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

C1/C2
Appendix 2-2
Drawing 5-38
Have been set up as separate task for review (Task #5153)

Date: March 31, 2016

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

Subject: 2015 Coal Mining Annual Report; Alton Coal Development LLC, Coal Hollow Mine, C/025/0005

Dear Mr. Haddock,

Alton Coal Development, LLC is providing the 2015 Coal Mining Annual Report for the Coal Hollow Mine. The completed report and attachments have been electronically submitted by uploading to the Divisions ePermitting site.

Please let me know if you have any questions or concerns.

Sincerely

B. Kirk Nicholes
Resident Agent

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: MRP Annual Report 2015 amendments to permit

Description, Include reason for application and timing required to implement:
Addition of new topsoil analysis

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	Resident Agent	03/31/2016	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 31st day of March, 2016

Notary Public: _____, state of Utah.

My commission Expires: 04/02/2018
Commission Number: 671357
Address: 444 S Main St. # B2
City: Cedar City State: UT Zip: 84720

} ss:

WINSTON YOUNG
NOTARY PUBLIC
STATE OF UTAH
COMMISSION #671357
My Commission Expires April 2, 2018

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining

Form DOGM- C1 (Revised December 10, 2007)

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Alton Coal Development, LLC
Mine: Coal Hollow Mine
Permit Number: C/025/0005
Title: MRP Annual Report 2015 amendments to permit

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☒ Add	☐ Replace	☐ Remove	Chapter 2, Appendix 2-2, Soil Analysis (add to end of appendix 2-2)
☐ Add	☒ Replace	☐ Remove	Chapter 5, Drawing 5-38
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining

Print Form | Submit by Email | Reset Form

Annual Report

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified in the cover letter. During a complete inspection an inspector will check and verify the information.

GENERAL INFORMATION

Company Name	Alton Coal Development, LLC	Mine Name	Coal Hollow Mine
Permit Number	C/025/0005	Permit expiration Date	November 8, 2020
Operator Name	Alton Coal Development, LLC	Phone Number	435-867-5331
Mailing Address	463 N100 W Suit 1	Email	knicholes@altoncoal.com
City	Cedar City		
State	Utah	Zip Code	84721

		DOGM File Location or Annual Report Location
Excess Spoil Piles	☒ Required ☐ Not Required	
Refuse Piles	☐ Required ☒ Not Required	
Impoundments	☒ Required ☐ Not Required	
Other:		

OPERATOR COMMENTS

Certified inspection of sediment ponds 1, 1B, 2, 3 and 4 was completed on February10, 2015. Certified inspection of the Excess Spoils Pile was completed on a quarterly basis on February 10, 2015, June 24, 2015, August 20, 2015 and December 9, 2015. Copies of the inspection reports can found at the ACD Cedar City office and the Coal Hollow Mine office. They were also emailed to the Division each quarter and are included with this Annual Report

REVIEWER COMMENTS ☐ Met Requirements ☐ Did Not meet Requirements

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

Title: TOPSOIL AND SUBSOIL SALVAGE AND FINAL RECLAMATION PLACEMENT
Objective: Monitor topsoil and subsoil salvage by suitability criteria and depth described in Appendix 2-1, Table 4-1.
Frequency: During operations. Sampling regime will be reviewed and updated as necessary. In 2015 monitoring, add-in water soluble selenium analysis to the list of parameters run on replaced topsoil/subsoil.
Status: Long term
Reports: Provide laboratory reports and keep a tally of volumes salvaged, stockpiled and live hauled. In 2015 monitoring, add-in water soluble selenium analysis to the list of parameters run on replaced topsoil/subsoils.
Citation: MRP, Volume 1, Chapter 2, Section 231.300 (topsoil sampling), Section 232.500 (subsoil sampling), and Appendix 2-1, pg. 4-2.
Operator Comments

Topsoil Stockpile:	#1 25,289 cyds #2 137,021 cyds #3 Consumed in 2013 #4 33,070 cyds #5 Consumed in 2015	Subsoil Stockpiles:	#1 73,070 cyds #2 174,675 cyds #3 Consumed in 2014
Livehaul Topsoil:	25,211 cyds	Livehaul Subsoil:	53,260 cyds

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: PREDATOR CONTROL
Objective: To effectively manage predators and increase the population of birds at the Alton lek.
Frequency: Annually
Status: Ongoing
Reports: Annual summary of work completed to date. Include data, locations, summary and analysis of predator control efforts. Please include any reports from USDA Wildlife Services.
Citation: MRP, Volume 2, Chapter 3, Appendix 3-5 page 26
Operator Comments

ACD, through a contract with Wildlife Servicies effective from May 17, 2011 through May 16, 2016, continued it's predator control program in 2015. Wildlife Servicies annual summary of this work is included in the report titled "Greater Sage-grouse Population Monitoring and Habitat Improvement, Alton - Sink Valley, Utah, November 24, 2015"

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: WILDLIFE AWARENESS PROGRAM
Objective: To provide protection for the resident wildlife and minimize impacts (collisions) from vehicles and heavy equipment.
Frequency: Continuous and as needed for new employees throughout the life of the mine.
Status: Ongoing
Reports: Annual, log of employee awareness meetings, road kills for deer, elk, sage grouse and domestic livestock from the mine site to highway 89.
Citation: MRP, Volume 2, Chapter 3, pages 3-54, 55.

Operator Comments

Wildlife Awarness training was held on January 31, 2015 for all employees. Instruction was given by Kirk Nicholes. Attendance sheet and slides from the training presentation have been included with this submittal. No new employees were hired during 2015. There were no employee road kills for deer, elk, sage-grouse or domestic livestock from the mine site to highway 89.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: GPS Monitoring of Sage-grouse
Objective: Monitor impacts from mining activities, recruitment, mortality and behavior patterns of the sage-grouse in the Alton and associated leks in Sink Valley. Develop management strategies for habitat restoration and population expansion.
Frequency: As required by USU sage-grouse research contract.
Status: A revised monitoring program needs to be completed prior to conducting mining activities in the proposed North Lease area.
Reports: As required by USU contract.
Citation: Appendix 3-8

Operator Comments

In October and November of 2014, ACD was allowed to collar Sage-grouse in the Alton / Sink Valley area again. The report generated from data collected from these collars is included in the report titled "Annual Report of GPS Satellite Telemetry, February 22, 2016". This report is provided with this DOGM Annual Report.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SAGE GROUSE CONSERVATION AREA
Objective: To protect and develop a 72 acre parcel of sage grouse habitat.
Frequency: Annual summary until complete
Status: Ongoing. The remaining acreage was to be treated in 2015.
Reports: Annual summary of work in annual sage-grouse report.
Citation: MRP, Volume 2, Chapter 3, Appendix 3-5, page 13.

Operator Comments

In the Fall of 2015, the remaining 27 acres of mountain big and basin big sagebrush located in the Conservation Area were treated to reduce sagebrush cover and open sites for intercanopy plant establishment. Decadent sagebrush areas were disked for a post-treatment target cover of 15%. After disking this area, a seed mix consisting of perennial grasses and forbs was brodcast using a ATV mounted spreader. A sumary of this work is included in the report "Greater Sage-grouse Population Monitoring and Habitat Improvement, Alton - Sink Valley, Utah, February 24, 2015."

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: RECLAMATION TIMETABLE
Objective: To ensure timely reclamation
Frequency: Acreage to be reclaimed annually is itemized and shown on Dwg. 5-38
Status: The report needs to be updated to reflect the correct information.
Reports: Annual summary of work completed to date.
Citation: MRP, Volume 2, Chapter 3, page 56, Chapter 5, page 5-59.

Operator Comments

An updated drawing 5-38 has been submitted for inclusion into the MRP with this Annual Report.

Reviewer Comments ☐ Did Not Meet Requirements ☐ Met Requirements

Title: SAMPLING FINAL GRADED, TOPSOILED SURFACE
Objective: To ensure a fertile growth medium.
Frequency: One composite sample every 2-5 acres based on variability.
Status: Contemporaneous with reclamation.
Reports: Laboratory analysis of available phosphorus, soluble potassium and nitrate-nitrogen.
Citation: MRP, Volume 1, Chapter 2, Section 231.300 and 243.

Operator Comments

Fifteen Topsoil samples were collected and analyized in 2015 for topsoil placed in reclaimed areas. They have been included with the Annual Report along with an updated Figure 1 depicting sample locations.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: Evaluate Mine Discharges for Impacts to Kanab Creek AVF
Objective: To evaluate discharges that may impact the designated AVF on Kanab Creek.
Frequency: Annually
Status: Ongoing
Reports: An annual finding should be placed in the Annual Report during operation and reclamation of any adverse impacts to the channel, dimunition of water quality and impacts to wildlife
Citation: Coal Hollow Permit, Attachment A, Special Condition #5
Operator Comments

A copy of the findings as evavuated by Eric Petersen of Petersen Hydroligic, LLC dated Mach 28, 2016 has been included with the Anual Report.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: RESTORATION OF LEK
Objective: To restore the original lek at the end of mining activities.
Frequency: Once
Status: Restoration of the lek will begin at final reclamation.
Reports: Annual summary of work completed after reclamation begins.
Citation: MRP, Volume 2, Chapter 3, Appendix 3-5, page 12.

Operator Comments

Final reclamation of the area of the original lek was completed some of which has one growing season, the reminder has been seeded, but the growing season has not began. Several observatios have been made of the Sage-grouse utilizing this and various other areas of reclamation around the mine site during the 2016 lekking season.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SAGE GROUSE MONITORING
Objective: To monitor the population densities at the Hoyt's ranch and Alton leks and migration patterns in between as long as the birds are living.
Frequency: Annual summary
Status: Ongoing, meet with the Division and other interested parties each October to discuss the sage grouse monitoring data collected that year and to provide recommendations for monitoring in the upcoming year.
Reports: Annual Summary of work completed.
Citation: MRP, Volume 2, Chapter 3, Appendix 3-5, page 14, 15, and 20.

Operator Comments

Updates of DWR's Lek Counts have been provided in the report titled "Greater Sage-grouse Population Monitoring and Habitat Improvement Alton - Sink Valley, Utah November 24, 2015" in Section 1.4.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: Dames Lease Annual Vegetation Survey
Objective: To determine if mining or mining related activities are having an impact on the wet meadow habitat
Frequency: Annual
Status: Sampled in 2015
Reports: Annual Summaryiinlcuding species composition, percent cover and plant density
Citation:

Operator Comments

Although mining (highwall mining) did not occur within the Dame Lease , a vegetation survey was completed on Oct. 3, 2015. Data results including species composition, percent cover and plant density are provided in Section 2.3 of the "Greater Sage-grouse Population Monitoring and Habitat Improvment, Alton - Sink Valley, Utah, November 24, 2015". Results indicate that a shift in plant species and composition was not evident based this vegitation sampling. Annual monitoring will continue in 2016.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

Title: REVIEW AND EVALUATE THE FACILITIES SPILL PLAN (APPENDIX 7-5)
Objective: To ensure the accuracy of the Facilities Spill Plan and to determine if additional or more effective spill prevention and control technology that is applicable to the facility must be added.
Frequency: At least once every five years.
Status: Last review 2015, next review due 2019.
Reports: Completed Plan Review form submitted for incorporation into Appendix B of Appendix 7-5.
Citation: MRP, Volume 7, Chapter 7, Appendix 7-5, Section 2.2 PLAN REVIEW, page 2.

OPERATOR COMMENTS (OPTIONAL)	REVIEWER COMMENTS

REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Reviewer Comments

MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
MSHA Surface Mine Map 20160101		☒	☐	☐	☒
MSHA UGround Map 20160101		☒	☐	☐	☒
MRP Chapter 5, Drawing 5-38		☒	☐	☐	☒
		☐	☐	☐	☐
		☐	☐	☐	☐

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Excess Spoil Pile or Refuse Pile Identification	**Pile Name**	Coal Hollow Mine Excess Spoil Pile	
	Pile Number		
	MSHA Mine ID Number	42-02519	
Inspection Date	10-Feb-15		
Inspected By	Dan W. Guy, P.E.		
Reason for Inspection - Quarterly Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		**Attachments to Report? No**	

Field Evaluation

No significant problems with the waste site were observed during the 1st Quarter Of 2015.

1. **Foundation preparation, including the removal of all organic material and topsoil.**

Based on observation and discussion with the operator, the foundation preparation has been completed according to the approved plan.

2 **Placement of underdrains and protective filter systems.**

N/A - There are no underdrains or other filter systems associated with this pile.

3. **Installation of final surface drainage systems.**

The present surface drainage and diversion systems are operational and final. The pile has reached the elevation to allow positive drainage to Ditch 4 which flows to Sediment Pond No 3.

4. **Placement and compaction of fill materials.**

Placement and compaction of fill material appears to be in accordance with the approved plan, based on evaluation of compaction test results, site observation and discussion with the operator. Compaction tests ran on new spoils on 05/13/13 show compaction ranged from 88% to 98%. No new tests have been run since that time, since very little new spoil has been placed on the pile.

5. **Final grading and revegetation of fill.**

The fill is in the early stage of development. The north, west and south outslopes of the pile have been been final graded to a slope of 3H:1V. A berm has been placed on the south edge to control runoff. Seeding is completed on 15.2 acres. Approximately 22.0 additional acres have been sloped and subsoiled.

Appearances of instability, structural weakness, and other hazardous conditions.

N/A - There were no appearances of instability, structural weakness or other hazardous conditions noted during this inspection. Latest compaction tests show adequate compaction, with results ranging from 88% to 98%. The pile is being constructed at different levels to aid in the compaction. No new spoils have been added and no new compaction tests were done this quarter.

7. **Other Comments. Describe any changes in geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and Minimum lifts of materials placed in the pile, elevations of active benches, total and remaining capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.**

As noted above, the pile is in the early stage of development. The pile appears stable and is being constructed in accordance with the approved plan.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of earth and rock fills: I am qualified and authorized in the State of Utah to inspect and certify the condition and apperance of earth and rock fills in accordance with the certified and approved designs for this structure: that the fill structure has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, Registered Professional Engineer, State of Utah

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1	
	Impoundment Number	Pond 1	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**10-Feb-15**	
Inspected By	Dan W. Guy, P. E. (Accompanied by Joe Kumpe)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Annual Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

None Noted.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.** Sediment Storage Capacity: 60 % Elevation: 6912.26 (1.26') 100% Elevation: 6913.03 (2.03') The pond contained approximately 5' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6911.5.
	3. **Principle and emergency spillway elevations.** Principle and Emergency Spillway Elevation: 6920 feet (The outlet structure for Pond 1 serves as both the Principle and Emergency Spillways) Total volume of pond at Spillway: 3.1 Acre-Feet (Elev. 6920.00') Required runoff storage: 2.57 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6916.5. Rip-rap has been placed on both inlets. The outlet culvert, which serves as both principle and emergency outlet, is open and functional. There is no discharge from the pond. A berm has been installed on the upper side of the pond. There is some sediment accumulation near the inlets.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change noted since the last inspection was the increase in the water level.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1B	
	Impoundment Number	Pond 1B	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**10-Feb-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Annual Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6900.00 (6.00')

100% Elevation: 6902.08 (8.08')

The pond contained approximately 6.0' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6894.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6906 feet (The outlet structure for Pond 1B serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 0.894 Acre-Feet (Elev. 6906.45)

Required runoff storage: 0.50 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6900.0. There are 2 inlets to the pond - both have been rip-rapped. Both inlets appear stable and are functioning properly. The outlet is also open and functional. There is some sediment accumulation in the NW inlet.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change to the pond since the last inspection is the increase in the water level.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 2	
	Impoundment Number	Pond 2	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**10-Feb-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Annual Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6894.07 (3.07')

100% Elevation: 6895.72 (4.72')

The pond contained approximately 6.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6890.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6900 feet (The outlet structure for Pond 2 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 2.675 Acre-Feet (Elev. 6901.09')

Required runoff storage: 1.70 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6897.0. The single pond inlet is rip-rapped and has minor sediment accumulation. The outlet is open and functional. No other problems were noted during the inspection.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change in the pond since the last inspection is the increase in water level. At the time of the inspection, the water truck was being filled by pumping from the pond.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 3	
	Impoundment Number	Pond 3	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**10-Feb-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by B. Kirk Nicholes.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Annual Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6807.80 (7.74')

100% Elevation: 6808.50 (8.44')

The pond contained approximately 7.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate average sediment elevation is 6800.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6811 feet (The outlet structure for Pond 3 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 12.96 Acre-Feet (Elev. 6811.00')

Required runoff storage: 6.72 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The water level is approximately at elevation 6807.5. Permanent Inlet Ditch 4 has been installed and is functional. The open-channel spillway has been rebuilt and rip-rapped.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the decrease in the water level.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 02/10/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 4	
	Impoundment Number	Pond 4	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**10-Feb-15**	
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Annual Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6832.0 (3.78')

100% Elevation: 6833.0 (4.82')

The pond contained approximately 3.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The bottom of pond and approximate sediment elevation is 6828.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6834 feet (The outlet structure for Pond 4 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 5.50 Acre-Feet (Elev. 6834.00')

Required runoff storage: 2.10 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The average water elevation is approximately 6831.5. The open-channel spillway is in place and rip-rapped. No discharge.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the increase in the water level.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
2/10/15
STATE OF UTAH

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 2/10/15

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
Telephone (801) 538-5340 facsimile (801) 359 3940 TTY (801) 538-7458
www.ogm.utah.gov

UTAH DNR OIL, GAS & MINING

Quarterly Inspection Form - Refuse Disposal Areas

(please provide to DOGM promptly after inspection is complete)

Permit Number :	C/025/0005	Inspection Date :	06/24/15
Mine Name :	Coal Hollow Project	Quarter / Year :	2nd / 2015
Mine Operator (Permittee) :	Alton Coal Development	Inspector Name :	Dan W. Guy
MSHA ID # :	42-02519	Inspector Signature :	Dan W. Guy

Facility Name / Location / Address : 2060 South Alton Road, Alton, UT 84710

1. Describe any changes in the geometry of the structure (as well as instrumentation, if any, used to monitor changes):
The Temporary Excess Spoil has been removed to backfill pit.

2. Lift Height / Thickness Avg 4.0' Maximum 4.0' # ____ Elevation of Active Benches : 6918 , _____ , _____
3. Vertical Angle of Outslope(s) / Location(s) where measured 3H:1V Avg. /No. Slope / So. Slope / _____
4. Total storage capacity: 8,600,000 cy Remaining storage capacity 5,755,000 cy Volume placed during year : 0
5. Describe foundation preparation (including removal of vegetation, stumps, topsoil, and all other organic material) :
Topsoil and subsoil removed and stored on site.

6. Describe placement and compaction of fill materials (including an explanation of how compaction is confirmed) :
Dumped by truck / Pushed by dozer / Compaction primarily from large trucks / Tested with nuclear density unit.

7. Is there any evidence of fires or burning on the structure ? (If YES, specify extent, location, and abatement/extinguishment of such fires) :
None

8. Describe placement of under drains, protective filter systems, and final surface drainage systems (report any seepage, including location, color, flow) :
None

9. Describe any appearances of instability, structural weakness, or other hazardous conditions :
No instability noted. / Minor erosion on slopes in subsoil.

10. Please provide any other information pertaining to the stability of the structure (attach any photos taken during the inspection)

	YES	NO	
Are there cracks or scarps in crest ?		✓	
Is there any detectable sloughing or bulging ?		✓	
Do slope erosion problems exist ?	✓		Minor, as noted above.
Cracks or scarps in slope ?		✓	
Surface movements? (valley bottom, hillsides)		✓	
Erosion of Toe ?	✓		Minor on south. Ditch filled with dead trees to reduce erosion.
Water impounded by structure ?		✓	
Are diversion ditches stable?	✓		
Is drainage positive ?	✓		

Could failure of structure create an impoundment (provide description) ? Possible small impoundment in swale below. Any impoundment wo not present a major safety hazard due to location.

Are design standards established within the mining and reclamation plan for the disposal facility being met ?
Yes

Proctor Determination : 88% minimum - 98% maximum compaction as determined by nuclear density tests on 5/13/13.

I hereby certify that: I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with structure; that the fill structure has been maintained in accordance with the approved design and meets or exceeds the minimum design requirements under all applicable federal, state, and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability. structural weakness or other hazardous conditions of the structure affecting stability.

(place P.E. certification below)

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
6/24/15
STATE OF UTAH

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 06/24/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1	
	Impoundment Number	Pond 1	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**24-Jun-15**	
Inspected By	Dan W. Guy, P. E. (Accompanied by B. Kirk Nicholes.)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

Some erosion inside pond on the north bank where berm has been removed.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.** Sediment Storage Capacity: 60 % Elevation: 6912.26 (1.26') 100% Elevation: 6913.03 (2.03') The pond contained approximately 2' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6912.0.
	3. **Principle and emergency spillway elevations.** Principle and Emergency Spillway Elevation: 6920 feet (The outlet structure for Pond 1 serves as both the Principle and Emergency Spillways) Total volume of pond at Spillway: 3.1 Acre-Feet (Elev. 6920.00') Required runoff storage: 2.57 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6914.0. Rip-rap has been placed on both inlets. The outlet culvert, which serves as both principle and emergency outlet, is open and functional. There is no discharge from the pond. A berm has been removed from the upper side of the pond, allowing previously diverted runoff to run over the inside slope and cause some erosion with the pond. It is planned to place a new ditch along the upper side of the pond to divert all inflow to the west side away from the outlet area. The sediment accumulation near the eastern inlet has been cleaned out.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change noted since the last inspection was the decrease in the water level and the cleanout of sediment noted above.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 6/24/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 06/24/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1B	
	Impoundment Number	Pond 1B	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**24-Jun-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by B. Kirk Nicholes.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6900.00 (6.00')

100% Elevation: 6902.08 (8.08')

The pond contained approximately 3.0' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6896.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6906 feet (The outlet structure for Pond 1B serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 0.894 Acre-Feet (Elev. 6906.45)

Required runoff storage: 0.50 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6899.0. There are 2 inlets to the pond - both have been rip-rapped. Both inlets appear stable and are functioning properly. The outlet is also open and functional. There is some additional sediment accumulation in the NW inlet.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change to the pond since the last inspection is the decrease in the water level and additional sediment as noted above.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 6/24/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 06/24/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 2	
	Impoundment Number	Pond 2	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**24-Jun-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by B. Kirk Nicholes.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6894.07 (3.07')

100% Elevation: 6895.72 (4.72')

The pond contained approximately 1.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6890.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6900 feet (The outlet structure for Pond 2 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 2.675 Acre-Feet (Elev. 6901.09')

Required runoff storage: 1.70 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6892.0. The single pond inlet is rip-rapped and has minor sediment accumulation. The outlet is open and functional. No other problems were noted during the inspection.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change in the pond since the last inspection is the decrease in water level.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By: Dan W. Guy, P.E.
	(Full Name and Title)
	Signature: Dan W. Guy Date: 6/24/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 06/24/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 3	
	Impoundment Number	Pond 3	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**24-Jun-15**	
Inspected By	Dan W. Guy, P.E. (Accompanied by B. Kirk Nicholes.)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

the NW corner above the high water or spillway level. It doesn't appear to present a hazard to the dam.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6807.80 (7.74')

100% Elevation: 6808.50 (8.44')

The pond contained approximately 5.0' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate average sediment elevation is 6800.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6811 feet (The outlet structure for Pond 3 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 12.96 Acre-Feet (Elev. 6811.00')

Required runoff storage: 6.72 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The water level is approximately at elevation 6805.0. Permanent Inlet Ditch 4 has been installed and is functional. The open-channel spillway has been rebuilt and rip-rapped.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the decrease in the water level and the small erosion scarp noted above.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 6/24/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 06/24/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 4	
	Impoundment Number	Pond 4	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**24-Jun-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by B. Kirk Nicholes.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6832.0 (3.78')

100% Elevation: 6833.0 (4.82')

The pond contained approximately 2.0' of water on the west end. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The bottom of pond and approximate sediment elevation is 6828.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6834 feet (The outlet structure for Pond 4 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 5.50 Acre-Feet (Elev. 6834.00')

Required runoff storage: 2.10 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The average water elevation is approximately 6830.0. The open-channel spillway is in place and rip-rapped. No discharge.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the decrease in the water level.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 6/24/15

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
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www.ogm.utah.gov

UTAH DNR OIL, GAS & MINING

Quarterly Inspection Form - Refuse Disposal Areas

(please provide to DOGM promptly after inspection is complete)

Permit Number : C/025/0005
Mine Name : Coal Hollow Project
Mine Operator (Permittee) : Alton Coal Development
MSHA ID # : 42-02519
Facility Name / Location / Address : 2060 South Alton Road, Alton, UT 84710

Inspection Date : 08/20/15
Quarter / Year : 3rd / 2015
Inspector Name : Dan W. Guy
Inspector Signature : Dan W. Guy

1. Describe any changes in the geometry of the structure (as well as instrumentation, if any, used to monitor changes):
The Temporary Excess Spoil has been removed to backfill pit.

