C/025/005 Incoming
#4504

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

January 21, 2014

RECEIVED
JAN 23 2014
DIV. OF OIL, GAS & MINING

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

Subject: Addition of Annual Sage-grouse Report to the MRP; Alton Coal Development LLC, Coal Hollow Mine, C/025/0005

Dear Mr. Haddock,

Alton Coal Development, LLC is providing the 2013 Greater Sage-grouse Population Monitoring and Habitat Improvement, Progress Repot to be added to the MRP, Chapter 3, Appendix 3-6.

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: Addition , Chapter 3, MRP, Annual Sage-grouse Report

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

Remove reference to contract miner

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

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

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

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

B. Kirk Nicholes	Environmental Specialist	04/10/2013	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 22 day of January, 2014

Notary Public: Marty Nicholes, state of Utah.

My commission Expires: Sept 11, 2017
Commission Number: 670359
Address: 1670 E Millstone Cir
City: Enoch State: UT Zip: 84721

} ss:

Notary Public
MARTY NICHOLES
Commission #670359
My Commission Expires
Sept 11, 2017
State of Utah

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: Addition , Chapter 3, MRP, Annual Sage-grouse Report

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	MRP, Chapter 3, Appendix 3-6, Greater Sage-grouse Population Monitoring and Habitat Impr
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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

Greater Sage-grouse Population Monitoring and Habitat Improvement

Progress Report

For

Alton Coal Development, LLC

October 24, 2013
Updated December 30, 2013

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

Greater Sage-grouse Population Monitoring and Habitat Improvement Progress Report

Steven L. Petersen, Ph.D., Consultant

FOR YEAR 2013

A well established and long-term resident population of greater sage-grouse lives within the Alton/Sink Valley region. Additionally, this area supports and ongoing surface coal mine operated by Alton Coal Development (ACD). ACD recognizes the importance of protecting the local sage-grouse population that utilize this area, with a specific effort aimed toward ensuring habitat quality and the safety of the birds from mining activities. ACD has established a conservation and habitat improvement program with specific monitoring protocols, effective habitat restoration and mitigation strategies, and specific planning and reporting procedures. These plans are implemented and then reevaluated on an annual basis. An important component to this effort of conserving greater sage-grouse is the close cooperation and participation of the Utah Division of Oil, Gas, and Mining (UDOGM), the Utah Division of Wildlife Resources (UDWR), the Color Country Adaptive Resource Management group (CCARM), and the Bureau of Land Management (BLM).

The purpose of this report is to present the 2013 sage-grouse population monitoring and habitat improvement work that has been completed since January 2013. In particular, this document identifies those efforts that were implemented to protect the resident sage-grouse population and to ensure adequate habitat for sustaining the current and potentially increasing sage-grouse population. Sagebrush habitat conservation is emphasized focusing on those areas where birds are known to be found consistently. This plan also establishes the priorities and goals for the remainder of 2013 and the 2014 calendar year.

During the past 10 months, Alton Coal Inc. has completed the previously stated tasks and responsibilities that were established through formal agreements with the Department of Oil Gas and Mining and Utah Department of Wildlife Resources. These efforts have also met or exceeded expectations identified by the Bureau of Land Management in Memorandum No. 2012-043 including short-term treatment implementation and monitoring activities and long-term habitat improvement goals.

Table of Contents

Sage-grouse Population Monitoring

Employee Observations and Sage-grouse Population Monitoring

Each ACD employee is trained in sage-grouse identification and is required to report any observations of birds made during the working hours. This information is reported to the ACD environmental manager (Kirk Nicholes) who logs the details of each observation (which are included in this report). The information is then recorded and mapped providing a record of sage-grouse population activity and habitat use within the Alton and Sink Valley areas (Figure 1). Table 2 reports each observation of greater sage-grouse that were made during the 2013 year by ACD employees.

Monthly Surveys

Each month sage-grouse surveys were conducted throughout the Alton area. The areas that were visited consistently included (Figure 2):

- Sagebrush flat, 0.5km south of the open coal pits (SF)
- Conservation area (CA)
- Mine sagebrush patch located south (SMSP) and north (NMSP) of the mine spoils piles.
- West sagebrush fields (WSF)
- Original lek (OL)
- Fords pasture (FP)
- Wet meadow (WM) located in grass/rush/sedge community surrounding the well.
- Rabbitbrush field (RF) where treatments have been applied to reduce rabbitbrush dominance.

Of all sites surveyed, birds were typically observed within the sagebrush field area or in close proximity (on or near) to the spoils pile. These data provide information regarding habitat use areas and to help pinpoint those regions that demand greatest conservation and monitoring efforts. Table 2 provides the number of birds observed during each monitoring period and the sites surveyed. Figure 2 displays those areas that were surveyed during each monthly visit.

Table 1. Observations of sage-grouse recorded in 2013 within the Alton region. Observations were made by employees of Alton Coal Development (ACD) or other reliable sources.

