

C/007/038 Incoming

#5773

PLATEAU MINING, LLC

Box 592
Orangeville, Utah 84537

October 12, 2018

Mr. Daron Haddock
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Re: Phase III Bond Release for the Final 1.9 Acres Remaining in the Willow Creek Permit, Plateau Mining, LLC, Willow Creek Mine, C/007/0038

Dear Mr. Haddock:

Plateau Mining Corporation is herewith submitting three copies of the Willow Creek Mine Phase III Bond Release Application.

This application includes the C1 and C2 forms as required by the Division as well as replacement pages and new additions to the permit.

I will forward to you the notarized Public Notice to replace the proposed Public Notice in the application once the publication has run for four weeks.

Plateau Mining, LLC would very much appreciate it if the Division could schedule the onsite bond release inspection as soon as possible before the weather makes it difficult.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,



Dennis N. Ware
Company Representative

Enclosures

Enviro/PermitActions/WillowCreek/CrandallShaftPhaseIIIBondRelease/CoverLetter

RECEIVED

OCT 18 2018

DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: PLATEAU MINING, LLC

Mine: WILLOW CREEK MINE

Permit Number:

C/007/0038

Title: FINAL PHASE III BOND RELEASE

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

PHASE III BOND RELEASE

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

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

Explain: _____

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

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

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

Dennis N. Ware Company Representative 10/01/2018

Print Name Position Date Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 11th day of October, 2018

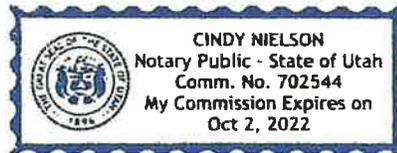
Notary Public: Cindy Nielson, state of Utah.

My commission Expires: _____

Commission Number: 702544 } ss:

Address: PO Box 1677 Orangeville UT 84537 }

City: Orangeville State: UT Zip: 84537 }



<p>For Office Use Only:</p>	<p>Assigned Tracking Number:</p>	<p>Received by Oil, Gas & Mining</p> <p style="font-size: 24px; color: blue; font-weight: bold;">RECEIVED</p> <p style="font-size: 18px; color: red; font-weight: bold;">OCT 18 2018</p> <p style="color: blue; font-weight: bold;">DIV. OF OIL, GAS & MINING</p>
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LIST OF EXHIBITS

<u>Exhibit No.</u>	<u>Exhibit Title</u>	<u>Location</u>
1	Ownership Information	Volume 4
2	Compliance Information	Volume 4
3	Public Notice and Proof of Publication, Hearing Notices and Documentation	Volume 4
4	Other Permits	Volume 4
5	Soils Information	Volumes 4 & 5
6	Vegetation, Fish, and Wildlife Information	Volume 5
7	Documentation of Existing Site Conditions	Volume 5
8	Deleted October 1999	
9	Geologic Information	Volume 6
10	Hydrologic Information	Volume 6
11	Geotechnical Investigations	Volumes 6 & 7
12	Deleted February 2000	
13	Drainage and Sediment Control Plan	Volumes 7 & 8
14	Willow Creek Realignment Plans	Volume 9
15	Blasting Plan	Volume 9
16	Subsidence Information	Volume 9
17	Bonding and Insurance Information	Volume 9
18	Bibliography	Volume 9
19	Castle Gate Information	Volumes 10 thru 14
20	Crandall Canyon Information	Volumes 15 & 16
21	Deleted October 1999	
22	Barn Canyon Shaft Information (Removed in March 2008)	Volume 16
23	As-Built Reclamation, Willow Creek Mine, Mine Facilities Area	Volume 17
24	Phase II Bond Release	Volume 17
25	Partial Phase III Bond Release on 94.21 Acres	Volume 17
26	Final Phase III Bond Release on 1.19 Acres	Volume 17

Revised: October 2018
~~Revised: May 2012~~

Exhibit 26

**Phase III Bond Release on the Final 1.19 Acres
Remaining in the Willow Creek Permit
Plateau Mining, LLC
Willow Creek Mine, C/007/0038
October 2018**

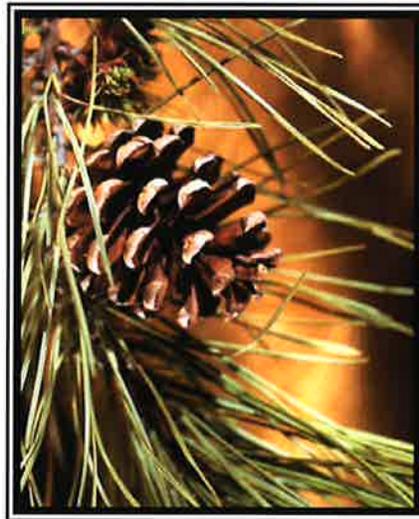
Attachment 1

Years Nine and Ten Vegetation Monitoring

**VEGETATION MONITORING
FOR PHASE III BOND RELEASE:
SEDIMENT POND & SHAFT AREA
IN CRANDALL CANYON, UTAH**

**YEAR TWO
2018**

**FOR
PLATEAU MINING, LLC**



Prepared by

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October 2018

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MAP OF WILLOW CREEK MINE PERMIT AREA	Attachment

INTRODUCTION

This document contains results from **Year 2** of the two consecutive sample years required by the State of Utah, Division of Oil, Gas & Mining (DOGM) to apply for *Final or Phase III Bond Release* at a reclaimed site called the Sediment Pond and Shaft Area in Crandall Canyon. The site is a small portion of the Willow Creek Mine in Carbon County, Utah. The **Year 1** sample results for 2017 were summarized and provided in a final report dated January 2018. However, to facilitate comparisons between the 2017 and 2018 datasets, figures were created in this document showing both years.

Brief History of Operations

The Willow Creek Mine is located in Price Canyon about 3.5 miles northwest of the town of Helper, Utah (see attached map). The mine ceased coal mining operations in 2000. By 2004, reclamation and revegetation activities were completed at the mine site. That reclamation included the following areas: Gravel Canyon, Refuse Pile, Conveyor Corridor, Loadout, Riparian Bottoms and Crandall Canyon.

In order to conduct coal mining activities in Utah, reclamation bonds are required beforehand and are held through the State of Utah, Division of Oil, Gas and Mining (DOGM). Land operators of reclaimed mines can apply for *Final or Phase III Bond Release* when the restored vegetation has been quantitatively sampled for two consecutive years beginning 9 years after final reclamation activities have been completed. This time-frame is called the *Responsibility Period*. This duration is considered to be enough time for restored vegetation to become adequately established to judge whether or not it is permanent, diverse and self-sustaining. In order to achieve approval for bond release, vegetation of a reclaimed site must meet specific standards for revegetation success.

As a result of quantitative sampling the revegetated sites in 2013 and 2014 in other areas of the Willow Creek Mine, Phase III Bond Release applications were submitted and approved for most of the sites mentioned above. There was one small area in Crandall Canyon (see attached map) however where final bond release was not granted because in November

2006 it was discovered that the return air shaft here, which was backfilled in 2003, had settled significantly and water had entered the shaft from a horizon estimated to be within the top 100 feet of the shaft opening. In 2007 DOGM authorized the permittee to excavate a temporary holding and evaporation pond to hold the water that had accumulated in the shaft. A pond was constructed directly to the west of the shaft and the water from the shaft was placed into this pond for settlement and evaporation. This project necessitated re-disturbance of 1.19 acres of land that had been originally reclaimed in 2003. By July 2008, the water placed in this temporary holding pond had completely evaporated and the final reclamation and re-seeding of this area was completed. Consequently, the Responsibility Period's "bond clock" for bond released of the Sediment Pond and Shaft Area was re-adjusted.

METHODS

Methodologies used for sampling were performed in accordance with the *Vegetation Information Guidelines* provided by DOGM.

Transect and Quadrat Placement

Random placement of sample quadrats were designed as an attempt to provide unbiased accuracy of the data compiled. This was accomplished by establishing several randomly-placed transect lines along the entire length of each study site. Random numbers were generated and used to determine placement from the transect lines. The random numbers selected were high enough to position sample quadrats to the extreme lateral limits of the study areas and low enough to cover all areas in-between. This insured that the sample quadrats were placed randomly over the entire study areas.

Cover, Frequency and Composition

Cover estimates were made using ocular methods with meter square quadrats. Species composition and relative frequencies were also assessed from the quadrats. Plant

nomenclature follows *A Utah Flora* (Welsh et al. 2008).

Woody Species Density

Woody plant numbers were measured using a distance method called the point-quarter technique. In this method, random points were placed on the sample sites and measured into four quarters. The distances to the nearest woody plant species were then recorded in each quarter. The average point-to-individual distance was equal to the square root of the mean area per individual. The counts were then summarized and converted into the number of individual woody plants per acre.

Annual Production

Total annual biomass productivity was estimated by clipping, drying and weighing current annual growth in sample quadrats. "Double sampling" methods were employed by placing four additional quadrats around the clipped quadrat, then estimating the production of them relative to the clipped plot. Herbaceous and woody species production were clipped, weighed and recorded separately.