2. Lift Height / Thickness Avg 4.0' Maximum 4.0' # ____ Elevation of Active Benches : 6918 , ____ , ____
3. Vertical Angle of Outslope(s) / Location(s) where measured 3H:1V Avg. / No. Slope / So. Slope / ____
4. Total storage capacity: 8,600,000 cy Remaining storage capacity 5,988,000 cy Volume placed during year : 0
5. Describe foundation preparation (including removal of vegetation, stumps, topsoil, and all other organic material) :
Topsoil and subsoil removed and stored on site.

6. Describe placement and compaction of fill materials (including an explanation of how compaction is confirmed) :
Dumped by truck / Pushed by dozer / Compaction primarily from large trucks / Tested with nuclear density unit.

7. Is there any evidence of fires or burning on the structure ? (If YES, specify extent, location, and abatement/extinguishment of such fires) :
None

8. Describe placement of under drains, protective filter systems, and final surface drainage systems (report any seepage, including location, color, flow) :
None

9. Describe any appearances of instability, structural weakness, or other hazardous conditions :
No instability noted. / Minor erosion on slopes in subsoil.

10. Please provide any other information pertaining to the stability of the structure (attach any photos taken during the inspection)

	YES	NO	
Are there cracks or scarps in crest ?		✓	
Is there any detectable sloughing or bulging ?		✓	
Do slope erosion problems exist ?	✓		Minor, as noted above.
Cracks or scarps in slope ?		✓	
Surface movements? (valley bottom, hillsides)		✓	
Erosion of Toe ?	✓		Minor on south. Ditch filled with dead trees to reduce erosion.
Water impounded by structure ?		✓	
Are diversion ditches stable?	✓		
Is drainage positive ?	✓		

Could failure of structure create an impoundment (provide description) ? Possible small impoundment in swale below. Any impoundment would not present a major safety hazard due to location.

Are design standards established within the mining and reclamation plan for the disposal facility being met ?
Yes

Proctor Determination : 88% minimum - 98% maximum compaction as determined by nuclear density tests on 5/13/13.

I hereby certify that: I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with structure; that the fill structure has been maintained in accordance with the approved design and meets or exceeds the minimum design requirements under all applicable federal, state, and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability. structural weakness or other hazardous conditions of the structure affecting stability.

(place P.E. certification below)

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
5/20/15
STATE OF UTAH

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 09/17/15**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1	
	Impoundment Number	Pond 1	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**17-Sep-15**	
Inspected By	B. Kirk Nicholes	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

Some erosion inside pond on the north bank where berm has been removed.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.** Sediment Storage Capacity: 60 % Elevation: 1.26' 100% Elevation: 2.03' The pond was discharging at time of inspection, water elevation 6920.0'. The sediment marker is in place. Sediment has formed a delta at the south inlet and the level is estimated to be at approximatly the 60% elevation of 6912.0'.
	3. **Principle and emergency spillway elevations.** Principle and Emergency Spillway Elevation: 6920 feet (The outlet structure for Pond 1 serves as both the Principle and Emergency Spillways) Total volume of pond at Spillway: 3.1 Acre-Feet (Elev. 6920.00') Required runoff storage: 2.57 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslooes of embankments, etc.

The water level is at the 6920.0' elevation and is discharging at time of inspection, Rip-rap has been placed on both inlets. The outlet culvert, which serves as both principle and emergency outlet, is open and functional. Aberm has been removed from the upper side of the pond, allowing previously diverted runnoff to run over the inside slope and cause som erosion within the pond. Concrete barriers have been installed inplace of this berm for safety. It is planned to place a new ditch along the upper side of the pond to divert all inflow to the west side away from the outlet area upon DOGM's approval of the design. The discharge was sampled for UPDES parameters. Field pH was 7.9 and flow 7.2 gpm.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only noted changes in the structure during the 3rd quarter, other than those listed in No.4 above, was an increase in the depth of the water due to a recent storm event and an increase in sediment level listed in No. 2 above.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By:
	(Full Name and Title)
	Signature: B. Kid Nikolu Date: 9/17/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 09/17/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1B	
	Impoundment Number	Pond 1B	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**17-Sep-15**	
Inspected By	B. Kirk Nicholes	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6900.00 (6.00')

100% Elevation: 6902.08 (8.08')

The pond contained approximately 5.0' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6897.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6906 feet (The outlet structure for Pond 1B serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 0.894 Acre-Feet (Elev. 6906.45)

Required runoff storage: 0.50 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6902.0. There are 2 inlets to the pond - both have been rip-rapped. Both inlets appear stable and are functioning properly. The outlet is also open and functional. There is some additional sediment accumulation in the NW inlet.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change to the pond since the last inspection is an increase in the water level and additional sediment as noted above.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By:

(Full Name and Title)

Signature: B. Kitchens Date: 9/17/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 09/17/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 2	
	Impoundment Number	Pond 2	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**17-Sep-15**
Inspected By	B. Kirk Nicholes
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.** Sediment Storage Capacity: 60 % Elevation: 6894.07 (3.07') 100% Elevation: 6895.72 (4.72') The pond contained approximately 6.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6891.
	3. **Principle and emergency spillway elevations.** Principle and Emergency Spillway Elevation: 6900 feet (The outlet structure for Pond 2 serves as both the Principle and Emergency Spillways) Total volume of pond at Spillway: 2.675 Acre-Feet (Elev. 6901.09') Required runoff storage: 1.70 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6897.5. The single pond inlet is rip-rapped and has minor sediment accumulation. The outlet is open and functional. No other problems were noted during the inspection.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change in the pond since the last inspection is the increase in water level from recent storms.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By:
	(Full Name and Title)
	Signature: D. Kor [illegible] Date: 9/17/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 09/17/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 3	
	Impoundment Number	Pond 3	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**17-Sep-15**	
Inspected By	B. Kirk Nicholes	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection. There is a small erosion scarp on the inside top of the dam on the NW corner above the high water or spillway level. It doesn't appear to present a hazard to the dam.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6807.80 (7.74')

100% Elevation: 6808.50 (8.44')

The pond was discharging at time of inspections. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate average sediment elevation is 6801.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6811 feet (The outlet structure for Pond 3 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 12.96 Acre-Feet (Elev. 6811.00')

Required runoff storage: 6.72 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The water level is approximately at elevation 6811.0 and discharging at time of inspection. Permanent Inlet Ditch 4 has been rip-rapped and is functional. The open-channel spillway has been rebuilt and rip-rapped. The discharge was sampled for UPDES parameters. Field pH was 8.4 and flow 20 gpm.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the increase in the water level and the small erosion scarp noted above.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By:
	(Full Name and Title)
	Signature: B. Kolthoff Date: 9/17/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 09/17/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 4	
	Impoundment Number	Pond 4	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**17-Sep-15**
Inspected By	B. Kirk Nicholes
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6832.0 (3.78')

100% Elevation: 6833.0 (4.82')

The pond contained average 3.0' of water . The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The bottom of pond and approximate sediment elevation is 6828.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6834 feet (The outlet structure for Pond 4 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 5.50 Acre-Feet (Elev. 6834.00')

Required runoff storage: 2.10 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The average water elevation is approximately 6831.5. The open-channel spillway is in place and rip-rapped. No discharge.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the increase in the water level from recent storm events.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By:

(Full Name and Title)

Signature: B. Kell Matthews Date: 9/17/15

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
Telephone (801) 538-5340 facsimile (801) 359 3940 TTY (801) 538-7458
www.ogm.utah.gov

UTAH DNR OIL, GAS & MINING

Quarterly Inspection Form - Refuse Disposal Areas

(please provide to DOGM promptly after inspection is complete)

Permit Number :	C/025/0005	Inspection Date :	12/09/15
Mine Name :	Coal Hollow Project	Quarter / Year :	4th / 2015
Mine Operator (Permittee) :	Alton Coal Development	Inspector Name :	Dan W. Guy
MSHA ID # :	42-02519	Inspector Signature	Dan W. Guy

Facility Name / Location / Address : 2060 South Alton Road, Alton, UT 84710

1. Describe any changes in the geometry of the structure (as well as instrumentation, if any, used to monitor changes):
Removing spoil to Highwall Miner Trench 2. Sub Soil has been pushed to the south.

2. Lift Height / Thickness Avg 4.0' Maximum 4.0' # ____ Elevation of Active Benches : 6918 , _____ , _____
3. Vertical Angle of Outslope(s) / Location(s) where measured 3H:1V Avg. /No. Slope / So. Slope / _____
4. Total storage capacity: 8,600,000 cy Remaining storage capacity 7,170,000 cy Volume placed during year : 0
5. Describe foundation preparation (including removal of vegetation, stumps, topsoil, and all other organic material) :
Topsoil and subsoil removed and stored on site.

6. Describe placement and compaction of fill materials (including an explanation of how compaction is confirmed) :
Dumped by truck / Pushed by dozer / Compaction primarily from large trucks / Tested with nuclear density unit.

7. Is there any evidence of fires or burning on the structure ? (If YES, specify extent, location, and abatement/extinguishment of such fires) :
None

8. Describe placement of under drains, protective filter systems, and final surface drainage systems (report any seepage, including location, color, flow) :
None

9. Describe any appearances of instability, structural weakness, or other hazardous conditions :
No instability noted.

10. Please provide any other information pertaining to the stability of the structure (attach any photos taken during the inspection)

Are there cracks or scarps in crest ?	YES ☐	NO ☑
Is there any detectable sloughing or bulging ?	YES ☐	NO ☑
Do slope erosion problems exist ?	YES ☐	NO ☑
Cracks or scarps in slope ?	YES ☐	NO ☑
Surface movements? (valley bottom, hillsides)	YES ☐	NO ☑
Erosion of Toe ?	YES ☐	NO ☑
Water impounded by structure ?	YES ☐	NO ☑
Are diversion ditches stable?	YES ☑	NO ☐
Is drainage positive ?	YES ☑	NO ☐

Could failure of structure create an impoundment (provide description) ? Possible small impoundment in swale below. Any impoundment would not present a major safety hazard due to location.

Are design standards established within the mining and reclamation plan for the disposal facility being met ?
Yes

Proctor Determination : 88% minimum - 98% maximum compaction as determined by nuclear density tests on 5/13/13.

I hereby certify that: I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with structure; that the fill structure has been maintained in accordance with the approved design and meets or exceeds the minimum design requirements under all applicable federal, state, and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability. structural weakness or other hazardous conditions of the structure affecting stability.

(place P.E. certification below)

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
12/9/15
STATE OF UTAH

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 12/09/15**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1	
	Impoundment Number	Pond 1	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**9-Dec-15**	
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - None Noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 1.26'

100% Elevation: 2.03'

The pond contained approximately 2' of water (frozen). The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The northeast inlet has been cleaned, and the pipe is in the trench to the northwest inlet. The work to channel all runoff to the single northwest inlet is nearly finished. The sediment level is estimated to be at approximately elevation 6912.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6920 feet (The outlet structure for Pond 1 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 3.1 Acre-Feet (Elev. 6920.00')

Required runoff storage: 2.57 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslooes of embankments, etc.

The water level is approximately at elevation 6914.0. The pond has been pumped down since the last inspection, and the sediment accumulation in the northeast inlet has been removed. The work is nearly completed to route all of the runoff to a single inlet at the northwest corner of the pond. There was no discharge from the pond.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only noted changes in the structure during the 4th quarter, other than those listed in No.4 above, was a decrease in the depth of the water and the pond was frozen.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 12/9/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 12/09/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 1B	
	Impoundment Number	Pond 1B	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION		
Inspection Date	**9-Dec-15**	
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)	
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)		Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6900.00 (6.00')

100% Elevation: 6902.08 (8.08')

The pond contained approximately 6.0' of water. The sediment marker is in place. Field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6897.0.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6906 feet (The outlet structure for Pond 1B serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 0.894 Acre-Feet (Elev. 6906.45)

Required runoff storage: 0.50 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6903.0. There are 2 inlets to the pond - both have been rip-rapped. Both inlets appear stable and are functioning properly. The outlet is also open and functional. There is some additional sediment accumulation in the NW inlet.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change to the pond since the last inspection is a slight increase in the water level and the pond was frozen.

Certification Statement

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Dan W. Guy, P.E.

(Full Name and Title)

Signature: Dan W. Guy Date: 12/9/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 12/09/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 2	
	Impoundment Number	Pond 2	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**9-Dec-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

N/A - No appearance of any instability, structural weakness or other hazardous condition was noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6894.07 (3.07')

100% Elevation: 6895.72 (4.72')

The pond contained approximately 2.0' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate sediment elevation is 6891.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6900 feet (The outlet structure for Pond 2 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 2.675 Acre-Feet (Elev. 6901.09')

Required runoff storage: 1.70 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The water level is approximately at elevation 6893.0. The single pond inlet is rip-rapped and has some sediment accumulation. The outlet is open and functional. No other problems were noted during the inspection.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only changes in the pond since the last inspection was the decrease in water level and the pond was frozen.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By: Dan W. Guy, P.E.
	(Full Name and Title)
	Signature: Dan W. Guy Date: 12/9/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 12/09/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 3	
	Impoundment Number	Pond 3	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**9-Dec-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability or hazardous conditions were noted.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6807.80 (7.74')

100% Elevation: 6808.50 (8.44')

The pond contained approximately 7.5' of water. The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The approximate average sediment elevation is 6801.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6811 feet (The outlet structure for Pond 3 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 12.96 Acre-Feet (Elev. 6811.00')

Required runoff storage: 6.72 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The water level is approximately at elevation 6808.5. Permanent Inlet Ditch 4 has been installed and is functional. The open-channel spillway has been rebuilt and rip-rapped. There is some minor sediment accumulation at the northwest inlet, and some repair work is continuing on the inlet.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the decrease in the water level and the pond is now frozen.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By: Dan W. Guy, P.E.
	(Full Name and Title)
	Signature: Dan W. Guy Date: 12/9/15

IMPOUNDMENT INSPECTION AND REPORT			
Permit Number	C/025/0005	**Report Date 12/09/2015**	
Mine Name	Coal Hollow Mine		
Company Name	Alton Coal Development, LLC		
Impoundment Identification	**Impoundment Name**	Pond 4	
	Impoundment Number	Pond 4	
	MSHA Mine ID Number	42-02519	

IMPOUNDMENT INSPECTION	
Inspection Date	**9-Dec-15**
Inspected By	Dan W. Guy, P.E. (Accompanied by Joe Kumpe.)
Reason for Inspection (Annual, Quarterly or Other Periodic Inspections, Critical Installation, or Completion of Construction)	Quarterly Inspection.

1. **Describe any appearance of any instability, structural weakness, or any other hazardous condition.**

No instability of the embankment or hazardous condition was noted during the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. **Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.**

Sediment Storage Capacity:

60 % Elevation: 6832.0 (3.78')

100% Elevation: 6833.0 (4.82')

The pond contained approximately 2.5' of water . The sediment marker is in place, and field observation shows the sediment level to be well below the cleanout elevation. The bottom of pond and approximate sediment elevation is 6828.5.

3. **Principle and emergency spillway elevations.**

Principle and Emergency Spillway Elevation: 6834 feet (The outlet structure for Pond 4 serves as both the Principle and Emergency Spillways)

Total volume of pond at Spillway: 5.50 Acre-Feet (Elev. 6834.00')

Required runoff storage: 2.10 Acre-Feet

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond decanting, embankment erosion/repairs, monitoring information, vegetation on outlopes of embankments, etc.

The average water elevation is approximately 6831.0. The open-channel spillway is in place and rip-rapped. No discharge.

5. **Field Evaluation.** Describe any changes in the geometry of the structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The only change since the last inspection is the decrease in the water level, and the pond is frozen.

Certification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations: and, that inspections and inspection reports are made by myself, or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.
	By: Dan W. Guy, P.E.
	(Full Name and Title)
	Signature: Dan W. Guy Date: 12/9/15

Greater Sage-grouse Population Monitoring and Habitat Improvement

Alton - Sink Valley, Utah

Progress Report

For

Alton Coal Development, LLC

November 24, 2015

Prepared by
Steven L. Petersen, Ph.D.
Sage-grouse Population and Habitat Consultant

Greater Sage-grouse Population Monitoring and Habitat Improvement Alton – Sink Valley, Utah

Progress Report for Year 2014-2015

Steven L. Petersen, Ph.D., Consultant

Introduction and Background

In the Alton/Sink Valley area, greater sage-grouse (*Centrocercus urophasianus*) occupy areas that have a long and rich history of wildlife habitat use and human-related activity. In these areas, birds occupy sagebrush habitats that are shared with local residents for livestock grazing, farming, development, and hunting. In 2010, Alton Coal Development (ACD) initiated mining operations in Sink Valley, extracting and exporting coal for energy production in Delta, Utah.

Greater sage-grouse conservation in the Alton/Sink Valley area is a priority for ACD which focuses on maintaining healthy sage-grouse population structure and habitat in association with sustainable mining operations. Improvements to sage-grouse habitats have included reclamation of mine-related disturbances, improvement of sagebrush habitats by disking overly dense sagebrush stands, and removing pinyon-juniper trees to extend sagebrush communities and increase habitat use potential (Baruch-Mordo et al. 2013, Braun et al. 1977, Doherty et al. 2008).

A summary of sage-grouse population monitoring and habitat conservation for 2015 are listed. A more detailed description of each item is contained within the report.

1. Observed a minimum average of 40 birds each month during non-breeding months during 2015. This can be compared to 44 and 28 birds observed in 2013 and 2014, respectively.
2. ACD employees made 48 observations of birds within the immediate mining area, including inside mining pits and trenches.
3. DWR reported 12 strutting males in spring 2015. Petersen observed 14 strutting males on March 7th. These counts equal maximum counts reported since 2001.
4. Reclaimed spoils pile exhibited high perennial grass density (29.9 plants/m^2), consisting predominantly of seeded perennial grasses (western and slender wheatgrass). This facilitates early succession of intended sagebrush dominated communities.
5. Analyzed wet meadow plant species composition, frequency, cover and density which demonstrate a similar structure that would be expected for this habitat type (located east of the mine).
6. Wildlife Services removed approximately 250 ravens and 16 coyotes.

7. Completed Sagebrush reduction treatments within the Conservation Area to improve potential nesting and brood rearing habitat.
8. Using a backpack sprayer, applied herbicide to reduce residual rabbitbrush and enhance sagebrush recover in an area that was initially treated in 2012 to improve habitat east of mine in Water Canyon.
9. Cleaned-up PJ slash piles within the 355 acre habitat mitigation area located west of the mine (Sagebrush Flat area).

Report Objectives

The purpose of this report is to present the accomplishments and sage-grouse conservation efforts that were completed during the 2014-2015 period. This includes results of the sage-grouse monitoring program, data collection and assessment of reclamation efforts, additional habitat improvements, and predator control.

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1. Sage-grouse Population Monitoring

1.1 Employee Observations and Sage-grouse Population Monitoring

Throughout the year, all casual (incidental) observations of sage-grouse by mine employees are reported to Kirk Nicholes (ACD Environmental Manager). Observations are reported from all mine employees regardless of work assignments or responsibilities. Examples of reports include birds observed on disturbed sites (scraped or piled soils), along roadsides, or drinking from ponded water within the mine pit (Figure 1). While sighting locations may suggest spatio-temporal seasonal variability in sage-grouse occurrence within the mine footprint, differences in observation may also be due to periodic heightened awareness by employees rather than an increase in bird use activity or density.

Each mine employee is trained to identify sage-grouse and to report any sighting to Kirk when the observation is made. When Kirk receives an employee sighting report, he identifies the coordinate location for that sighting and records this information in a logbook. The results of these sightings are used to assess population patterns and trends within the mining area (Table 1). For each employee report, Kirk maps the coordinate location for that sighting and the time the data was collected. This provides a record of sage-grouse population activity and habitat use within the Alton and Sink Valley areas directly associated with mining activities (Figure 2). To capture long-term employee observation patters, Figure 3 represents all employee sightings over the past 3 years (2013-2015).

Comparing 2014 and 2015, employee observations have remained steady throughout the mining period (Figure 4). There are no detectable fluctuating patterns in mine site use between years and within each year.

Figure 1. Panoramic view of the disturbance created by mining activities. Sage-grouse are often observed within this mining footprint. Each bird observed by employees is reported to the Environmental Manager who records these to identify locations visited by birds and to determine trends of site use over time.

Table 1. Observations of sage-grouse reported by ACD employees between October 2013 and December 2014 within the Alton/Sink Valley region.

