Application Contents for Operations Affecting Designated Alluvial Valley Floors.

Deficiencies for proposed operations in AREA 2 and 3:

R645-302-332: The application does not include a written commitment to Special Categories of Mining R645-302-332. Application Contents for Operations Affecting Designated Alluvial Valley Floors.

kstorrar

SEP 09 2015

Affidavit of Publication

Legal Notice

STATE OF UTAH)
(SS.
COUNTY OF KANE)

I, Dennis A. Brunner, being duly sworn, depose and say that I am General Manager/Publisher of the SOUTHERN UTAH NEWS, a weekly newspaper of general circulation published every Wednesday at Kanab, Utah, for Kane County, Utah and Coconino County, Arizona, and a designated agent of the Utah Press Association and the notice attached hereto,

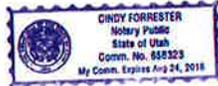
was published in said newspaper for: **FOUR**
consecutive weeks, the first publication on: **07/30/2015**
and the last on: **08/13/2015**
that said notice was published in the regular and entire issue of every number of the paper during the period and times of publication, and

that the same was published in the newspaper proper and not in a supplement and that said notice was published on www.utahlegals.com on the same day as the first newspaper publication and the notice remained on www.utahlegals.com for one week after the final publication date.

Subscribed and sworn to before me 8-27-15 Publisher
Cheryl Jensen Notary Public

Residing in Kanab, Utah.

My commission expires: 8-24-16



Alton Coal Development, LLC has filed a complete application with the Utah Department of Natural Resources, Division of Oil, Gas & Mining for revision of the Mining and Reclamation Plan, Coal Hollow Mine, C02S0005, Alton Coal Development, LLC operates the Coal Hollow Mine, which is located on private land near the town of Alton, Utah. The revision will add approximately 295.633 acres of new private coal leases to the Coal Hollow Mine permit area.

Surface mining (traditional and highwall) will take place in coal reserves leased by Alton Coal Development, LLC. A legal description of the proposed areas for additional mining and reclamation activities are described as follows: 2'

The following described lands located in Kane County, Utah within Sec. 12 & 13, T39S, R6W and within Sec. 7 & 8, T39S, R5W:

Beginning at S 58° 16' 29" W a distance of 1,920.87' from Section Corner 7-18-12-13, T39S, R5 R6W; thence N 89° 29' 27" W a distance of 823.81'; thence S 00° 00' 38" E a distance of 1313.93'; thence S 85° 46' 32" E a distance of 479.40'; thence S 89° 44' 30" E a distance of 1861.89'; thence S 54° 50' 33" E a distance of 226.53'; thence S 89° 45' 07" E a distance of 1235.50'; thence N 00° 41' 09" E a distance of 1322.97'; thence N 00° 41' 09" E a distance of 1322.97'; thence S 85° 30' 20" E a distance of 241.42'; thence N 00° 51' 49" E a distance of 1323.52'; thence N 89° 22' 59" W a distance of 249.30'; thence N 89° 56' 02" W a distance of 2923.34'; thence S 00° 24' 59" W a distance of 2328.09'; which is the point of beginning, having an area of

12,877,780.47 square feet, or 295.633 acres

County Road 136 currently intersects the Coal Hollow Mine North Private Lease Area. Approximately 0.6 miles of this road will be temporarily relocated to allow for mining operations. This relocated section begins approximately 0.8 miles south of the Town of Alton and will reconnect with the original road approximately 1.4 miles south of the Town. This relocation will occur in year one of the mining operation and is expected to be reestablished to approximate original location in a time frame ranging from year three to year five of the mining operation. The proposed relocation of the County road is within the North East Quarter, Section 13, Township 39 South, Range 6 West, SLBAM, Kane County, Utah.

The address of the applicant is:
Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720

After filing, copies of this permit revision will be available for inspection at the Kane County Court House, and at the Utah Division of Oil, Gas & Mining website under Coal Permit files.

Written comments or requests regarding this permit revision must be made within thirty (30) days of the last publication of this notice, and may be addressed to the Utah Division of Oil, Gas & Mining, 1694 West North Temple, Suite 1210, Salt Lake City, Utah 84114-5801.

Published in the Southern Utah News on July 23, 30, August 6 and 13, 2015.

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GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 2, 2016

To: Internal File

From: Daron R. Haddock, Coal Program Manager 

Subject: 510 (c) Recommendation for Alton Coal Development, LLC, Coal Hollow Mine, C/025/0005, Task ID #4942

As of writing of this memo, there are no NOV's or CO's which are not corrected or in the process of being corrected for the Coal Hollow Mine. There are no finalized civil penalties, which are outstanding and overdue in the name of Alton Coal Development, LLC. Alton Coal Development, LLC does not have a demonstrated pattern of willful violations, nor have they been subject to any bond forfeitures for any operation in the state of Utah.

Attached is a recommendation from the OSM Applicant Violator System for the Coal Hollow Mine that states there are no outstanding violations.

O:\007005.SKY\PERMIT\2013\510c.doc





U.S. Department of the Interior Office of Surface Mining
Applicant/Violator System

suzanne.steab (UT) | [Logout](#)

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Evaluation on Application Number: C0250005 SEQ:3
0 Violations

[Print Report](#)

Application Evaluation

Application Number	C0250005 SEQ:3
Applicant Name	247248 Alton Coal Development LLC
Date of Request	2/2/2016 9:45:08 AM
Requestor	suzanne.steab

CAUTION: The Applicant/Violator System (AVS) is an informational database. Permit eligibility determinations are made by the regulatory authority with jurisdiction over the permit application not by the AVS. Results which display outstanding violations may not include critical information about settlements or other conditions that affect permit eligibility. Consult the AVS Office at 800-643-9748 for verification of information prior to making decisions on these results.

There were no violations retrieved by the system

Evaluation OFT

Entities: 8

- 250908 Sleepy Hollow Mineral Investors LLC - ()
- 064574 Thomas T Ungurean - (Manager)
- 107810 Charles C Ungurean - (Manager)
- 250907 SH Coal Investment LLC - (Subsidiary Company)
- 064574 Thomas T Ungurean - (Corporate Officer)
- 107810 Charles C Ungurean - (Corporate Officer)
- 247248 Alton Coal Development LLC - (Subsidiary Company)
- 036531 Robert C Nead Jr - (Manager)
- 247290 James J Wayland - (Manager)
- 251418 Larry W. Johnson - (Manager)

Narrative

Request Narrative