Date	Time of observation	Number of birds	Location	UTM Coordinates
January 29	7:30 am	2	Observed at the junction of pond 3 and the spoils pile road	353157 E 1766204 N
February 1		1	Observed immediately south of the new spoils pile reclamation area	352666 E 1765713 N
February 11	6:20 pm	20	Flew overhead a D11 tractor in the south end of pit 8	352654 E 1768089 N
February 21		11	Observed at the intersection of the spoils pile and the pit haul road	353795 E 1767742 N
February 21	7:30 am	2	Observed near the spoils pile	353017 E 1766277 N
February 22	7:30 am	18	Observed near the spoils pile	352999 E 1766442 N
March 8	7:00 am	12	Observed near 4-way intersection	353849 E 1767623 N
March 8	7:30 am	5	Topsoil stockpile #4	354465 E 1768540 N
March 11	7:30 am	2	Observed near 4-way intersection	353939 E 1767542 N
March 13	7:00 am	11	Topsoil stockpile #4	354359 E 1768557 N
March 13	7:20 am	1 male 7 hens	Red dog hill dropping off down to pond 3 (male chasing a hen, 6 others flush)	353371 E 1765812 N
March 13	8:44 am	6	South end of pit 8	352340 E 1768266 N
March 14	8:25 am	7	Birds were observed flying from the location where males were strutting towards the mine area (possibly where the lone male was strutting)	349575 E 1765697 N
March 26	8:38 am	11	10 males in the sagebrush field, 1 male on the ridge (lek)	349570 E 1765456 N
April 9	7:00 am	1	Hen at the water well	353623 E 1770248 N
April 11	7:00 am	3	Hen at the water well	353514 E 1770230 N
April 22		10	In grassy area just south of excess spoils pile. 1 male, 9 females	352471 E 1766432 N
May 17		22+	By cattle guard near sagebrush field	352284 E 1764528 N

Table 1 (*continued*).

Date	Time of observation	Number of birds	Location	UTM Coordinates
June 22		6	1 hen, 5 chicks observed in the area between the water well and Swapp ranch	353067 E 1770470 N
June 22		3	1 hen, 2 chicks observed near Robinsons at BLM sample 1 location	354250 E 1766291 N
June 25		7	3 adults, 4 chicks observed dear Daryl Sorensen's residence	348879 E 1770395 N
June 28		6	1 hen, 5 chicks near water well	353658 E 1770416 N
July 2	7:00 am	1	Observed near topsoil stockpile #4	354471 E 1768696 N
July 3	9:40 am	4	1 hen, 3 chicks at the north end of the traditional lek	350085 E 1768288 N
July 6	12:42 pm	6	1 hen, 5 chicks in orchard	353516 E 1770393 N
July 6		1	Observed at Pew's place	353788 E 1770522 N
July 6		20	Observed at the bottom of the orchard	353516 E 1770393 N
July 16	7:30 am	4	Old county road where it enters pit 8 from the south	352418 E 1767956 N
July 17	1:00 pm	4	Old county road where it enters pit 8 from the south	352380 E 1767858 N
July 18	8:45 am	4	Old county road where it enters pit 8 from the south	352283 E 1767907 N
July 18	9:20 am	7	On county bypass road	351707 E 1764874 N
August 6	9:10 am	12	Grouse fly over reclamation on west end of spoils pile to pond 3 during Young Ranchers tour with Kevin Heaton.	353514 E 1765345 N
August 13	8:30 am	3	Observed at high wall near pit 9	352967 E 1768338 N
August 14	9:00 am	7	Observed near gate to south county road	352304 E 1767825 N
September 27		12	Observed on county by-pass at the crossover from the cattle guard heading south to the left.	352240 E 1764610 N
September 27		15	Observed while flagging the mitigation project area	350933 E 1767066 N
September 27		5	West site of county bypass (in the trees)	350197 E 1767058 N