Obs ID	Date	Time of observation	Number of birds Observed	Location	State Plane Coordinates
1	Oct. 23, 2014	10:00 am	15	Observed near the cattle guard west of pit #23 on the county road (Larry J.)	353952 E 1763318 N
2	Oct. 28, 2014	8:30 am	4	Birds observed watering in a puddle in the bottom of Pit #10 (Dave S.)	353660 E 1768738 N
3	Oct. 29, 2014	8:35 am	5	Flyover Pit #21 going east to west (Robert H.)	350419 E 1768636 N
4	Oct. 31, 2014	8:15 am	8	Observed in Pit #9 near opening of high-wall trench (Larry J.)	352478 E 1768449 N
5	Oct. 31, 2014	9:45 am	26	Observed at Pond #3 (Larry J.)	353337 E 1765536 N
6	Nov. 4, 2014	7:30 am	6	Observed east of Pit #21 (Dave S.)	350343 E 1768646 N
7	Nov. 5, 2014	7:50 am	5	Observed at topsoil stockpile #4 along haul road (Davey J.)	3534603 E 1768728 N
8	Nov. 11, 2014	8:00 am	1	Observed along ramp into the high-wall trench (Davey J.)	352544 E 1768365 N
9	Nov. 17, 2014	8:40 am	5	Observed at the NE corner of Pit #10 (Kirk N. and Joe K.)	353939 E 1769081 N
10	Nov. 21, 2014	10:00 am	5	Observed at topsoil stockpile #4 (Dave S.)	354636 E 1768648 N
11	Nov. 25, 2014	9:45 am	8	Flyover from north side of spoils pile to the west (Scott C.)	353767 E 1766635 N
12	Dec. 5, 2014	9:45 am	4	Observed east of high-wall trench. One flew toward Sorensen's property (Larry J.)	352108 E 1769043 N
13	Dec. 5, 2014	8:20 am	28	Observed by repeater east of high-wall trench #1 (Clark A.)	351610 E 1769100 N
14	Dec. 5, 2014	11:08 am	17	Observed at the cattle guard on the county road in the sagebrush flat area (Larry J.)	353938 E 1763369 N
15	Dec. 8, 2014	9:00 am	10	Observed at the SE corner of Pit #10 (Dave S.)	352433 E 1769152 N
16	Dec. 11, 2014	8:00 am	1	Observed at the ramp going into the high-wall trench (Davey J.)	352452 E 1768368 N
17	Dec. 12, 2014	8:10 am	10	Observed south of high-wall trench #1 near the drill (Rod R.)	351776 E 1768639 N
18	Dec. 24, 2014	4:45 pm	5	Observed at the elbow on the way home	316664 E 1758415 N
19	Dec. 26, 2014	8:10 am	5	Observed south of high-all trench #1 (Brycn D.)	351768 E 1768804 N
20	Dec. 27, 2014	6:15 pm	1	Flushed while seeding (Kevin H.)	349782 E 1768063 N
21	Feb. 1, 2015	8:27 am	1	Male observed strutting on the new lek (Kirk N.)	351183 E 1764433 N
22	Feb. 7, 2015	9:30 am	8	Males observed on the new lek. Several hens also observed in the area (Devin)	349408 E 1765602 N
23	Feb. 10, 2015	4:00 pm	3	Observed at the elbow on the way home (Brycn D.)	316665 E 1758507 N

Table 1 (*continued*).

Obs ID	Date	Time of observation	# of birds Observed	Location	UTM Coordinates
25	Feb. 18, 2015	9:40 am	1	Observed at the cattle guard located on the north end of the sagebrush flat (Kirk N. and Joe K.)	353989 E 1763379 N
26	Feb. 18, 2015	9:42 am	5	Males strutting on the new lek (Kirk N. and Joe K.)	349304 E 1765626 N
27	Feb. 20, 2015	9:53 am	3	Observed while setting up a pump at pond #3 (Davey J.)	353267 E 1765499 N
28	Mar. 20, 2015	7:00 am	7	Observed on south side of Pit #20 (Adam A.)	349747 E 1768215 N
29	Apr. 28, 2015	12:03 pm	6	Observed while putting in an aerial panel at the southern end of property near Pond #4 (Kirk N. and Joe K.)	348666 E 1769392 N
30	Apr. 29, 2015	10:20 am	1	Female with cps transmitter observed north of topsoil stockpile #4 (Drew C.)	354616 E 1768839 N
31	May, 13, 2015	7:40 am	9	One hen with 8 chicks observed at south straw pile (Riley A.)	350043 E 1768139 N
32	May. 20, 2015	10:30 am	1	One hen observed at the Dave Bonfire site (Joe K.)	352258 E 1769324 N
33	June 1, 2015	4:30 pm	5	One hen and 4 chicks observed at church house SE of high-wall trench #1 (Clark A. and Cody M.)	350995 E 1769023 N
34	June 8, 2015	9:40 am	6	One hen and 5 chicks observed on hill coming out of Pond #3	353414 E 1765847 N
35	June 16, 2015	11:00 am	2	Flyby from topsoil stockpile #4 heading NE (Joe K.)	354687 E 1768751 N
36	June 16, 2015	2:00 pm	3	Hens observed flying toward Pond #3 (Robert H.)	353319 E 1765455 N
37	June 22, 2015	10:45 am	5	One hen and 4 chicks observed at Pugh's Palace (Larry J. and Joe K.)	352484 E 1769574 N
38	June 26, 2015	1:15 pm	5	One hen and 4 chicks observed at Pugh's Palace (Cody M.)	352391 E 1769575 N
39	June 27, 2015	1:30 pm	5	One hen and 4 chicks observed at Pugh's Palace (Cody M.)	352474 E 1769675 N
40	July 30, 2015	---	6	Observed at south side of spoils pile (Riley A.)	352501 E 1766485 N
41	July 31, 2015	10:14 am	3	One hen and 2 chicks at Pugh's Palace	352382 E 1769652 N
42	July 31, 2015	10:38 am	5	Flushed from SP-22 (Kirk N.)	352380 E 1769910 N
43	Aug. 7, 2015	10:47 am	5	Flushed from Dames Gate to'pond (Kirk N.)	350338 E 1769288 N
44	Aug. 10, 2015	7:58 am	5	Observed just north of Well (Riley A.)	353964 E 1770182 N
45	Aug. 20, 2015	11:17 am	6	Flushed at Dames gate (Erik P., Joe K., Keneen S., and Kirk N.)	350418 E 1769288 N
46	Aug 31, 2015	8:00 am	4	Observed at the well (possibly juveniles; Cody M.)	353580 E 1770166 N
47	Sept. 3, 2015	9:00 am	6	Observed at the well (Cody M.)	353591 E 177010 N
48	Sept. 28, 2015	10:20 pm	2	Observed in field south of spoils pile (Scott C.)	352478 E 1706585 N

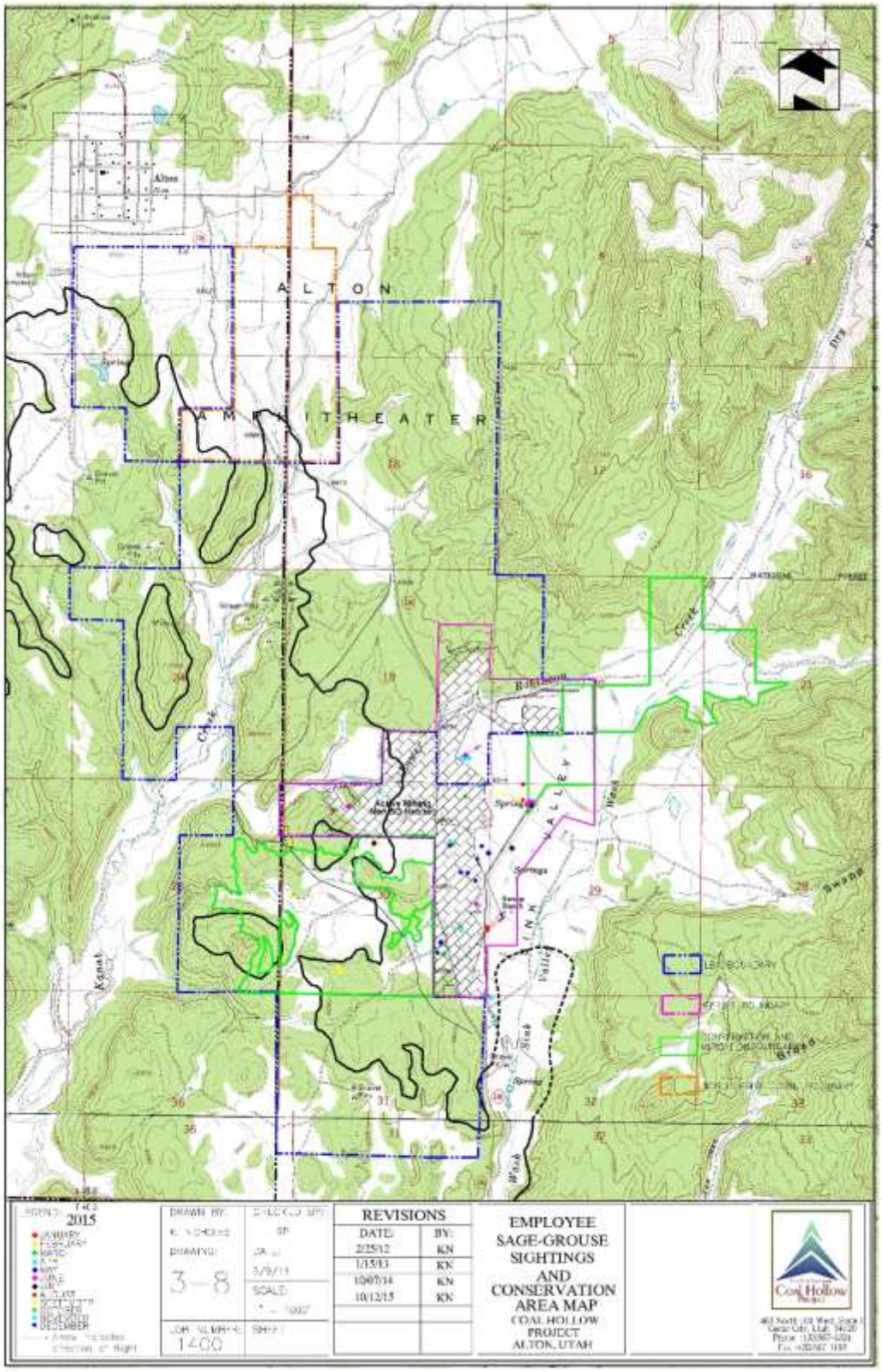

Figure 2. Location of sage-grouse observations made by ACD employees in 2015.

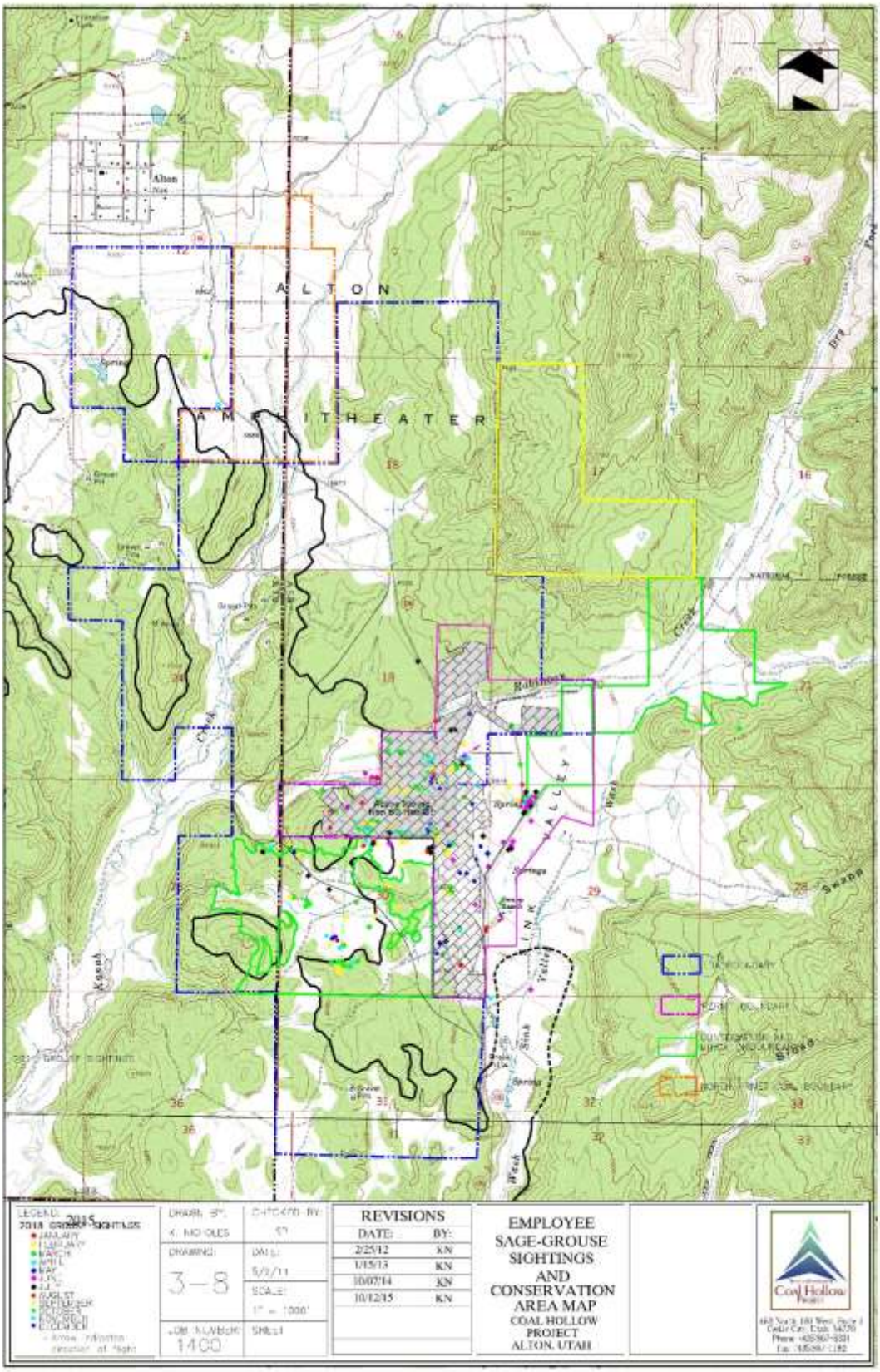

Figure 3. Combined employee sightings from 2013-2015.

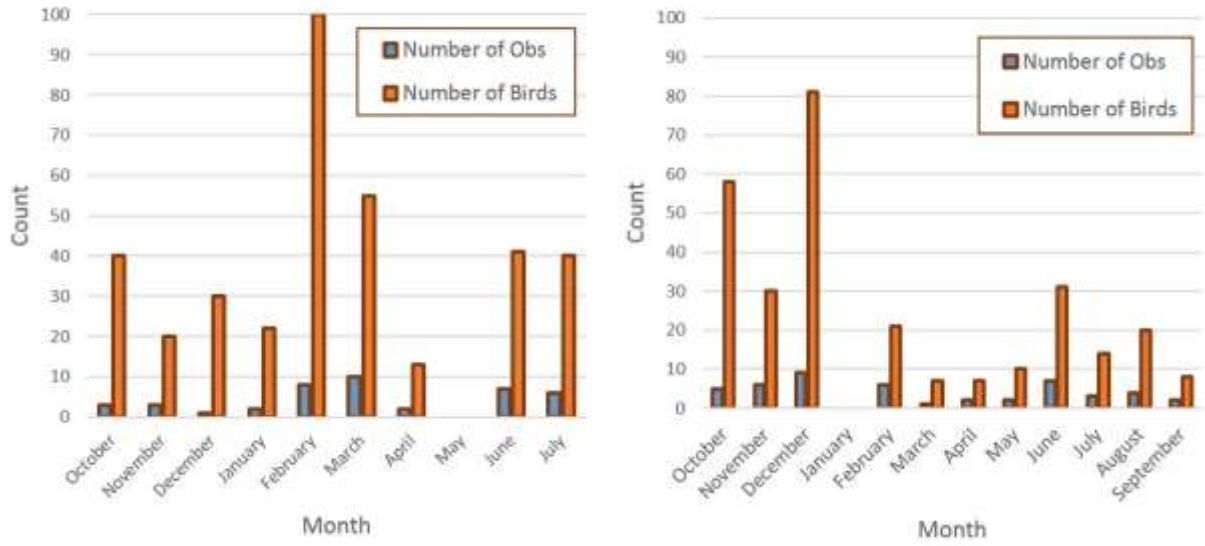

Figure 4. Employee sightings reported by month for 2014 (left) and 2015 (right). The "number of obs" reports how many times during each month employees reported bird observations. The "number of birds" reflects the total number of birds that were reported for those sightings. This number may include repeats that were seen from one day to the next. It is not a measure of bird densities for the mining area.

1.2 Sage-grouse Surveys

Each month during the non-breeding period, a survey was completed within sage-grouse habitats surrounding the mine site (conducted by Petersen). Habitats given priority were those dominated by sagebrush, primarily black and mountain big sagebrush (Figure 5). These surveys consisted of walking through each habitat along a pre-determined route (i.e. grid, transect) visually searching for any bird movement or flushes. Each time an individual bird or group of birds were observed, the coordinate position of the location where the bird was first sighted was obtained using GPS. Additionally, time of day and a decibel level (recorded during active mining periods) was also recorded. Dogs were not used to assist in locating birds. Sensitive habitats were not surveyed between March-June to avoid flushing hens from nests or disturbing hens with young chicks during early brood rearing.

Figure 5. Sage-grouse habitat on the east side of the mine (near the Conservation Area). Sage-grouse have been regularly observed in this area and closer to the active mine site located to the west.

During each survey, all areas where birds may be found were searched (Figure 6). These areas included 1) the sagebrush flat area 0.5 km south of the open coal pits (SF), 2) the new lekking area located at the top of the ridge at the south end of the sagebrush flat area, 3) the sagebrush patch located just south of the spoils pile (SMSP) and north of the spoils piles (NMSP), 4) the original lekking area (OL), 5) the wet meadow (WM) located in grass/rush/sedge community surrounding the well, 6) the sagebrush area immediately east of the open mine, 7) the conservation area east of the mine site (CA), and 8) Ford's Pasture located 10 miles south of Sink Valley.

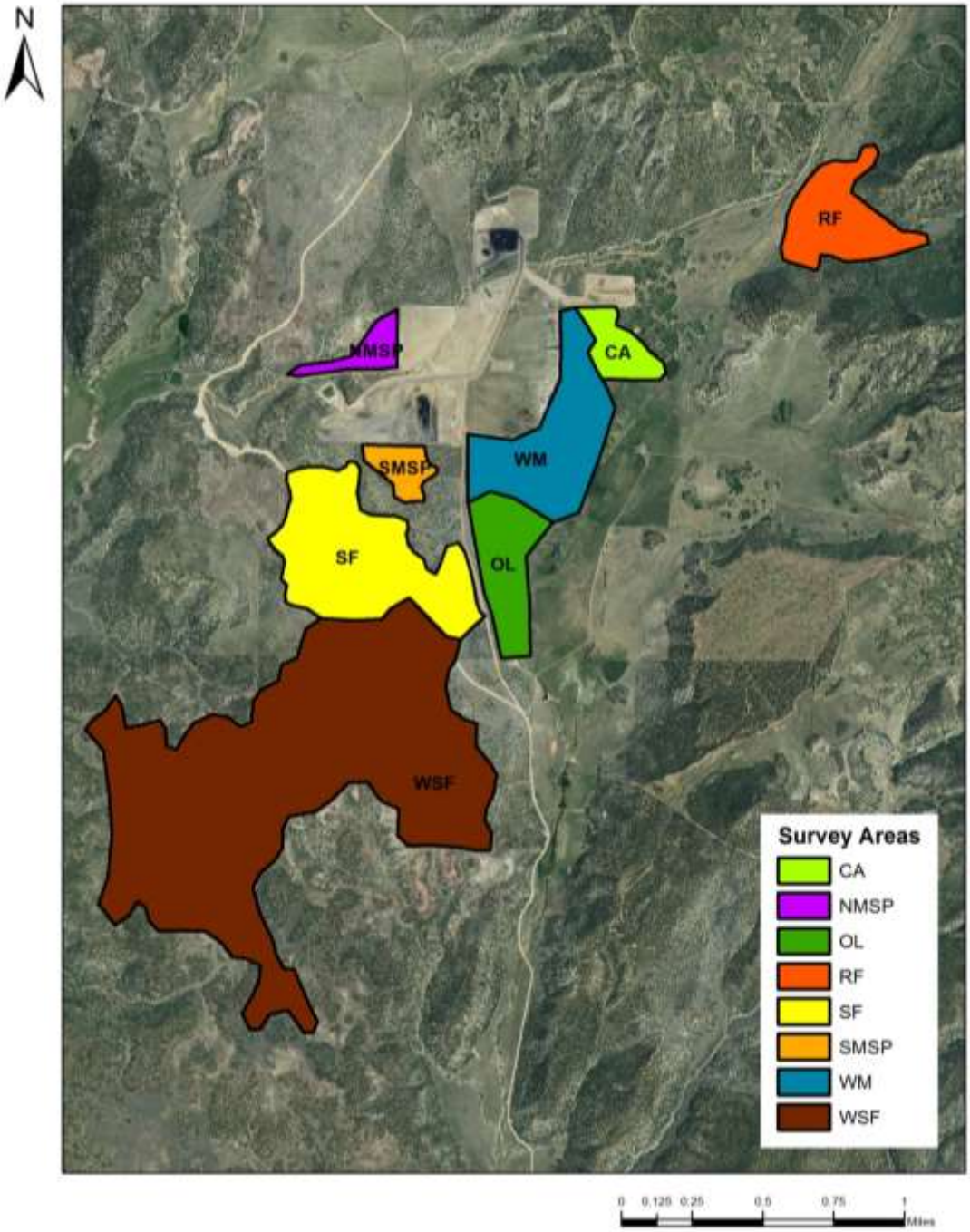

Figure 6. Location of survey areas for greater sage-grouse during the 2012-2014 monitoring seasons. CA = Conservation area, NMSP = North mine sagebrush patch, OL = Original lek, Rabbitbrush field, Sagebrush flat, SMSP = South mine sagebrush patch, WM = Wet meadow, and WSF = West sagebrush fields. Additional sites not shown above include the corridor (C) and the alfalfa fields (AF) south of Alton.

A summary of the results recorded for each monthly sage-grouse survey is provided in table 2. Figure 7 (map) shows the location for all sage-grouse sightings recorded during monthly surveys in the Alton/Sink Valley area (2014-2015) and displays bird observation locations by month. Of all sites observed, birds were most consistently found in the sagebrush flat area south of the mine (Figure 8) and in the region surrounding the conservation area (Figure 5). These sites are dominated by black sagebrush (*Artemisia nova* A. Nelson) and mountain big sagebrush (*Artemisia tridentata* Nutt. ssp. *vaseyana* (Rydb.) Beetle) with a diversity of associated perennial grasses and forbs. Detailed descriptions of plant community composition and structure in these areas can be found in vegetation reports prepared by Patrick Collins.

Sage-grouse are typically found in sagebrush dominated areas. While most adult habitat use has been detected within the sagebrush flat region, chicks and young juveniles have consistently been observed using habitat near the well on the east side of the mine (near the conservation area and in the lower sagebrush patch immediately adjacent to the active mining area east of the haul road).

On two different occasions, sage-grouse were observed in pinyon-juniper woodland areas. On several occasions sage-grouse would flush from sagebrush sites and then fly into woodland areas. In winter 2015, birds were observed in a pinyon juniper stand adjacent to the sagebrush flat, likely using this area for thermal cover and protection. Birds have been observed frequently in the bullhogged areas directly south of the new lek and west of the bullhog and southwest of the new lek.

Table 2. Observations from monthly surveys conducted by S.L. Petersen.

