

C/025/005 Incoming
#5503



Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435) 867-5331 / Fax (435) 867-1192

08/02/2017

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

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Subject: **Bond Sequence Amendment, Alton Coal Development, LLC, Coal Hollow Mine, Kane County, Utah, C/025/0005**

Dear Mr. Haddock,

Alton Coal Development, LLC (ACD) is submitting an amendment to update the bond sequence for the Coal Hollow Mine in Kane County. A notarized C1C2 and the applicable text and drawings for the amendment are included.

Changes to the MRP associated with this amendment have been uploaded to the DOGM's server for review. PDF versions of the drawings are not certified. Upon approval, 2 (two) clean hard copies of the text and certified drawings for insertion into the MRP will be submitted. Please do not hesitate to contact me if you have any questions 435-691-1551.

Sincerely

B. Kirk Nicholes
Environmental Specialist

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Alton Coal Development, LLC

Mine: Coal Hollow Mine

Permit Number:

C/025/0005

Title: Chapter 8 Amendment

Description, Include reason for application and timing required to implement:

Modification of Bonding Schedule

Instructions: If you answer yes to any of the first eight questions, this application may require Public Notice publication.

- | | | |
|---|--|---|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ <input type="checkbox"/> increase <input type="checkbox"/> decrease. |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 2. Is the application submitted as a result of a Division Order? DO# _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 4. Does the application include operations in hydrologic basins other than as currently approved? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 6. Does the application require or include public notice publication? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 7. Does the application require or include ownership, control, right-of-entry, or compliance information? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 9. Is the application submitted as a result of a Violation? NOV # _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 10. Is the application submitted as a result of other laws or regulations or policies?
<i>Explain:</i> _____ |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 11. Does the application affect the surface landowner or change the post mining land use? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2) |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 13. Does the application require or include collection and reporting of any baseline information? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 15. Does the application require or include soil removal, storage or placement? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 16. Does the application require or include vegetation monitoring, removal or revegetation activities? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 17. Does the application require or include construction, modification, or removal of surface facilities? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 18. Does the application require or include water monitoring, sediment or drainage control measures? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 19. Does the application require or include certified designs, maps or calculation? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 20. Does the application require or include subsidence control or monitoring? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 23. Does the application affect permits issued by other agencies or permits issued to other entities? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 24. Does the application include confidential information and is it clearly marked and separated in the plan? |

Please attach three (3) review copies of the application. If the mine is on or adjacent to Forest Service land please submit four (4) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

<u>B. Kirk Nicholes</u>	<u>Environmental Specialist</u>	<u>07/31/2017</u>	
Print Name	Position	Date	Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 31 day of July, 2017

Notary Public: Marty Nicholes, state of Utah.

My commission Expires: 9-11-2017 }
 Commission Number: 670359 } ss:
 Address: 1670 E Millstone Cir }
 City: Enoch State: UT Zip: 84721 }



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C025/0005 Incoming #5503

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Alton Coal Development, LLC

Mine: Coal Hollow Mine

Permit Number:

C/025/0005

Title: Chapter 9 TOC replacement

Description, Include reason for application and timing required to implement:

Modification of Bonding Schedule

Instructions: If you answer yes to any of the first eight questions, this application may require Public Notice publication.

- Yes No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ increase decrease.
- Yes No 2. Is the application submitted as a result of a Division Order? DO# _____
- Yes No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does the application require or include public notice publication?
- Yes No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes No 9. Is the application submitted as a result of a Violation? NOV # _____
- Yes No 10. Is the application submitted as a result of other laws or regulations or policies?

Explain: _____

- Yes No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes No 13. Does the application require or include collection and reporting of any baseline information?
- Yes No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 15. Does the application require or include soil removal, storage or placement?
- Yes No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes No 19. Does the application require or include certified designs, maps or calculation?
- Yes No 20. Does the application require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided?
- Yes No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes No 23. Does the application affect permits issued by other agencies or permits issued to other entities?
- Yes No 24. Does the application include confidential information and is it clearly marked and separated in the plan?

Please attach three (3) review copies of the application. If the mine is on or adjacent to Forest Service land please submit four (4) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

B. Kirk Nicholes

Environmental Specialist

09/28/2017

B. Kirk Nicholes

Print Name

Position

Date

Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 28 day of Sept, 2017

Notary Public Marty G. Nicholes, state of Utah.

My commission Expires: 9-11-2021
Commission Number: 696219
Address: 1670 E Millstone Cir
City: Enoch State: UT Zip: 84721



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TABLE OF CONTENTS

ALL VOLUMES

R645-301-100 Through R645-301-800

Volume 1.....Chapter 1.....Legal, Financial, Compliance and
Related Information

Chapter 2.....Soils

Volume 2.....Chapter 3.....Biology

Chapter 4.....Land Use and Air Quality

Volume 3, 4 & 5.....Chapter 5.....Engineering

Volume 6.....Chapter 6.....Geology

Volume 7 & 8.....Chapter 7.....Hydrology

Chapter 8.....Bonding and Insurance

Chapter 9.....Special Categories of Mining

Volume 9.....Confidential

Volume 10.....Supplemental Report, Wetlands & OHWMs

Volume 11.....Supplemental Report, Order 2 Soil Survey for the North Private
Lease Expansion of the Coal Hollow Mine – Located Southeast of
Alton, Utah