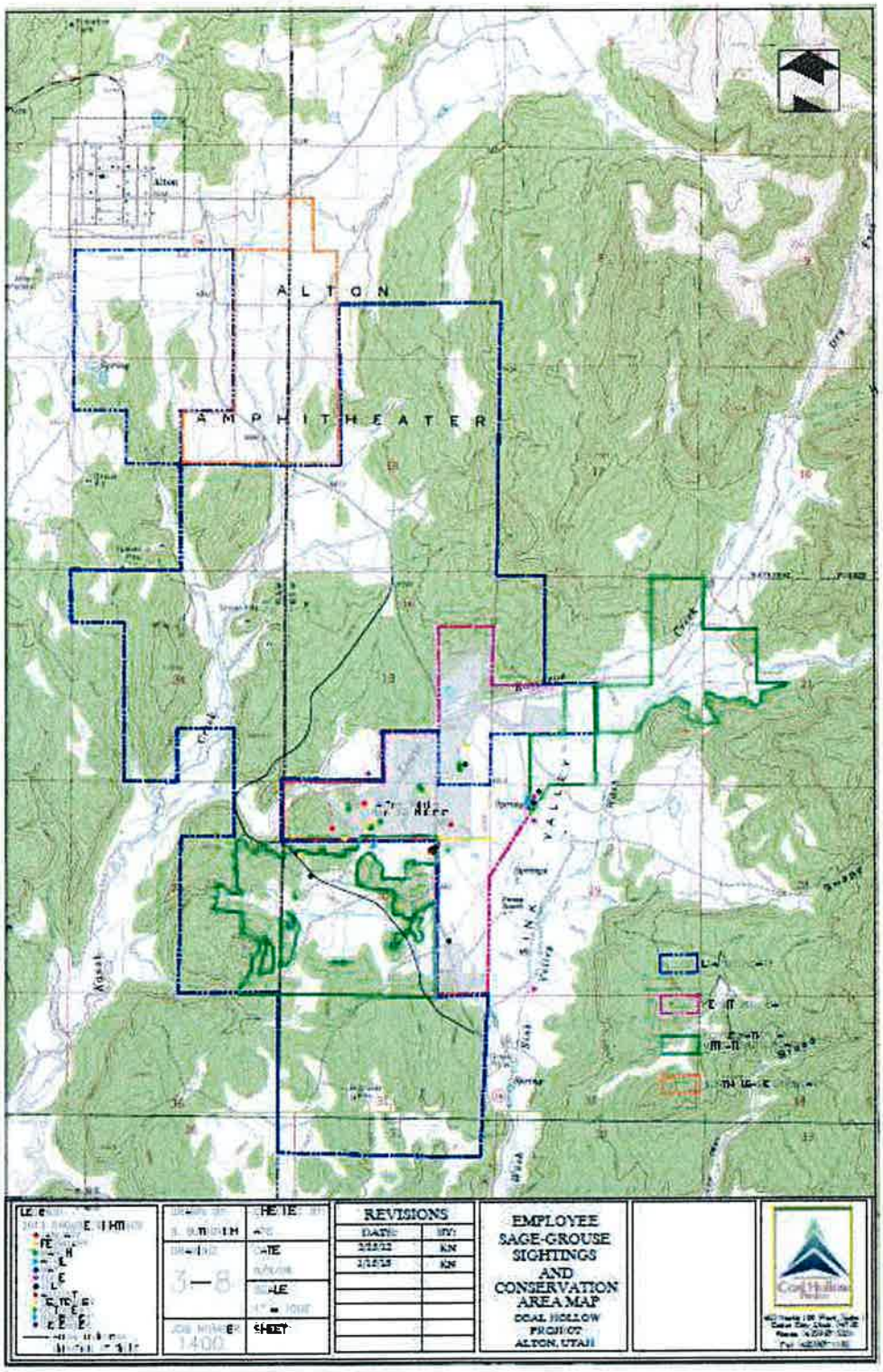

Figure 1. Location of sage-grouse observations made by ACD employees. See full size insert for higher detail.

Table 2. Observations from monthly surveys conducted by Petersen and Nicholes.

Date	Time of observation	Number of birds	Location
June 24	8:00 am	25	Surveyed SF, MSP, HL, WSF, Well, and CA. 3 birds observed at the SF. 7 flushed at MSP. 3 hens were flushed with 12 chicks near the well/pump.
July 25	7:20 am	36	Surveyed SF, MSP, HL, WSF, Well, and CA. 24 birds flushed from the SF area. 12 birds were flushed at the well.
August 30	9:30 am	35	Surveyed SF, MSP, HL, WSF, Well, and AF. Flushed 23 birds in the SF. 15 were flushed from the well area.
September 21	7:45 am	61	Surveyed SF, MSP, HL, Well, and FP. Counted two groups of birds in the SF. The first flock had 41 birds and the second 20.
October	10:00 am	5	Birds were flushed from an area that had been cut 3 days before. This area was located south of SF.
October 26	9:00 pm	58	Surveyed SF, MSP, HL, FP, Well, CA. Spotlighted 6 roosting birds (2 groups) at Fords Pasture. Flushed 52 birds at the sagebrush field.
November 30	7:00 am	40	Surveyed SF, MSP, HL, FP, Well, CA, WSF. Flushed 40 birds in one group at the sagebrush field.
December 29	9 pm - 2 am	54	Surveyed SF, MSP, HL, FP, Well, CA, AF. Spotlighted and flushed 47 birds in the middle of the sagebrush field. Observed 2 birds on the hill near the MSP and 7 birds in the MSP. These 9 birds may have been a part of the original 45 flushed birds.

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, **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, **Well** = grassy area located adjacent to the well (pump) south of the conservation area, **CA** = conservation area.