Date	Time of observation	Number of birds	Location
January 24, 2015	8 am-1 pm	23	Surveyed SF, MSP, HL, WM, CA, WSF, FP. Flushed 10 birds at the sagebrush flat on the first pass, 9 different birds in the same area further east. 5 birds in Fords Pasture, spotlighting.
March 7, 2015	7-9:18 am	46	Surveyed the historic lek (14 males). 26 birds observed at the SF (new lek) and 20 birds observed at FP (spotlight). 3 males strutting at FP during first light.
May 30, 2015	2:30-7:20 am	5	Surveyed Well, CA, Spoils Pile. Cursory survey, avoiding nesting habitat. Flushed 2 hens and 3 chicks near the well.
June 27, 2015	7-8:30 pm	12	Surveyed SF, MSP, HL, CA, and WM. Flushed 4 chicks with a hen near the well.
August 1, 2015	6:30–10 am	45	Spotlighted FP, observed no birds. Surveyed SF, MSP, HL, WM, NMSP, NL, and SB. Flushed 3 birds in SF and 8 in SB and 20 in the bowl at the west end of the bullhog area. Flushed 5 near the CA and 5 at the well.
September 7, 2015	7–11 am	43-56	Surveyed SF, NL, SB, MSP, SP, HL, WM, CA, NMSP, NL. Flushed 40 birds (or more) within the immediate SF region. Flushed 4 juveniles near the CA and adjacent to the mine area.
October 3, 2015	7–10 am	41	Surveyed SF, NL, SB, MSP, SP, HL, WM, CA, FP. Flushed 37 birds in the sagebrush flat area. Flushed 4 birds below the conservation area near the open mine pit and disturbance site.
October 31, 2015	8 am–1 pm	38	Surveyed SF, NL, SB, MSP, SP, HL, WM, CA, and FP. Flushed 25 birds from the sagebrush flat area. Flushed 6 birds from the area below the conservation area near the open mine pit. Flushed 7 birds from the MSP area.
November 28, 2015	11:30 pm – 1:30 am	13	Flushed from Ford's Pastures using spotlight. Birds were in 6 groups ranging from 1-4 birds each.
	7-9 am	49	Surveyed SF, NL, SB, MSP, SP, HL, WM, CA, and FP. Flushed all 49 birds from SF. Flushed 29+ birds in NMSP which were likely the same birds flushed previously in the SF.

SF = sagebrush field located along the bypass haul road south of the mine, **MSP** = mine sagebrush patch located adjacent to (south) of the reclaimed area of pit #1, **HL** = historic lek located in Sink Valley, **FP** = Fords pasture located 10 miles south of the mine site, **SP** = Spoils Pile, **AF** = Alfalfa field, located immediately south of the town of Alton, **WSF** = West sagebrush fields located .5 to 1 mile west of SF, **C** = corridor between Alton and Hoyts Ranch, **WM** = wet meadow area located in close proximity to the well (pump) southwest of the conservation area, **CA** = conservation area, **NMSP** = North Mine Sagebrush Patch, **NL** = New lek located south of SF, **SB** = South Bullhog.

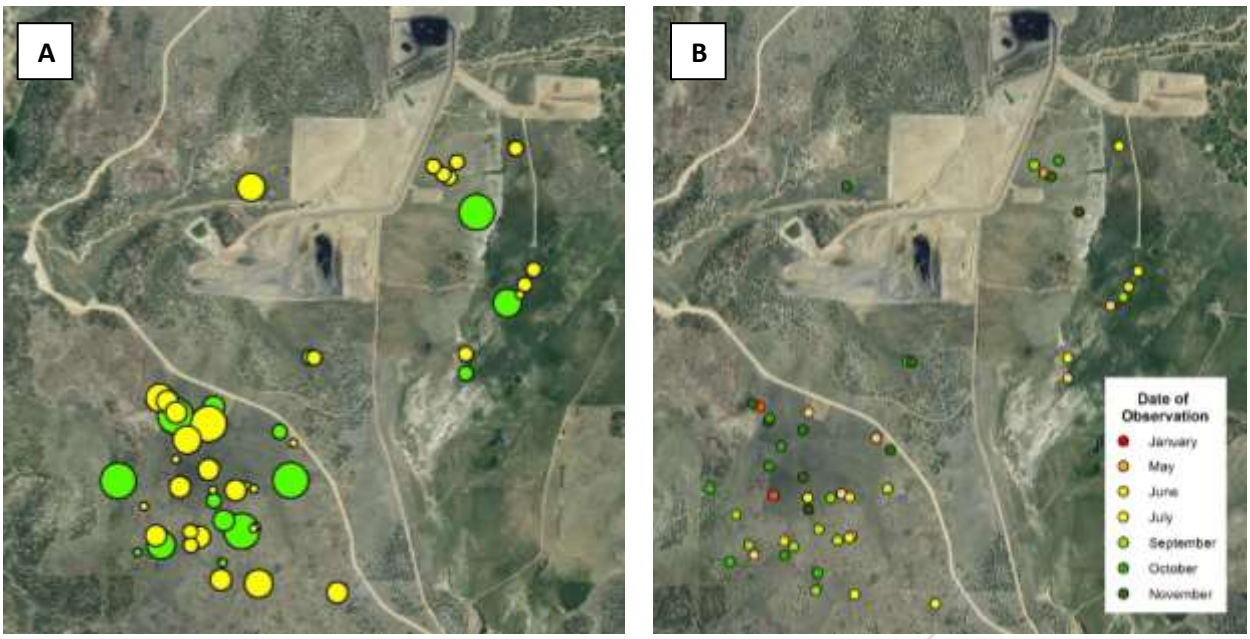

Figure 7. A) Location of greater sage-grouse during monthly field samples. Green points represent observations recorded in 2014 and yellow points are observations in 2015. The size of the dot is proportionate to the number of birds observed at that location (flock). B) Location of bird observations by month during non-breeding months for the 2014-15 survey period.

Figure 8. Sagebrush flat area, located southwest of the mine site. This area provides critical habitat for sage-grouse including lekking, nesting, brood rearing, and winter use.

1.3 GPS Collaring and Monitoring

During fall 2014, Dr. Nicki Frey obtained two GPS collars with funds provided ACD. One male and one hen were trapped and collared in the Alton area and saddled with a collar. Both birds have been monitored for over 1 year providing 3-4 point locations per day (approximately 1000 points each). This has made it possible to track bird movement in relation to mining over that time. Additionally, ACD assisted Dr. Frey and the BLM with trapping and collaring birds from the Sage Hen Hollow lek.

Results of the data collected from the Alton/Sink Valley GPS collared birds demonstrate similar movement patterns compared those recorded from the monthly surveys and employee sightings (Figure 9 and 10). According to Dr. Frey:

> *Kernel Density Estimates are those that depict the core area (50% "most dense" locations) and the general home range (95% of the locations). This analysis determined that more 75% percent of the location fell within the 50% core for each animal. You may also note that the brood rearing habitat appears to be directly to the east of the mining activity.*

These data shown here are provided by Dr. Frey who will use these for publication in a peer-reviewed journal and should not be distributed or used for analysis without her consent.

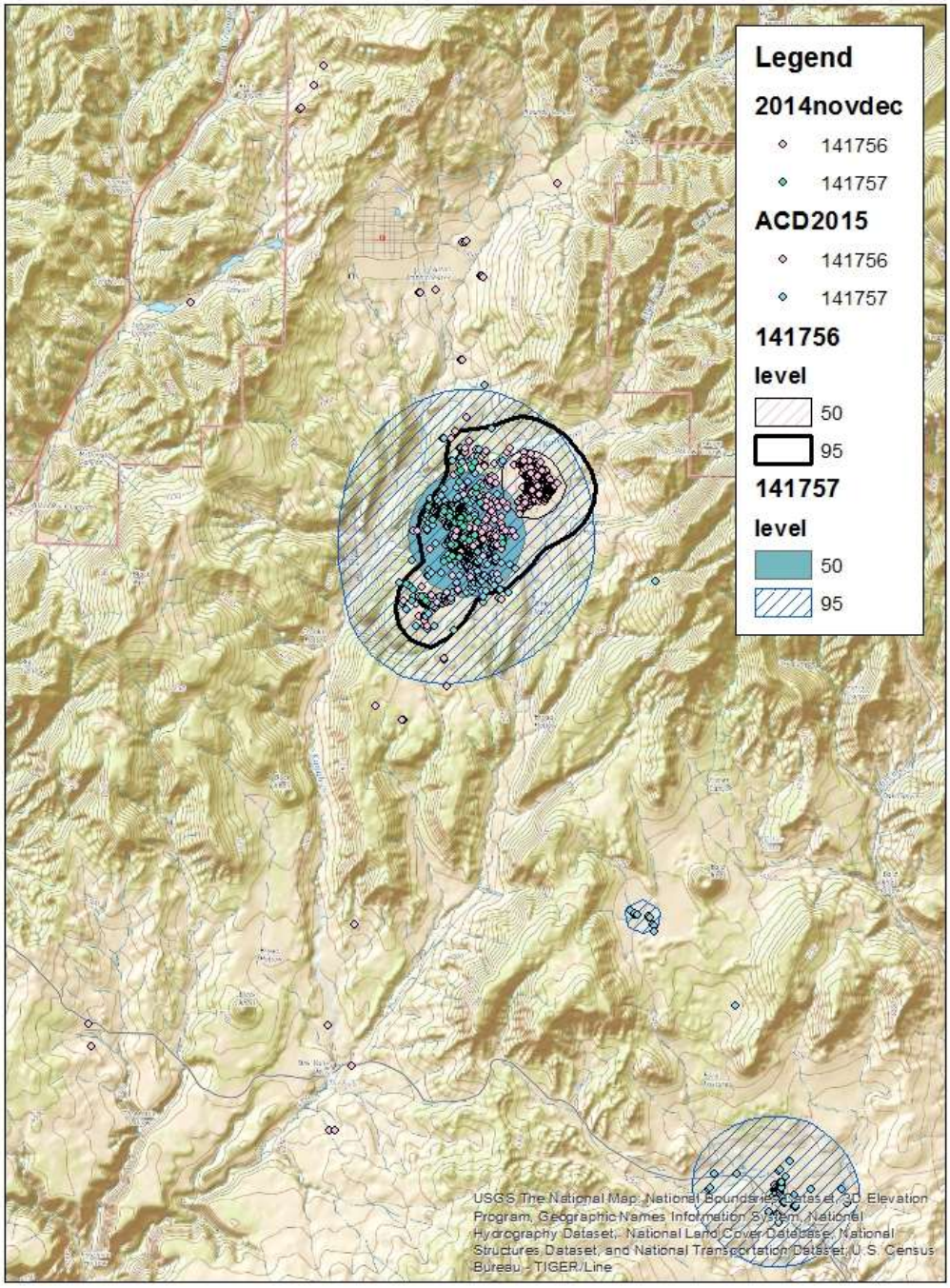

Figure 9. Coordinate locations for two sage-grouse trapped and monitored in the Alton / Sink Valley area and Fords Pasture to the south (southeast corner of the map). These data span over a 1 year time period collecting approximately 3 points per day. Data were collected, managed and owned by Dr. Nicki Frey (Utah State University Extension, Southern Utah University). These data should not be used or shared without her consent.

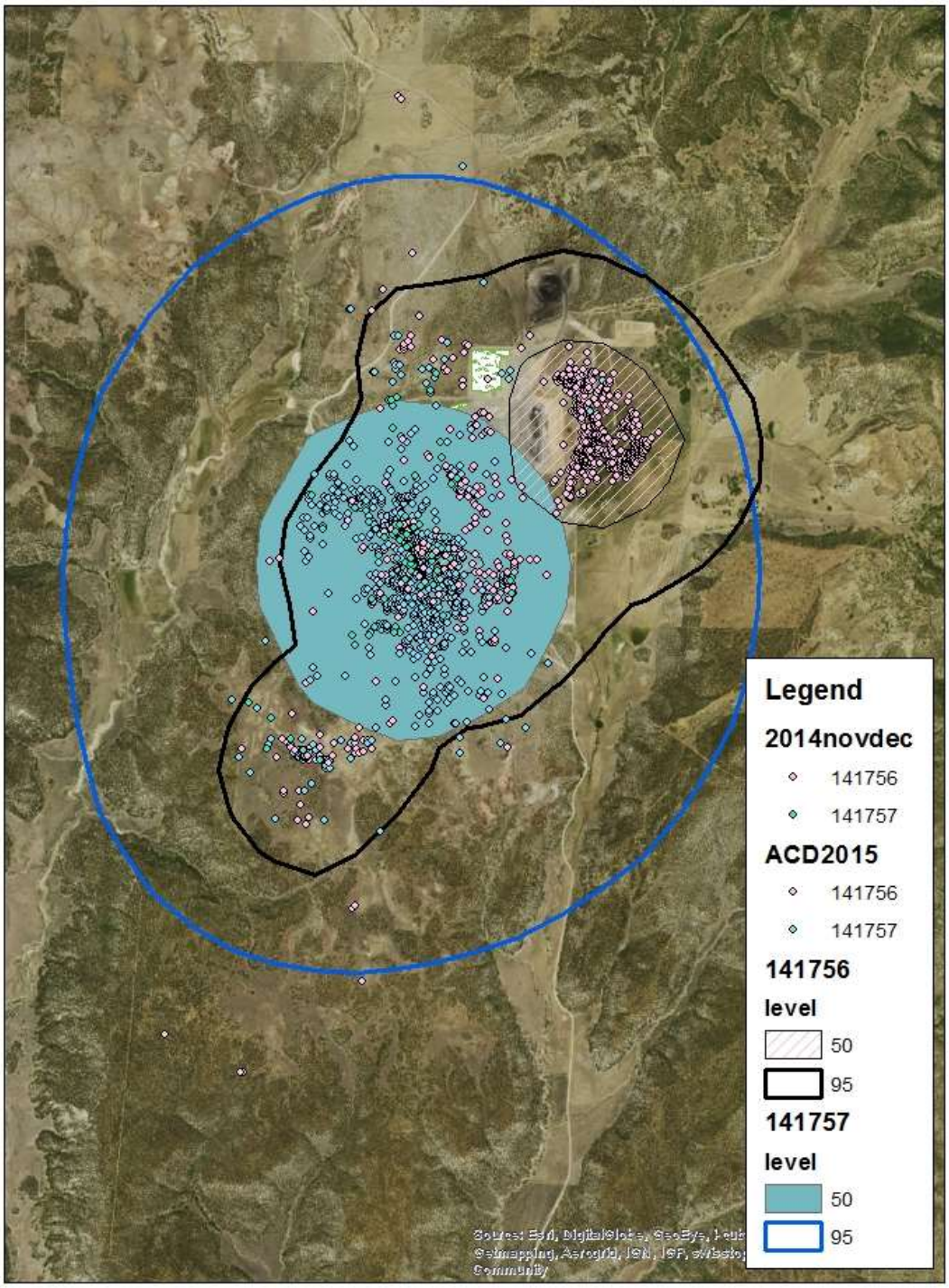

Figure 10. Coordinate locations for two sage-grouse trapped and monitored in the Alton / Sink Valley area span over a 1 year time period, representing approximately 3 points per day. This area shows kernel density estimates for sage-grouse habitat use. The area in blue is located around the sagebrush flat area and within the mine footprint directly. Clustering of points on the east side of the mine represent brood rearing habitat. These data were collected and are currently managed and owned by Dr. Nicki Frey (Utah State University Extension, Southern Utah University). These should not be shared or used without her consent.

1.4 Historic and Current Lek use in Alton/Sink Valley

Greater sage-grouse have been found in the Sink Valley and Alton areas of Kane County, Utah for many generations. This has consisted of breeding activity (at the Sink Valley lek), nesting and brood rearing (likely near Sink Valley but this has been poorly documented), and winter habitat use primarily in Sink Valley and the Alton area. The density of birds reported using the Sink Valley area has fluctuated widely during the time they have been observed. The most accurate estimates of bird densities in this region are from lek counts that were conducted annually by wildlife biologists with the Utah Division of Wildlife Resources (UDWR). Since 1991, lek counts have experienced significant declines in strutting males. Data suggest that there has been an oscillation in male lek attendance over the past 24 years which likely reflects variable sage-grouse occurrence and habitat use within this area (Figure 11).

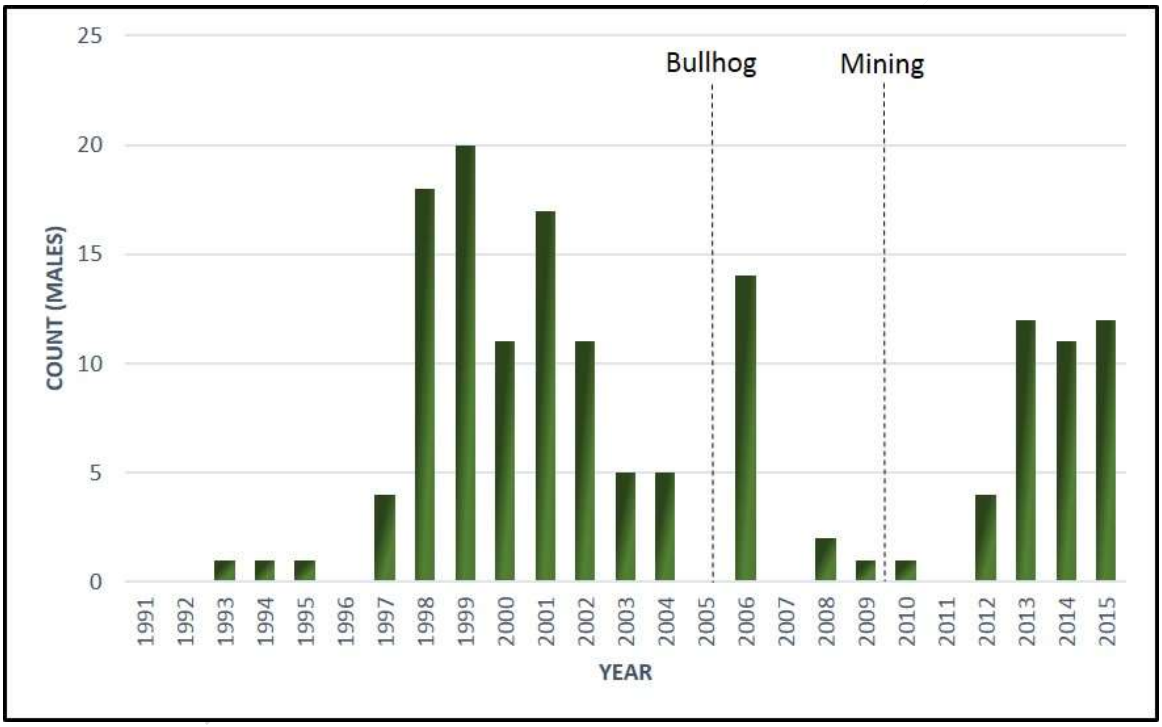

Figure 11. Male bird attendance at the Sink Valley lek, located south of Alton, Utah. Observations were made by Utah DWR employees observing during the spring breeding months (February – April). The 2005 and 2007 data are missing for this graph. Birds recorded from 2012-14 were located on the new lek. Previous observations were from the historic lek.

A detailed description of historic lek use patterns in Alton/Sink Valley is provided in the 2014 ACD annual report. Data from 2015 continue to show a similar trend in lek use. While the DWR reported a maximum of 12 birds at the lek in spring 2015 (March 7), Petersen found 14 males strutting on the lek during the breeding season. Snowpack remained deep at the new lek area

during the breeding season, causing birds to display on the top of the snow near the county road at the north end of the sagebrush flat. All birds including hens could be clearly seen displaying and mating on top of the snow. This was atypical for most years where birds are most often observed on the new lek hill site strutting on exposed soils.

To compare lek count results with nearby leks, Hoyts Ranch was reported to have had as many as 21 strutting males (April 16). On March 7, 3 males were observed strutting at the Fords Pasture (Figure 12). This was the first time birds have been observed strutting in that area for at least 10 years. This lek was historically active, reporting 12 males strutting at the lek in 1982. Since that date the lek became inactive for undetermined reasons. This strutting behavior reported this year in Fords Pasture represents the most southern lekking behavior for the species.

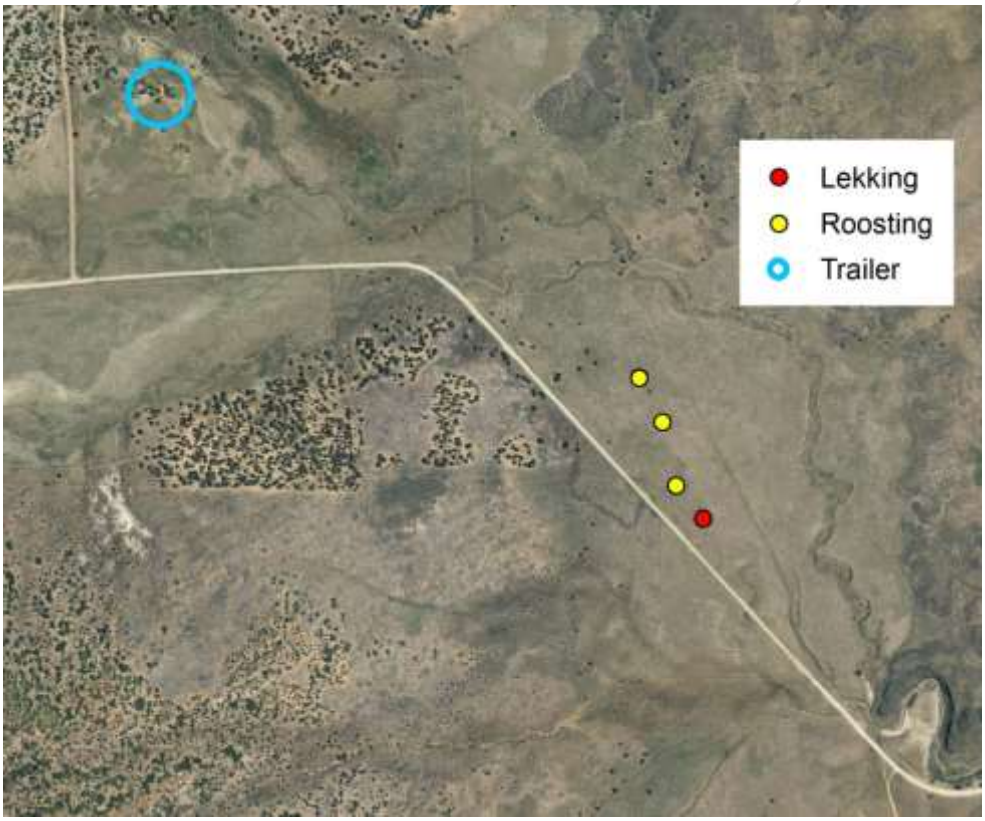

Figure 12. Fords Pasture area that supports fluctuating sage-grouse habitat use. Approximate location of lekking activity observed on March 7th and roost sites where birds were flushed during spotlight surveys. The blue circle represents the location of the trailer found in relatively close proximity to the sage-grouse use site (as a reference). The actual coordinate location of the lek was not recorded to avoid flushing displaying males.

1.5 Noise Detection and Sound Assessment

The influence of sound (noise pollution) on sage-grouse continues to be measured at each observation location when mining activity is active. Since October, mining was rested resulting in no detectable mining related noise. Decibels have been recorded using an Extech 407735 Sound Level Meter.

2. Habitat Mitigation and Improvements

2.1 Conservation Area Treatment

In Fall 2015, 27 acres of mountain big and basin big sagebrush located in the Conservation Area (Figure 13) were treated to reduce sagebrush cover and open sites for intercanopy plant establishment. Kevin Heaton was contracted to disk decadent sagebrush areas aiming for post-treatment target cover of 15% (low end of recommended sagebrush cover for nesting and brood rearing; Connelly et al., 2000). After disking this area, a seed mix consisting of perennial grasses and forbs was broadcast using a ATV mounted spreader. A description of the seed mix is provided in Chapter 3 of the MRP.

Figure 13. Area east of the mine site (Conservation Area) treated to reduce sagebrush in areas with high cover and shrub decadence.