Volume 12.....Supplemental Report, Vegetation & Wildlife Habitat of the North
Private Lease Area

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SEP 29 2017

Div. of Oil, Gas & Mining

TABLE OF CONTENTS

Chapter 9

R645-302-200

Special Categories of Mining

200.	INTRODUCTION	9-1
240.	Auger Mining and Remining Operations	9-1
241.100	Due Diligence Investigation	9-1
245	Performance Standards	9-3
245.100	Coal Recovery	9-3
245.200	Hydrologic Balance	9-4
245.300	Subsidence Protection	9-5
245.500	Protection of Underground Mining	9-5
316	Issuance of Permit	9-5
317	Prime Farmland Performance Standards	9-6
317.100	Scope and Purpose	9-6
317.200	Responsible Agencies	9-6
317.210	Prime Farmland Specifications	9-7
317.220	Implementation of Prime Farmland Specifications	9-7
317.300	Applicability	9-7
317.400	Soil Removal and Stockpiling	9-7
317.410	Timing	9-7
317.420	Salvage Depth of Prime Farmland Soils	9-8
317.430	Soil Removal and Stockpiling	9-8
317.440	Protection of Prime Farmland Stockpiles	9-9
317.500	Soil Replacement	9-10
317.510	Soil Profile Reconstruction	9-10
317.520	Depth of Reconstructed Soil Profile	9-10
317.530	Soil Compaction Monitoring	9-10

INCORPORATED

SEP 29 2017

Div. of Oil, Gas & Mining

317.540	Replacement of B and C horizons	9-10
317.550	Replacement of A horizon	9-10
317.600	Revegetation and Restoration of Soil Productivity	9-10
317.610	Vegetation Establishment	9-10
317.620	Restoration of Prime Farmland Productivity	9-11

INCORPORATED
SEP 29 2017
Div. of Oil, Gas & Mining

CHAPTER 8

R645-301-800. BONDING AND INSURANCE

820. REQUIREMENT TO FILE A BOND

820.100 The Operator Agrees to File a Bond.

After the permit application is approved, but before the permit is issued, the applicant will file with the Division, on a form prescribed and furnished by the Division, a bond or bonds conditioned upon performance of all requirements of the State Program, the permit and the reclamation bond.

820.110-114 Area to be Covered by the Performance Bond and Incremental Bond

The disturbed areas at the Coal Hollow Project will be bonded. Bonding is representative of the full extent of current and expected disturbance for the Coal Hollow Mine permit area, and representative of discrete bond increments for the North Private Lease permit area. The areas to be bonded are located, scheduled and identified on Drawings 5-19 and 5-74, respectively.

The permittee will file with the Division an additional bond or bonds to cover each increment of the North Private Lease permit in accordance with R645-301-830. Estimates for each permit area and each increment are provided in Appendices 8-1 and 8-2. North Private Lease increments are shown in Drawing 5-77.

The North Private Lease permit area bond increment areas average over 20 acres in size and are of sufficient configuration to provide for efficient reclamation operations should reclamation by the Division become necessary according to R645-301-880.900.

820.120 Acceptance of Bond

The applicant agrees not to commence operations until the Division approves a performance bond for the Coal Hollow Project.

820.130 Coverage of Bond

The applicant will provide a performance bond for the disturbed area within the permit.

820.200 Form of the Performance Bond

820.223 Surety Bond

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SEP 29 2017

Div. of Oil, Gas & Mining

Alton Coal Development, LLC is proposing to submit a surety bond consistent with the requirements of R645-301-860.100 and any additional requirements in the State Program.

830. DETERMINATION OF BOND AMOUNT

830.100 Determined by the Division

The amount of the bond required will be determined by the Division.

830.140 Detailed Estimated Costs

The bonding amount for final reclamation will depend upon the approved permit and reclamation plan (R645-301-830.120).

For the Coal Hollow Mine permit area, an estimate has been completed for the mining and reclamation scenario shown in Drawings 5-17 through 5-19 that will generate the largest disturbance and require the largest bond. This scenario includes completion of surface mining through HWT 3, completion of highwall holes through the same, and full mining of the currently planned underground mine as entering through portals located in Pit 10. The last Pit B-1 is proposed to remove any coal contained within the borrow area prior to backfill borrow activities. This pit is contained entirely within the borrow area boundary and nearly all overburden excavated will be directly backfilled in place in anticipation of later rehandle as backfill for Pits 9-C and 10. As such, Pit B-1 adds around 91,000 CY of actual backfill volume required and is accounted as having only phase 1 additional bond required. This scenario also accounts for all Coal Hollow Mine facilities and special reclamation areas. This estimate is provided as Appendix 8-1. These cost calculations are based on the specific details shown on these drawings, as well as the indicated plan and schedule for bond release application. The remaining liability bond estimate by release stage, escalated for 2017 (anticipated end of mining) is the following:

Ultimate Disturbance:	\$33,107,627
Release 15_1:	\$14,157,119
Release 15_2:	\$12,327,175
Release 16_1:	\$8,296,070
Release 16_2:	\$7,196,419
Release 17_1:	\$7,078,557
Release 17_2:	\$6,595,243
Release 18_1:	\$5,875,346
Release 26_1:	\$5,598,587
End of UG Release:	\$ 0

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SEP 29 2017

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This bonding and release schedule anticipates the opportunity for mining to commence on the North Private Lease as well as the potential for additional mining area to become available under the BLM's adjacent LBA tract. In both cases, the underground portals, coal facilities, and thereby Pit 10 would remain open requiring the continued surety

shown at the end of 2017. Should these additional leases not become available, reclamation of the remaining area would be performed and the bond would be released as shown. As part of the application process for these additional areas, updated estimates and calculations will be provided.

A summary and supporting calculations for these cost estimates is provided in Appendix 8-1.

For the North Private Lease permit area, a set of incremental estimates have been completed for the mining and reclamation scenario shown in Drawings 5-76A through 5-77 that describe the detailed areas and require the largest adequate bond. This scenario includes mining, backfilling, grading, and replacement of adequate soils and revegetation to restore all disturbed ground to approximate original contour and land use. This scenario also accounts for all North Private Lease facilities and special reclamation areas. This estimate is provided as Appendix 8-2. These cost calculations are based on the specific details shown on these drawings, as well as the indicated plan and schedule for bond posting and bond release application. The incremental bond to be posted and the remaining liability by yearly increment, escalated for 2017 (anticipated end of mining) is the following:

	Bond Liability (start)	Bond Release (-)	Additional Bond for Following Increment (+)	Bond Liability (end)	Bond Net Change (+/-)
Carryover from CHM	\$12,327,175	\$0	\$899,691	\$13,226,866	\$899,691 +
Pre-Year 1	\$13,226,866	\$4,031,105	\$3,547,971	\$12,743,732	\$483,134 -
Year 1 Q4	\$12,743,732	\$2,985,984	\$2,058,704	\$11,816,451	\$927,281 -
Year 1 End	\$11,816,451	\$2,130,418	\$3,044,462	\$12,730,495	\$914,044 +
Year 2	\$12,730,495	\$2,883,947	\$6,699,470	\$16,546,019	\$3,815,524 +
Year 3	\$16,546,019	\$4,853,560	\$3,607,176	\$15,299,634	\$1,246,385 -
Year 4	\$15,299,634	\$5,655,768	\$8,072,751	\$17,716,617	\$2,416,983 +
Year 5	\$17,716,617	\$1,501,290	\$0	\$16,215,327	\$1,501,290 -
Year 6	\$16,215,327	\$3,606,248	\$0	\$12,609,079	\$3,606,248-
Year 7	\$12,609,079	\$3,897,895	\$0	\$8,711,184	\$3,897,895 -
Year 8	\$8,711,184	\$1,046,230	\$0	\$7,664,954	\$1,046,230 -
Year 9	\$7,664,954	\$357,189	\$0	\$7,307,765	\$357,189 -
Years 10-20	\$7,307,765	\$1,432,420	\$0	\$5,875,346	\$1,432,420 -

This bonding and release schedule assumes a carryover of liability and posted bond from the Coal Hollow Mine permit area. The posted bond amount is \$12,750,000, and the liability as shown in the table above. This schedule also anticipates the continued underground mining of the Coal Hollow Mine permit area, as well as the potential for additional mining area to become available under the BLM's adjacent LBA tract. In both cases, the underground portals, coal facilities, and thereby Coal Hollow Mine Pit 10 would remain open requiring the continued surety shown at the end of 2017 in Appendix 8-1. As part of the application process for these additional areas, updated estimates and calculations will be provided.

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SEP 29 2017

A summary and supporting calculations for these cost estimates is provided in Appendix 8-2.

840. GENERAL TERMS AND CONDITIONS OF THE BOND

General terms and conditions of the bond as stated at R645-301-840 through R645-301-840.520 will be met by Alton Coal Development, LLC

850. BOND REQUIREMENTS FOR UNDERGROUND COAL MINING

Not Applicable

860. FORM OF BOND

860.100 Surety Bond

The applicant will submit a surety bond as defined under R645-100-200 and meet all the requirements under R645-301-860.110 to .120.

870. REPLACEMENT OF BONDS

Equivalent bond coverage will be provided if Alton Coal Development, LLC replaces the surety bond.

880. REQUIREMENT TO RELEASE PERFORMANCE BONDS

Upon completion of reclamation operations, the applicant will apply for bond release and meet the requirements of R645-301-880.

890. TERMS AND CONDITIONS FOR LIABILITY INSURANCE

890.100 Certificate of Liability Insurance

A copy of the Certificate of Liability Insurance is provided in Appendix 1-3. Alton Coal Development, LLC will meet the requirements of R645-301-890 prior to commencing any mining operations.

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BONDING

Introduction

The purpose of this appendix is to provide a reclamation bond estimate as required by R645-301-830.140.