Sample Size and Adequacy

Sampling adequacy was calculated using the formula given below.

$$nMIN = \frac{t^2 s^2}{(dx)^2}$$

where,

$nMIN$ = minimum adequate sample
 t = appropriate confidence t-value
 s = standard deviation
 x = sample mean
 d = desired change from mean

Diversity

There are several well-documented methods to assess species diversity in plant communities. The diversity index that was employed to compare the reclaimed and reference areas here was the *MacArthur's Diversity Index* and was calculated by the following equation:

$$1/\sum pi^2$$

where,

pi is the proportion of sum frequency contributed by the *i*th species in the sample area of concern.

The proportional contribution of each species is then squared and the values for all species in the sample areas are summed. This index integrates the number of species and the degree to which frequency of occurrence was equitably distributed among those species.

Photographs

Color photographs of the sample areas were taken at the time of sampling and a portion of these images have been submitted with this report.

RESULTS

Reclaimed Sediment Pond and Shaft Area

This reclaimed area was dominated by shrub species including big sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Chrysothamnus nauseosus*) and curl-leaf mountain-mahogany (*Cercocarpus ledifolius*). The dominant grasses in the area were Gt. Basin wildrye (*Elymus cinereus*), Kentucky bluegrass (*Poa pratensis*), bluebunch wheatgrass (*Elymus spicatus*) and western wheatgrass (*E. smithii*). The most important forbs present were Pacific aster (*Aster chilensis*), yellow sweet clover (*Melilotus officinalis*) and cicer milkvetch (*Astragalus cicer*). For a list of all species encountered in the sample quadrats refer to Table

1.

The total living cover of the reclaimed Sediment Pond and Shaft Area was estimated at 63.83% (Table 2-A). This living cover was comprised of 45.63% grasses, 40.71% shrubs and 13.66% forbs (Table 2-B). Total woody species density in the area was 4,799 individuals per acre and was dominated by sagebrush, rubber rabbitbrush and curl-leaf mountain mahogany (Table 3). Annual production at the site was measured at 1,556.40 pounds per acre with similar proportions of herbaceous and woody plant species (Table 4).

Crandall Canyon Reference Area

The Reference Area was dominated by salina wildrye (*Elymus salinus*), cheatgrass (*Bromus tectorum*) and big sagebrush (Table 5).

The total living cover was estimated at 56.80% (Table 6A). Composition was comprised of grasses at 69.72%, shrubs at 28.25% and forbs at 2.03%. (Table 6B).

The total number of woody plants for the reference area was 1,346 individuals per

FIG. 1. STUDENT'S T-TEST - A Total Living Cover Comparison Between the Reclaimed and Reference Areas.

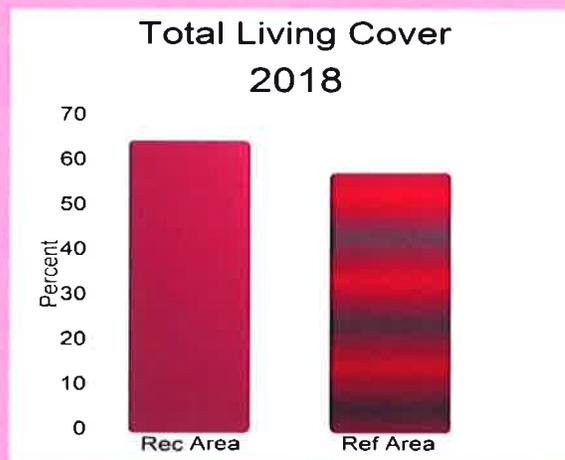
Crandall Canyon

Reclaimed Area: \bar{x} =63.83; s=9.93; n=60

Reference Area: \bar{x} =56.80; s=11.39; n=50

t=3.453 df=108 ; SL= p<0.001

\bar{x} = sample mean,
s = sample standard deviation,
n = sample size,
NS = non-significant,
t = Student's t-value,
df = degrees of freedom,
SL = significance level,
p = probability level



acre, most of which was sagebrush (Table 7). Annual production here was estimated at a total of 744.96 pounds per acre, and was comprised of nearly equal parts of herbaceous and woody plant species (Table 8).

Dataset Comparisons

Total Living Cover

When a Student's t-test was employed to compare the total living cover of the reclaimed Sediment Pond and Shaft Area with the Crandall Canyon Reference Area, the reclaimed site was greater - the difference was statistically significant (Fig. 1).

Woody Species Density

The total woody species densities of the reclaimed and reference area were compared using the same statistical test. The reclaimed area had significantly more individuals per acre when compared to the reference area (Fig. 2).

FIG. 2. STUDENT'S T-TEST - A Woody Species Density Comparison Between the Reclaimed and Reference Areas.

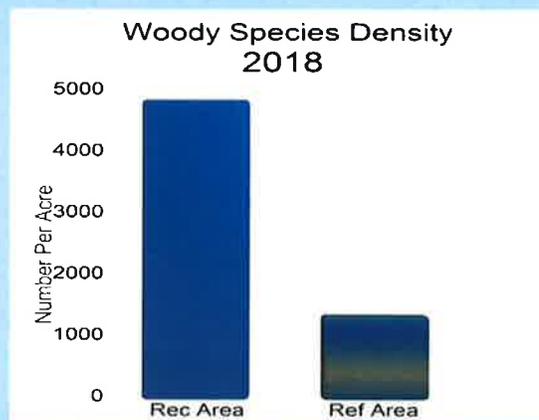
Crandall Canyon

Reclaimed Area: \bar{x} =4798.58; s =1506.25.28; n =60

Reference Area: \bar{x} =1345.74; s =434.28; n =50

t =15.665 df =108 ; SL = p <0.001

\bar{x} = sample mean,
 s = sample standard deviation,
 n = sample size,
NS = non-significant,
 t = Student's t-value,
 df = degrees of freedom,
 SL = significance level,
 p = probability level



Annual Production

Total annual production of the two areas were then compared. Once again, the reclaimed Sediment Pond and Shaft Area had a statistical significant greater amount of production when compared to the Crandall Canyon Reference Area (Fig. 3).

FIG. 3. STUDENT'S T-TEST - A Total Annual Production Comparison Between the Reclaimed and Reference Areas.

