



Suzanne Steab <[suzannesteab@utah.gov](mailto:suzannesteab@utah.gov)>

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## Re: IBC & Highwall Mining Alternative, Task ID #4517

1 message

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**Daron Haddock** <[daronhaddock@utah.gov](mailto:daronhaddock@utah.gov)>  
To: Kirk Nicholes <[knicholes@altoncoal.com](mailto:knicholes@altoncoal.com)>  
Cc: Suzanne Steab <[suzannesteab@utah.gov](mailto:suzannesteab@utah.gov)>

Tue, Mar 18, 2014 at 3:42 PM

Great! I just got an email for Joe indicating that everything had been worked out and he was recommending approval. We should be getting that out in the near future. Thanks for your work in getting things taken care of. Daron

On Tue, Mar 18, 2014 at 3:33 PM, Kirk Nicholes <[knicholes@altoncoal.com](mailto:knicholes@altoncoal.com)> wrote:

Hello Daron,

Attached are the pages that changed following Joe and my review. If there is anything additional that ACD needs to do to complete this amendment, please let me know.

Thank You

Kirk Nicholes

Environmental Specialist

Alton Coal Development, LLC

463 N 100 W, Suite 1

Cedar City, Ut 84721

T [435-867-5331](tel:435-867-5331)

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Daron R. Haddock

Coal Program Manager

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**13 attachments**

-  **Appendix 3-5 (final) page 14 & 15.pdf**  
84K
-  **Appendix 3-5 (final) page 21.pdf**  
83K
-  **Appendix 3-5 (marked)page 14 &15.pdf**  
84K
-  **Chapter 3 Text (final) page 3-34.pdf**  
191K
-  **Chapter 3 Text (final) page 3-45.pdf**  
147K
-  **Chapter 3 Text (final) page 86.pdf**  
156K
-  **Chapter 3 Text (final) page 87.pdf**  
86K
-  **Chapter 3 Text (marked) Page 3-34.pdf**  
191K
-  **Chapter 3 Text (marked) page 3-45.pdf**  
148K
-  **Chapter 3 Text (marked) page 3-86.pdf**  
156K
-  **Chapter 3 Text (marked) page 87.pdf**  
86K
-  **Appendix 3-5 (marked) page 21.pdf**  
87K
-  **Cover 031814 Response to deficiencies, Task ID #4502.docx**  
29K

March 18, 2014

Daron R. Haddock  
Coal Program Manager  
Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84114-5801

Subject: **Response to Incidental Boundary Change and Highwall mining alternative,  
Task ID #4502, Coal Hollow Project, Kane County, Utah, C/025/0005**

Dear Mr. Haddock,

Alton Coal Development, LLC is providing this submittal to address deficiencies identified in Task ID #4502 for the previously submitted Incidental Boundary Change (IBC) to the Coal Hollow Mine (CHM) permit area. The IBC includes a new mineral lease of 85.88 acres adjacent to the CHM. There will be no surface disturbance within the IBC, approximately 38.95 acres will be undermined for the extraction of coal utilizing highwall mining technics. It appears that several of the regulations that are cited with a deficiency have little bearing to that deficiency. For those deficiencies, the best response was made based on the comments.

Please find enclosed 1 (one) redline copies of the revised text for review and 2 (two) clean copies of text and drawings for insertion into the MRP. Please do not hesitate to contact me if you have any questions 435-691-1551.

Sincerely

B. Kirk Nicholes  
Environmental Specialist

## General Contents

### Permit Term

Section 116 of the MRP describes three phases of mining that began in 2010 and is anticipated to be completed in 2017. Section 116 states that there are 394 acres total to be disturbed during all three phases of mining. Phase 1 is listed as 269 acres disturbance. Phase 2 is 57 acres disturbance. Phase 3 is listed as 68 acres disturbance. The cover letter accompanying this submittal states that acreage listed in Section 116 is consistent with the three phases shown on Dwg 5-3 (bonded acreage).

In accordance with R645-301-121, to accurately reflect the bonded acreage, the following changes should be made to the plan: 1) Section 116 should state that Phase 1 is 289 acres and Phase 2 is 40 acres (as shown on Drawing B-2 of the Revised Reclamation Agreement Exhibit D, signed 12/13/13), and  
2) Phase 3 will correspond to the remaining acreage shown on Drawing 5-3 Phase 3; and,  
3) Phase 2 shown on Drawing 5-3 must reflect the same area drawn as Phase 2 on Drawing B-2 of the Revised Reclamation Agreement Exhibit D, (signed 12/13/13); and,  
4) Drawing 5-3 must provide the bonded acreage figures in the legend for each phase of bonding.