This estimate includes liability calculations for:

- All areas of surface disturbance requiring Phase 2 and Phase 3 reclamation
- All facilities and special areas requiring demolition, demobilization, etc.
- All excavated pits requiring Phase 1 through Phase 3 reclamation
- Surface areas of the long-term excess spoil structure that require Phase 1 through Phase 3 reclamation

This appendix includes the following details:

- Bond Estimate Summary and Release Application Plan
- Mine Facilities Line Item Reclamation Estimate
- Spoil Pile, Surface Disturbance Only, and Facility and Special Area surface reclamation Estimate
- Excavated Areas Reclamation Estimate
- Production Model and Cost Model Assumptions
- Pit Backfill - Truck/Shovel, Fleet Production and Cost Analysis (FPC)
- Subsoil - Truck/Shovel, Fleet Production and Cost Analysis (FPC)
- Topsoil - Truck/Shovel, Fleet Production and Cost Analysis (FPC)

All material volume and surface area calculations were performed utilizing Carlson Civil and Mining software.

Cost data sources include:

- RSMeans Heavy Cost Construction 2015
- RSMeans Construction Cost Data 2015
- CostMine Coal Cost Guide 2015
- CostMine Mine and Mill Equipment Cost Data, 2015 (latest version available)

These sources are applied where appropriate in each of the cost estimates. Each line item in the estimate lists specifies which source is utilized for cost data.

Summary

The following is a brief summary of the information and methods used to calculate the costs for each category. The overall cost estimates below include total escalated costs applicable for all three phases of reclamation (where appropriate):

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Release Application Plan

While previous estimates for the Coal Hollow Mine were constructed as incremental bond packages, this estimate considers the permit area on a total disturbance basis and applies successive bond release applications as stepwise subtractions from the ultimate disturbance liability. Each release application potentially contains a combination of multiple pit & surface areas under different phases of reclamation. These area polygons can be viewed on Drawing 5-19.

Mine Facilities

This section includes line items for the demolition, disposal, earthwork and specialized land reclamation costs for the entire facilities area, including ponds and ditches. The calculations for this section is based on the facilities and pond drawings in the current version of the Mining and Reclamation Plan. These drawings are all provided in Chapter 5 as Drawings 5-3 through 5-8C. The RSMMeans Cost data is applied to this estimate. The overall cost estimate for the facilities reclamation is approximately \$1,174,169.

Spoil Pile, Borrow, Surface Disturbance Only, and Specialized Reclamation Areas

The specialized reclamation areas include areas that only require surface (Phase 2 and Phase3) reclamation, the long term excess spoil structure, ditches 2, 3 and 4, ponds 3 and 4, along with the Lower Robinson Creek reconstruction. This category also includes the borrow area. The surface reclamation for the loadout area is also included. The Phase 1 through Phase 3 (where applicable) calculations for these specific areas are provided separately and applied as appropriate. The overall cost estimate for this category is \$2,397,988.

Excavated Areas

As shown on Drawings 5-17, 5-18, 5-19 and described in Chapter 5 text, the Coal Hollow Mine permit area is nearing completion of the open pit portion of the mining process. The mining and backfilling sequence has followed the pit progression shown in chapter 5 and the final pit void comprised of Pits 9-C and 10 (including the underground portals) remains to be backfilled in this last stage of surface mining. The last Pit B-1 is proposed to remove any coal contained within the borrow area prior to backfill borrow activities. This pit is contained entirely within the borrow area boundary and nearly all overburden excavated will be directly backfilled in place in anticipation of later rehandle as backfill for Pits 9-C and 10. As such, Pit B-1 adds around 91,000 CY of actual backfill volume required and is accounted as having only phase 1 additional bond required. All other mined pits have currently been backfilled to Approximate Original Contour (AOC) as required by the reclamation plan in Chapter 5. While a significant portion of the required backfill and surface reclamation had been completed prior to 2015, bond release applications had not been submitted for any of this work. Therefore it is expedient to now consider the Coal Hollow Mine permit area on a total disturbance basis as opposed to the original incremental bond system. The overall cost estimate for all pits assuming total excavation is \$29,535,469.

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Production Model and Cost Assumptions

Caterpillar's Fleet Production and Cost analysis software was utilized to establish a baseline cost model with inputs from the appropriate cost guides. This model provided unit costs on a \$/BCY and \$/LCY basis.

The following documentation provides the details for each section of this bond estimate.

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SEP 29 2017

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BONDING

Introduction

The purpose of this appendix is to provide a reclamation bond estimate for the North Private Lease permit areas as required by R645-301-830.140.

This estimate includes liability calculations for:

- All areas of surface disturbance requiring Phase 2 and Phase 3 reclamation
- All facilities and special areas requiring demolition, demobilization, etc.
- All excavated pits requiring Phase 1 through Phase 3 reclamation
- Surface areas of the long-term excess spoil structure that require Phase 1 through Phase 3 reclamation

This appendix includes the following details:

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- Mine Facilities Line Item Reclamation Estimate
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- Pit Backfill - Truck/Shovel, Fleet Production and Cost Analysis (FPC)
- Subsoil - Truck/Shovel, Fleet Production and Cost Analysis (FPC)
- Topsoil - Truck/Shovel, Fleet Production and Cost Analysis (FPC)

All material volume and surface area calculations were performed utilizing Carlson Civil and Mining software.