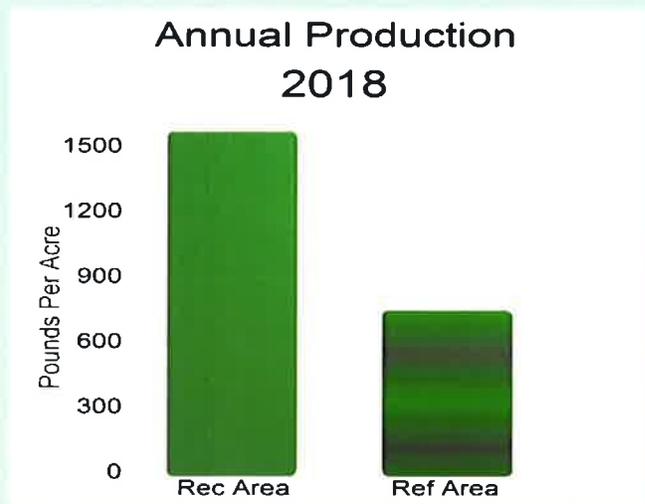
Crandall Canyon

Reclaimed Area: \bar{x} =1556.40; s=401.00; n=30

Reference Area: \bar{x} =744.96; s=240.30; n=50

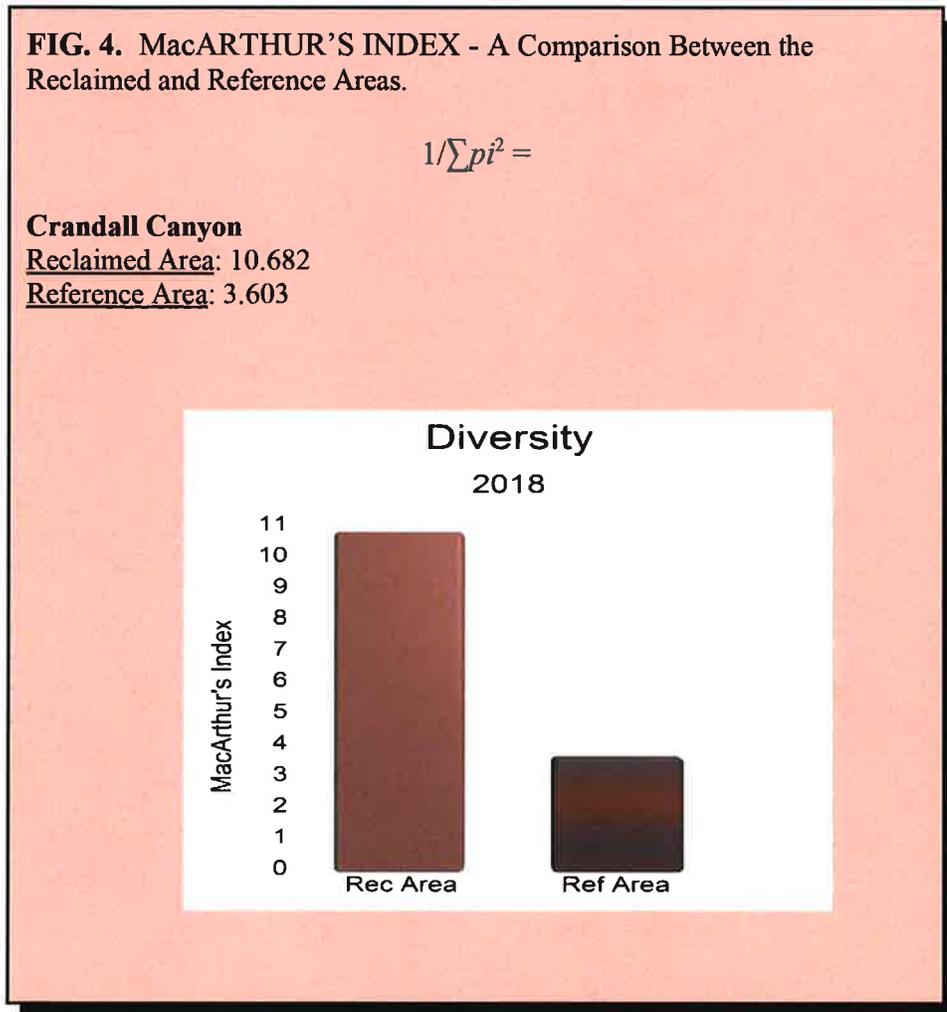
t=11.337 df=78 ; SL= p<.001

\bar{x} = sample mean,
s = sample standard deviation,
n = sample size,
NS = non-significant,
t = Student's t-value,
df = degrees of freedom,
SL = significance level,
p = probability level



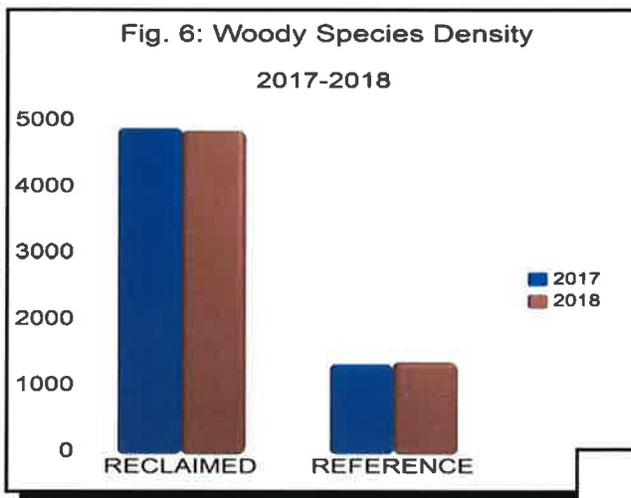
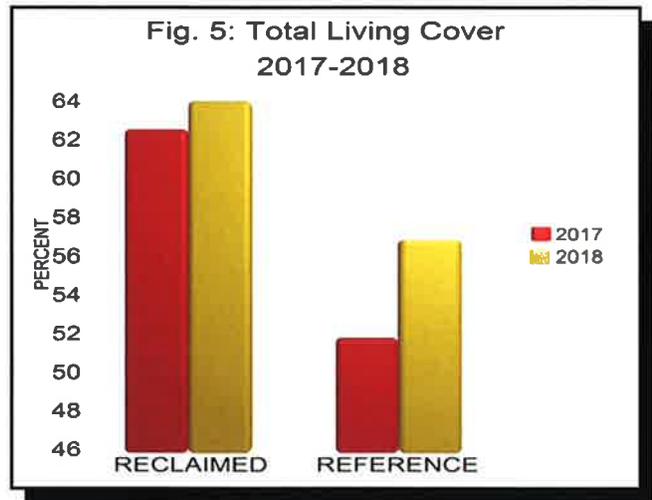
Diversity

Finally, species diversity was greater in the reclaimed area when compared to the reference area when MacArthur's Index was used on the dataset of each area (Fig. 4.).

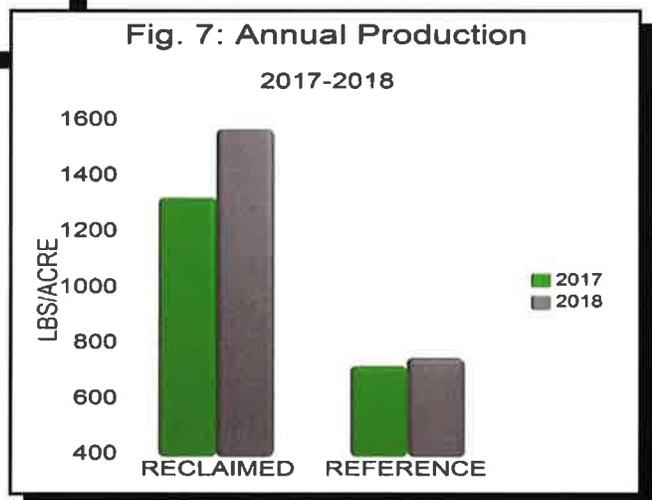


Comparisons Between Sample Years

This report provides the results from quantitative sampling the vegetation of the reclaimed Sediment Pond and Shaft area in Crandall Canyon in 2018, or ten years after reclamation and revegetation operations were performed at the site. The same site was also sampled in 2017 and a report was submitted showing those results. Even though a separate report was submitted for the 2017 sample period, some of the results for



that year have been included in the graphs below to facilitate comparison with the 2018 sample year for total living cover (Fig. 5), woody species density (Fig. 6) and total annual production (Fig. 7).



SUMMARY & DISCUSSION

A relatively small area (1.19 acres) in the Crandall Canyon of the Willow Creek Mine site called the Sediment Pond and Shaft Area was re-disturbed in 2008, or four years after reclamation in the area had occurred. Most of the remainder of the reclaimed mine sites achieved Phase III or Final Bond Release, but the new disturbance in Crandall Canyon required the bond clock for final bond release to be re-adjusted.

In 2017 and 2018 quantitative sampling was conducted at the Sediment Pond and Shaft Area to complete the required two consecutive sample years required for final bond release. Comparisons between the datasets for the restored vegetation in Crandall Canyon and the area chosen to represent final revegetation success standards, the Crandall Canyon Reference Area, were made and presented in this report. When **total living cover** of the two areas were compared, the reclaimed area was greater, the difference being statistically significant. Next, the **woody species densities** of the datasets were compared – the results were similar - the reclaimed area had significantly more individuals per acre. The **annual production** of the reclaimed site was also greater in the reclaimed area when compared to the reference area. Finally, the **diversity** of the reclaimed area was compared to the reference area using MacArthur's Index and the reclaimed area had greater species diversity.

Results from Year 1 (2017) and Year 2 (2018), the two required sample years necessary of bond release applications, suggest that when above parameters of the reclaimed Sediment Pond and Shaft Area and Crandall Canyon Reference Area were compared, the reclaimed area has met or exceeded the requirements necessary for Phase III or Final Bond Release. Even though applicable and relevant data for 2017 have also been presented herein, another complete report was submitted previously for Year 1 of the sample years. This report was called: *VEGETATION MONITORING FOR PHASE III BOND RELEASE: SEDIMENT POND & SHAFT AREA IN CRANDALL CANYON, UTAH, YEAR ONE, 2017.*

Table 1: Willow Creek Mine, Crandall Canyon. Total cover, standard deviation and frequency by species (2018)

Reclaimed Sediment Pond and Shaft Area			
	n=60		
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
<i>Amelanchier utahensis</i>	0.42	3.20	1.67
<i>Artemisia nova</i>	2.50	8.34	10.00
<i>Artemisia tridentata</i>	10.17	13.48	50.00
<i>Cercocarpus ledifolius</i>	3.58	8.47	18.33
<i>Chrysothamnus nauseosus</i>	9.00	14.51	43.33
<i>Pseudotsuga menziesii</i>	0.33	1.55	5.00
<i>Symphoricarpos oreophilus</i>	0.25	1.92	1.67
FORBS			
<i>Artemisia ludoviciana</i>	0.50	3.25	3.33
<i>Astragalus cicer</i>	1.83	5.84	11.67
<i>Aster chilensis</i>	2.50	9.15	11.67
<i>Linum lewisii</i>	0.33	2.56	1.67
<i>Medicago sativa</i>	0.17	1.28	1.67
<i>Mellilotus officinalis</i>	1.42	4.09	11.67
<i>Penstemon palmeri</i>	0.08	0.64	1.67
<i>Penstemon sp.</i>	1.25	3.24	15.00
<i>Viguiera multiflora</i>	0.58	4.48	1.67
GRASSES			
<i>Elymus cinereus</i>	7.17	12.50	33.33
<i>Elymus lanceolatus</i>	1.58	4.42	13.33
<i>Elymus smithii</i>	5.75	11.10	26.67
<i>Elymus spicatus</i>	6.33	9.74	36.67
<i>Poa secunda</i>	7.92	13.43	35.00
<i>Stipa hymenoides</i>	0.17	1.28	1.67

Table 2: Willow Creek Mine, Crandall Canyon. Total Cover and composition (2018).