2.2 Measurements of Spoil Pile Reclamation Response

During the fall (August 24th), vegetation surveys were completed on the spoils pile positioned on the west side of the mining area. Topsoil was spread across the site and then seeded in fall 2013. Seeds were broadcast using a seed mix consisting of both native and introduced perennial grass and forb species (Figure 14A).

Four transects, each 100m long, were randomly positioned within the sample area to measure plant density and plant canopy cover (Figure 14B). A total of 20-1x1m quadrats were placed at 5m intervals along each transect to collect plant density data. The total number of individual plants rooted within the plot was recorded by species. Along the same transect lines, plant canopy cover was measured using the point-intercept method. A pin was dropped at 0.5m intervals along the entire transect length, and the first feature contacted with the falling pin was recorded. The total number of observations by feature was divided by the total number of pin drops to produce total feature cover. Features recorded included plants by species, rock, large litter (i.e. branches), fine litter (i.e. needles, detached dead herbaceous plant parts), and bare ground.

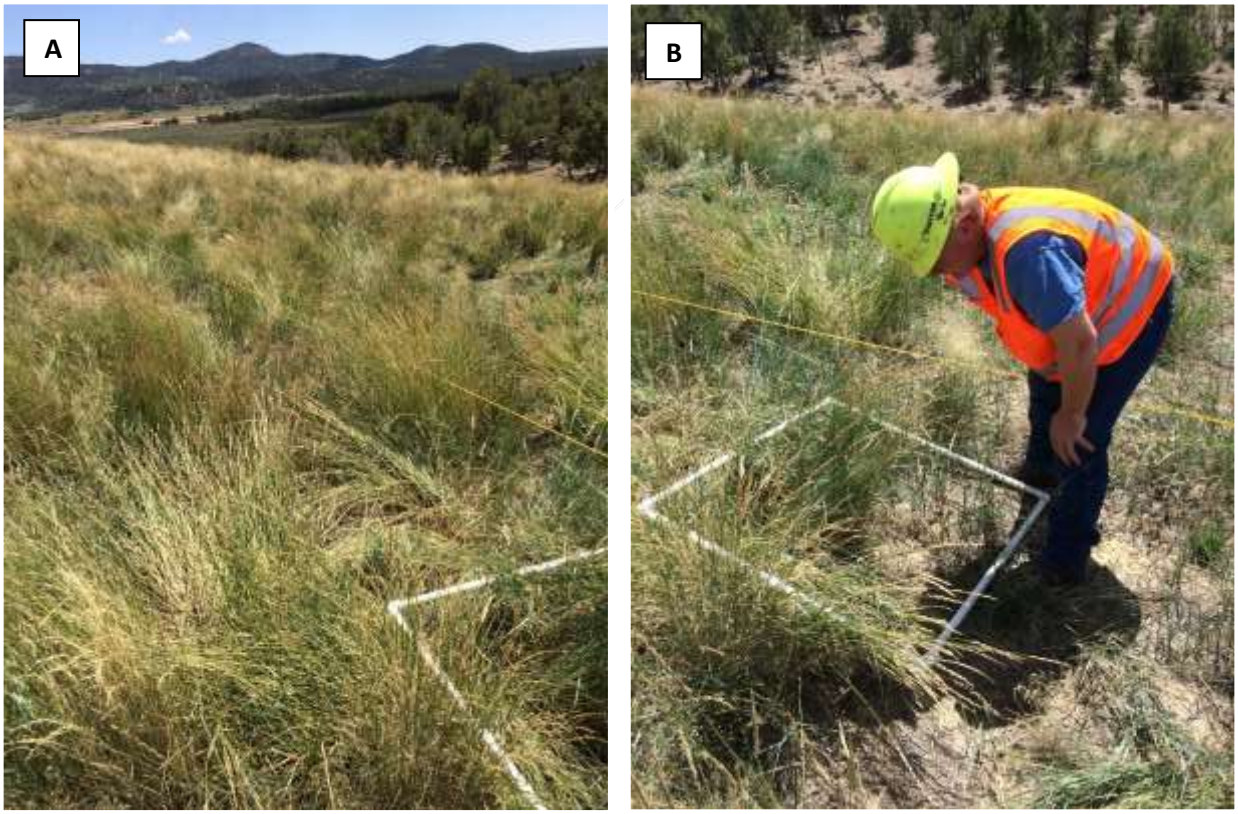

Figure 14. A) Vegetation growth and plant community establishment 2 years after seeding. B) Samples were collected to determine plant structure (density of plant species and percent cover). Photo with Kevin Heaton, USU Extension Specialist.

Species included in the reclaimed spoils pile reclamation area are provided in Appendix A, Table 2. Total plant density was highest for grasses and lowest for shrubs (Figure 15). By species, the most prevalent in the reclaimed plant community were western wheatgrass (ELSM) and slender wheatgrass (ELTR; Figure 16-19). Cheatgrass (BRTE) had high a density, however the variability in this species was also high across the spoils pile. Russian thistle, another invasive species, was also present in the community but with relatively low densities (0.6±0.4) and cover (0.3±0.2).

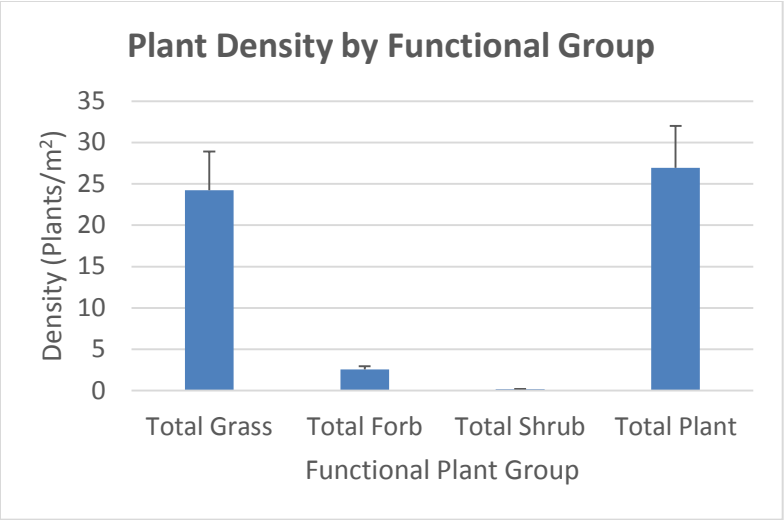

Figure 15. Density of plants established within the spoils pile reclamation area. Error bars represent the standard deviation of the data.

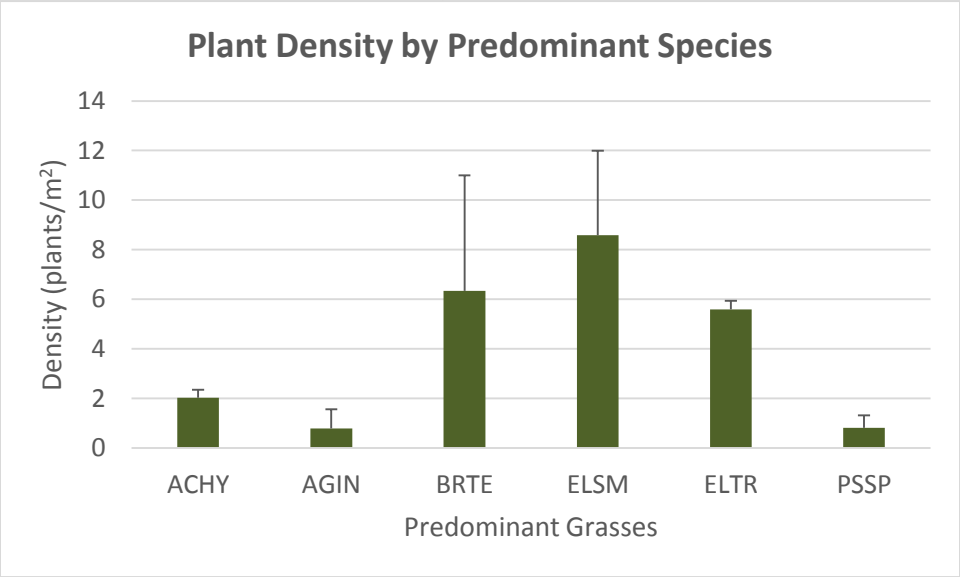

Figure 16. Plant species with the highest density of species sampled in the spoils pile reclamation area. Species include Indian ricegrass (ACHY), intermediate wheatgrass (AGIN), cheatgrass (BRTE), western wheatgrass (ELSM), slender wheatgrass (ELTR), and bluebunch wheatgrass (PSSP). Error bars represent the standard error (of the data.

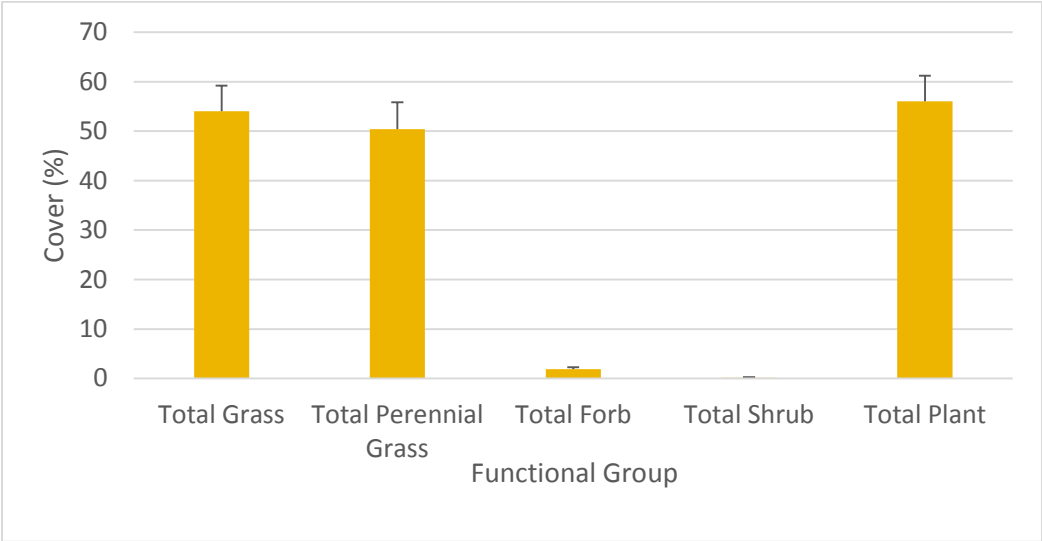

Figure 17. Percent canopy cover of plants sorted by functional group.

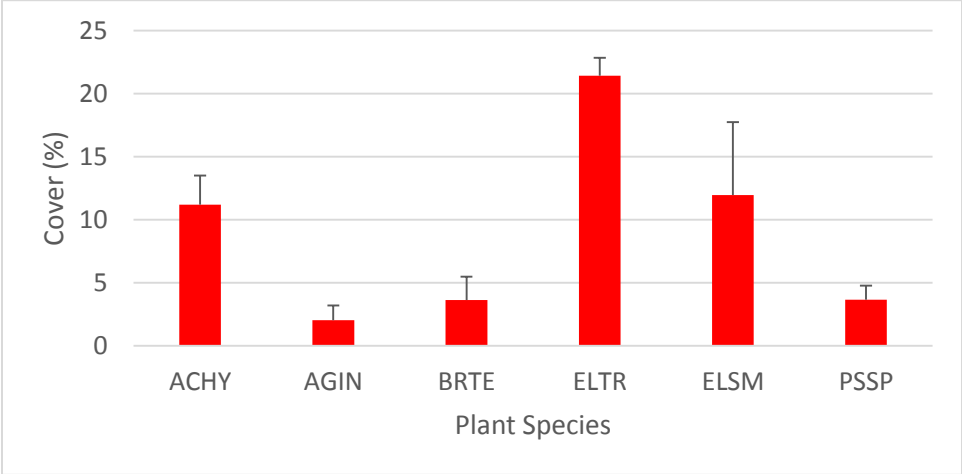

Figure 18. Percent canopy cover by predominant plant species based on those with highest values.

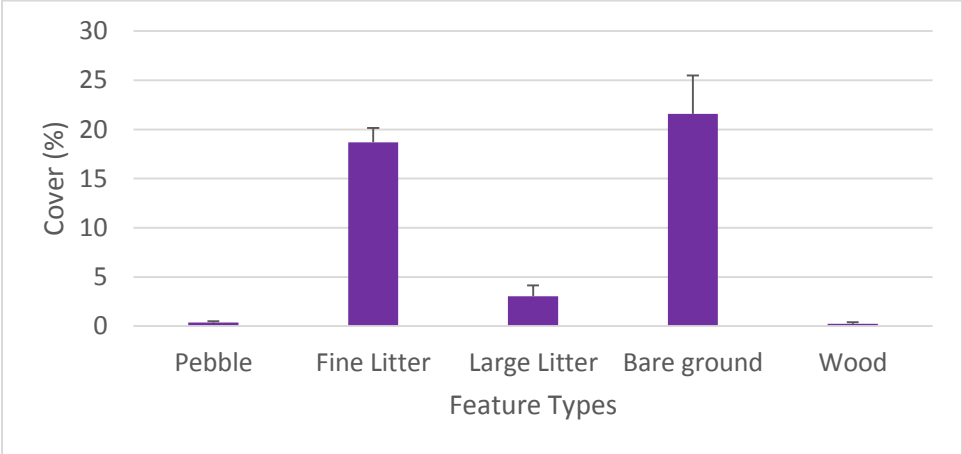

Figure 19. Percent canopy cover of surface features.

The succession of reclaimed plant communities begins with early seral species, which includes the establishment of desired perennial grasses. In the reclaimed area, desired perennial grasses had higher densities than invasive annual grasses (cheatgrass). Cheatgrass had relatively high densities, however, this was limited to only one of the four transects sampled (19.9 vs. 0.2, 0.15, and 5.2). Although native forb density was low compared to grasses, several desired native forb species did establish including daisies (*Astragalus* spp; 0.4±0.1), showy goldeneye (0.3±0.1), and globemallow (0.2±0.2). Overtime, grasses should provide microsite conditions that facilitate higher native forb and shrub establishment, including sagebrush. This suggests that reclaimed areas have potential to be returned into sagebrush dominated plant communities. Although sagebrush was not recorded in the measured plots, it was observed establishing within the reclaimed area.

2.3 Wet Meadow Plant Community Structure

The density and cover of the wet meadow plant community, located near the well on the east side of the valley by the well, was measured on October 3rd. To measure density, 3-100 ft transects were placed across a random location within the wet meadow area. A total of 10 points were located along each transect. At each point, the point-centered quarter method was used to determine shrub density. A total of 3,308 ± 739 shrubs (all wild rose, *Rosa woodsii*) were measured using this method.

Plant canopy cover was assessed using an ocular estimate of cover by species within $1m^2$ quadrats. Additionally, surface feature type (litter, bare ground) were also measured. Results of this survey characterizing plant cover by species are provided in Table 3. Total plant cover by functional group and surface feature are presented in Table 4.

Table 3. Results of the Wet Meadow area percent cover and frequency assessment by species.

	Mean	Std Error	Frequency
Shrubs			
Wild rose (*Rosa Woodsii*)	8.4	1.1	70
Forbs			
Western yarrow (*Acillia millefolium*)	2.0	0.4	43
Wild iris (*Iris missouriensis*)	8.2	1.1	77
Grasses			
Thickspike wheatgrass (*Elymus lanceolatus*)	3.0	2.0	70
Baltic rush (*Juncus arcticus*)	24.2	9.6	97
Kentucky bluebrass (*Poa pratensis*)	37.5	9.3	93
Sandbergs bluegrass (*Poa secunda*)	0.2	0.2	3

Table 4. Percent cover by functional group and surface feature classes.

Percent Cover	Mean	Std. Error
Total Living Plant	87.9	1.2
Total Shrub	7.9	1.5
Total Forb	15.0	4.0
Total Grass	65.0	2.3
Litter	9.7	0.6
Bare Ground	0.2	0.1

Results suggest that the wet meadow area supports vegetation species typical of landscapes with higher soil water availability than sagebrush or PJ woodlands. This is particularly evident with the predominance of wet meadow important perennial grasses/grass-likes (e.g. Baltic rush) and forbs (e.g. wild iris).

There has been concern shared that the lowering of the water table in response to mining will change the wet meadow hydrologic regime and plant community structure. A shift in plant community structure and composition was not evident based on this vegetation sampling within the wet meadow region. The results provided here are comparable to the reference area assessment conducted by Collins in 2007. Differences in data are more likely associated with differences in transect location.

3. Predator Control Activities

During the 2014-2015 periods, sage-grouse predators were removed to increase potential nesting and brood rearing success. The types of predators that were removed included common ravens (*Corvus corax*), American crows (*Corvus brachyrhynchos*), coyotes (*Canis latrans*), and red fox (*Vulpes vulpes*). All predator control activities were conducted by USDA Wildlife Services. Locations where eggs were distributed and coyotes trapped are displayed in Figure 14.

For a detailed description of sage-grouse predators and their potential impacts on sage-grouse populations, refer to the 2014 annual report.

3.1 Raven Control

Teresa Wright, a raven control specialist with USDA wildlife services, has been funded by ACD to control ravens within the Alton/Sink Valley area. Raven control occurred from December 1, 2014 through December 1, 2015. A total of 1500 poisoned eggs were distributed within target areas shown in Figure 14. Eggs were treated with DRC 1339, a chemical that is specific for

Corvids. According to Teresa, one raven is taken for every 6 eggs applied. Therefore, it is presumed that 250 ravens were killed throughout the year (Personal Communication Dec. 2015).

3.2 Mesopredator Control

Coyote control, also funded by ACD, was completed by Roger, also with USDA wildlife services. Coyote control occurred from December 1, 2014 through December 1, 2015 during which time a total of 16 coyotes were harvested. Animals were killed by either trapping using foot snares and traps, or by fixed-wing aircraft.

Figure 20. Blue polygons indicate areas where poison eggs were distributed by USDA Wildlife Services for raven control. This includes roadsides near critical habitat and the stock yard near Alton where birds congregate. The yellow polygon represents the location where coyote snares are set and trapped. Approximately 20 snares are set and checked every two days during the trapping season.

4. Participation and Involvement with Local Working Groups

ACD participates in the Color Country Adaptive Resource Management (CCARM) bi-monthly meetings, providing input and support on discussion and planning for sage-grouse conservation in the Alton/Sink Valley area. The members of CCARM provide highly valuable feedback that aids in conservation strategy development and habitat improvement planning. Maintaining this cooperation with CCARM has been instrumental in the success of this project.

Habitat use and sage-grouse movement patterns are currently being studied by Nicki Frey. ACD participated in trapping and collaring birds on three occasions during the spring and fall trapping season. As a result of this effort, 2 birds were harnessed with backpack style GPS devices in 2015 that are providing information on bird movement and habitat use within the region. In addition, ACD employees and consultants aided in trapping and collaring birds with Dr. Frey for the BLM in Sagehen Hollow further north in the Panguitch SGMA.

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Acknowledgements

We appreciate the contribution of many people who invested time and resources for this project including Kirk Nicholes (ACD), Larry Johnson (ACD), Kevin Heaton (USU Extension), Joe Helfrich (UDOGM), Nicki Frey (SUU/USU Extension), Rhett Boswell (UDWR), Teresa Wright (USDA WS), and the entire Color-Country Adaptive Resource Management group. The combined effort of these individuals has resulted in successful sage-grouse conservation and habitat improvement during 2015.

Appendix A

Table 4. Density and cover of seeded or natural recruited plant species within the spoils pile located at the west end of the mine site.

Species	Average Density (plants/m^2)	Average Cover (%)
Shrubs		
Black sagebrush (*Artemisia nova*)	0.03 ± 0.25	0.00 ± 0.00
Rubber rabbitbrush (*Ericameria nauseosa*)	0.00 ± 0.00	0.13 ± 0.13
Antelope bitterbrush (*Purshia tridentata*)	0.10 ± 0.02	0.00 ± 0.00
Winterfat (*Krashekennovia lanata*)	0.10 ± 0.03	0.00 ± 0.00
Forbs		
Silver sagebrush (*Artemisia ludoviciana*)	0.19 ± 0.06	0.13 ± 0.13
Daisey (*Astragalus* spp)	0.46 ± 0.20	0.38 ± 0.13
Lambsquarter (*Chenopodium album*)	0.60 ± 0.27	0.13 ± 0.13
Showy goldeneye (*Heliomeris multiflora*)	0.25 ± 0.11	0.13 ± 0.13
Prickly lettuce (*Lactuca serriola*)	0.15 ± 0.11	0.13 ± 0.13
Yellow sweetclover (*Melilotus officinalis*)	0.03 ± 0.02	0.38 ± 0.13
Palmer's penstemon (*Penstemon palmerii*)	0.01 ± 0.01	0.00 ± 0.00
Prostrate knotweed (*Polygonum aviculare*)	0.05 ± 0.04	0.00 ± 0.00
Russian thistle (*Salsola iberica*)	0.60 ± 0.42	0.25 ± 0.14
Scarlet globemallow (*Sphaeralcea coccinea*)	0.21 ± 0.03	0.38 ± 0.24
Dandelion (*Taraxicum officinale*)	0.01 ± 0.01	0.00 ± 0.00
Yellow salsify (*Tragopogon dubius*)	0.08 ± 0.03	0.00 ± 0.00
Grasses		
Indian ricegrass (*Achnathyrum hymenoides*)	2.00 ± 0.32	11.20 ± 2.30
Intermediate wheatgrass (*Agropyron intermedium*)	0.79 ± 0.77	2.02 ± 1.18
Meadow brome (*Bromus biebersteinii*)	0.01 ± 0.01	0.00 ± 0.00
Cheatgrass (*Bromus tectorum*)	6.34 ± 4.65	3.64 ± 1.85
Slender wheatgrass (*Elymus trachycaulus*)	5.59 ± 0.35	21.43 ± 1.42
Western wheatgrass (Pascopyrum smithii)	8.85 ± 3.41	11.97 ± 5.78
Kentucky bluegrass (*Poa pratensis*)	0.04 ± 0.02	0.13 ± 0.13
Sandberg's bluegrass (*Poa secunda*)	0.01 ± 0.01	0.00 ± 0.00
Bluebunch wheatgrass (*Pseudoroegneria spicata*)	0.80 ± 0.50	3.66 ± 1.11

Appendix 2-2

2015 Soil Analytical Results

Inter-Mountain Labs
Your Environmental Monitoring Partner
1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Date: 9/22/2015

CLIENT: Alton Coal Development, LLC
Project: Coal Hollow Mine
Lab Order: S1508166

CASE NARRATIVE

Report ID: S1508166001

Samples 15TS-1, 15TS-10, 15TS-11, 15TS-12, 15TS-13, 15TS-14, 15TS-15, 15TS-16, 15TS-2, 15TS-3, 15TS-4, 15TS-5, 15TS-6, 15TS-8, and 15TS-9 were received on August 11, 2015.