Cost data sources include:

- RSMeans Heavy Cost Construction 2015
- RSMeans Construction Cost Data 2015
- CostMine Coal Cost Guide 2015
- CostMine Mine and Mill Equipment Cost Data, 2015

These sources are applied where appropriate in each of the cost estimates. Each line item in the estimate lists specifies which source is utilized for cost data.

Summary

The following is a brief summary of the information and methods used to calculate the costs for each category. The overall cost estimates below include total escalated costs applicable for all three phases of reclamation (where appropriate):

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Bond Addition and Release Application Plan

This estimate considers the permit area on an incremental basis and applies successive bond additions and bond release applications as stepwise additions and subtractions from the ultimate disturbance liability. Each bond addition and release application potentially contain a combination of multiple pit & surface areas under different phases of disturbance or reclamation. These area polygons can be viewed on Drawing 5-77. The table below details this schedule:

	Bond Liability (start)	Bond Release (-)	Additional Bond for Following Increment (+)	Bond Liability (end)	Bond Net Change (+/-)
Carryover from CHM	\$12,327,175	\$0	\$899,691	\$13,226,866	\$899,691 +
Pre-Year 1	\$13,226,866	\$4,031,105	\$3,547,971	\$12,743,732	\$483,134 -
Year 1 Q4	\$12,743,732	\$2,985,984	\$2,058,704	\$11,816,451	\$927,281 -
Year 1 End	\$11,816,451	\$2,130,418	\$3,044,462	\$12,730,495	\$914,044 +
Year 2	\$12,730,495	\$2,883,947	\$6,699,470	\$16,546,019	\$3,815,524 +
Year 3	\$16,546,019	\$4,853,560	\$3,607,176	\$15,299,634	\$1,246,385 -
Year 4	\$15,299,634	\$5,655,768	\$8,072,751	\$17,716,617	\$2,416,983 +
Year 5	\$17,716,617	\$1,501,290	\$0	\$16,215,327	\$1,501,290 -
Year 6	\$16,215,327	\$3,606,248	\$0	\$12,609,079	\$3,606,248 -
Year 7	\$12,609,079	\$3,897,895	\$0	\$8,711,184	\$3,897,895 -
Year 8	\$8,711,184	\$1,046,230	\$0	\$7,664,954	\$1,046,230 -
Year 9	\$7,664,954	\$357,189	\$0	\$7,307,765	\$357,189 -
Years 10-20	\$7,307,765	\$1,432,420	\$0	\$5,875,346	\$1,432,420 -

Due to bond requirements and the scarcity of open space with relation to the soil and spoil stockpiles in Permit Area 1, development of the mining pits must follow a rigid sequence. As depicted in the following tables, the first increment of bonding in Permit Area 1 covers all of Area 1's Phase 2, Phase 3, and Facilities costs while only allowing Phase 1 (excavation) cost for Pit 1. Therefore, as shown in Drawing 5-48, the first stage of mining activity involves construction of the South Haul Road, Ponds 5 and 6, Ditches 5 through 11, and the temporary topsoil, subsoil and spoil stockpiles. To construct each of these facilities, ground cover, topsoil, and subsoil must be removed and stockpiled according to the plan and methods set out in Chapter 2 section 231 and section 523 of chapter 5 and also shown on Drawing 2-4. Once these facilities have been constructed, excavation of Pit 1 will commence. The second bond increment will then allow continued excavation of Pits 2-6 to the initial Permit Area 1 boundary. Although the topsoil stockpile shown in Drawing 5-48 rests above a portion of the expected excavation limit of Pit 11 (shown on Drawing 5-57), this stockpile is planned to be placed directly on top of native topsoil so no disturbance of the surface above Pit 11 is expected. Therefore, no bond costs for Pit 11 are projected until the third bond increment. During mining and backfill of Pits 5 and 6, the third North Private Lease bond increment will allow construction of the Permit Area 1 extension

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facilities and structures shown on Drawing 5-48A. Depending on the timing of approval for Areas 2 and 3, mining in the extension of Area 1 may be limited as shown in Drawing 5-57 by Pond T1 and the geologic contact between Tropic Shale and Quaternary Alluvium in Pits 8 and 9. Pond T1 must remain in place until Pond 7 has been constructed and no alluvium will be mined until the hydrologic analysis of Areas 2 and 3 has been performed and approved. As long as Areas 2 and 3 are available, the third bond increment through the fourth, fifth and sixth will also allow for steady state mining and backfill from Pit 7 through Pit 21. Then, during mining and backfill of Pits 20 and 21 the seventh North Private Lease bond increment will be posted to allow construction of the Permit Area 3 facilities and structures shown on Drawing 5-50. The seventh bond increment also allows for mining and backfill of both of the Highwall trench pits in Permit Area 3. Following excavation of Pit 9, further disturbance and excavation requires the approval of Permit Areas 2 and 3 which currently remain under review.