Reclaimed Sediment Pond and Shaft Area		
	n=60	
	Mean Percent	Standard Deviation
A. TOTAL COVER		
Total Living Cover	63.83	9.93
Litter	10.75	3.39
Bareground	9.13	2.61
Rock	16.28	9.01
B. COMPOSITION		
Shrubs	40.71	22.44
Forbs	13.66	18.54
Grasses	45.63	25.59

**Table 3: Willow Creek Mine, Crandall Canyon.
Woody Species Density (2018).**

Reclaimed Sediment Pond and Shaft Area

n=60	
SPECIES	Number/Acre
<i>Acer glabrum</i>	19.99
<i>Amelanchier utahensis</i>	19.99
<i>Artemisia nova</i>	279.92
<i>Artemisia tridentata</i>	2319.31
<i>Cercocarpus ledifolius</i>	779.77
<i>Chrysothamnus nauseosus</i>	1099.67
<i>Chrysothamnus viscidiflorus</i>	59.98
<i>Pseudotsuga menziesii</i>	79.98
<i>Ribes aureum</i>	39.99
<i>Symphoricarpos oreophilus</i>	99.97
TOTAL	4798.58

**Table 4: Willow Creek Mine, Crandall Canyon
Annual Biomass Production (2018).**

Reclaimed Sediment Pond and Shaft Area

(n=30; double sampling n=120)

LIFEFORM	Pounds/Acre	
	MEAN	STD. DEV.
Herbaceous	765.69	805.07
Woody	790.71	850.62
TOTAL	1556.40	401.00

Table 5: Willow Creek Mine, Price Canyon. Total cover, standard deviation and frequency by species (2018).

Crandall Canyon Reference Area			n=50
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
<i>Artemisia tridentata</i>	10.60	13.88	44.00
<i>Atriplex canescens</i>	3.60	10.30	12.00
<i>Gutierrezia sarothrae</i>	0.60	2.37	6.00
<i>Krascheninnikovia lanata</i>	0.50	3.50	2.00
FORBS			
<i>Artemisia ludoviciana</i>	0.70	2.45	8.00
<i>Rhus aromatica</i>	0.60	4.20	2.00
GRASSES			
<i>Bromus tectorum</i>	13.70	11.04	70.00
<i>Elymus salinus</i>	24.00	17.29	84.00
<i>Elymus spicatus</i>	1.20	6.21	4.00
<i>Stipa comata</i>	1.30	4.45	10.00

Table 6: Willow Creek Mine, Price Canyon. Total Cover and composition (2018).

Crandall Canyon Reference Area			n=50
	Mean Percent	Standard Deviation	
A. TOTAL COVER			
Total Living Cover	56.80	11.39	
Litter	10.70	6.33	
Bareground	6.80	3.28	
Rock	25.70	12.77	
B. COMPOSITION			
Shrubs	28.25	29.42	
Forbs	2.03	7.16	
Grasses	69.72	29.02	

Table 7: Willow Creek Mine, Crandall Canyon. Woody Species Density (2018).

Crandall Canyon Reference Area

n=50	
SPECIES	Number/Acre
<i>Amelanchier utahensis</i>	26.91
<i>Artemisia tridentata</i>	968.93
<i>Atriplex canescens</i>	222.05
<i>Krascheninnikovia lanata</i>	6.73
<i>Ephedra viridis</i>	13.46
<i>Gutierrezia sarothrae</i>	26.91
<i>Opuntia polyacantha</i>	33.64
<i>Rhus aromatica</i>	26.91
<i>Yucca harrimaniae</i>	20.19
TOTAL	1345.74

Table 8: Willow Creek Mine, Crandall Canyon Annual Biomass Production (2018)

Crandall Canyon Reference Area

(n=50; double sampling n=200)

LIFEFORM	Pounds/Acre	
	MEAN	STD. DEV.
Herbaceous	315.71	373.95
Woody	429.25	434.69
TOTAL	744.96	240.34

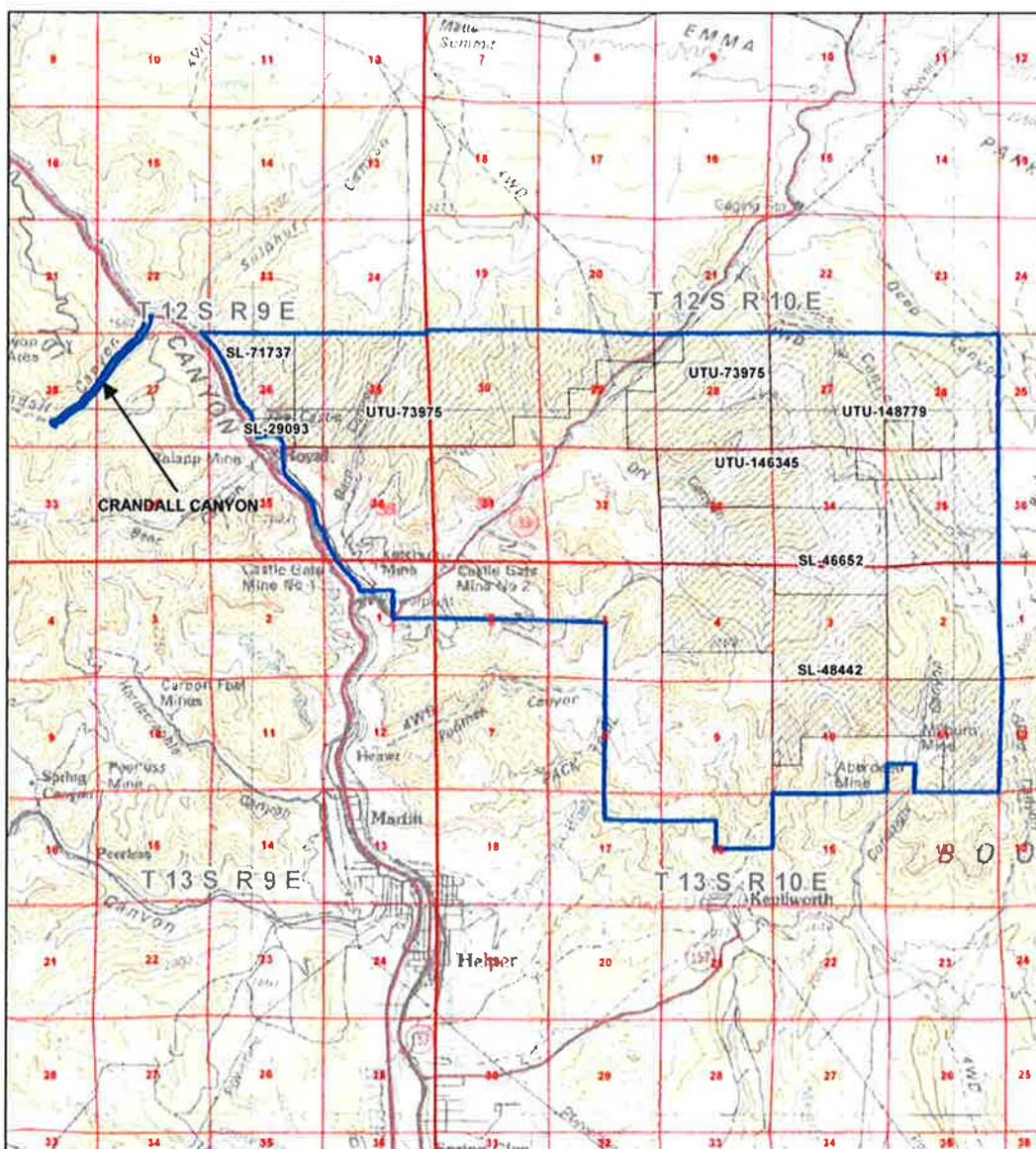
COLOR PHOTOGRAPHS OF THE SAMPLE AREAS

Reclaimed Sediment Pond and Shaft Area



Crandall Canyon Reference Area





Willow Creek Mine

C0070038
Carbon County, Utah
January 2006

Crandall Canyon emphasized by Mt. Nebo Scientific, Inc. (1/11/18)
Township 12 South Range 9 & 10 East
Township 13 South Range 9 & 10 East

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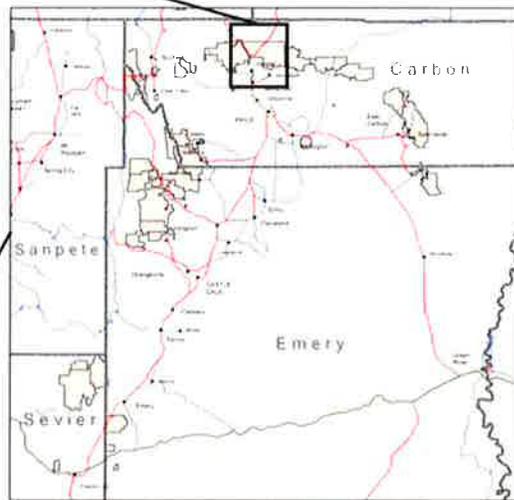
- Permit Area
- Proposed Mine Plan Modification (if shown)
- Federal Lease Areas



1:60,000



State of Utah
Department of Natural Resources
Division of Oil, Gas, and Mining



Locator Map



**VEGETATION MONITORING
FOR PHASE III BOND RELEASE:
SEDIMENT POND & SHAFT AREA
IN CRANDALL CANYON, UTAH**

**YEAR ONE
2017**

**FOR
PLATEAU MINING, LLC**



Reclaimed Area in Crandall Canyon

Prepared by

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by

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for

PLATEAU MINING LLC

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January 2018

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INTRODUCTION

History

The Willow Creek Mine is located in Price Canyon about 3.5 miles northwest of the town of Helper, Utah (see attached map). The mine ceased coal mining operations in 2000. By 2004, reclamation and revegetation activities were completed at the mine site. This reclamation included the following areas: Gravel Canyon, Refuse Pile, Conveyor Corridor, Loadout, Riparian Bottoms and Crandall Canyon.