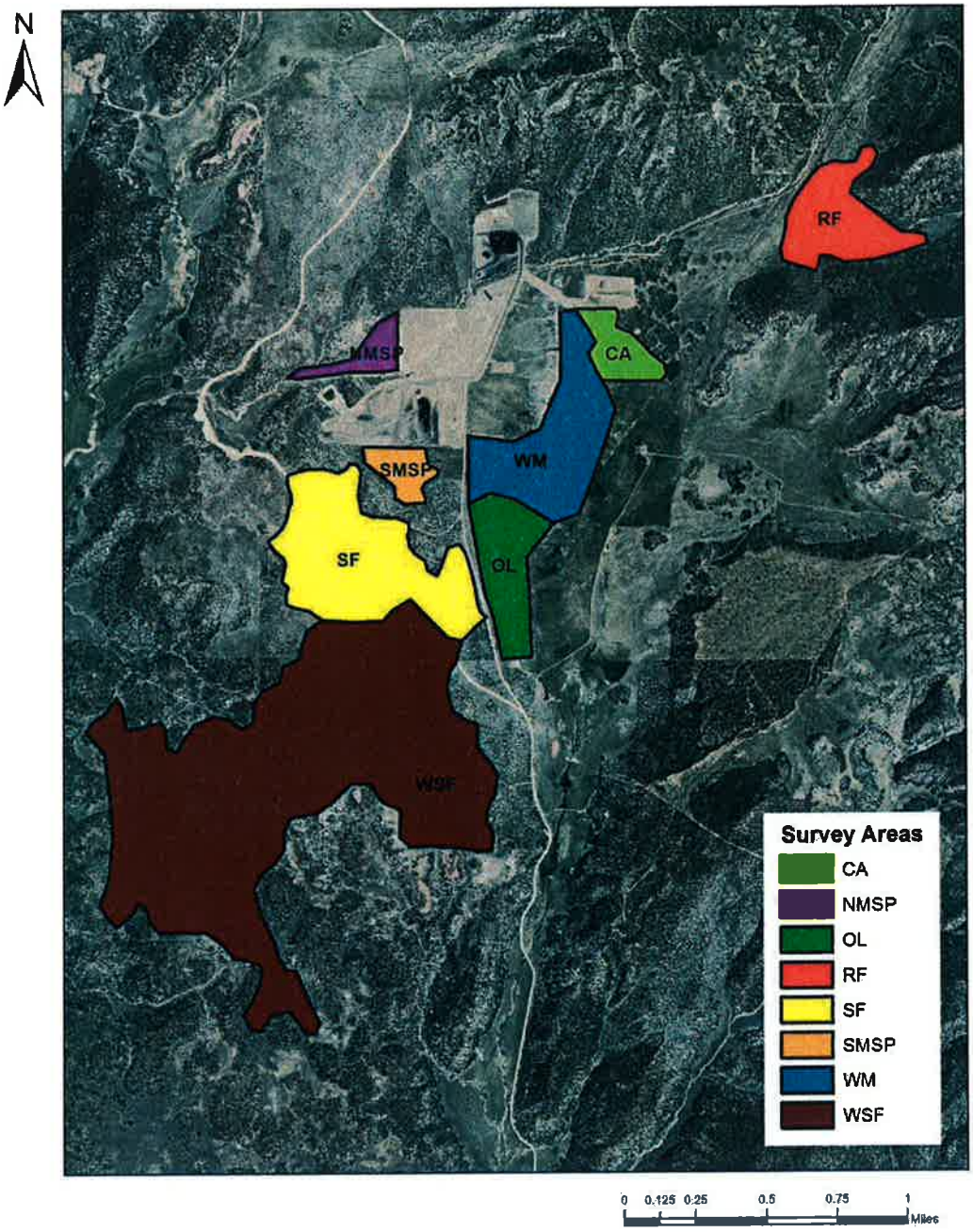

Figure 2. Location of survey areas for greater sage-grouse during the 2012 monitoring season. CA = Conservation area, NMSP = North mine sagebrush patch, OL = Original lek, Rabbitbrush field, Sagebrush flat, SMSP = South mine sagebrush patch, WM = Wet meadow, and WSF = West sagebrush fields. Additional sites not shown above include the corridor (C) and the alfalfa fields (AF) south of Alton.

Lek Monitoring

Lekking activities were monitored between late February and early May. There are no reports of birds displaying at the original lek during the 2013 breeding period. All mating activities were concentrated at the new lek, located on the hillsides south of the sagebrush field, or along the tree edge at the west end of the same field (Figure 3, Table 3). Several lek surveys were conducted around the mine during the mating season, but specific counts were limited to displaying or roosting males. The Utah DWR also conducted sage-grouse counts at the new and original lek. They report a total of 12 birds displaying on the new lek site. No surveys were conducted in the sagebrush field until late June when it was determined that hens had completed nesting. Surveys during this time were still carefully conducted to avoid flushing hens with chicks.

Figure 3. Locations of 2012-13 lekking activities within the Sink Valley area. Red/pink areas identify those sites where birds were observed displaying in 2013. Both sites are considered a new lek. The blue/white circle is the location of the alternate lek site where decoys were displayed and the sounds of strutting birds were broadcast over a loudspeaker placed in the middle of the simulated lekking area. The blue/pink circle is the historic lek where one male was observed strutting (in mid February by Harry Barber) and later decoys were displayed and sounds broadcast (in mid March) with no sign of strutting male activity.

Calling Sage-grouse at the New Lek

To encourage breeding activities, a sage-grouse strutting display call was played at the new lek area by Kirk Nichols and Joe Helfrich. They noticed that bird breeding activities increased while the call was played (personal communication with Helfrich and Nicholes 2013). Birds responded to these auditory cues noted by the change from standing to displayed behavior while the play

was called. Kirk and Joe also played the same call at the Fords Pasture area to see if any birds responded with lekking behavior. No birds were observed.

Table 3. Lek counts at the Alton / Sink Valley lek (2013)

Date	Time of observation	Number of birds	Location
March 14	8:05 am	1	Male strutting on spoils pile
March 14	8:20 am	4	Males strutting on ridge south of the SF
April	8:00 am	12	Strutting males on the south slope of the SF
May 6	8:30 am	9	Observed roosting adult males in full breeding plumage just south of the SF.

Vegetation Monitoring of Key Habitat Areas

In 2012, a field of rubber rabbitbrush (*Chrysothamnus nauseosus*) was treated with herbicide (Tordon 22k) to reduce rabbitbrush cover and dominance, and increase the potential for sagebrush recovery (Figure 4; see the 2012 ACD annual report for a detailed description of the herbicide application). Pre-treatment baseline data were collected within the rabbitbrush treatment area prior to spraying. One year after treatment, the same type of data were collected to 1) evaluate the amount of shrub mortality resulting from the herbicide treatment and 2) assess changes to plant community structure focusing on sage-grouse habitat. This information makes it possible to evaluate the effectiveness of this treatment on plant community structure.