Samples were analyzed using the methods outlined in the following references:

U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
American Society of Agronomy, Number 9, Part 2, 1982
USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
State of Nevada Modified Sobek Procedure
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Reviewed by: Karen A Secor
Karen Secor, Soil Lab Supervisor

Inter-Mountain Labs
1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

Soil Analysis Report

Alton Coal Development, LLC

463 North 100 West
Suite 1
Cedar City, UT 84721

Report ID: S1508166001

Project: Coal Hollow Mine
Date Received: 8/11/2015

Date Reported: 9/22/2015
Work Order: S1508166

Lab ID	Sample ID	pH	Electrical Conductivity	CO3	PE Calcium	PE Magnesium	PE Sodium	SAR
		s.u.	dS/m	%	meq/L	meq/L	meq/L	
S1508166-001	15TS-1	7.9	0.80	21.8	2.66	4.51	2.17	1.15
S1508166-002	15TS-2	7.9	0.89	19.6	3.14	4.08	1.93	1.01
S1508166-003	15TS-3	7.9	1.07	18.8	4.42	4.07	3.09	1.50
S1508166-004	15TS-4	8.1	2.02	22.4	6.76	11.8	7.91	2.60
S1508166-005	15TS-5	8.1	2.05	25.0	11.2	16.1	4.37	1.18
S1508166-006	15TS-6	7.9	0.77	15.7	3.62	3.01	1.95	1.07
S1508166-007	15TS-8	7.8	1.36	19.8	8.03	6.61	2.34	0.86
S1508166-008	15TS-9	7.9	2.13	25.6	12.8	12.7	5.82	1.63
S1508166-009	15TS-10	7.9	1.78	16.6	9.22	9.81	7.18	2.33
S1508166-010	15TS-11	8.0	1.28	22.5	4.12	6.00	4.90	2.18
S1508166-011	15TS-12	7.9	1.57	20.0	7.06	7.57	5.61	2.08
S1508166-012	15TS-13	7.8	0.61	13.6	3.21	2.94	1.21	0.69
S1508166-013	15TS-14	8.0	1.65	27.5	6.93	8.20	5.92	2.15
S1508166-014	15TS-15	8.0	2.34	23.6	9.44	9.94	12.3	3.96
S1508166-015	15TS-16	8.0	0.84	14.5	4.59	3.19	2.93	1.48

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A Secor
Karen Secor, Soil Lab Supervisor

Inter-Mountain Labs
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Your Environmental Monitoring Partner

Soil Analysis Report

Alton Coal Development, LLC

463 North 100 West
Suite 1
Cedar City, UT 84721

Report ID: S1508166001

Project: Coal Hollow Mine
Date Received: 8/11/2015

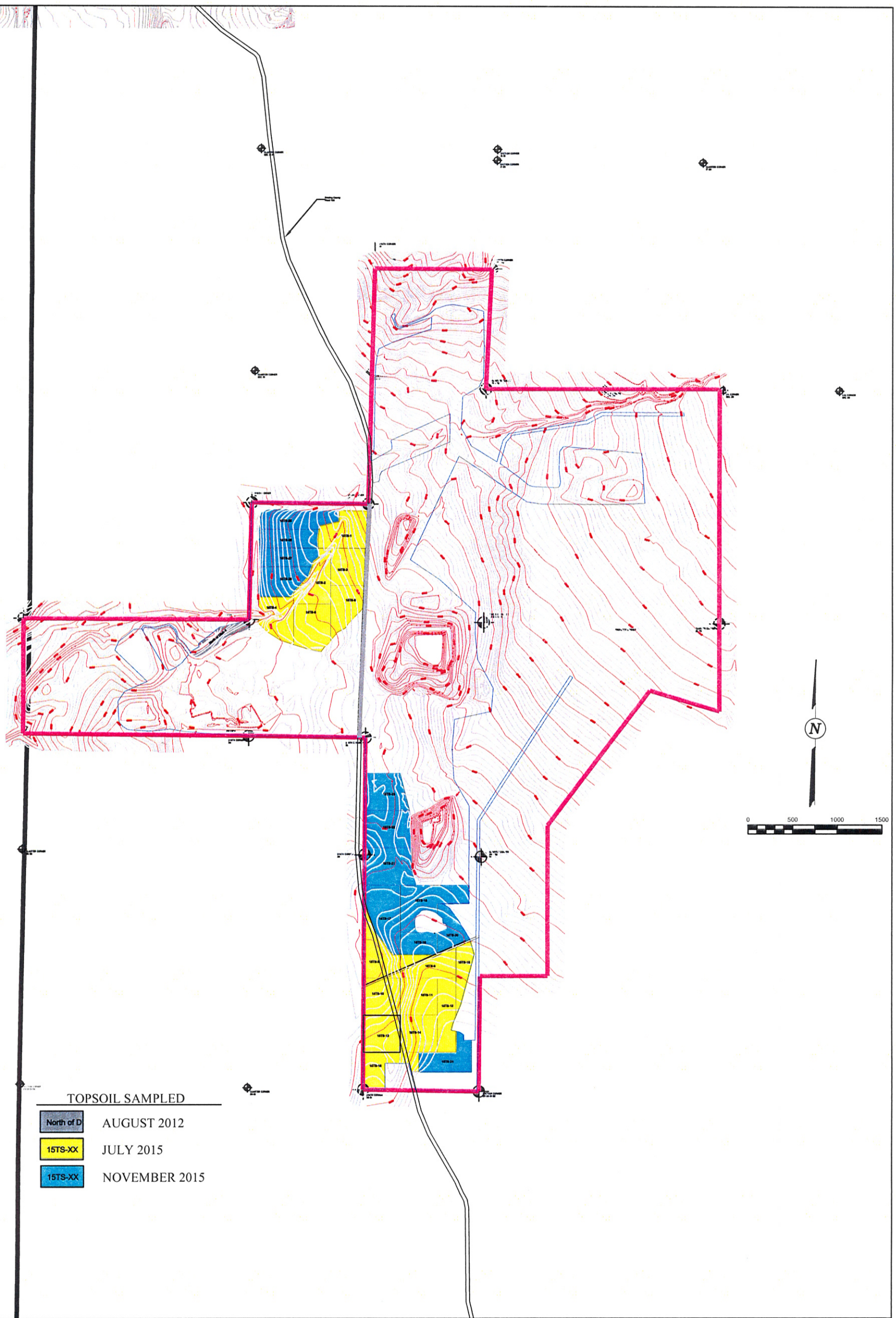
Date Reported: 9/22/2015
Work Order: S1508166

Lab ID	Sample ID	Sand %	Silt %	Clay %	Texture	Phosphorus ppm	Available Potassium ppm	Nitrate(as N) ppm
S1508166-001	15TS-1	20.0	43.0	37.0	Clay Loam	20	331	5.2
S1508166-002	15TS-2	22.0	39.0	39.0	Clay Loam	18	467	9.0
S1508166-003	15TS-3	25.0	40.0	35.0	Clay Loam	24	337	4.3
S1508166-004	15TS-4	23.0	40.0	37.0	Clay Loam	22	377	6.8
S1508166-005	15TS-5	21.0	39.0	40.0	Clay	18	314	17.3
S1508166-006	15TS-6	37.0	33.0	30.0	Clay Loam	31	369	5.9
S1508166-007	15TS-8	20.0	39.0	41.0	Clay	52	474	5.2
S1508166-008	15TS-9	23.0	38.0	39.0	Clay Loam	32	333	9.8
S1508166-009	15TS-10	17.0	42.0	41.0	Silty Clay	24	463	18.7
S1508166-010	15TS-11	24.0	39.0	37.0	Clay Loam	48	421	9.6
S1508166-011	15TS-12	12.0	45.0	43.0	Silty Clay	47	553	7.3
S1508166-012	15TS-13	16.0	40.0	44.0	Silty Clay	24	469	3.2
S1508166-013	15TS-14	13.0	47.0	40.0	Silty Clay	47	385	11.5
S1508166-014	15TS-15	23.0	39.0	38.0	Clay Loam	25	368	14.8
S1508166-015	15TS-16	22.0	36.0	42.0	Clay	28	421	4.9

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A Secor
Karen Secor, Soil Lab Supervisor



LEGEND:

- PERMIT BOUNDARY
- PRIVATE COAL OWNERSHIP
- SECTION LINE
- FOUND SECTION CORNER
- FOUND PROPERTY CORNER
- BONDED AREA

DRAWN BY:	CHECKED BY:
K NICHOLES	LWJ
DRAWING: FIGURE 1	DATE: 10/17/2015
	SCALE: 1" = 500' Printed on 24"x 36"
JOB NUMBER: 1400	SHEET

REVISIONS

DATE:	BY:
XX/XX/XX	XX

TOPSOIL SAMPLING LOCATIONS

COAL HOLLOW PROJECT
ALTON, UTAH

FIGURE 1

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

Annual Refresher
1-31-2015

Topic: Environmental & Wildlife Training
Instructor: Kirk Nicholes

Attendees:

Josh Sawyer
Bryce Wade
Angela Chadburn
Roberta Williams
Chris Heart
Nick Pitt
Tim Heaton
Mason Campbell
James Sexton

Charles Davis
Jordan Steed
Eli Steed
Kent
Justin
John A Brinkerhoff

Alton Coal Development Wildlife Awareness

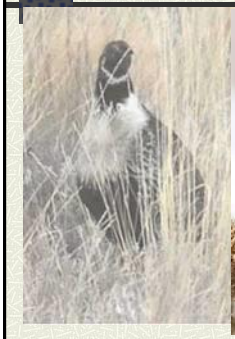
- Objective: Protection of resident wildlife, minimize impact to wildlife during mining.
  - Speed limits of all vehicles will be 25 mph inside the permit area.
  - No operations will be conducted that would likely jeopardize T&E species.
  - Electric power lines and other transmition facilities are designed and constructed to minimize electrocution hazards to raptors.

Alton Coal Development Wildlife Awareness cont.

- The mine site is considered habitat for:
  - Deer (mid April to mid November)
  - Elk
  - Black Bear
  - Sage grouse (throughout the year, report to Kirk)
- Wildlife and domestic livestock mortalities from coal haul and associated vehicles from the mine site to highway 89 reported to the Environmental Specialist.

Alton Coal Development Wildlife Awareness cont.

Alton Coal Development Wildlife Awareness cont.



Alton Coal Development Wildlife Awareness cont.

Alton Coal Development Wildlife Awareness cont.

February 22, 2106

Annual Report of GPS Satellite Telemetry

Alton Coal Development, LLC

Dr. Nicole Frey

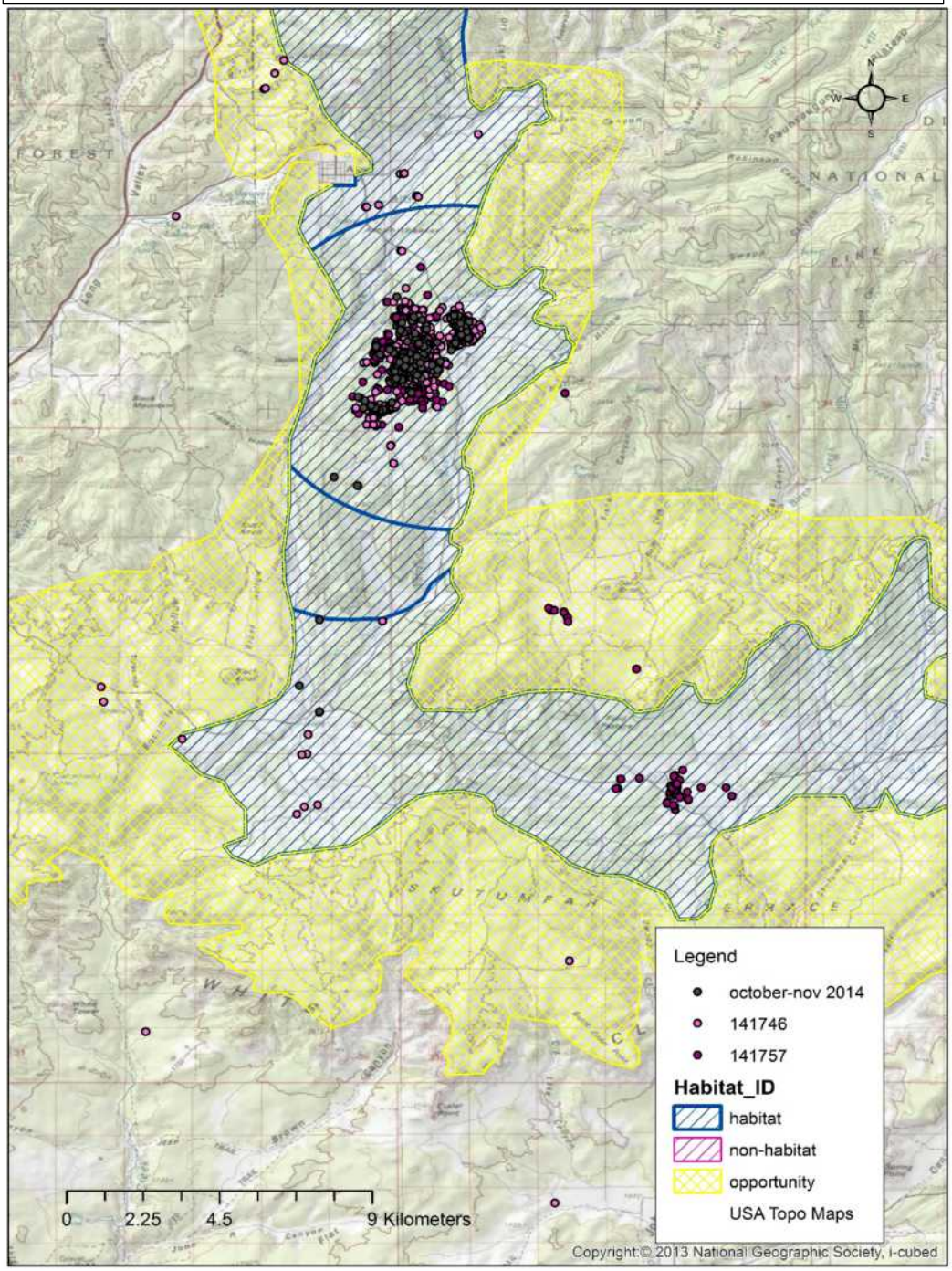
Utah State University Extension Wildlife Specialist Logan, UT 84322

1 BASIC INFORMATION

In October and November of 2014, 2 transmitters were deployed in Sink Valley; 1 adult male and 1 yearling female. Our female has remained on the air through the present time. Our male's receiver stopped projecting in November 2015; however, I report on data collected through December 31, 2015. We have acquired 1596 locations through December for the hen (141756) and 1247 locations for the male (141757). During the course of our study, October 2014- December 2015, both sage-grouse exclusively used the lek at Sink Valley during the breeding season. However, past data collected for the BLM in the breeding season of 2014 recorded individual grouse using both Sink Valley and Hoyt's Ranch lek. Therefore, we conclude that the population of grouse using Sink Valley is not isolated from other populations. All but 4 locations fell within the Panguitch SGMA Boundary. Twenty-one locations fell within opportunity areas, while the remaining locations were found within the areas designated as habitat (Figure 1).

Sage-grouse used areas surrounding the mine throughout the year. They crossed over the mine at different times of the year. The male spent nearly all of its time in Sink Valley. The hen used mesic sites on mining property to raise her brood in 2015.

Figure 1: Location of GPS telemetry points of Greater sage-grouse, October 31, 2014 – December 31, 2015; Panguitch SGMA, Utah.



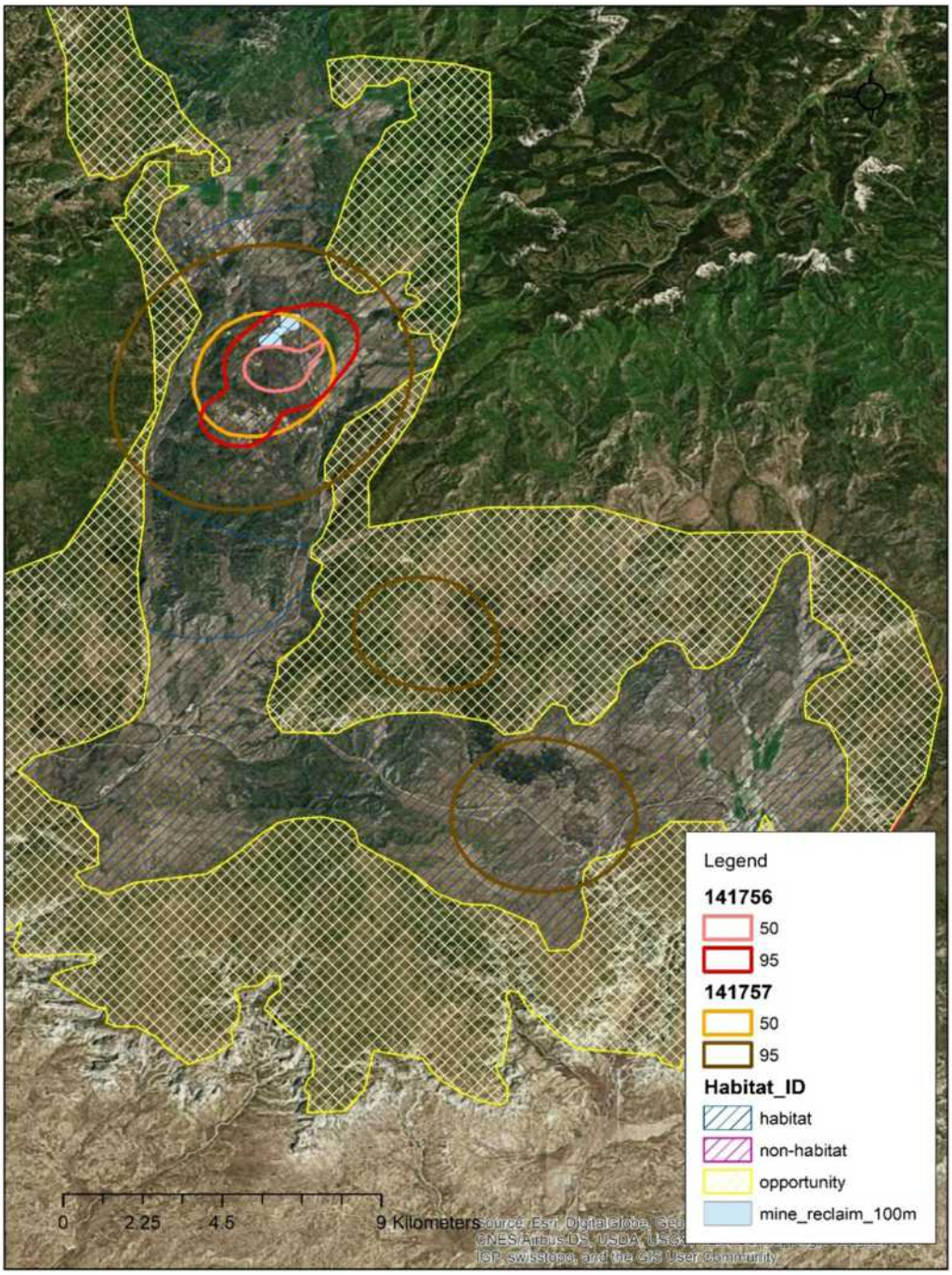
2 HOME RANGE SIZE

The home range area used by each bird varied largely by season (Table 1). It is too soon in the data collection to determine if there is a difference in home range area used from year to year. There is a sample size of 1 for each sex, so I cannot make an assessment as to which sex has larger home range sizes. In general, the male grouse used more area during the course of the year than the female, as evidenced in the 90% KDE Estimate. In general, our 2 study birds stayed within the Sink Valley area; however, there were forays outside the valley of a long enough duration to be capture by the home range estimations in some seasons (Figures 2-5). In November of 2015, our male grouse's receiver temporarily died. This explains the small home range size estimate for the male in Figure 5.

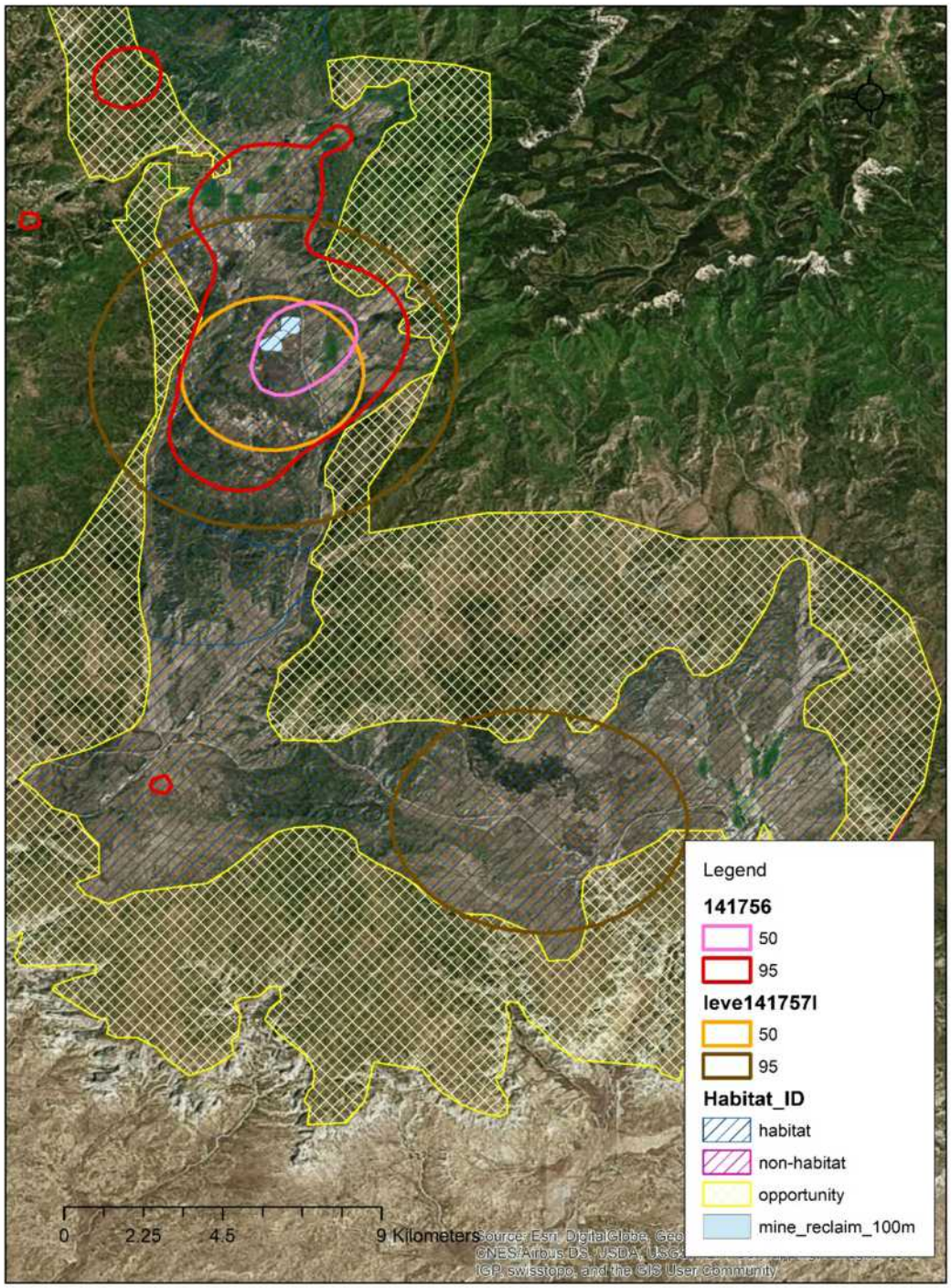
Table 1: Kernal Density Estimates of area (km^2) used (home range) by Greater sage-grouse in Alton/Sink Valley November 2014 – December 2015.