In order to conduct coal mining activities in Utah, reclamation bonds are required beforehand and are held through the State of Utah, Division of Oil, Gas and Mining (DOGM). Land operators of reclaimed mines can apply for *Final* or *Phase III Bond Release* when the restored vegetation has been quantitatively sampled for 2 consecutive years beginning 9 years after final reclamation activities have been completed. This time-frame is called the *Responsibility Period*. This duration is considered to be enough time for restored vegetation to become adequately established to judge whether or not it is permanent, diverse and self-sustaining. In order to achieve approval for bond release, vegetation of a reclaimed site must meet specific standards for revegetation success.

As a result of quantitative sampling the revegetated sites in 2013 and 2014, Phase III Bond Release applications were submitted and approved for most of the sites mentioned above. There was one small area in Crandall Canyon (see attached map) however where final bond release was not granted because in November 2006 it was discovered that the return air shaft here, which was backfilled in 2003, had settled significantly and water had entered the shaft from a horizon estimated to be within the top 100 feet of the shaft opening. In 2007 DOGM authorized the permittee to excavate a temporary holding and evaporation pond to hold the water that had accumulated in the shaft. A pond was constructed directly to the west of the shaft and the water from the shaft was placed into this pond for settlement and evaporation. This project necessitated re-disturbance of 1.19 acres of land that had been originally reclaimed in 2003. By July 2008, the water placed in this temporary holding pond had completely evaporated and the final reclamation and re-seeding of this area was

completed. Consequently, the Responsibility Period's "bond clock" for bond released of the Sediment Pond and Shaft Area was re-adjusted.

This document contains the **Year One** results of the two sample years required by the state for bond release at the sediment pond and shaft area in Crandall Canyon for the Willow Creek Mine in Carbon County, Utah.

METHODS

Methodologies used for sampling were performed in accordance with the *Vegetation Information Guidelines* provided by DOGM.

Transect and Quadrat Placement

Random placement of sample quadrats were designed as an attempt to provide unbiased accuracy of the data compiled. This was accomplished by establishing several randomly-placed transect lines along the entire length of each study site. Random numbers were generated and used to determine placement from the transect lines. The random numbers selected were high enough to position sample quadrats to the extreme lateral limits of the study areas and low enough to cover all areas in-between. This insured that the sample quadrats were placed randomly over the entire study areas.

Cover, Frequency and Composition

Cover estimates were made using ocular methods with meter square quadrats. Species composition and relative frequencies were also assessed from the quadrats. Plant nomenclature follows *A Utah Flora* (Welsh et al. 2008).

Sample Size and Adequacy

Sampling adequacy was calculated using the formula given below.

$$nMIN = \frac{t^2 s^2}{(dx)^2}$$

where,

$nMIN$ = minimum adequate sample
 t = appropriate confidence t-value
 s = standard deviation
 x = sample mean
 d = desired change from mean

Diversity

There are several well-documented methods to assess species diversity in plant communities. The diversity index that was employed to compare the reclaimed and reference areas here was the *MacArthur's Diversity Index* and was calculated by the following equation:

$$1/\sum pi^2$$

where,

pi is the proportion of sum frequency contributed by the i th species in the sample area of concern.

The proportional contribution of each species is then squared and the values for all species in the sample areas are summed. This index integrates the number of species and the degree to which frequency of occurrence was equitably distributed among those species.

Photographs

Color photographs of the sample areas were taken at the time of sampling and submitted with this report.

RESULTS

Reclaimed Shaft and Sediment Pond Area

This reclaimed area was dominated by shrub species such as sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Chrysothamnus nauseosus*) and curl-leaf mountain mahogany (*Cercocarpus ledifolius*). The dominant grasses here were Gt. Basin wildrye (*Elymus cinereus*), Kentucky bluegrass (*Poa pratensis*), bluebunch wheatgrass (*Elymus spicatus*), western wheatgrass (*E. smithii*) and thick-stem wheatgrass (*E. lanceolatus*). The most important forb species by quite a wide margin was Pacific aster (*Aster chilensis*). For a list of all species encountered in the sample quadrats refer to Table 1.

The total living cover of the reclaimed Sediment Pond and Shaft Area was estimated at 62.42% (Table 2-A). This living cover was comprised of 46.81% grasses, 33.64% shrubs and 19.55% forbs (Table 2-B). Total woody species density in the area was 4,836 individuals per acre and was dominated by sagebrush, rubber rabbitbrush and curl-leaf mountain mahogany (Table 3). Annual production at the site was measured at 1,314.70 pounds per acre with nearly equal proportions of herbaceous and woody plant species (Table 4).

Reference Area

A “reference area” or an area previously chosen to represent final revegetation success standards was sampled during the same time period. Sample results show that the dominant species for the reference area included salina wildrye (*Elymus salinus*), cheatgrass (*Bromus tectorum*) and sagebrush (Table 5).

The total living cover was estimated at 51.80% (Table 6A). Composition was comprised of grasses at 68.74%, shrubs at 27.32% and forbs at 3.95%. (Table 6B).

The total number of woody plants for the reference area was 1,316 individuals per acre, most of which was sagebrush (Table 7). Annual production here was estimated at a total of 715.65 pounds per acre, and was comprised of nearly equal parts of herbaceous and woody

plant species (Table 8).

Dataset Comparisons

Total Living Cover

When a Student's t-test was employed to compare the total living cover of the reclaimed Sediment Pond and Shaft Area with the Crandall Canyon Reference Area the reclaimed site was

significantly higher - the difference was statistically significant (Fig. 1).

FIG. 1. STUDENT'S T-TEST - A Total Living Cover Comparison Between the Reclaimed and Reference Areas.

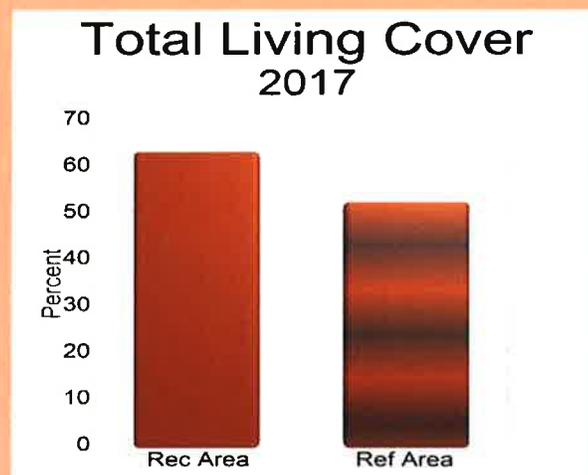
Crandall Canyon

Reclaimed Area: \bar{x} =62.42; s=10.10; n=60

Reference Area: \bar{x} =51.80; s=13.85; n=50

t=4.642 df=108 ; SL= p<0.001

\bar{x} = sample mean,
s = sample standard deviation,
n = sample size,
NS = non-significant,
t = Student's t-value,
df = degrees of freedom,
SL = significance level,
p = probability level



Woody Species Density

The total woody species densities of the reclaimed and reference area were compared using the same statistical test. The reclaimed area had significantly more individuals per acre when compared to the reference area (Fig. 2).

FIG. 2. STUDENT'S T-TEST - A Woody Species Density Comparison Between the Reclaimed and Reference Areas.

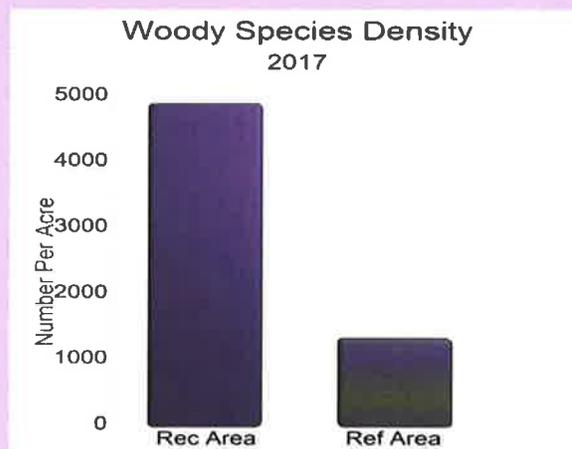
Crandall Canyon

Reclaimed Area: \bar{x} =4836.44; s=2135.28; n=60

Reference Area: \bar{x} =1315.75; s=842.47; n=50

t=10.963 df=108 ; SL= p<0.001

\bar{x} = sample mean,
s = sample standard deviation,
n = sample size,
NS = non-significant,
t = Student's t-value,
df = degrees of freedom,
SL = significance level,
p = probability level



Annual Production

Total annual production of the two areas were then compared. Once again, the reclaimed Sediment Pond and Shaft Area had a statistical significant greater amount of production when compared to the Crandall Canyon Reference Area (Fig. 3).