**pburton**

*Texts in Section 116 as well as Drawing 5-3 have been revised to reflect the required changes*

### Maps and Plans

The information is not adequate to meet the requirement of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-140; Plate 3-7 needs to be revised to show the current phases of mining and the proposed highwall mining activities. The current plate is for a three year surface operation.

**jhelfric**

*Plate 3-7 has been revised to show Phases rather than years, also a Plate 3-7A has been added that shows the proposed highwall mining activities.*

### Environmental Resource Information

#### Land Use Resource Information

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-411.140; ACD needs to include a commitment in Chapter 4, section 411.140 to conduct a presite survey of the proposed 500 foot disturbance associated with the trench and any additional disturbances associated with the development of proposed highwall mining activity.

**jhelfric**

*As stated in Chapter 4, section 411.140 "A cultural resource inventory was conducted by Montgomery Archaeological Consultants Inc.(MOCA) in June 2005 for Alton Coal Development, LLC." This Class III inventory includes the proposed 500 foot disturbance associated with the trench. Also, text has been added to this section to update the MRP with regards to the "Cultural Resource Discovery Plan for the Alton Coal LLC, Coal Hollow Project in Kane County, Utah which guides the mine during development. Since construction of the mine began in November 2010, ACD has employed a qualified cultural resource monitor each time topsoil is removed for new development.*

#### Prime Farmland

In accordance with R645-301-121.100, Section 221 of the MRP must be revised to state that the NRCS has made a determination that 80 acres of the 85.88 acre IBC Dame lease are considered Farmlands of Statewide and Local Importance. A copy of the referenced letter should be included in Section 1 of Appendix 2-1 with the previous NRCS correspondence.

**pburton**

*The referenced letter has been included to Section 1 of Appendix 2-1. This also necessitated change be made to text in Chapter 2 pages 2-1 & 2-2. These changes have been included in this submission.*

## **Operation Plan**

### **Fish and Wildlife Protection and Enhancement Plan**

The impacts to wildlife from the extended mining activities are not adequately addressed in chapter three of the current Mining and Reclamation Plan, (MRP). Prior to approval the following information must be provided;

In accordance with R645-301-333.300. During the meeting on January 7, 2014 ACD agreed to provide a commitment to restore the wet meadow habitat, the location is shown on drawing 3-1(Meadow). The application needs to include a commitment to restore the wet meadow habitat in the 85.88 parcel in the event of habitat loss due to water diminution. This commitment has not been included in the application.

*Additional text has been added to Chapter 3, Page 3-86 concerning the wet meadow habitat.*

In accordance with R645-301-322.200, .200, 342.100, 358.400 a narrative describing how springs SP-8, SP-14, SP-20, SP-22, SP-40 and wells C4, C2, C3, C5, and Y-61 that sustain the critical brood rearing habitat will be restored in the event of water diminution,

*Additional text has been added to Chapter 3, Page 3-86 briefly describing methodology for restoring lost water source.*

In accordance with R645-301-322.100 a table that includes a schedule to initiate compensatory mitigation of 343.52 acres for the addition of the 85.88 acre parcel by no later than August 1, 2014 and complete the mitigation within six months or by January 31<sup>st</sup> 2015.

*Text has been added to Chapter 3, Appendix 3-5, pages 14 committing ACD to complete 344 acres of sage-grouse habitat improvement between Aug. 1, 2014 and Jan. 31, 2015.*

In accordance with Chapter 3, Appendix 3-5 and R645-301-333.300 a commitment to monitor the vegetation and bird use in the 85.88 acre parcel for vegetation (annually) and bird use (monthly except for May, June and July).

*Past bird monitoring has included the area of the new Dame Lease. Birds were documented during the June, July, and August surveys (sightings were in the area of ACD's water well down to and Swapp Ranch House. All other months that surveys where done in this area no grouse where observed. It seems questionable to restrict monitoring of this area 2 of the 3 months that the grouse utilize the area and require it the remainder of the year. Appendix 3-5 page 21 has been modified to include "All areas of the approved MRP permit boundary". Timing of bird use monitoring will follow the currant protocol in Appendix 3-5 established by a sage-grouse biologist, Dr Steven Petersen.*

In accordance with R645-301-121.200 Chapter3, Page 3-7, the last sentence needs to include the word surface before disturbance.