Methods

On September 21, 2013, vegetation samples were collected from 5 randomly located plots within the rabbitbrush dominated field. At each plot, shrub density and cover were measured along a 20m transect. Density was determined by counting all individual plants by species within a $1m^2$ area (20 quadrats per transect). Cover was determined using the line-point intercept method, with pin drop hits spaced 0.15m apart. At each point, the plant species or surface feature "hit" was recorded.

Figure 4. Treating rubber rabbitbrush using a truck-mounted sprayer in the valley east of the conservation area. Field data were collected before and after treatment to compare the effectiveness of this treatment method.

Results

Density

In 2013, total grass cover was the greatest in rabbitbrush treated habitat (9.9%; Figure 5), however there was little change in grass cover between pre and post-treatment samples. Total shrub cover was lower in post-treated habitat for rabbitbrush and higher for big sagebrush and snowberry (Figure 6). This indicates that a target community with sagebrush dominance may be achievable.

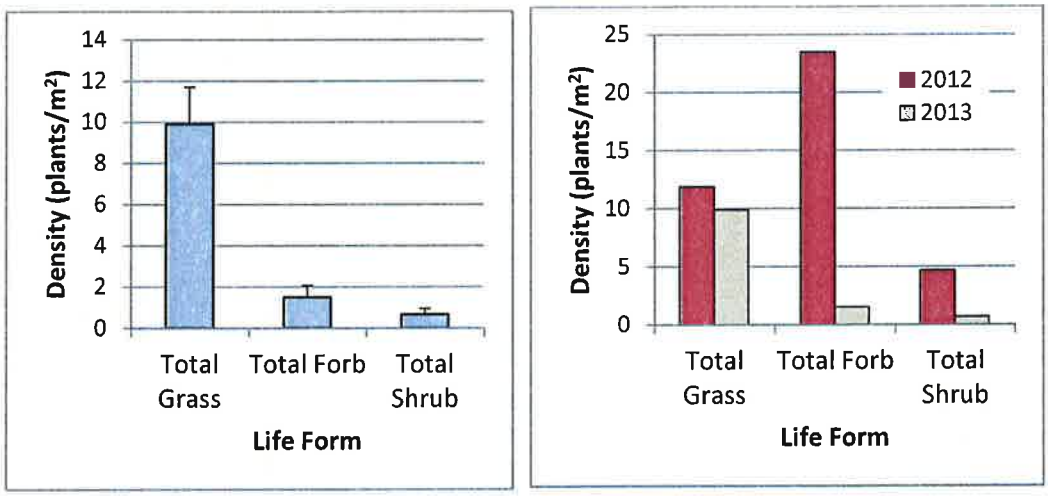

Figure 5. Density of grasses, forbs, and shrubs after chemical treatment of the rabbitbrush area. The graph on the left represents total density plus standard error for each life form class. The graph on the right compares plant density between pre-treatment (2012) and post-treatment (2013) plant communities.

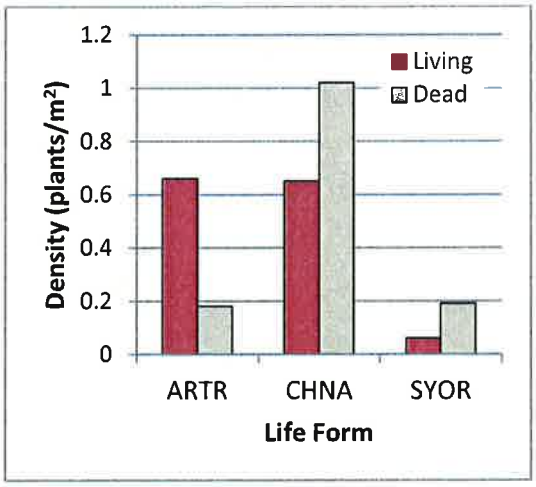

Figure 6. Comparison of living vs. dead shrubs one year after treatment. Shrubs include *Artemisia tridentata* (ARTR; big sagebrush), *Chrysothamnus nauseosus* (CHNA; rubber rabbitbrush, and *Symphoricarpos oreophilos* (SYOR; snowberry).

Cover

Within the rabbitbrush treated area, rubber rabbitbrush experienced the highest cover of dead shrubs (12.1%; Figure 7). Fine and large litter contributed to surface cover, however, these areas had a high percentage of bare ground both before and after treatment (Figure 8). Big sagebrush cover was higher in treated sites, whereas rabbitbrush and snowberry experienced a reduction in total shrub cover (Figure 8). This indicates that herbicide treatments can reduce rabbitbrush cover releasing resources for other plant establishment and growth, in particular big sagebrush.