FIG. 3. STUDENT'S T-TEST - A Total Annual Production Comparison Between the Reclaimed and Reference Areas.

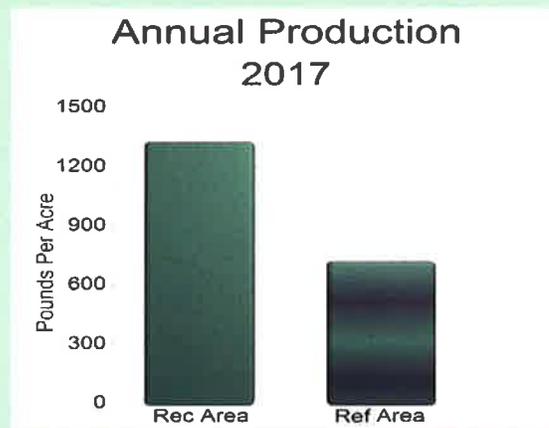
Crandall Canyon

Reclaimed Area: \bar{x} =1314.70; s=483.36; n=30

Reference Area: \bar{x} =715.65; s=235.94; n=50

t=7.432 df=78 ; SL= p<.001

\bar{x} = sample mean,
s = sample standard deviation,
n = sample size,
NS = non-significant,
t = Student's t-value,
df = degrees of freedom,
SL = significance level,
p = probability level



Diversity

Finally, species diversity was greater in the reclaimed area when compared to the reference area when MacArthur's Index was used on the dataset of each area (Fig. 4.).

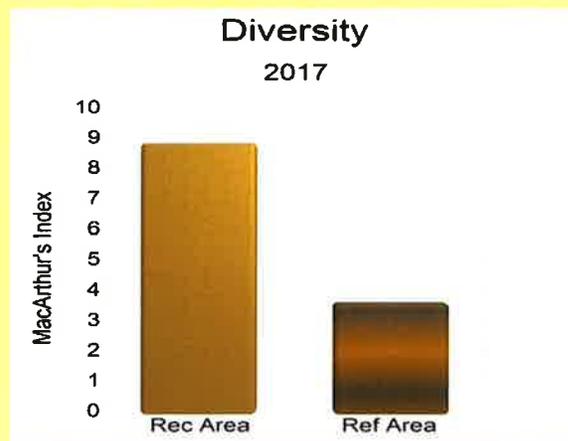
FIG. 4. MacARTHUR'S INDEX - A Comparison Between the Reclaimed and Reference Areas.

$$1/\sum p_i^2 =$$

Crandall Canyon

Reclaimed Area: 8.761

Reference Area: 3.603



SUMMARY & DISCUSSION

A relatively small area (1.19 acres) in the Crandall Canyon of the Willow Creek Mine site called the Sediment Pond and Shaft Area was re-disturbed in 2008, or four years after reclamation in the area had occurred. Most of the remainder of the reclaimed mine sites achieved Phase III or Final Bond Release, but the new disturbance in Crandall Canyon required the bond clock for final bond release to be re-adjusted.

In 2017 quantitative sampling was conducted at the Sediment Pond and Shaft Area to begin the first of two consecutive sample years required for final bond release. Comparisons between the datasets for the restored vegetation in Crandall Canyon and the area chosen to represent final revegetation success standards, the Crandall Canyon Reference Area, were made and presented in this report. When **total living cover** of the two areas were compared, the reclaimed area was greater, the difference being statistically significant. Next, the **woody species densities** of the datasets were compared – the results were the same - the reclaimed area had significantly more individuals per acre. The **annual production** of the reclaimed site was also greater in the reference area. Finally, the **diversity** of the reclaimed area was compared to the reference area using MacArthur's Index and the reclaimed area had greater species diversity.

For Year One of the two required sample years, it appears that when above parameters of the reclaimed Sediment Pond and Shaft Area and Crandall Canyon Reference Area were compared, the reclaimed area is approaching the requirements necessary for *Phase III Bond Release*. Vegetation sampling for Year Two should be accomplished in 2018 for comparisons and to fulfil the required datasets for an application to achieve final bond release.

DATA SUMMARY TABLES

Table 1: Willow Creek Mine, Crandall Canyon. Total cover, standard deviation and frequency by species (2017).

Reclaimed Sediment Pond and Shaft Area			n=60
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
<i>Artemisia tridentata</i>	11.50	11.77	61.67
<i>Cercocarpus ledifolius</i>	3.33	8.50	20.00
<i>Chrysothamnus nauseosus</i>	5.83	10.25	33.33
<i>Pseudotsuga menziesii</i>	0.25	1.42	3.33
<i>Symphoricarpos oreophilus</i>	0.33	2.56	1.67
FORBS			
<i>Achillea millefolium</i>	0.75	3.63	5.00
<i>Artemisia ludoviciana</i>	0.17	1.28	1.67
<i>Aster chilensis</i>	6.00	9.78	63.67
<i>Grindelia squarrosa</i>	1.00	4.06	6.67
<i>Machaeranthera grindelioides</i>	0.33	1.55	5.00
<i>Melilotus officinalis</i>	0.75	2.38	10.00
<i>Penstemon palmeri</i>	0.58	2.25	6.67
<i>Penstemon sp</i>	2.25	5.20	20.00
<i>Viguiera multiflora</i>	0.17	1.28	1.67
GRASSES			
<i>Bromus carinatus</i>	0.25	1.92	1.67
<i>Elymus cinereus</i>	8.75	12.17	43.33
<i>Elymus junceus</i>	0.58	3.43	3.33
<i>Elymus lanceolatus</i>	2.92	5.79	23.33
<i>Elymus smithii</i>	3.00	7.37	16.67
<i>Elymus spicatus</i>	5.25	9.46	31.67
<i>Poa pratensis</i>	5.67	11.27	28.33
<i>Poa secunda</i>	1.25	6.10	5.00
<i>Stipa hymenoides</i>	1.50	6.73	5.00

Table 2: Willow Creek Mine, Crandall Canyon. Total Cover and composition (2017).

Reclaimed Sediment Pond and Shaft Area			n=60
	Mean Percent	Standard Deviation	
A. TOTAL COVER			
Total Living Cover	62.42	10.10	
Litter	13.67	5.76	
Bareground	9.42	4.57	
Rock	14.50	8.50	
B. COMPOSITION			
Shrubs	33.64	24.55	
Forbs	19.55	16.97	
Grasses	46.81	24.54	

Table 3: Willow Creek Mine, Crandall Canyon. Woody Species Density (2017).

Reclaimed Sediment Pond and Shaft Area		n=60
SPECIES	Number/Acre	
<i>Amelanchier utahensis</i>	20.15	
<i>Artemisia tridentata</i>	2901.86	
<i>Cercocarpus ledifolius</i>	483.64	
<i>Chrysothamnus nauseosus</i>	1350.17	
<i>Pseudotsuga menziesii</i>	40.30	
<i>Ribes aureum</i>	20.15	
<i>Symphoricarpos oreophilus</i>	20.15	
TOTAL	4836.44	

**Table 4: Willow Creek Mine, Crandall Canyon
Annual Biomass Production (2017).
Reclaimed Sediment Pond and Shaft Area**

(n=30; double sampling n=120)

LIFEFORM	Pounds/Acre	
	MEAN	STD. DEV.
Herbaceous	690.72	793.26
Woody	623.98	682.92
TOTAL	1314.70	483.36

Table 5: Willow Creek Mine, Price Canyon. Total cover, standard deviation and frequency by species (2017).

Crandall Canyon Reference Area			n=50
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
<i>Artemisia tridentata</i>	12.10	15.10	48.00
<i>Atriplex canescens</i>	1.20	5.96	4.00
<i>Gutierrezia sarothrae</i>	0.60	4.20	2.00
FORBS			
<i>Artemisia ludoviciana</i>	1.70	3.82	20.00
<i>Descurainia pinnata</i>	0.20	1.40	2.00
GRASSES			
<i>Bromus tectorum</i>	12.60	10.55	76.00
<i>Elymus salinus</i>	22.90	14.36	88.00
<i>Stipa comata</i>	0.50	3.50	2.00

Table 6: Willow Creek Mine, Price Canyon. Total Cover and composition (2017).

Crandall Canyon Reference Area			n=50
	Mean Percent	Standard Deviation	
A. TOTAL COVER			
Total Living Cover	51.80	13.85	
Litter	11.00	4.12	
Bareground	8.70	4.78	
Rock	28.50	13.90	
B. COMPOSITION			
Shrubs	27.32	29.84	
Forbs	3.95	7.92	
Grasses	68.74	28.58	

Table 7: Willow Creek Mine, Crandall Canyon.. Woody Species Density (2017).

Crandall Canyon Reference Area		n=50
SPECIES	Number/Acre	
<i>Amelanchier utahensis</i>	6.58	
<i>Artemisia tridentata</i>	1085.49	
<i>Atriplex canescens</i>	98.68	
<i>Gutierrezia sarothrae</i>	98.68	
<i>Opuntia polyacantha</i>	19.74	
<i>Rhus aromatica</i>	6.58	
TOTAL	1315.75	

Table 8: Willow Creek Mine, Crandall Canyon Annual Biomass Production (2017).