*The word "surface" has been added.*

In accordance with R645-301-322.100 Chapter 3, Page 3-34 ACD needs to provide valid documentation that defines the amount of the 808 acres they have been given credit for by the Division and this sentence needs to be revised to reflect that,

*The sentence has been revised to correctly reflect "885 acres". Also, reference to the letter from Director Baza addressed to Denise A. Dragoo, Esq. dated May 16, 2012 has been added to verify credit given by the Division.*

In accordance with R645-301-322.100 Chapter 3, Page 3-34 ACD needs to provide written concurrence from the surface management agency, (BLM), verifying the completion of the lop and scatter pinyon/juniper removal from the 355 acre parcel,

*A letter dated 2/28/2014 from Lisa Church of the Kanab Field Office, BLM has been added to Appendix 3-7 "2013 Sage-grouse Habitat Mitigation Project". In this letter the BLM has included addition work that needs to be completed during the 2014 season on the 355 acre parcel.*

In accordance with R645-301-330Page 3-44, Sage-Grouse Work, Sentence #4 needs to be revised to read as follows The implementation of the highwall miner provides an additional method for recovering coal. This is because the disturbance associated with the development of the 500 foot disturbance associated with the trench (Figure 5-41) will be located in the middle of the lek and nesting and brood rearing areas for an extended period of time and perhaps indefinitely with the addition of underground mining.

*This deficiency has no basis on the current amendment. It is without reason as to how a determination of the location of disturbance was derived from Figure 5-41 (a cross section of a typical highwall). The approved MRP shows the estimated schedule for final reclamation of all disturbances as 2017. The amendment currently under review shows the estimated schedule for final reclamation of all disturbances as 2017. No extensions have been proposed. The approved MRP as well as the amendment currently under review does not anticipate "underground mining". At this time, there has not been an amendment that proposes "underground mining". No changes have been made to the amendment.*

In accordance with R645-301-333.300 the application needs to include a monitoring plan for the noise levels in the proposed 85.88 parcel from the mining equipment that will be used to implement the proposed highwall mining activities.

**jhelfric**

*Text has been added to Chapter 3, Page 3-45 to include a noise monitoring program.*

### **Topsoil and Subsoil**

R645-301-121.100 and R645-301-231.100, Please provide a version of Dwg 2-2 for the highwall mining scenario shown in Dwg5-10A.

**pburton**

*Drawing 2-2A has been added to the amendment package.*

### **Maps Affected Area**

Two mining methods have been proposed. Under the surface mining method the affected area is shown on Dwg 5-2 disturbance sequence and 5-16 overburden removal map and the reclaimed area is shown on Dwg 5-38 reclamation sequence. For the highwall mining method, the pertinent maps are Dwg 5-2A, 5-16A, and Dwg 5-38A. To provide clarity, actual disturbance and reclamation should be provided in an as-built submitted with the annual report.

In addition, Drawings 5-2A, 5-16A, and 5-38A appear to align the highwall mine trench along the Section 30 and Section 29 boundary line; whereas the trench is shown centered in Section 30 on Drawing 5-10A and 5-10B. If the trench is constructed with trench floor as shown in Dwg. 5-10A and Dwg. 5-10B, then the Area disturbed by topsoil & overburden removal and reclamation will be slightly different than that shown on Dwg 5-2A, 5-16A and 5-38A.

Due to the above ambiguity, the following commitment will be required. In accordance with R645-301-521.162 and R645-301-121.100, Please state a commitment in the plan to provide an as-built of the reclamation sequence map (Dwg, 5-38 and/or 5-38A) filed with the annual report each year and include in the legend:

The acres of open pit and trench;

The acres backfilled;

The acres fully reclaimed (topsoiled and seeded);

Revisions to the reclamation timetable, if any.

The map should be accompanied by a C1C2 form to allow replacement of the existing Dwg. 5-38 or 5-38A in the MRP.

**pburton**

*Changes were made in Chapter 5, Page 5-81 to update Drawing 5-38 or 5-38A at the time the Annual Report is due.*

In accordance with R645-301-121.100, plates 5-16 and 5-16A must be in agreement on the area of overburden removed in the past year, 2013,

*Appropriate changes were made.*

In accordance with R645-301-121.200, please review and correct as necessary the year shown for overburden removal on the northeast corner of Section 30, because the area shown in pink will either have overburden removal 2016 (according to the legend) or in 2015 (according to the year written in the pink area).