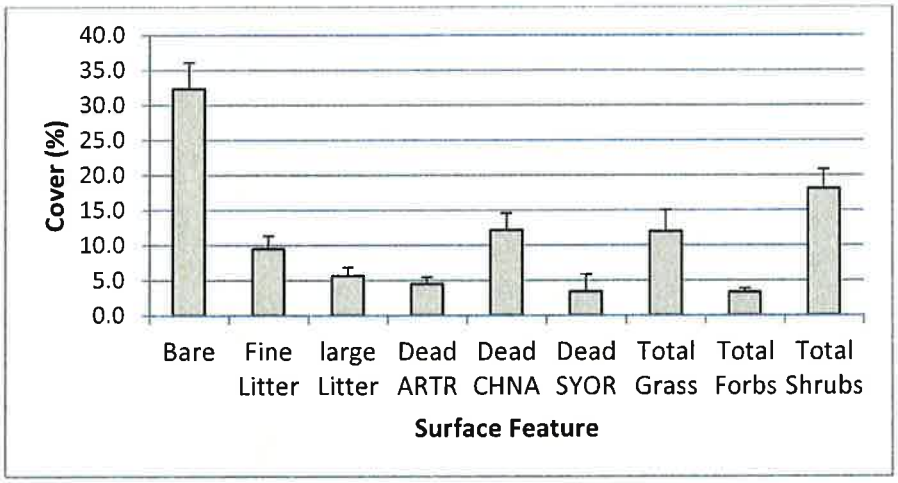

Figure 7. Percent cover of surface features in treated rabbitbrush plant communities. Fine litter consists of dead grass and small debris. Large litter consists of twigs and larger woody material.

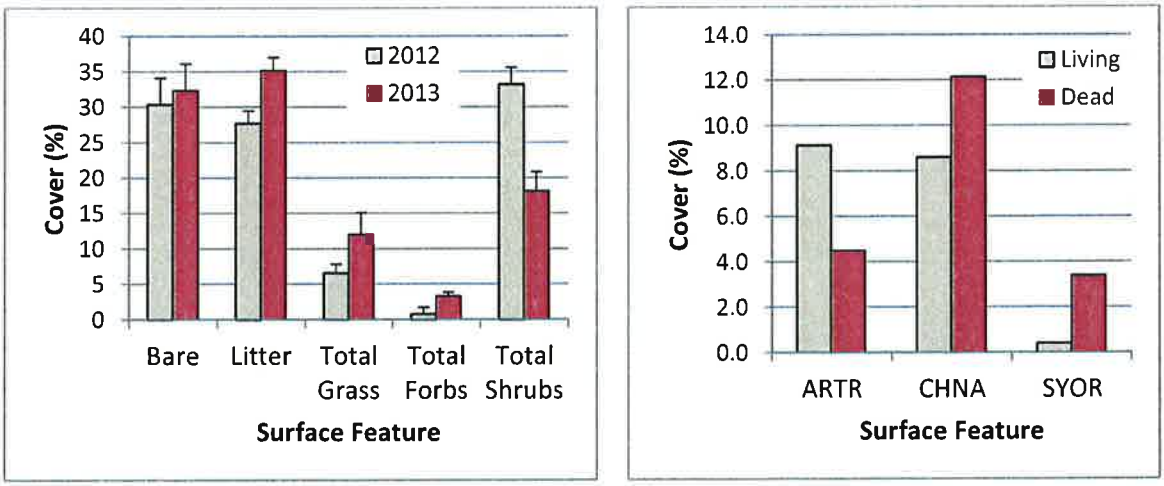

Figure 8. Percent cover of surface features (left) and dominant shrubs (right). Shrubs include *Artemisia tridentata* (ARTR; big sagebrush), *Chrysothamnus nauseosus* (CHNA; rubber rabbitbrush, and *Symphoricarpos oreophilos* (SYOR; snowberry).

Habitat Mitigation

Juniper Removal

The sagebrush field south of the mine area is critical habitat for greater sage-grouse in the Alton region. Throughout the year, sage-grouse can typically be found utilizing this field. Between 10-20 male birds have been found strutting on the hill adjacent to the field during the breeding season. There is also evidence that the sagebrush field is used for nesting and early brood-rearing (communication by Nicki Frey 2010) and flushing chicks (Petersen 2012). It is common to find birds using this field throughout the fall and winter months.

Within the sagebrush field and surrounding region (Figure 9), juniper tree encroachment has created a concern for sustaining the current sage-grouse population. To estimate the impact these trees are having on this region, 53 randomly located plots were identified within the habitat treatment area. At each random point, the total number of trees growing within a 100ft. radius around the center point were counted (approximately 0.72 acres). Much of this landscape had been bullhogged in 2006, subsequently only surviving trees were counted for this assessment. Based on these plot data, average tree density for the treatment area was calculated at approximately 27 trees per acre. Within the sagebrush field only, density was lower at 11 trees per acres, while the surrounding areas had 37 trees per acre.