Mine Facilities

This section includes line items for the demolition, disposal, earthwork and specialized land reclamation costs for the entire facilities area, including ponds and ditches. The calculations for this section are based on the facilities and pond drawings in the current version of the Mining and Reclamation Plan. These drawings are all provided in Chapter 5 as Drawings 5-47 through 5-51B, and 5-58 through 5-77. The RSMMeans Cost data is applied to this estimate. The overall escalated cost estimate for the facilities reclamation is approximately \$1,100,328. This amount is separated into the years where the respective areas are disturbed.

Surface Disturbance Only Areas

These reclamation areas include areas that only require surface (Phase 2 and Phase 3) reclamation, and include all ditches, ponds, roads, and other facilities that fall outside of the open pit boundaries shown on Drawing 5-77. The overall cost estimate for this category is \$358,676. This amount is separated into the years where the respective areas are disturbed.

Excavated Areas

As shown on Drawings 5-74 through 5-77 and described in Chapter 5, Chapter 8, and the table above, the North Private Lease permit area will progress through eleven incremental stages of Bonding. Of these, excavation will occur in the first six, with reclamation activities and bond releases occurring thereafter. The total liability for all excavated areas is \$26,471,221.

Production Model and Cost Assumptions

Caterpillar's Fleet Production and Cost analysis software (v. 5.2.0.2) was utilized to establish a baseline cost model with inputs from the appropriate cost guides. This model provided unit costs on a \$/BCY and \$/LCY basis.

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The following documentation provides the details for each section of this bond estimate.

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Range 6 West
Range 5 West

Township 39 South



Pit B-1 Excavation is primarily contained within the final borrow volume. All Pit B-1 excavated material (except 92,000 CY placed underneath the 3:1 South slope) was directly backfilled to the intermediate surface shown on Drawing 5-35 for subsequent rehandle as part of the borrow to backfill Pits 9-C & 10. Therefore, this area was not accounted as additional excavated area and only incurred additional bond as it was covered for the 3:1 slope backfill.

-  BORROW AREA DISTURBANCE
-  EXCAVATED AREA DISTURBANCE
-  SURFACE DISTURBANCE

ULTIMATE DISTURBANCE:
 Excavated Area = 177.6 acres
 Borrow Area = 62.0 acres
 Surface Dist Area = 132.9 acres
 Total Disturbance = 372.5 acres

Total Bonded Excavation Volume = 20,991,168 BCY

Contour Interval = 2'

LEGEND:

-  PERMIT BOUNDARY
-  PRIVATE COAL OWNERSHIP
-  ULTIMATE PIT BOUNDARY
-  DISTURBANCE BNDY
-  SECTION LINE
-  FOUND SECTION CORNER
-  FOUND PROPERTY CORNER

DRAWN BY: K NICHOLS	CHECKED BY: LWJ
DRAWING: 5-17	DATE: 12/24/2014
JOB NUMBER: 1400	SHEET
	SCALE: 1" = 500' Printed on 24" x36"

REVISIONS	
DATE:	BY:
11/24/15	AC
3/3/16	AC
3/22/16	AC
5/20/16	AC
8/01/16	AC
9/20/16	AC
7/31/17	AC

**OVERBURDEN
REMOVAL
ULTIMATE
DISTURBANCE**

COAL HOLLOW
PROJECT
ALTON, UTAH

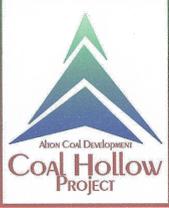
DRAWING: 5-17

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GAS & MINING



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Allow Coal Development
**Coal Hollow
PROJECT**

