Plateau Mining Corporation
Willow Creek Mine
P.O. Box 30
847 NW HWY 191
Helper, UT 84526
Phone (435) 472-4737

March 8, 2013

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

RE: 2012 Annual Report for Plateau Mining Corporation, Willow Creek, C/007/0038

Dear Mr. Haddock

Please find attached an electronic copy of the 2012 Annual Report for Plateau Mining Corporations Willow Creek Mine.

This report includes the Divisions required Annual Report form as well as Plateau Mining Corporations Willow Creek Mine year-eight vegetation study conducted by MT Nebo Scientific. This vegetation study is a pdf file titled "Revegetation Monitoring in Selected Areas at the Willow Creek Mine". The Crandall Canyon Shaft survey which the Permittee agreed to conduct as part of the Phase II bond release process is also attached.

If you have any problems opening these files please call me at 435-650-2951 or by email at dware@alphanr.com.

Sincerely,

Dennis N. Ware
Authorized Agent

Print Form | Submit by Email | Reset Form

Annual Report

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

GENERAL INFORMATION

Company Name	Plateau Mining Corporation	Mine Name	Willow Creek Mine
Permit Number	C/007/0038	Permit expiration Date	April 24, 2016
Operator Name	Plateau Mining Corporation	Phone Number	+1 (435) 472-0475
Mailing Address	P.O. Box 30	Email	dware@alphanr.com
City	Helper		
State	UT	Zip Code	84526

		DOGM File Location or Annual Report Location
Excess Spoil Piles	☐ Required ☒ Not Required	No Excess Spoil Piles
Refuse Piles	☐ Required ☒ Not Required	Reclaimed
Impoundments	☐ Required ☒ Not Required	No Impoundments
Other:		

OPERATOR COMMENTS

REVIEWER COMMENTS ☐ Met Requirements ☐ Did Not meet Requirements

COMMITMENTS AND CONDITIONS

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

Title: CRANDALL CANYON SHAFT SETTLEMENT MONITORING
Objective: Perform Annual Shaft Settlement Surveys on Two Reclaimed Shafts in Crandall Canyon
Frequency: Annually, Beginning after the approval of phase II bond release until phase III bond release.
Status: Ongoing
Reports: Annual
Citation: MRP, Volume 17, Exhibit 24, Appendix 8

Operator Comments

The survey of the two shafts in Crandall Canyon was conducted on 11/09/2012 is attached.

At the eastern shaft we set one point in the center of the of the shaft site in 2008 that was re-checked in 2009, and again in 2012. The soil mounded over the shaft dropped 1.4 feet from the 2008 to the 2009 survey and an additional 1.4 feet from the 2009 survey to the 2012 survey. We also set 5 additional points at the eastern site for future monitoring as shown in the attached spreadsheet.

At the western shaft site we set nine survey points for future monitoring as shown in the attached spreadsheet.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

REPORTING OF OTHER TECHNICAL DATA

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

Please list attachments:

The Willow Creek Year-Eight Vegetation Study conducted by MT Nebo Scientific is attached. It is titled "Revegetation Monitoring in Selected Areas at the Willow Creek Mine".

Reviewer Comments

MAPS

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

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
The mine is in Reclamation Monitoring Phase		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

PLATEAU MINING CORPORATION

CRANDALL CANYON RECLAMATION

ELEVATOR SHAFT SURVEY

11/9/2012

			2008 Survey	8-16-2009 Survey		2012 Survey	
POINT NUMBER	NORTHING (FEET)	EASTING (FEET)	ELEVATION (FEET)	ELEVATION (FEET)	ELEVATION DIFFERENCE	ELEVATION (FEET)	ELEVATION DIFFERENCE
BENCHMARK	517056.3	2164798.1	6783.2	6783.2	0.0	6783.2	0.0
Eastern Shaft Reclamation							
1	516995.5	2165011.0	6784.1	6782.7	1.4	6781.3	1.4
2	516991.9	2165017.9				6782.5	
3	516981.1	2165024.6				6780.4	
4	517008.3	2165033.6				6776.6	
5	516979.8	2164986.4				6776.5	
6	517019.4	2164994.1				6769.7	
Western Shaft Reclamation							
7	516604.8	2164052.1				6819.7	
8	516565.2	2164110.2				6826.3	
9	516570.5	2164089.1				6825.3	
10	516568.1	2164060.0				6826.5	
11	516565.1	2164044.1				6826.1	
12	516567.0	2164026.6				6824.0	
13	516562.9	2164002.6				6822.3	
14	516525.6	2164051.2				6827.9	
15	516588.4	2164051.2				6821.9	