*Appropriate changes were made.*

In accordance with R645-301-553, both plates 5-38 and 5-38A must illustrate compliance with the backfilling and grading rule for surface mining with regard to pits 9 and 10. Pit 9 was mined out in September of 2013 and pit 10 is shown on both Plate 5-10 and Plate 5-10A as being developed in 2014. Therefore, Dwg 5-38 and 5-38A must show reclamation of the pit 9 & 10 area in 2014 and 2015 respectively.

*Pits 1, 2, 5, 7, 9, & 10 are all under the under the Excess Spoils Pile. The majority of material to be placed in the Excess Spoils Pile will come from the mining of the eastern pits 11- 15. At this time pits 1, 2, 5, & 7 have been mined and backfilled at least up to approximate original contour and in some places above approximate original contour to begin forming the Excess Spoils Pile. Enough excess spoils have now been placed above the mined out Pit 1 and some of the re-contouring completed for final reclamation. Final reclamation cannot proceed above the remaining pits with in the foot print of the Excess Spoils Pile until excess spoils is placed from the mining of pits 10 – 15.*

In accordance with R645-301-122.100, please review the active pit location shown on Dwg. 5-19, as it does not appear to reflect either reclamation scenario illustrated on Dwg 5-38 or 5-38A.

**phess**

*Drawing 5-19 is one of three drawings show the greatest amount of disturbance anticipated at three different stages of mining for bonding purposes. The MRP contains two scenarios of traditional open pit mining. One scenario (the approved scenario) the private property is mined and reclaimed with no further mining. The second anticipates Alton Coal acquiring the Federal coal in the LBA. Drawing 5-19 depicts how mining would proceed prior to rolling out on to the Federal coal. This scenario, if approved, would be the greatest amount of disturbance in Phase 3 of mining and thus bonding for Phase 3 has been calculated based on the greatest amount disturbance anticipated.*

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-322, -301-323, -301-331, -301-333, -301-341, -301-342- and 301-521

The redline text on page 3-57A, The Alternate highwall mining will reduce the practicable area to be reclaimed, does not describe how and when the highwall mining activity will be reclaimed. As previously stated the application does not include a description of or provide for the reclamation of the proposed highwall mining method.

The application needs to include at a minimum in accordance with R645-301-521.:

A narrative describing how the highwall mining disturbance will be reclaimed,

Where the material for backfilling and grading will come from,

A narrative describing the volume of different materials including topsoil that will be needed for reclamation of the highwall and the 500 foot disturbance associated with the trench,

A revised time table for reclamation in accordance with R645-301-341.100,

And in accordance with R645-301-352 a commitment to meet with the Division each year in August to define the amount of reclamation to be completed for that calendar year.

**jhelfric**

*Text has been added to Chapter 3, Section 341.100. In response to a prior deficiency by pburton a commitment has been made to update Drawings 5-38 and/or 5-38A as appropriate to refine the reclamation schedule annually.*

### **Revegetation Timing**

Clean copies of this amendment must be revised to include the wording changes made to Section 341.100 approved January 24, 2013 (Task4463, DO-13).

**pburton**

*The approved text has been included in this submission.*

### **Special Categories**

#### **Auger Mining**

In accordance with R645-301-121.200 please update Dwg 5-10 to show the as-built size and location of pits 25-28.

**pburton**

*A revised Drawing 5-10 has been included with this submission.*

#### **Auger Mining**

R645-302.240: The language on Page 7-61 shall be updated stating “All holes except as provided in R645-302.245.230 will be sealed within 72 hours” and the follow language shall be removed:

“As specified in R645-302-240, all auger holes not discharging water containing acid- or toxic forming material will be sealed with an impervious noncombustible material as contemporaneously as possible with the augering operation, as approved by the Division.”

**khoffman**

*The following text was substituted to allow for requirements by two of many regulating agencies:  
“All holes except as provided in R645-302.245.230 will be sealed within 72 hours with the exception of the hole adjacent to the current hole being mined. In the approved “Ground Control Plan” for CHM, MSHA requires the adjacent hole remain open for monitoring of the web.”*

To establish effective plans for habitat improvement and connectivity, UDOGM, UDWR, ACD and interested biologists (such as Renee Chi, Amy Defreese, Kevin Heaton and Lisa Church) will be invited to meet and work on these plans. The purpose for these improvements is to increase connectivity for sage-grouse migration and critical sage-grouse nesting and brood-rearing habitat. The goal for habitat improvement will be returning a sustainable ecological condition (state) that facilitates plant community establishment and increased ecological resilience along with providing improved habitat for sage-grouse.