Crandall Canyon Reference Area

(n=50; double sampling n=200)

LIFEFORM	Pounds/Acre	
	MEAN	STD. DEV.
Herbaceous	347.94	342.48
Woody	367.71	440.75
TOTAL	715.65	235.94

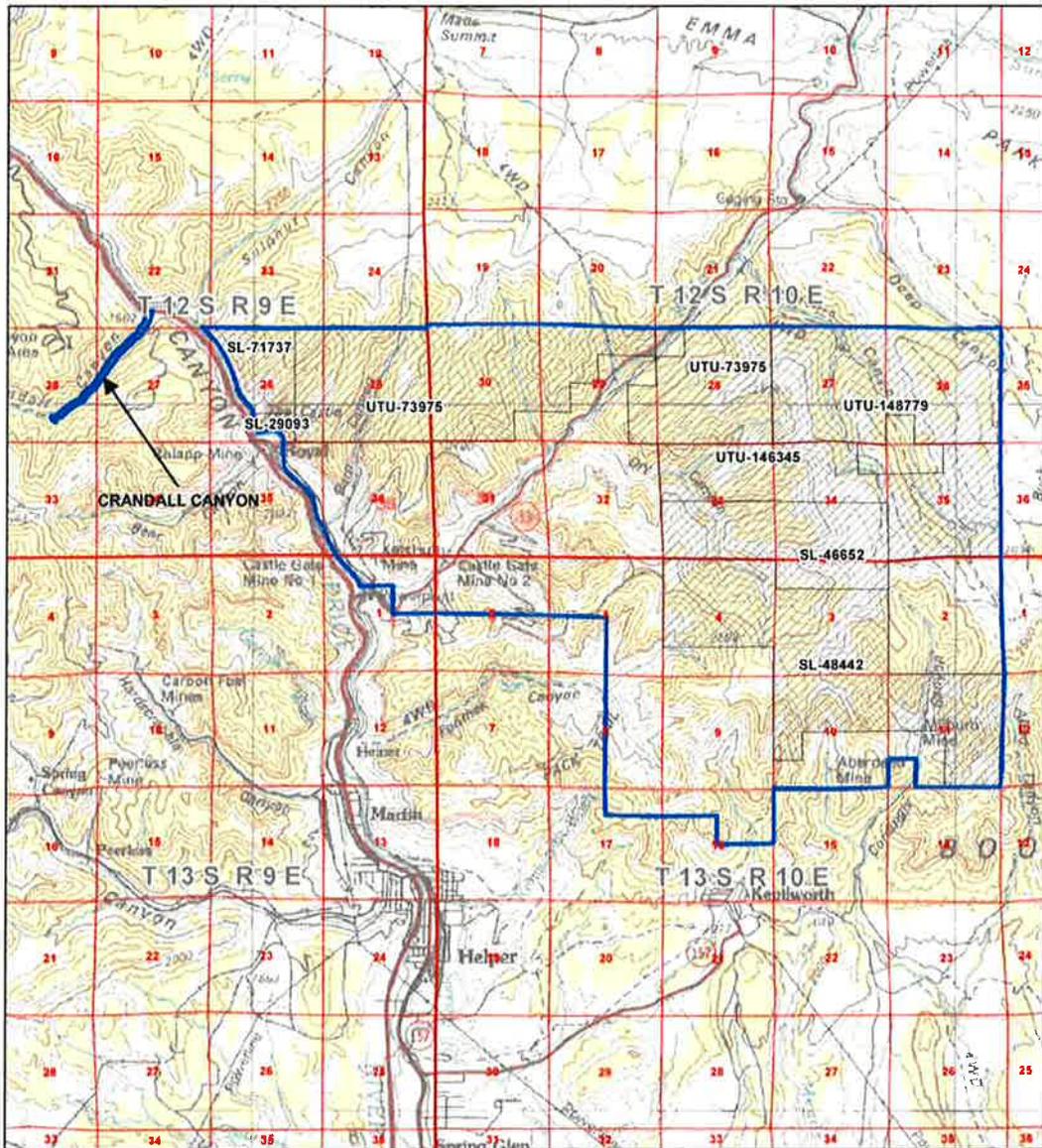
COLOR PHOTOGRAPHS OF THE SAMPLE AREAS

Reclaimed Sediment Pond and Shaft Area



Crandall Canyon Reference Area





Willow Creek Mine

C0070038

Carbon County, Utah

January 2006

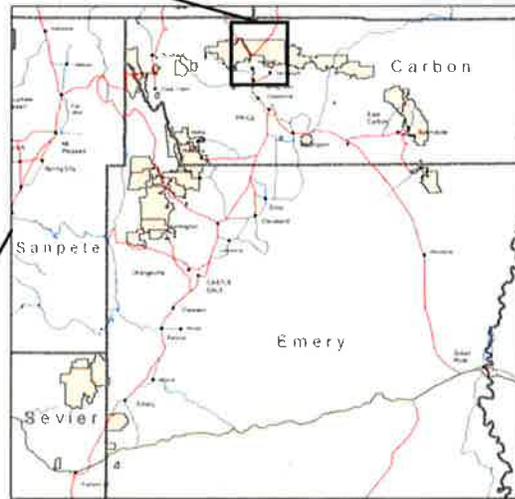
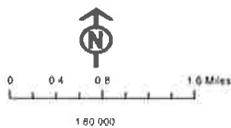
Crandall Canyon emphasized by Mt. Nebo Scientific, Inc. (1/11/18)

Township 12 South Range 9 & 10 East

Township 13 South Range 9 & 10 East

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-  Permit Area
-  Proposed Mine Plan Modification (if shown)
-  Federal Lease Areas



Locator Map

Attachment 2

Sediment Yield Calculations

**Sediment Yield Calculations
 Post-Reclamation vs. Reference Area Condition
 Crandall Canyon Shaft and Sedimentation Pond Phase III Bond Release
 Plateau Mining, LLC**

Summary

EarthFax Engineering Group, LLC used the Revised Universal Soil Loss Equation (RUSLE) to calculate sediment yields from the reclaimed shaft and sedimentation pond at the Crandall Canyon facility of Plateau Mining. Details regarding the methodology used for these calculations and the associated references are provided on the following pages. The results of these calculations were compared between the reclaimed area and the vegetation reference area. Estimated sediment yields are summarized below.

Area	Sediment Yield	
	(ton/ac/yr)	% Difference Compared to Reference Area
Reclaimed Site	0.01	-93.0
Reference Area	0.18	0.0

As indicated, it is estimated that sediment yields from the reclaimed area are more than 90% less than at the reference area. Thus, from an erosion perspective, reclamation of the site is considered a success.

Sediment Yield Calculation

Area	R	K	LS	C	P	A (t/ac/yr)
Reclaimed Site	11	0.10	0.54	0.027	0.8	0.01
Reference Area	11	0.02	23.15	0.036	1	0.18

Notes:

1. $A = R K L S C P$, where A is the annual sediment yield (tons/acre/year). This is the Revised Universal Soil Loss Equation (RUSLE). Each of the
2. R = Rainfall-Runoff Erosivity Factor (ft-tons/acre/hr). Values interpolated from Map R7 (Israelsen et al., 1984). R is identical for both the pre-disturbed and post-reclamation conditions.
3. K = Soil Erodibility Factor (unitless). Values obtained from the NRCS Web Soil Survey for whole soil (i.e., soil that contains rocks). Soil at the reclaimed site consists of the Midfork family-Comodore complex. Since onsite topsoil was redistributed during reclamation, it was assumed that the K value for this soil complex applies to the reclaimed site. Soil at the reference area consists of Pathead extremely bouldery fine sandy loam, 40 to 70 percent slopes. The K value for this soil was obtained directly from the Web Soil Survey.
4. LS = Length-Slope Factor (unitless), taken from the LS Calculation Table on the next page of this spreadsheet.
5. C = Cover Management Factor (unitless), taken from the following Determination of C Factor Table.
6. P = Support Practice Factor (unitless). It was assumed that P=1 for the reference area since this area is undisturbed. For the reclaimed area, the P value was chosen equivalent to that which is typical of soil with a slope of 17% that is tilled on the contour.

References:

1. Israelsen, 1984. *Erosion and Sedimentation in Utah: A Guide for Control*. Hydraulics and Hydrology Series UWRL/H-84/03. Utah Water Research Laboratory, College of Engineering, Utah State University, Logan, Utah.

LS Calculation Table

Area	s	l	m	LS
Reclaimed Site	17	3	0.5	0.54
Reference Area	60	100	0.5	23.15

Notes:

1. s = slope angle (%). The natural slope at the reference area averages approximately 60%. The steepest section of the reclaimed area has a slope of 17%, based on overall land slope and not the micro-slope within individual soil gouges.
2. l = slope length (ft). This value is defined as the distance from the origin of overland flow to the point of deposition or channelized flow. Natural slope lengths rarely exceed 400 feet, and in this case, the presence of rocks, trees, and roads are conservatively estimated to limit the pre-disturbance slope length to 100 feet. Post-reclamation slope lengths are taken as 3 feet, which is the typical distance from the top to the bottom of a deep gouge.
3. m = a factor in the LS equation which is 0.5 for slopes steeper than 5%.
4. $LS = ((65.41s^2/(s^2+10,000)) + 4.56s/(s^2+10,000)^{0.5} + 0.065) / (1/72.6)^m$
(Israelsen et al., 1984)

References:

1. Israelsen, C. Earl, Joel E. Fletcher, Frank W. Haws, and Eugene K. Israelsen, 1984. *Erosion and Sedimentation in Utah: A Guide for Control*. Hydraulics and Hydrology Series UWRL/H-84/03. Utah Water Research Laboratory, College of Engineering, Utah State University, Logan, Utah.