	141756 (hen)		141757 (male)	
	50%	95%	50%	95%
Winter 2014-2015	8.69	1.66	62.29	8.65
Breeding	36.38	4.51	90.01	13.92
Brood/Summer	0.68	0.15	2.23	0.26
FallWinter	20.41	3.93	2.33	0.39

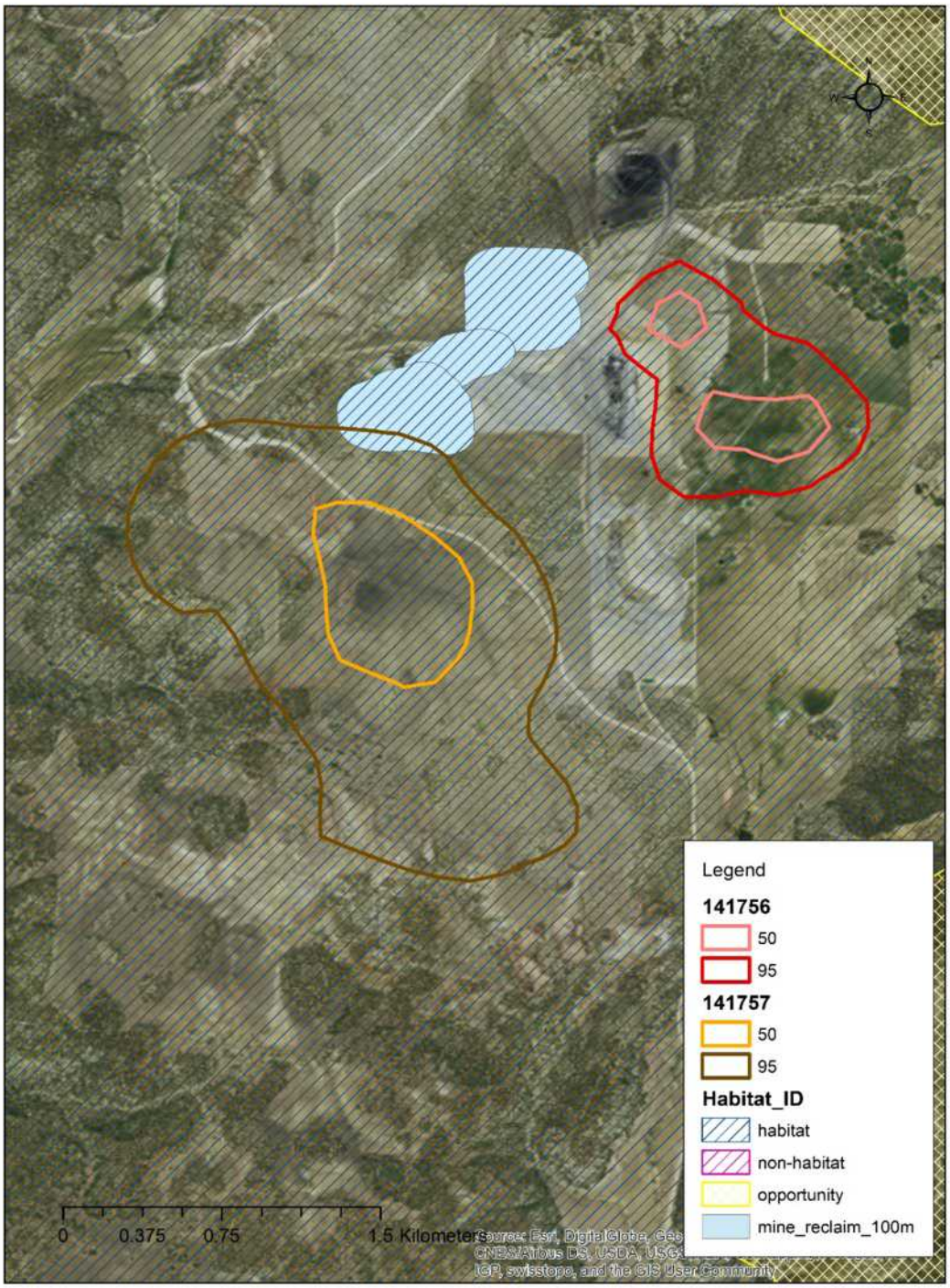
Winter 2014- 2015 Kernal Density Home Range Estimate Locations



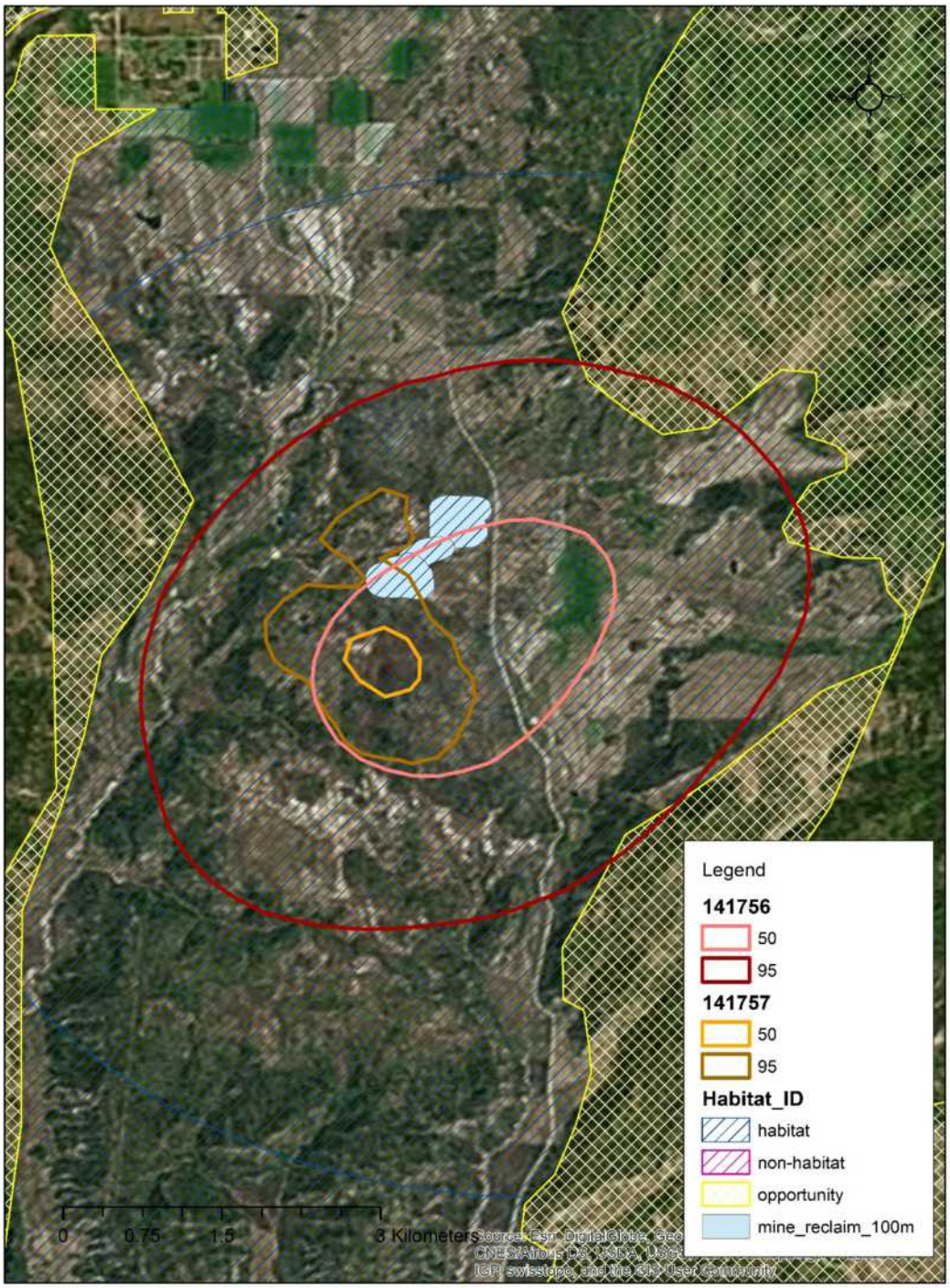
Breeding 2015 Kernal Density Home Range Estimate Locations



Summer 2015 Kernal Density Home Range Estimate Locations



Fall_Winter 2015 Kernal Density Home Range Estimate Locations



3 HABITAT USE

Breeding Season (February 15, 2015 – April 30, 2015) – We acquired 569 locations for the 2 transmitters during the breeding season. There appears to be a difference in preferred habitat, as evidenced by % of locations found in each habitat type (Table 2).

Summer Season (May 1, 2015 – September 15, 2015) – We acquired 1062 location for the 2 transmitters during the summer. The hen did have a nest during this summer. The difference in habitat during this season is very pronounced (Table 3).

Fall Season (September 16, 2015 – October 31, 2015) - We acquired 294 locations for the 2 transmitters during the fall season. The habitat of each bird was similar during this season, with all use concentrated in 3 habitat types (Table 4).

Winter Season (November 1 – February 14, 2014 and 2015). We acquired 917 locations for the 2 transmitters during the winter seasons. The habitat of each bird was similar during this season. It is interesting to note that there was a high proportion of the use of treated areas during this season (Table 5).

Using a hierarchal table to illustrate the importance of each habitat type for each season, several habitat types are highlighted (Figure 6). Treated areas feature prominently in all but the summer months. During the summer the hen was using more mesic sites, such as close-grown crops, pasture and hay lands.

Table 2: The proportion of locations (>10%) located in different vegetation types for male and female grouse, Alton Sink Valley, February 15, 2015 – April 30, 2015.

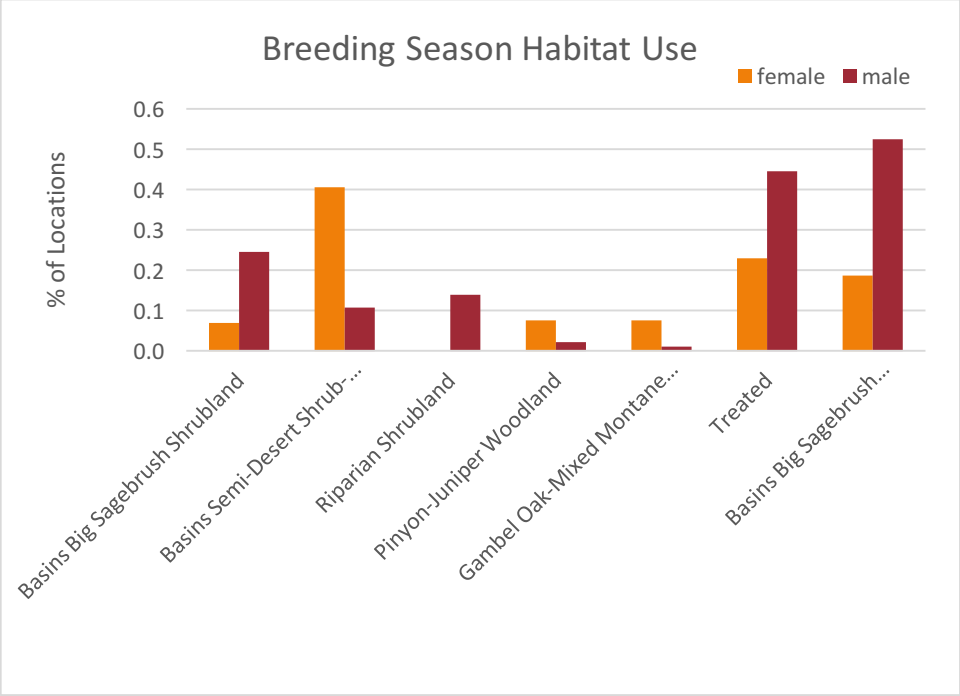


Table 3: The proportion of locations (>10%) located in different vegetation types for male and female grouse, Alton Sink Valley, May 1, 2015 – September 15, 2015.

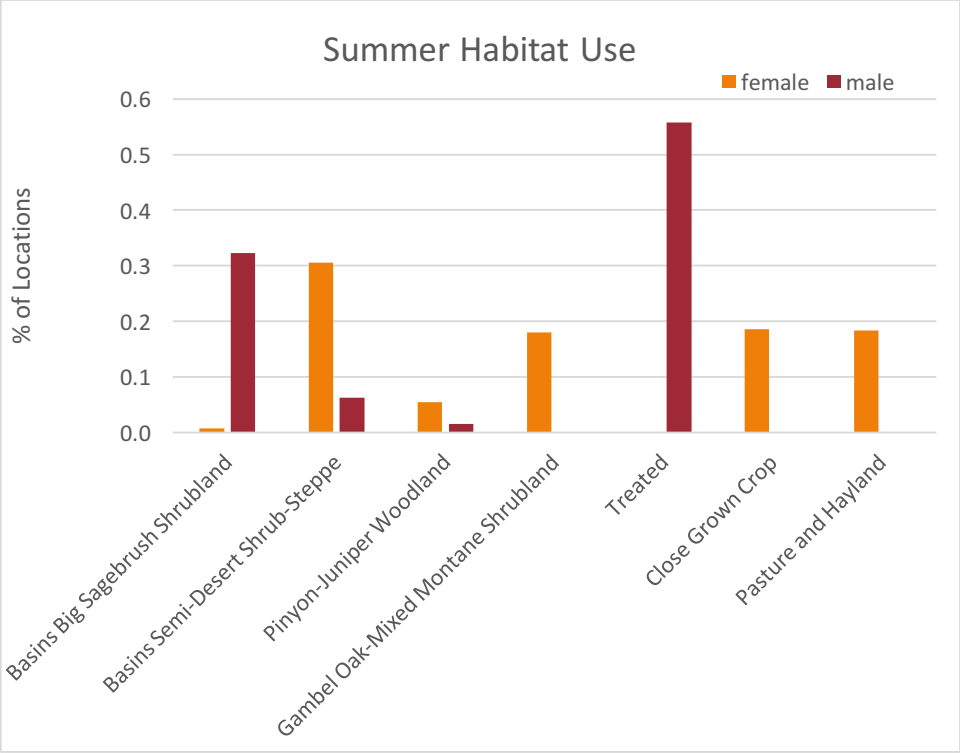


Table 4: The proportion of locations (>10%) located in different vegetation types for male and female grouse, Alton Sink Valley, September 16, 2015 – October 31, 2015.

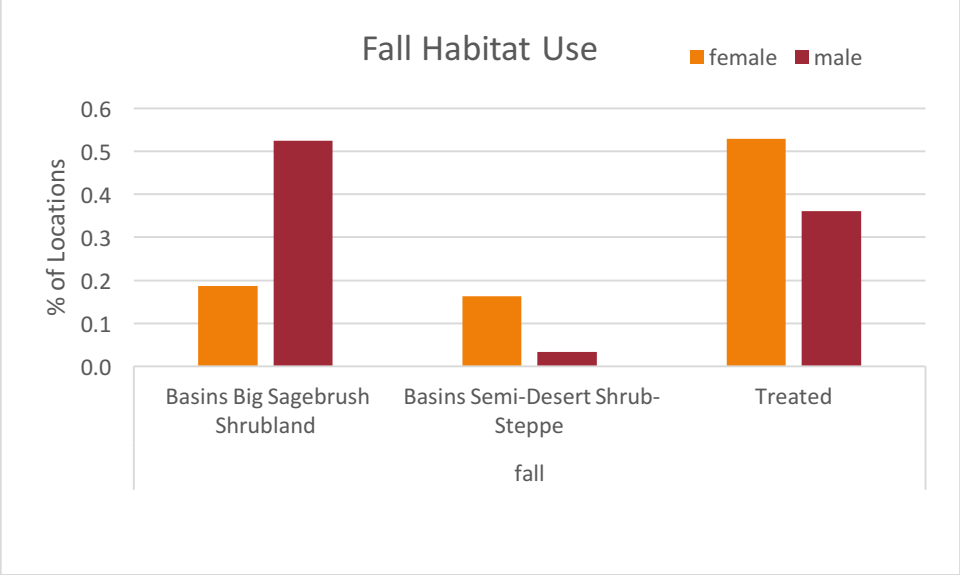


Table 5: The proportion of locations (>10%) located in different vegetation types for male and female grouse, Alton Sink Valley, November 1 – February 14 each year, 2014 and 2015.

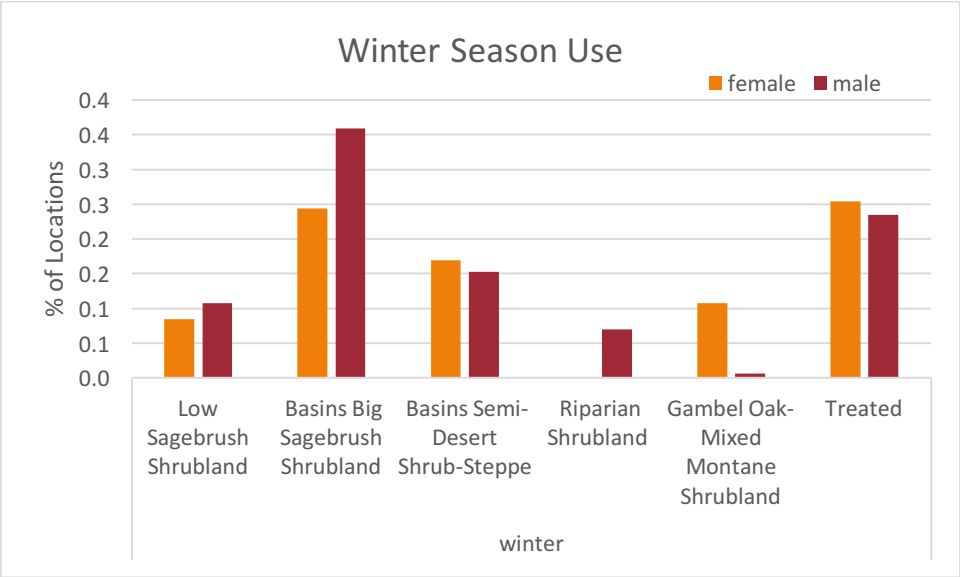
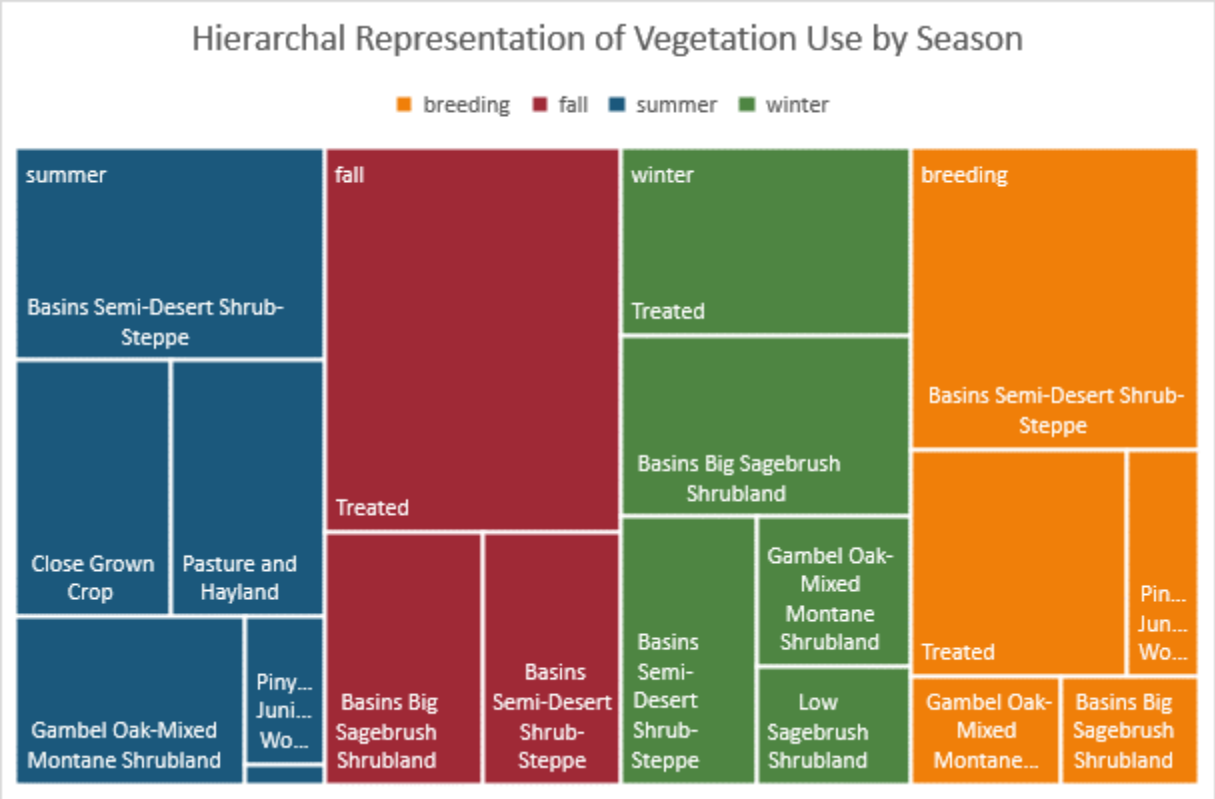


Figure 6: A hierarchal representation of vegetation use by 2 Greater sage-grouse by season, November 2014 – December 2015.