1700 acres are required during the life of the mine. Currently, 1200 acres remain to be treated, or approximately 240 acres per year. Although the addition of the 85.88-acre Dame Lease IBC does not include any permanent disturbance, ACD will complete an additional 344 acres of habitat improvement for sage-grouse. The mitigation work will be completed during the appropriate season in the 2014 and 2015 calendar year, thus approximately 170 acres over the course of two years. The emphasis of this work will consist of pinyon-juniper removal and some sagebrush/Rabbitbrush treatments. Treatment types (options for habitat improvement) associated with PJ removal include:

- 1) Chaining (and seeding if necessary)
- 2) Lop and scatter
- 3) Bullhog (and seed if necessary)
- 4) Bulldozer / track hoe for knocking trees down (stack and burn optional)
- 5) Prescribed fire (and seed if necessary) and chaining

Pinyon juniper removal efforts will be focused on the following areas (in order of treatment)

- 1) Private lands east of the mine site (Pugh and Heaton, see Figure 6)
- 2) Private lands south of Alton
- 3) Private lands within the occupied sage-grouse habitat regions delineated by the UDWR which includes PJ woodlands from immediately south of Sink Valley through Skutumpah Terrace (Drawing 3-9).

ACD and UDOGM will reevaluate these habitat improvement plans on an annual basis to ensure that habitat treatments are being implemented with optimal sage-grouse conservation efforts in mind. Vegetation and bird use monitoring will be completed and then evaluated (ACD and UDOGM) in accordance with procedures described in this appendix.

Connelly, J.W., K.P. Reese, and M.A. Schroeder. 2003. Monitoring of Greater Sage-grouse Habitats and Populations. Station Bulletin 80, College of Natural Resources Experiment Station. Moscow, ID.

- 4) Ford Pasture / Skutumpah Terrace and the corridor that connects this area with Sink Valley

Brood-rearing and winter habitat surveys (sage-grouse observations)

### *Bird Use Surveys*

Bird use surveys will be conducted ~~during from June- July and October- January~~ March, avoiding disturbance to the bird in April and May. Sites included for these surveys include

- 1) Conservation area in Sink Valley (sampling the second year of data post-treatment).
- 2) Sagebrush flat west of the historic lek
- 3) Ford Pasture / Skutumpah Terrace and the corridor that connects this area with Sink Valley.
- 4) Field south of Alton.
- 4)5) All areas of the approved MRP permit boundary.

These primary areas will be searched for birds and sign. Areas where potential nesting occurs will be avoided during the nesting period. Only walking surveys without dogs will be conducted during the brood-rearing period. In the fall and winter, flush counts will be conducted, including the use of bird dogs. Anytime that a grouse is flushed or an observation of an adult or juvenile is made from the ground, a GPS coordinate position will be taken for that location. After collecting the point, a transect will be established to collect vegetation (habitat structure) surveys representing that time (season) and place. Data collected from these 50m long transects will include plant canopy cover, frequency, and canopy height. These data will provide a description of the used habitat for the area.

### *Vegetation and Bird Use Surveys*

The structure of vegetation is a critical component of sage-grouse breeding, early brood-rearing and summer range (Connelly et al. 2003). This includes an inventory of shrub and herbaceous vegetation structure and composition. Vegetation data collected

To establish effective plans for habitat improvement and connectivity, UDOGM, UDWR, ACD and interested biologists (such as Renee Chi, Amy Defreese, Kevin Heaton and Lisa Church) will be invited to meet and work on these plans. The purpose for these improvements is to increase connectivity for sage-grouse migration and critical sage-grouse nesting and brood-rearing habitat. The goal for habitat improvement will be returning a sustainable ecological condition (state) that facilitates plant community establishment and increased ecological resilience along with providing improved habitat for sage-grouse.

1700 acres are required during the life of the mine. Currently, 1200 acres remain to be treated, or approximately 240 acres per year. Although the addition of the 85.88-acre Dame Lease IBC does not include any permanent disturbance, ACD will complete an additional 344 acres of habitat improvement for sage-grouse. The mitigation work will be completed between Aug. 1, 2014 and Jan. 31, 2014. The emphasis of this work will consist of pinyon-juniper removal and some sagebrush/Rabbitbrush treatments. Treatment types (options for habitat improvement) associated with PJ removal include:

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ACD and UDOGM will reevaluate these habitat improvement plans on an annual basis to ensure that habitat treatments are being implemented with optimal sage-grouse conservation efforts in mind. Vegetation and bird use monitoring will be completed and then evaluated (ACD and UDOGM) in accordance with procedures described in this appendix.