Determination of C Factor

The cover and management factor (C) was determined using tabulated values provided in Table 8B.2 of Haan et al. (1994). The percent living cover at the site was taken from the site investigation conducted by Patrick Collins of Mt. Nebo Scientific, Inc. in 2018. Collins collected data from the reclaimed sedimentation pond and shaft area and from the Crandall Canyon reference area. The resulting data, which are attached, indicated that the reclaimed site contained 63.8% living cover and the reference area contained 56.8% living cover. Note that litter is not included in these living cover percentages since its presence is implicit in the tabulations provided by Haan et al. (1994).

40.7% consisting of shrubs and 13.7% consisting of forbs. In the reference area, 69.7% of the living cover consisted of grasses, with 28.3% consisting of shrubs and 2.0% consisting of forbs. In calculating the C value, it was assumed that the canopy consists of tall grass and short shrubs. For ease of interpolation, it was assumed that the % canopy cover was 75% for both the reclaimed area and the reference area. The C values were determined as shown below.

Area	% Living Cover	C
Reclaimed Area	63.8	0.027
Reference Area	56.8	0.036

References:

1. Haan, C.T., B.J. Barfield, and J.C. Hayes. 1994. *Design Hydrology and Sedimentology for Small Catchments*. Academic Press, San Diego, California.

Table 2: Willow Creek Mine, Crandall Canyon. Total Cover and composition (2018).

Reclaimed Sediment Pond and Shaft Area			n=60
	Mean Percent	Standard Deviation	
A. TOTAL COVER			
Total Living Cover	63.83	9.93	
Litter	10.75	3.39	
Bareground	9.13	2.61	
Rock	16.28	9.01	
B. COMPOSITION			
Shrubs	40.71	22.44	
Forbs	13.66	18.54	
Grasses	45.63	25.59	

Table 6: Willow Creek Mine, Price Canyon. Total Cover and composition (2018).

Crandall Canyon Reference Area			n=50
	Mean Percent	Standard Deviation	
A. TOTAL COVER			
Total Living Cover	56.80	11.39	
Litter	10.70	6.33	
Bareground	6.80	3.28	
Rock	25.70	12.77	
B. COMPOSITION			
Shrubs	28.25	29.42	
Forbs	2.03	7.16	
Grasses	69.72	29.02	

Attachment 3

Public Notice

Public Notice
Application for Phase III Bond Release for 1.19 Acres
Plateau Mining, LLC, Willow Creek Mine
Permit C/007/0038, Renewed 04/24/2016

Notice is hereby given that Plateau Mining, LLC, P.O. Box 592, Orangeville, Utah 84537, has filed an application with the Utah Department of Natural Resources, Division of Oil, Gas and Mining for phase III bond release for the final 1.19 acres of reclaimed land in the Willow Creek Mine Permit, C/007/0038. Plateau Mining Corporation has completed phase III of the approved reclamation plan for 1.19 acres in the Willow Creek Mine Permit based on meeting the vegetation and water quality requirements for phase III reclamation in accordance with the approved reclamation plan. In order to receive phase III bond release the Permittee must demonstrate that, (1) the vegetation on the reclaimed site has been established in accordance with the approved reclamation plan and (2) that no part of the land is contributing suspended solids to the stream flow or runoff outside the permit area in excess ETV or the requirements set by UCA 40-10-17(2) (j) of the Act or by R645-301-751 of the rules.

In accordance with the provision of R645-301-880 and R645-301-400 of the State of Utah Coal Mining Rules, notice is hereby given that Plateau Mining, LLC is applying for total release of the surety bond posted for this 1.19 acres, the surety bond is \$10,452.

The permit area is shown on the Kyune U.S. Geological Survey 7.5-minute maps. The portion of the permit area that is affected contains a total of 1.19 acres and is located in Carbon County, Utah as follows:

Township 12 South, Range 9 East

Section 28: Portions of NE1/4 S1/2 Containing 1.19 Acres

The Utah Division of Oil, Gas and Mining will now evaluate the proposal to determine whether it meets all the criteria of the Permanent Program Performance Standards according to the requirements of the Utah Coal Mining Rules.

Written comments, objections and requests for public hearing or informal conference on this proposal may be addressed to:

Utah Coal Program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Closing date for submission of such comments, objections and requests for public hearing or informal conference on this proposal must be submitted by December 07, 2018.

Published in the ETV Newspaper on October 17, 24, 31 and November 07, 2018.

Attachment 4

Landowner and Government Agency Notifications

PLATEAU MINING, LLC
October 11, 2018

Carbon County Planning and Zoning
120 East Main Street
Price, Utah 84501

Re: Notification of Application for Phase III Bond Release on 1.19 Acres, Plateau Mining, LLC, Willow Creek Mine, C/007/038, Carbon County, Utah

Plateau Mining Corporation, P.O. Box 592, Orangeville, UT 84537, has completed Phase III of the approved reclamation plan for 1.19 disturbed acres remaining in the Willow Creek Permit. This Phase III bond release application is based meeting the vegetation and water quality requirement for Phase III reclamation in accordance with the approved reclamation plan.

In accordance with the provision of R645-301-880 and R645-301-400 of the State of Utah Coal Mining Rules, notice is hereby given that Plateau Mining, LLC is applying for total release of the surety bond posted for this 1.19 acres, the surety bond is \$10,452.

The permit area is shown on the Kyune U.S. Geological Survey 7.5-minute maps. The portion of the permit area that is affected contains a total of 1.19 acres and is located in Carbon County, Utah as follows:

Township 12 South, Range 9 East

Section 28: Portions of NE1/4 S1/2 Containing 1.19 Acres

Comments concerning Phase III bond release from the legal or equitable owner of record of the surface areas to be affected and from the Federal, Utah and local government agencies which would have to initiate, implement, approve or authorize the proposed use of the land following reclamation should be mailed to: Plateau Mining, LLC, Attention: Dennis Ware, P.O. Box 592 Orangeville, Utah 84537 prior to November 12, 2018.

Sincerely,

Dennis Ware
Company Representative
(435) 650:2951
dware@alphanr.com

Mailed to:

Carbon County Planning and Zoning

**120 East Main Street
Price, Utah 84501**

**Director Land Management
Blackhawk Coal Company
700 Morrison Road
Gahanna, Ohio 43230-6642**

**Helper City
P.O. Box 221
Helper, Utah 84526**

**Carbon County Commissioners
120 East Main Street
Price, Utah 84501**

**Price River Water Improvement District
P.O. Box 903
265 South Fairgrounds Road
Price, Utah 84501**

**Mr. Steven Rigby
Bureau of Land Management
125 South 600 West
Price, Utah 84501**

**Director
School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2818**

**State of Utah
Department of Transportation
940 South Carbon Avenue
Price, Utah 84501**

**Mr. Reed Martineau
Snow, Christensen & Martineau
P.O. Box 45000
Salt Lake City, Utah 84145-5000**

Eric Larson, Regional Supervisor

**State of Utah
Division of Wildlife Resources
319 North Carbonville, Rd. Suite A
Price, Utah 84501**

**Mark Stilson, Regional Engineer
State of Utah
Division of Water Rights
319 Carbonville Rd. Suite B
Price, Utah 804501**

**Field Office Director
Office of Surface Mining
1999 Broadway, Suite 3320
Denver, CO 80202-3050**

Attachment 5

Reclamation Certification

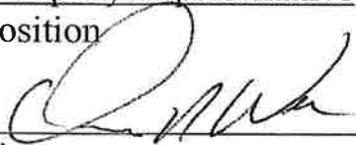
**Plateau Mining, LLC
Willow Creek Mine
C/007/0038**

**Final Phase III Bond Release for 1.19 acres of land in the
Willow Creek Mine Permit C/007/0038**

I hereby certify to the best of my information and belief all the information contained in this application for phase III bond release is true and correct and that all applicable reclamation activities have been accomplished in accordance with the requirement of the Act, the regulatory program and the approved reclamation plan.

Dennis N. Ware
Print Name

Company Representative
Position


Signature,

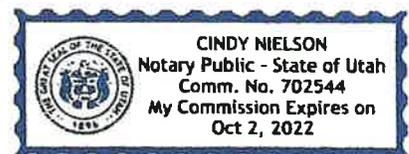
10-11-18
Date

Subscribed and sworn to before me this 11th day of October, 2018


Notary Public

My Commission Expires: Oct 2, 2022

Attest: State of Utah
County of Emery



Attachment 6

Bond Release Calculation

Bond Release Calculation

Willow Creek Mine Phase III Bond Reduction on the Final 1.19 Acres

The current bond is \$10,452. Since this is final bond release for the Willow Creek Permit the bond will be reduced to Zero Dollars.