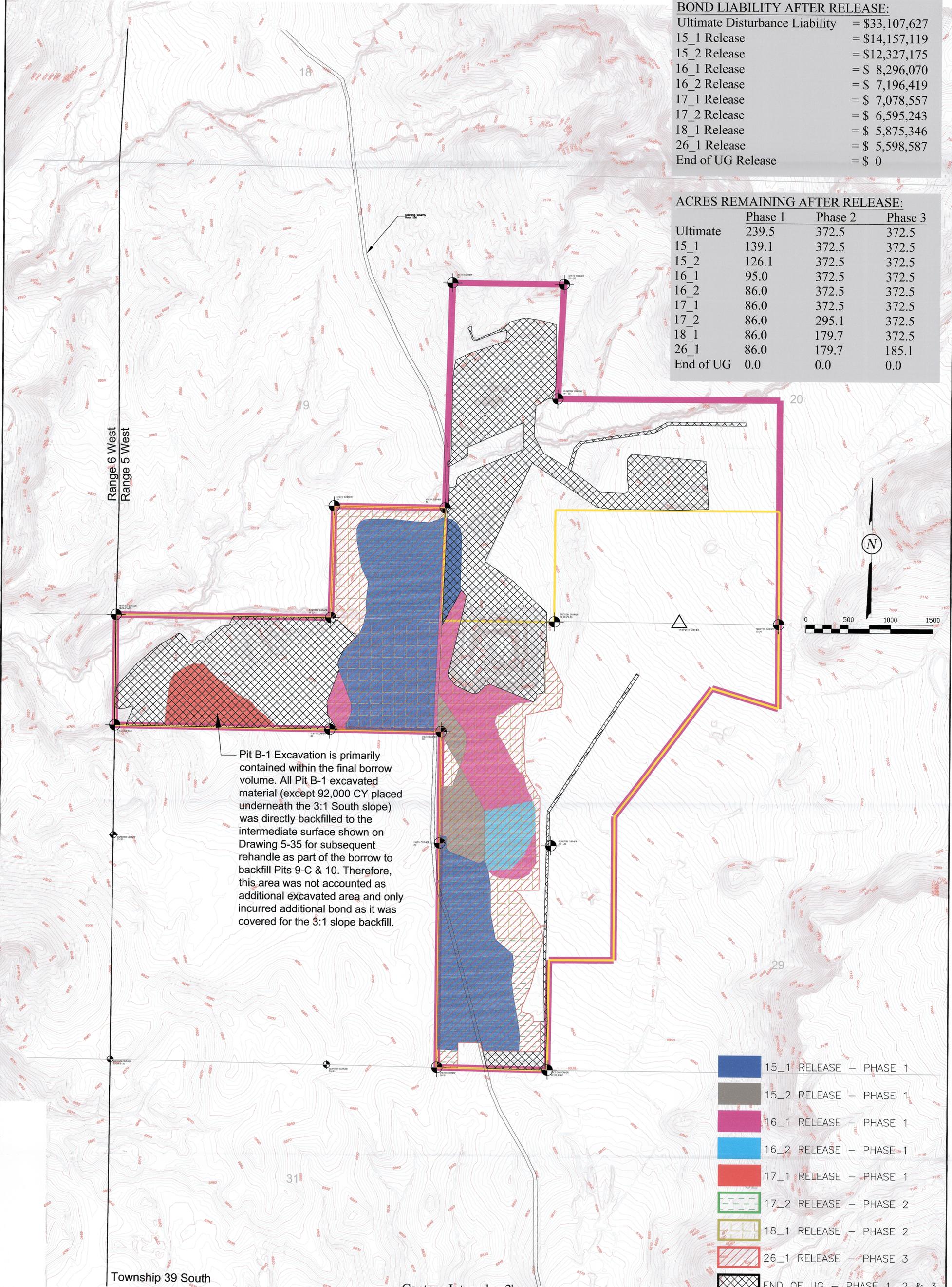
463 North 100 West, Suite 1
Cedar City, Utah 84721
Phone (435)867-5331
Fax (435)867-1192

BOND LIABILITY AFTER RELEASE:

Ultimate Disturbance Liability	= \$33,107,627
15_1 Release	= \$14,157,119
15_2 Release	= \$12,327,175
16_1 Release	= \$ 8,296,070
16_2 Release	= \$ 7,196,419
17_1 Release	= \$ 7,078,557
17_2 Release	= \$ 6,595,243
18_1 Release	= \$ 5,875,346
26_1 Release	= \$ 5,598,587
End of UG Release	= \$ 0

ACRES REMAINING AFTER RELEASE:

	Phase 1	Phase 2	Phase 3
Ultimate	239.5	372.5	372.5
15_1	139.1	372.5	372.5
15_2	126.1	372.5	372.5
16_1	95.0	372.5	372.5
16_2	86.0	372.5	372.5
17_1	86.0	372.5	372.5
17_2	86.0	295.1	372.5
18_1	86.0	179.7	372.5
26_1	86.0	179.7	185.1
End of UG	0.0	0.0	0.0



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- 15_1 RELEASE — PHASE 1
- 15_2 RELEASE — PHASE 1
- 16_1 RELEASE — PHASE 1
- 16_2 RELEASE — PHASE 1
- 17_1 RELEASE — PHASE 1
- 17_2 RELEASE — PHASE 2
- 18_1 RELEASE — PHASE 2
- 26_1 RELEASE — PHASE 3
- END OF UG — PHASE 1, 2 & 3

Township 39 South

Contour Interval = 2'

LEGEND:

	PERMIT BOUNDARY
	PRIVATE COAL OWNERSHIP
	ULTIMATE PIT BOUNDARY
	DISTURBANCE BNDY
	SECTION LINE
	FOUND SECTION CORNER
	FOUND PROPERTY CORNER

DRAWN BY:	A CHRISTENSEN
CHECKED BY:	DWG
DRAWING:	5-18
DATE:	6/15/2015
SCALE:	1" = 500' Printed on 24" x36"
JOB NUMBER:	1400
SHEET	

REVISIONS

DATE:	BY:
11/24/15	AC
3/3/16	AC
3/22/16	AC
5/20/16	AC
8/01/16	AC
9/20/16	AC
7/31/17	AC

BOND SEQUENCE

COAL HOLLOW PROJECT
ALTON, UTAH

DRAWING: 5-18

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PROFESSIONAL ENGINEER
10230818
ANDREW R. CHRISTENSEN
9/22/17
STATE OF UTAH