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### *Vegetation and Bird Use Surveys*

The structure of vegetation is a critical component of sage-grouse breeding, early brood-rearing and summer range (Connelly et al. 2003). This includes an inventory of shrub and herbaceous vegetation structure and composition. Vegetation data collected within these areas will provide insight into current and potential suitable habitat for sage-

- In 2007 the team has continued studies of the sage-grouse with biologists from DWR, the BLM, Southern Utah University (SUU), and the Coal Hollow Project by capturing, taking blood samples, and placing radio transmitters on several birds from March through May.
- In April 2007, two helicopter flights, arranged by Coal Hollow Project, were conducted to search for satellite leks of the sage-grouse.
- In May 2007, another raptor survey by helicopter was conducted by DWR that included the permit area and adjacent areas.
- In September 2007, sensitive plant species surveys were conducted during quantitative sampling of additional proposed disturbed and reference areas for mining years one through three of the project.
- In September 2007, additional quantitative sampling was conducted in meadow areas outside the permit area to be used as a companion study with other areas.
- In 2007, an excavator was used to remove over 10,000 invading juniper trees from the conservation area to reduce potential perching sites for raptors that can reduce the sage-grouse populations.
- Private land owners from Alton have been working to reestablish a migratory corridor between Hoyts Ranch and Alton by clearing juniper and Gambel oak and reseeding open areas with a seed mix consisting of perennial grasses and forbs. Preliminary monitoring results in 2009 indicate that the sage-grouse are beginning to use this corridor. This project was completed in 2011 consisting of 885 acres. Verification was documented in a letter from Director Baza addressed to Denise A. Dragoo, Esq dated May 16, 2012.
- To date, an ongoing monitoring program for radio-collared sage-grouse has been conducted with collaborations with DWR, the BLM, SUU and ACD.
- In 2012 habitat improvement work for sage-grouse was completed on 146 acres to the east of the property that included lop and scatter of pinyon/juniper and chemical treatment of Rabbitbrush.
- In 2012, two helicopter flights, arranged by Coal Hollow Mine, were conducted to search for satellite leks of the sage-grouse.
- Cronquist's phacelia (*Phacelia cronquistiana*; BLM sensitive) was identified as having potential to occur in the area of the mine. Surveys of potential habitats for this species were conducted in June 2012, and no individuals were found.
- In 2013 habitat improvement work for sage-grouse was began on 355 acres adjoining the west boundary of the Coal Hollow mine that included lop and scatter of pinyon/juniper. After assessment of the project in early 2014 by the BLM, it was decided that additional work needed to be done in the appropriate season of 2014 as per the letter dated 3/3/2014 from Lisa Church in Appendix 3-7.

Alton Amphitheater area, the loss of habitat in recent years for nesting and brood-rearing and the relatively low population numbers in the area, that the local population of sage-grouse is vulnerable to elimination, regardless of mining activities proposed by the Coal Hollow Project. Accordingly, the following measures to minimize impacts and enhance habitat for this species have been proposed and are subject to further consideration by the operator and regulatory agencies.

Biologists representing the regulatory agencies, land managers, academia and the coal mine operator, the primary goals for the Alton sage-grouse population includes:

- Enhance current sage-grouse habitat by reducing juniper trees in the area and restoring desirable perennial plant species.
- Create a conservation area for the sage-grouse that will never be mined.
- Provide a corridor between north (Hoyt's Ranch) and south (Alton Sink Valley) populations to promote gene transfer and increase population numbers.
- Use decoys to shift breeding activities to alternate lek sites in Sink Valley.
- Restore the Alton lek site to its original ecological structure and function.
- Monitor sage-grouse distribution patterns at both Alton and Hoyts Ranch.
- Restore sagebrush communities disturbed by mining activities to enhance sage-grouse habitat.
- Control predators through cooperation with official state and/or federal predator control agencies and organizations
- Prior to the implementation of the highwall miner, ACD will measure and record noise level both during active operations and inactivity at the mine. Once the highwall miner is in operation, noise levels will again be measured and recorded in the same locations. The locations will be the area currently being utilized for lekking and two locations within the 85.88-acre Dame Lease.