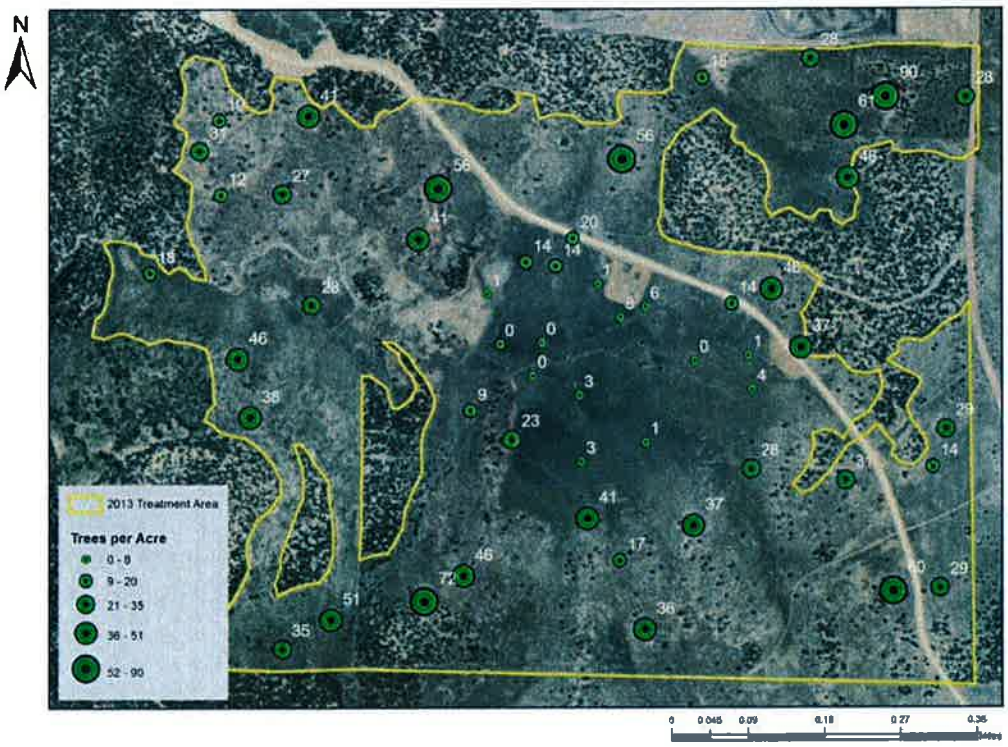

Figure 9. The number of trees per acre based on a 100ft sample area surrounding a plot center. Larger circles represent greater tree densities.

Because this area is potentially the most important habitat for sage-grouse in the Alton area, it is important to maintain high habitat quality for this area. During the first week of October, a crew employed by ACD cut all found trees within the treatment area. This treatment included the removal of trees in all size classes (Figure 10).

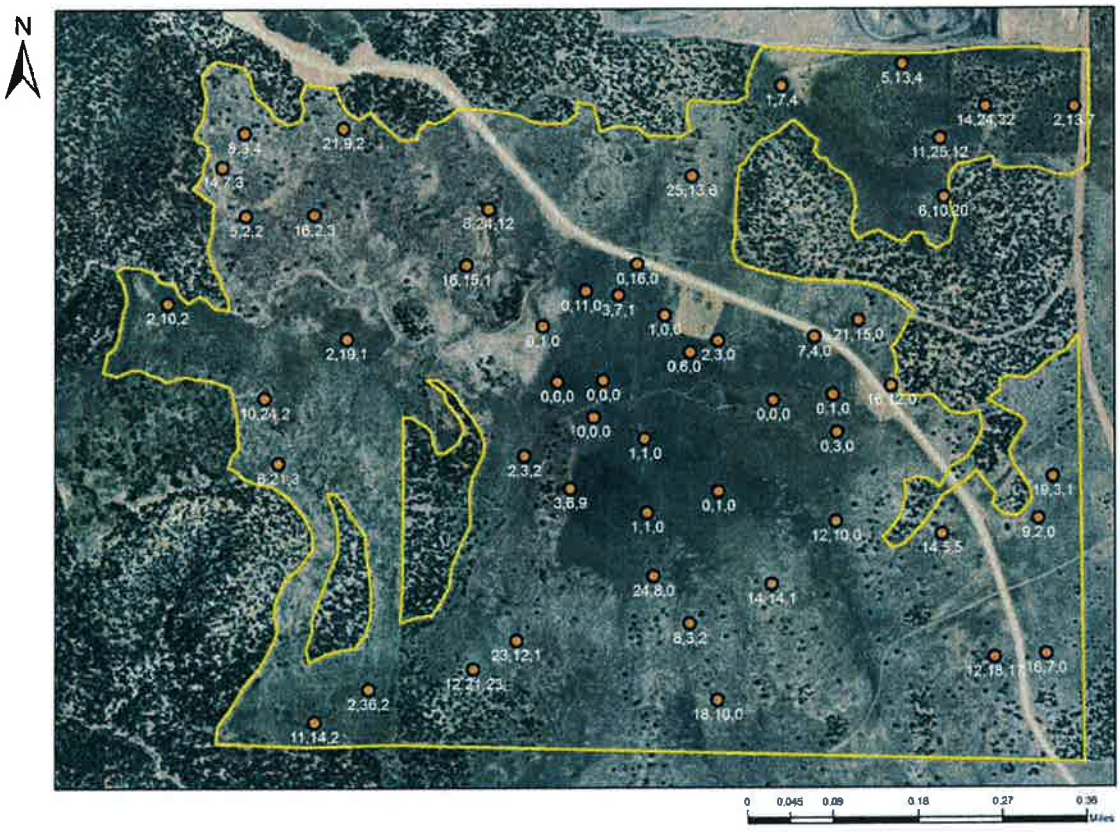

Figure 10. Size classes of trees occurring in each plot. Values reported next to each plot represent tree size classes of <2 ft tall, 2-10 ft tall, and >10 ft. tall, respectively.