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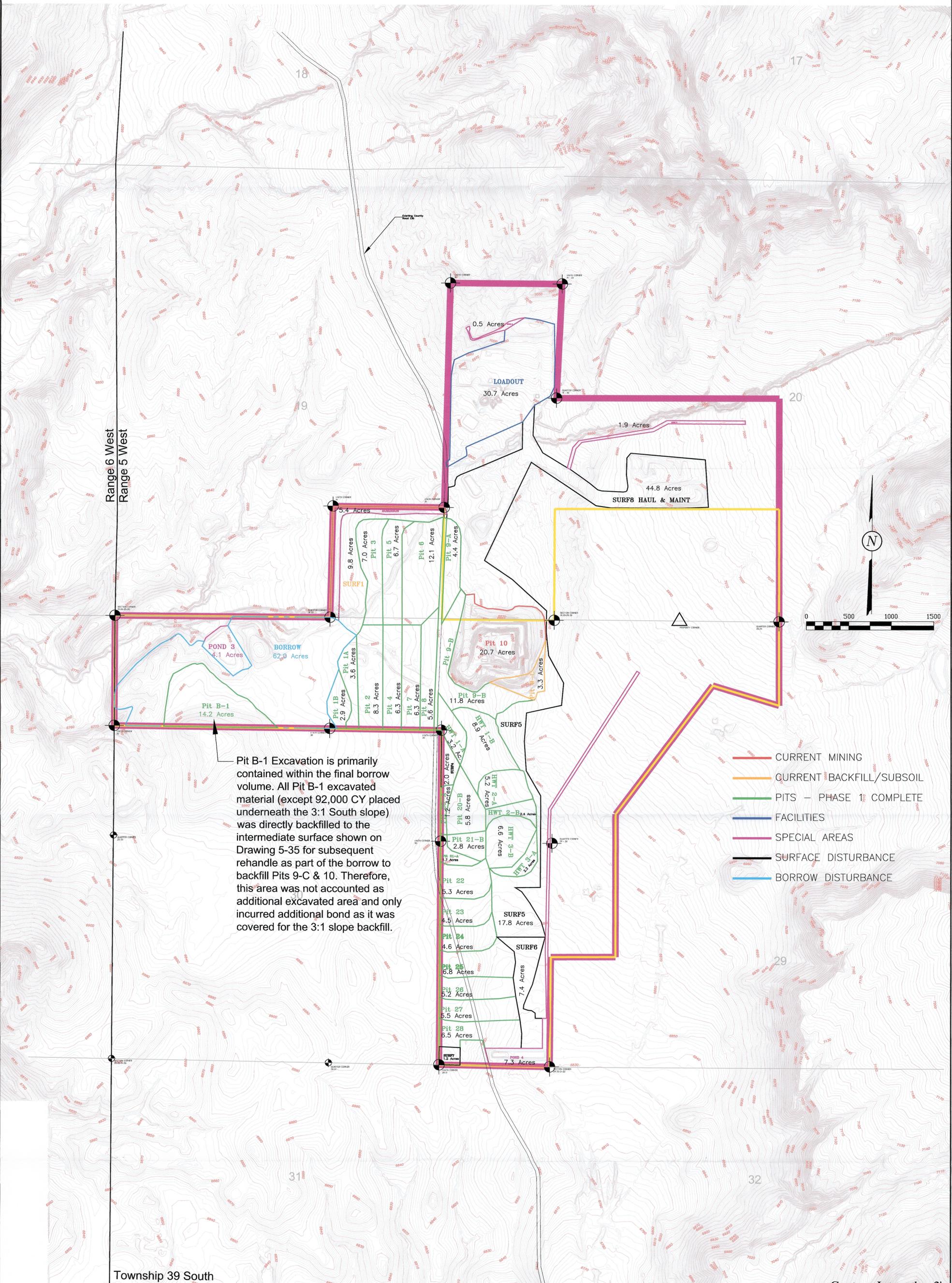
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463 North 100 West, Suite 1
Cedar City, Utah 84721
Phone (435)867-5331
Fax (435)867-1192

Alton Coal Development
Coal Hollow
PROJECT

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- CURRENT MINING
- CURRENT BACKFILL/SUBSOIL
- PITS – PHASE 1 COMPLETE
- FACILITIES
- SPECIAL AREAS
- SURFACE DISTURBANCE
- BORROW DISTURBANCE



Township 39 South

Contour Interval = 2'

LEGEND:

- PERMIT BOUNDARY
- PRIVATE COAL OWNERSHIP
- ULTIMATE PIT BOUNDARY
- DISTURBANCE BNDY
- SECTION LINE
- FOUND SECTION CORNER
- FOUND PROPERTY CORNER

DRAWN BY: A CHRISTENSEN	CHECKED BY: DWG
DRAWING: 5-19	DATE: 6/15/2015
JOB NUMBER: 1400	SCALE: 1" = 500' Printed on 24" x36"
	SHEET

REVISIONS	
DATE:	BY:
10/20/15	AC
3/3/16	AC
3/22/16	AC
5/20/16	AC
8/01/16	AC
9/20/16	AC
7/31/17	AC

BOND POLYGONS	
COAL HOLLOW PROJECT ALTON, UTAH	
DRAWING: 5-19	

BOND POLYGONS

COAL HOLLOW PROJECT
ALTON, UTAH

DRAWING: 5-19

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Coal Hollow PROJECT

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