### **Sage-Grouse Short-Term Mitigation Plan**

The following information was taken directly from the "*Alton Sage-Grouse Habitat Assessment and Mitigation Plan*" (Appendix 3-1) and the follow-up document called "*Alton Sage-Grouse Habitat and Mitigation Plan*" (Appendix 3-5).

In addition to ensuring the protection of nearby grassland and shrubland for alternate breeding and nesting areas, mining activities will be minimized so that the lowest disturbance will be created during the breeding season at areas adjacent to the original lek. A lek area will be disturbed during mining activities that could potentially displace

### 358.300. Removal of a Threatened & Endangered Species

No regulations in the R645 Rules authorizes the taking of an endangered or threatened species or a bald or golden eagle, its nest, or any of its eggs in violation of the Endangered Species Act of 1973 or the Bald Eagle Protection Act, as amended, 16 U.S.C. 668 et seq.

### 358.400. Riparian & Wetland Areas

There are some riparian and wetland areas associated with springs and seeps in the Coal Hollow permit area (including the 85.88-acre Dame Lease IBC area) (see Chapter 7). The habitat in the vicinity of springs SP-8, SP-14, SP-20, SP-22, and SP-40, and wells C4, C2, C3, C5, and Y-61 will be protected through the use of highwall mining techniques in the 85.88-acre Dame Lease IBC. Unlike coal mining using conventional mine pit surface mining techniques (utilized elsewhere at the Coal Hollow Mine), mining using highwall mining techniques does not result in disturbance to the land surface above coal extraction areas (the coal is extracted through a series of excavated horizontal holes, with sufficient coal left in place between holes to fully support the overlying land surface). The highwall mining plan for the 85.88-acre Dame Lease IBC, including the spacing and dimensions of the excavated holes, has been engineered to prevent subsidence of the land surface. The highwall mining will occur in the Smirl coal seam, which is separated from overlying shallow alluvial groundwater systems by a thickness of soft, low-permeability Tropic Shale bedrock. The presence of the Tropic Shale bedrock between the coal seam and the overlying alluvium minimizes the potential for downward migration of alluvial groundwaters into the excavated coal holes. Accordingly, impacts to water quantity in the overlying and adjacent shallow alluvial groundwater systems are not anticipated (Appendix 7-14). Similarly, as no surface disturbance is anticipated over highwall mined areas, impacts to water quality in the overlying alluvial groundwater systems are not anticipated. For these reasons, impacts to ecosystems in and around the monitoring sites mentioned above are not anticipated and the habitat will be protected.

In the event that diminution of discharge rates from seeps and springs does occur as a consequence of mining and reclamation activities, any lost water will be replaced according to all applicable Utah State laws and regulations using the water replacement source specified in R645-301-727. The quantity and quality of replacement water detailed in R645-301-727 will be suitable for the existing premining uses and approved postmining land uses. The methodology for restoring possible diminution of discharge from a spring would include piping from ACD's current water replacement well to the approximate location of the impacted water source. Implementation will occur after consultation with all parties (DOGM, ACD and Richard Dame).

Vegetation will be monitored in the 85.88 acre Dame Lease by monitoring the existing meadow reference transect and one additional random transects within the lease area. Monitoring will begin with the first appropriate season and will continue until the first appropriate season following highwall mining within the Dame lease.

Additionally, the coal mining and reclamation operations at the Coal Hollow Project will avoid disturbances to, enhance where practicable, or restore, habitats of unusually high value for fish and wildlife (see Section 333, Procedures to Minimize Adverse Impacts to Fish & Wildlife in this document).

358.500. Best Technology Available

The Coal Hollow Project will apply the best technology currently available in all disciplines of the coal mining and reclamation activities.

358.510. Powerline & Transmission Facilities

The Coal Hollow Project will ensure that electric powerlines and other transmission facilities used for, or incidental to, coal mining and reclamation operations on the permit area are designed and constructed to minimize electrocution hazards to raptors, except where DOGM determines that such requirements are unnecessary.

358.520. Fences & Conveyers

The Coal Hollow Project will design fences, overland conveyers, and other potential barriers to permit passage for large mammals, except where the DOGM determines that such requirements are unnecessary.

358.530. Toxic-Forming Areas

The Coal Hollow Project has no plans for ponds that contain hazardous concentrations of toxic-forming materials.