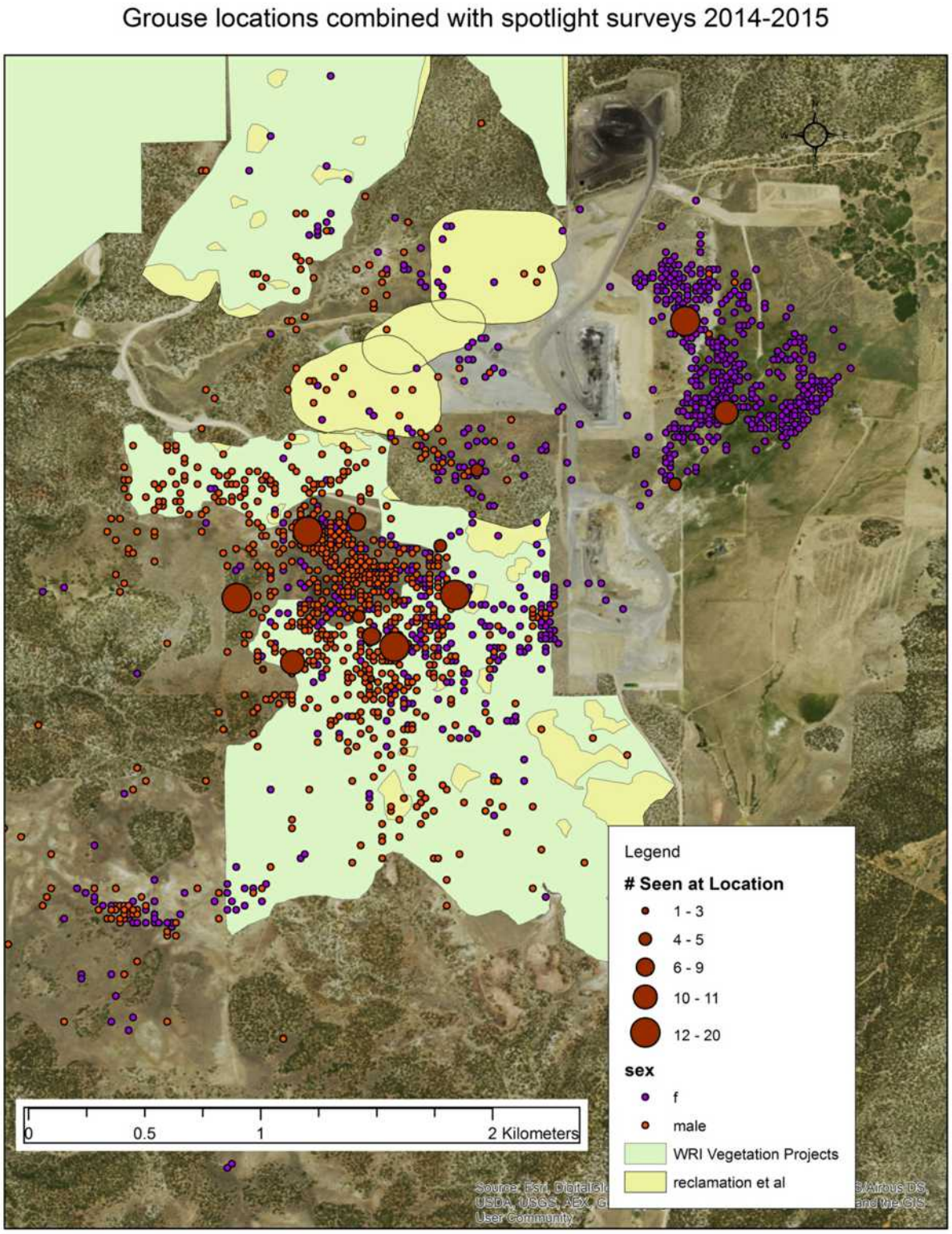
4 FUTURE SUGGESTIONS

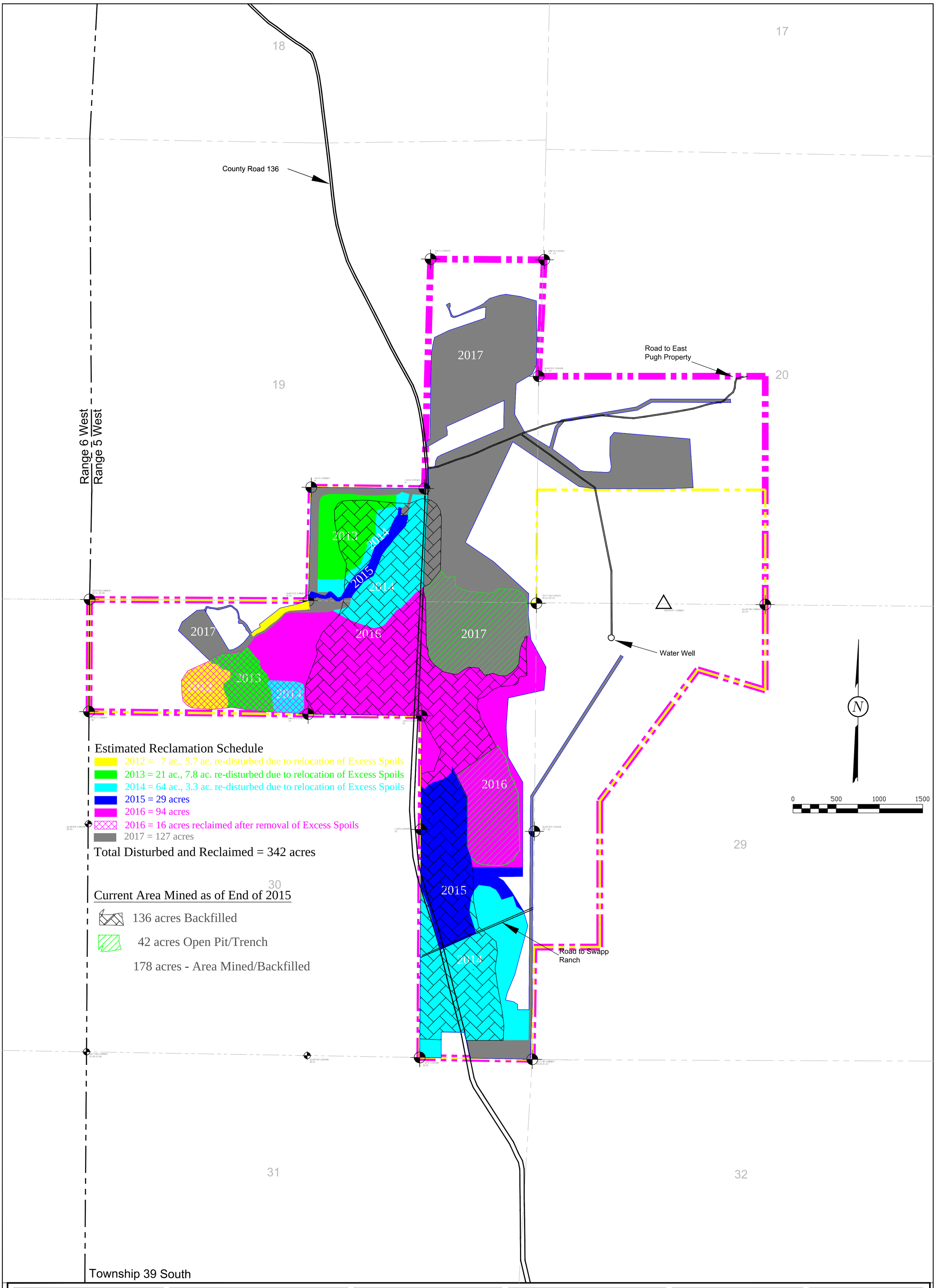
This first year of data analysis does illustrate home range size and habitat use patterns of 2 grouse in the Alton Sink-Valley area. This data can be used to illustrate the potential of use, and possible use patterns of the other birds within the population. However, because of the sample size, one cannot say that an absence of a location in an area is an absence of use of an area by Greater sage-grouse.

I suggest that we continue to collect data on Greater sage-grouse in this area, to increase the sample size of the number of birds that we are capturing data from. An increased sample size will increase the variability of habitat use in the area, and also highlight areas of concentrated use. Several years of monitoring will provide data during a selection of seasonal variation of snow, rainfall, and temperature. Knowing how the grouse respond to seasonal and annual changes will improve our ability to understand habitat use and home range size.

In the future, we propose to incorporate the telemetry data with spot-light survey data. This will combine spatial accuracy of grouse with a high-detail in time with data that illustrates the number of birds using each area (Figure 7). It will provide a better understanding of the importance of each telemetry location. For example, if a study bird is located with a flock of 10 other birds, then we know that its locations are common, rather than an exception. I provide a map of what the combined data will look like; however, I have not had time to assess the relationship between the spotlight surveys and the GPS locations.

Figure 7: A depiction of grouse GPS location data and spotlight surveys in the Alton Sink Valley area, November 2014 – December 2015.





LEGEND:

- PERMIT BOUNDARY
- PRIVATE COAL OWNERSHIP
- SECTION LINE
- FOUND SECTION CORNER
- FOUND PROPERTY CORNER
- POSTMINING ROADS

DRAWN BY:	CHECKED BY:
K. NICHOLES	LWJ
DRAWING: 5—38	DATE: 12/18/2014
	SCALE: 1" = 500'
JOB NUMBER: 1400	SHEET

REVISIONS

DATE:	BY:
03/05/14	KN
03/31/16	KN

RECLAMATION SEQUENCE

COAL HOLLOW PROJECT
ALTON, UTAH

DRAWING: 5-38

UTAH REGISTERED #154168 DAN W. GUY PROFESSIONAL ENGINEER

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

PETERSEN HYDROLOGIC

28 March 2016

Mr. Kirk Nicholes
Environmental Specialist
Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84721

Kirk,

At your request, I have performed an evaluation of Coal Hollow Mine water discharges during 2015 as specified in Stipulation #5 of the approved Coal Hollow Mine Mining and Reclamation Plan. The stipulation states that the applicant will be required to evaluate discharges from the mine to determine impacts to the designated alluvial valley floor (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.

During 2015 there were several UPDES discharges of water from the Coal Hollow Mine. These discharges occurred during the months of March, September, October, November, and December 2015. Discharge rates and water quality parameters measured for the UPDES discharges from the Coal Hollow Mine during 2015 are summarized in Table 1. These discharges were intermittent and occurred primarily in response to significant precipitation and snowmelt runoff events during 2015. The reported discharges from the UPDES discharge points during 2015 ranged from 0.001 gpm to 132 gpm.

In several traverses of the Lower Robinson Creek stream channel within the designated Kanab Creek AVF area during 2015, there were no indications that the discharges of water from the Coal Hollow Mine had caused adverse impacts to the stream channel. No increased erosion in the stream channel was identified that could be attributed to the addition of the Coal Hollow Mine discharge water to Lower Robinson Creek. This finding is not unanticipated, as much larger discharges of water occur periodically in Lower Robinson Creek. Discharge rates measured in the drainage have exceeded 8,000 gpm, which exceeds the 2015 pond UPDES discharges by many times.

2695 N. 600 E. LEHI, UTAH 84043 (801) 766-4006

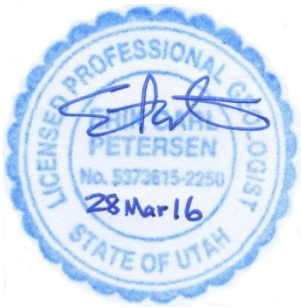
It should be noted that the surface water in Lower Robinson Creek does not contribute to the essential hydrologic function of the designated AVF in Kanab Creek. Lower Robinson Creek is incised within its channel in the AVF area and the water in the stream is not used for irrigation or sub-irrigation activities at the site. There are no irrigation diversions on Lower Robinson Creek in the AVF area. The lowermost irrigation diversion on Kanab Creek regionally (which is the source of irrigation water for the designated AVF) is located above the confluence of Lower Robinson Creek and thus the AVF was not influenced by the water in Lower Robinson Creek during 2015.

The overall quality of the Coal Hollow Mine discharge, as reflected by the total dissolved solids (TDS) concentrations of the waters was generally equal to or better than the surface water naturally present in Lower Robinson Creek in the absence of mine discharge water (see monitoring data for site SW-101, BLM-1 and SW-5 in the Division of Oil, Gas and Mining hydrology database). The TDS concentrations of all 2015 UPDES discharge waters were within the limits of the beneficial use standards for TDS. It is noted that the total suspended solids (TSS) and total iron concentrations of the UPDES discharge water exceeded the permit limits on a few occasions during 2015 (Table 1). Oil and grease was not detected in any of the UPDES discharge samples during 2015. Dissolved selenium concentrations were low (<0.05 mg/L) for all 2015 UPDES discharges. The pH levels of all UPDES discharge waters during 2015 were within the UPDES limits of 6.5 to 9.0.

Based on these considerations, it is our finding that there were no appreciable impacts to the designated AVF on Kanab Creek resulting from the intermittent discharge of water from the Coal Hollow Mine during 2015.

Please feel free to contact me should you have any questions in this regard.

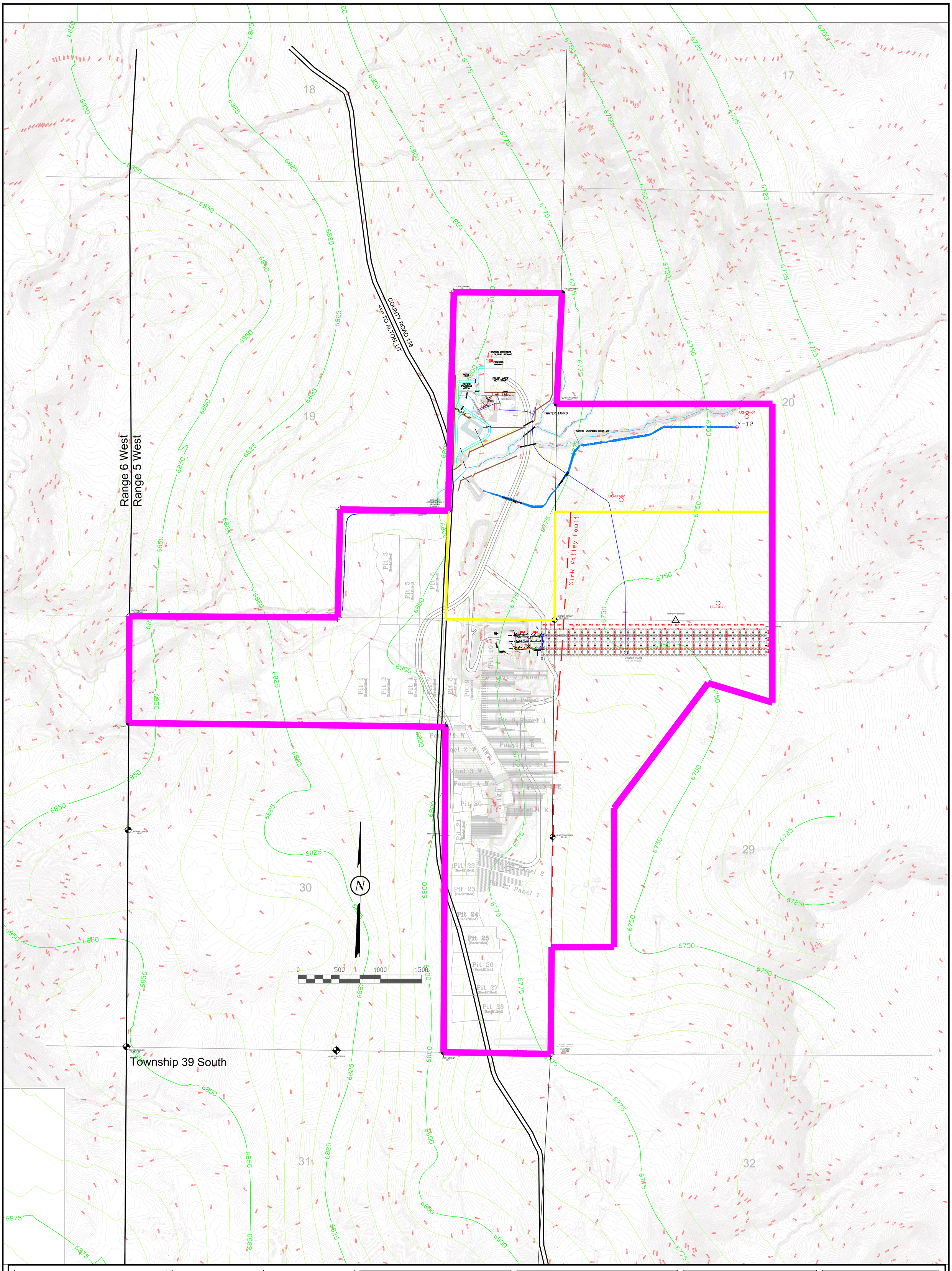
Sincerely,



Erik C. Petersen, P.G.
Principal Hydrogeologist
Utah PG #5373615-2250

Table 1 UPDES discharge monitoring data from the Coal Hollow Mine for 2015.

	Date	Flow (gpm)	TDS (mg/L)	Fe(t) (mg/L)	Oil & Grs. (mg/L)	pH	Se (d) (mg/L)	Set. Sol (ML/L)	TSS (mg/L)
Outfall 001	24-Mar-15	15.8	744	ND	ND	8.5	0.0005	---	ND
Outfall 001	17-Sep-15	7.2	788	0.03	ND	8.7	0.04	---	ND
Outfall 001	24-Sep-15	50.0	932	0.66	ND	8.0	0.05	---	40
Outfall 001	13-Oct-15	50.0	420	0.74	ND	7.7	0.02	---	13
Outfall 001	20-Oct-15	6.2	368	1.55	ND	8.0	0.02	ND	72
Average		**25.8**	**650.4**	**0.7**	**ND**	**8.2**	**0.026**	**ND**	**41.7**
Outfall 001B	23-Sep-15	50.0	508	0.33	ND	7.9	0.02	---	18
Outfall 001B	20-Oct-15	5.9	468	2.16	ND	8.0	0.03	ND	50
Average		**28.0**	**488**	**1.25**	**ND**	**8.0**	**0.025**	**ND**	**34**
Outfall 002	24-Mar-15	0.5	1170	0.04	ND	8.7	0.0028	---	4
Outfall 002	24-Sep-15	0.001	584	0.54	ND	7.8	0.04	---	21
Outfall 002	28-Sep-15	50.0	576	0.7	ND	7.4	0.03	---	4
Outfall 002	20-Oct-15	6.0	412	0.62	ND	7.9	0.03	ND	14
Outfall 002	26-Oct-15	2.3	400	0.27	ND	7.8	0.03	---	5
Outfall 002	2-Nov-15	2.5	440	0.51	ND	7.7	0.04	ND	13
Average		**10.2**	**597**	**0.45**	**ND**	**7.9**	**0.029**	**ND**	**10**
Outfall 003	20-Mar-15	25	724	0.35	ND	8.4	0.0020	---	14
Outfall 003	24-Mar-15	0.3	680	0.29	ND	9.0	0.0022	---	7
Outfall 003	17-Sep-15	20.0	580	1.9	ND	7.8	ND	---	26
Outfall 003	20-Sep-15	132.0	592	1.61	ND	8.4	ND	---	12
Outfall 003	20-Oct-15	24.0	684	4.56	ND	8.6	ND	ND	81
Outfall 003	30-Oct-15	40.0	528	4.99	ND	7.7	---	ND	296
Outfall 003	2-Nov-15	30.0	588	1.32	ND	8.1	0.02	ND	24
Outfall 003	9-Nov-15	30.0	584	1.09	ND	7.9	0.02	---	20
Outfall 003	18-Nov-15	30.0	612	1.75	ND	7.9	0.0033	---	80
Outfall 003	23-Nov-15	30.0	612	0.64	ND	8.2	0.0028	---	20
Outfall 003	30-Nov-15	30.0	692	0.12	ND	8.3	0.03	---	10
Outfall 003	7-Dec-15	30.0	752	0.19	ND	8	0.03	---	10
Average		**35.1**	**636**	**1.57**	**ND**	**8.2**	**<0.020**	**ND**	**50**
Outfall 004	22-Oct-15	6.0	316	1.08	ND	8.4	0.0009	ND	6
Outfall 004	26-Oct-15	6.0	292	0.65	ND	8.2	0.02	---	6
Average		**6.0**	**304**	**0.87**	**ND**	**8.3**	**0.010**	**ND**	**6**



LEGEND:

- PERMIT BOUNDARY
- PRIVATE COAL OWNERSHIP
- TOP OF COAL CONTOUR
- SURFACE CONTOUR
- SECTION LINE
- FOUND SECTION CORNER
- FOUND PROPERTY CORNER

DRAWN BY:	CHECKED BY:
ARC	DWG
DRAWING: 1 of 1	DATE: 7/21/2015
	SCALE: 1" = 500'
JOB NUMBER:	SHEET

REVISIONS

DATE:	BY:
1/1/2016	AC

MINE MAP
Coal Hollow Mine

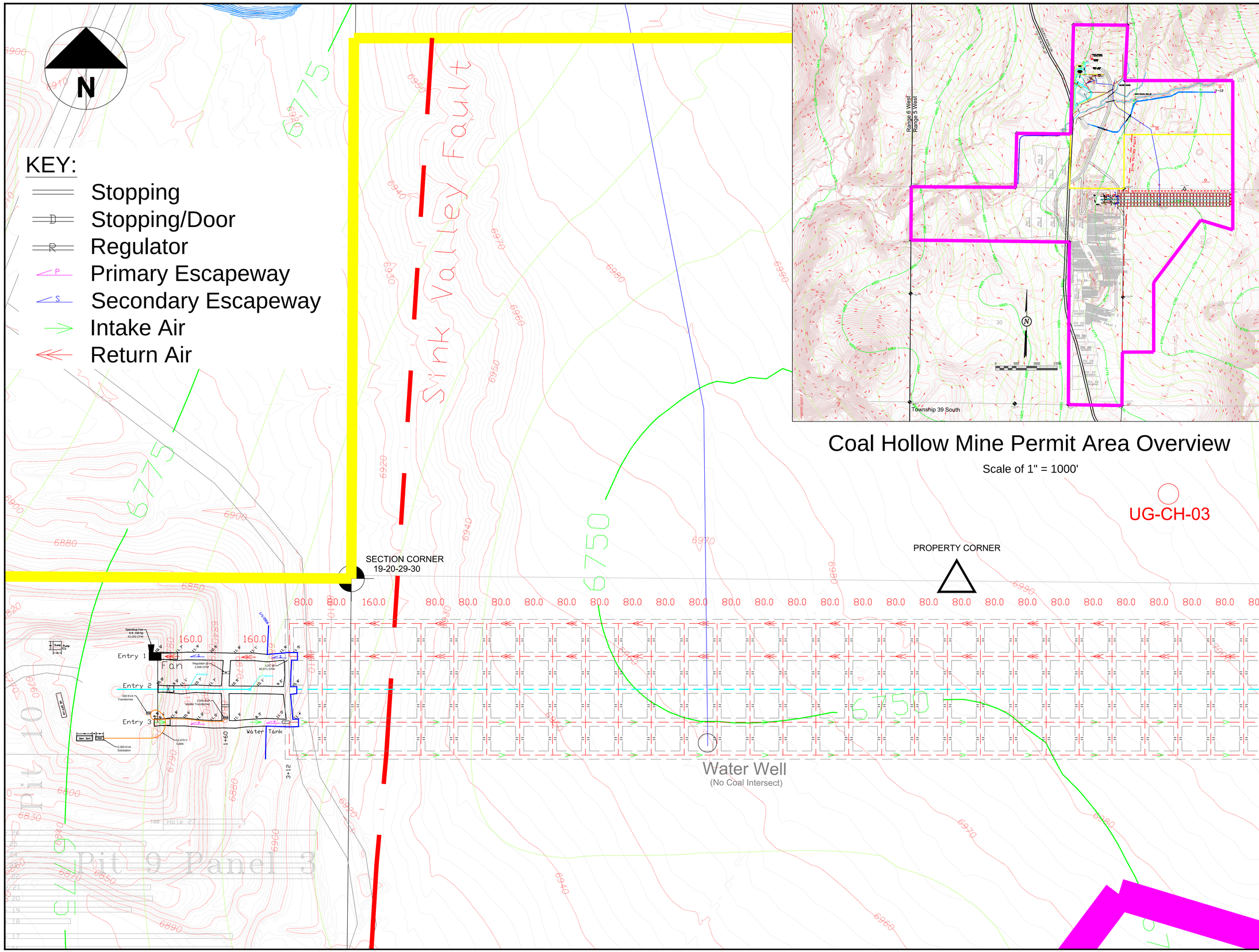
MSHA ID - 42-02519

COAL HOLLOW PROJECT
2060 S. ALTON ROAD
ALTON, UTAH

DRAWING: 1 of 1

Alton Coal Development
Coal Hollow Project

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



Coal Hollow Mine Permit Area Overview

Scale of 1" = 1000'

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

MINE MAP
Burton #1 Mine
MSHA ID - 42-02639

COAL HOLLOW PROJECT
2060 S. ALTON ROAD
ALTON, UTAH
DRAWING: 1 of 1

REVISIONS

DATE:	BY:
1/6/2016	AC

DRAWN BY: ARC	CHECKED BY: DWG
DRAWING: 1 of 1	DATE: 7/21/2015
	SCALE: 1" = 100'
JOB NUMBER:	SHEET

LEGEND:
- PERMIT BOUNDARY
- PRIVATE COAL OWNERSHIP
- TOP OF COAL CONTOUR
- SURFACE CONTOUR
- SECTION LINE
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- FOUND PROPERTY CORNER