To assess the potential impact of a juniper dominated stand (phase III closed canopy woodland) on sage-grouse habitat, the total number of trees growing in non-bullhogged areas. This made is possible to compare tree densities between juniper forests and the sagebrush field. Two random plots located in a juniper woodland area had a total of 92 trees (118 trees per acre) and 140 trees (179 trees per acre). These trees represent habitat not typically suitable for nesting and brood-rearing sage-grouse. The complete removal of these woodlands would increase potential habitat for this critically important area.

Spoils Pile Reclamation

Reclamation efforts were conducted on the spoils piles that were prepared for seeding during 2012. This area was contoured to mimic natural landscape topography and seeded with a mix

of native and introduced grasses and native forbs and shrubs. After seeding, soils were covered with a weed free straw mulch and then crimped to anchor the hay and reduce runoff. During the spring and early summer months, triticale established and eventually produced high cover and density. Desirable seeded plants had established between triticale plants where they are protected from excessive desiccation or soil erosion. By late summer, triticale cover was greatly reduced allowing established seeded plants an opportunity to grow.

Predator Control Activities

USDA Wildlife Services provided coyote and raven predator control during the 2013 winter and spring months. These two species are considered potential threats to sagebrush eggs, chicks, and adults. Particularly damaging are ravens that consume eggs and chicks.

To control ravens, Wildlife Services (Teresa Wright) dispersed poisoned eggs throughout the Alton area. Eggs were dispersed throughout the area starting February 26th and continued through June 28th. A total of 1,450 eggs were placed near the mine and surrounding areas. It is assumed that 1 bird is killed for every four eggs placed. Therefore, approximately 362 ravens were killed during this time period (personal communication Wright 2013). A noticeable increase in raven activity has been reported from September through December. Regular control of ravens is critical for sage-grouse population success in this area.

Coyotes were controlled by setting snares and shooting at dens (Roger). Animals were taken between December 1, 2012 through October 1, 2013. A total of 24 coyotes were killed (19 with fixed-wing aircraft, 5 by trapping). One den was removed near the Alton mine (personal communication Wright 2013).

Participation and Involvement with Local Working Groups

ACD has attended CCARM monthly meetings to learn from and plan with committee members regarding sage-grouse conservation strategies. The expertise of each member provides an excellent opportunity to gain greater insight in sage-grouse habitat improvement and population conservation.

Goals, Plans, and Proposals for 2014

Sage-grouse population monitoring

Bird surveys will be conducted using the same procedures established for 2012-13. Key areas that support intact sagebrush communities have been identified and will be surveyed once every month continuing with October 2013 and ending in February when breeding activity resumes. Surveys will be conducted at Fords pasture during the winter months (October through February) to locate birds and assess the amount of time they remain in the valley.

The leks at Sink Valley, the sagebrush flat, the spoils pile, and Fords Pasture will all be surveyed during the breeding season (late February through early April). The number of strutting males will be recorded during each visit. Lek surveys will be coordinated with the Utah DWR to reduce the number of people visiting the leks (to prevent unnecessary disturbance).

In addition to the presence/absence data that is being collected during sage-grouse surveys, additional monitoring data will be conducted to identify bird movements and actual impacts on the birds from mining activities as required by the Surface Mining Control and Reclamation Act (SMCRA). To meet regulatory requirements, Alton Coal Development will provide funding with request from the Utah DWR to conduct one aerial survey in 2014. ACD will also be willing to discuss funding the capture, collaring, and monitoring of sage-grouse living in the Alton/Sink Valley area. These data can provide information regarding productivity, connectivity, migratory patterns, vegetation treatment areas and impacts from mining during Lekking, brood rearing and wintering activities.

Vegetation Improvements and Monitoring

Vegetation improvements will continue using the same criteria described in the current mitigation plan. Treatment will be completed in areas recommended by ACD, state and federal consulting entities (NRCS, DWR, DOGM, BLM, and FWS) and CCARM. ACD will treat approximately 250 acres of landscape within the Alton/Sink Valley area. This will continue to honor the commitment between ACD and UDOGM of a 4:1 mitigation to disturbance ratio. ACD will also provide maintenance toward already treated areas by removing young trees, and lopping and scattering limbs and debris from previous PJ harvests.

Vegetation Monitoring will be conducted using the same protocol established in the current mitigation plan. Sites that will be monitored will be based on recommendations and discussions with state and federal consulting entities (NRCS, DWR, DOGM, BLM, and FWS) and CCARM. The data collected will be consistent from previous years, consisting of species composition, percent cover, density, and bird use (noted by feathers, tracks, fecal piles, or bird sightings). In the rabbitbrush field, 200m long permanent transects will be located at the same place where the 2013 50m transects were located. Additionally, the same number and size of transects (5) will be located in untreated areas to represent a control group. Data will be collected using the line intercept method as well as the Daubenmire method for vegetation sampling.

Predator Control

Predator control activities will continue to focus on ravens and coyotes. Eggs will be distributed by USDA Wildlife Services to reduce raven densities throughout the Alton area. ACD will continue to fund predator control activities, but the ultimate method and procedure for predator removal will decided by Wildlife Services.

Partnership and Collaboration

ACD will assist UDWR by providing funds for an aerial flight to survey leks during the breeding season. They will contribute funds to purchase a GPS sage-grouse collar that will be used to support on-going monitoring and research by Nicki Frey. They will also provide support to help Nicki trap and collar birds upon request.

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