- In 2007 the team has continued studies of the sage-grouse with biologists from DWR, the BLM, Southern Utah University (SUU), and the Coal Hollow Project by capturing, taking blood samples, and placing radio transmitters on several birds from March through May.
- In April 2007, two helicopter flights, arranged by Coal Hollow Project, were conducted to search for satellite leks of the sage-grouse.
- In May 2007, another raptor survey by helicopter was conducted by DWR that included the permit area and adjacent areas.
- In September 2007, sensitive plant species surveys were conducted during quantitative sampling of additional proposed disturbed and reference areas for mining years one through three of the project.
- In September 2007, additional quantitative sampling was conducted in meadow areas outside the permit area to be used as a companion study with other areas.
- In 2007, an excavator was used to remove over 10,000 invading juniper trees from the conservation area to reduce potential perching sites for raptors that can reduce the sage-grouse populations.
- Private land owners from Alton have been working to reestablish a migratory corridor between Hoyts Ranch and Alton by clearing juniper and Gambel oak and reseeding open areas with a seed mix consisting of perennial grasses and forbs. Preliminary monitoring results in 2009 indicate that the sage-grouse are beginning to use this corridor. This project was completed in 2011 consisting of 885 acres. Verification was documented in a letter from Director Baza addressed to Denise A. Dragoo, Esq dated May 16, 2012.
- To date, an ongoing monitoring program for radio-collared sage-grouse has been conducted with collaborations with DWR, the BLM, SUU and ACD.
- In 2012 habitat improvement work for sage-grouse was completed on 146 acres to the east of the property that included lop and scatter of pinyon/juniper and chemical treatment of Rabbitbrush.
- In 2012, two helicopter flights, arranged by Coal Hollow Mine, were conducted to search for satellite leks of the sage-grouse.
- Cronquist's phacelia (*Phacelia cronquistiana*; BLM sensitive) was identified as having potential to occur in the area of the mine. Surveys of potential habitats for this species were conducted in June 2012, and no individuals were found.
- In 2013 habitat improvement work for sage-grouse was began on 355 acres adjoining the west boundary of the Coal Hollow mine that included lop and scatter of pinyon/juniper. After assessment of the project in early 2014 by the BLM, it was decided that additional work needed to be done in the appropriate season of 2014 as per the letter dated 3/3/2014 from Lisa Church in Appendix 3-7.

Alton Amphitheater area, the loss of habitat in recent years for nesting and brood-rearing and the relatively low population numbers in the area, that the local population of sage-grouse is vulnerable to elimination, regardless of mining activities proposed by the Coal Hollow Project. Accordingly, the following measures to minimize impacts and enhance habitat for this species have been proposed and are subject to further consideration by the operator and regulatory agencies.

Biologists representing the regulatory agencies, land managers, academia and the coal mine operator, the primary goals for the Alton sage-grouse population includes:

- Enhance current sage-grouse habitat by reducing juniper trees in the area and restoring desirable perennial plant species.
- Create a conservation area for the sage-grouse that will never be mined.
- Provide a corridor between north (Hoyt's Ranch) and south (Alton Sink Valley) populations to promote gene transfer and increase population numbers.
- Use decoys to shift breeding activities to alternate lek sites in Sink Valley.
- Restore the Alton lek site to its original ecological structure and function.
- Monitor sage-grouse distribution patterns at both Alton and Hoyts Ranch.
- Restore sagebrush communities disturbed by mining activities to enhance sage-grouse habitat.
- Control predators through cooperation with official state and/or federal predator control agencies and organizations
- Prior to the implementation of the highwall miner, ACD will measure and record noise level both during active operations and inactivity at the mine. Once the highwall miner is in operation, noise levels will again be measured and recorded in the same locations. The locations will be the area currently being utilized for lekking and two locations within the 85.88-acre Dame Lease.

### **Sage-Grouse Short-Term Mitigation Plan**

The following information was taken directly from the "*Alton Sage-Grouse Habitat Assessment and Mitigation Plan*" (Appendix 3-1) and the follow-up document called "*Alton Sage-Grouse Habitat and Mitigation Plan*" (Appendix 3-5).

In addition to ensuring the protection of nearby grassland and shrubland for alternate breeding and nesting areas, mining activities will be minimized so that the lowest disturbance will be created during the breeding season at areas adjacent to the original lek. A lek area will be disturbed during mining activities that could potentially displace

### 358.300. Removal of a Threatened & Endangered Species

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