WARE SURVEYING & ENGINEERING

G.P.S. & CONVENTIONAL SURVEYING - AUTOCAD MAPPING - CIVIL ENGINEERING

Phone: 435-820-4335

Email: waresurveying@emerytelcom.net

Revegetation Monitoring in Selected Areas at the Willow Creek Mine

Year 8: 2012

for

Plateau Mining Corporation

Prepared by

MT. NEBO SCIENTIFIC, INC.
330 East 400 South, Suite 6
P.O. Box 337
Springville, Utah 84663
(801) 489-6937

by

Patrick Collins, Ph.D.

for

PLATEAU MINING CORPORATION
P.O. Box 592
Orangeville, Utah 84537

February 2013

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INTRODUCTION

The Willow Creek Mining & Reclamation Plan (MRP) requires that the vegetation of selected reclaimed areas be quantitatively sampled eight years following revegetation. The *selected* areas were the **Conveyor Corridor** and **Riparian Bottoms**. The scope of this report is to provide results from monitoring plant establishment and preliminary revegetation success for these sites.

A detailed history about the mining, reclamation and vegetation sampling at the Willow Creek Mine can be found in an earlier report prepared by Mt. Nebo Scientific, Inc. *(Revegetation Monitoring at the Willow Creek Mine, Year 4, 2008)*.

METHODS

Methodologies used for sampling the areas were performed in accordance with the *Vegetation Information Guidelines* provided by the State of Utah, Division of Oil, Gas & Mining (DOGM). For reasons that were described in the above-mentioned Year 4 monitoring report, there has been an assortment of methods that have been employed to sample the vegetation at the Willow Creek Mine site. We have attempted to employ sampling methods that have appropriate scientific merit and comply with all state and federal regulations and guidelines, as well as remain consistent with previous sampling methods to make the previous and current datasets comparable to each other.

Transect and Quadrat Placement

Like the previous sample years, random/regular placement of sample quadrats were designed as an attempt to provide unbiased accuracy of the data compiled. This was accomplished by establishing several transect lines along the entire length of each reclaimed area. At regular intervals along the transect lines, random numbers were generated and used to measure distances at right angles from the line to determine sample locations. Whether these random numbers were odd or even determined which side of transect line a

given quadrat was placed. The random numbers selected were high enough to place quadrats to the lateral limits of each sample area and all areas in-between. This insured that the sample quadrats were placed randomly over the entire study area in an attempt to adequately address and represent each site as a whole.

Cover, Frequency and Composition

Depending on the sample area and the history of sampling it, cover estimates were made by employing two different methods. In the Conveyor Corridor area we employed the point-intercept method using an inclined metal 10-point frame. For the Riparian Bottoms ocular methods with meter square quadrats were used. Along with cover measurements, species composition and relative frequencies were also assessed from both methods. Plant nomenclature follows *A Utah Flora* (Welsh et al. 2008).

Density

Similar to the reasons for employing different sample methods for cover, woody species density measurements also varied depending on the area. In the Conveyor Corridor area, densities were measured using 1.5 M x 50.0 M belt transects. Here, all woody plants were counted inside the belts; the counts were then summarized and converted into the number of individual woody plants per acre. In the Riparian Bottoms, woody plants 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.

Biomass Production

In the Conveyor Corridor total annual biomass production was estimated by clipping, drying and weighing current annual growth in each sample quadrat. "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 recorded separately, then combined to provide the total production estimate. Biomass productivity was not required in Year 8 for the Riparian Bottoms.

Photographs

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

Success Standards

A review of the sampling history outlines some of the reasons that certain methodologies and revegetation success standards are to be employed in specific sample areas at the Willow Creek Mine site. In some areas, the **"Reference Area"** protocol as described in DOGMs *Vegetation Information Guidelines* was employed. In other areas, the **"Baseline Information"** protocol. However, the areas chosen to represent revegetation success standards were not required to be sampled in 2012.

RESULTS

Conveyor Corridor

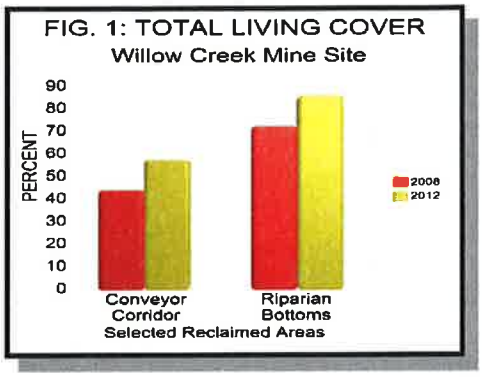
A list of all species present in the sample quadrats at the reclaimed Conveyor Corridor is shown on Table 1, but the dominant species here were bluebunch wheatgrass *(Elymus spicatus)*, fourwing saltbush (*Atriplex canescens*) and western wheatgrass (*Elymus smithii*). The total living cover in this area was estimated at 56.80% (Table 2-A). The lifeform composition proportions in the area consisted of 65.65% grasses, 26.49% shrubs and 7.87% forbs (Table 2-B).

The total woody species density in the Conveyor Corridor was estimated at 1,921 plants per acre (Table 3) with the dominants species being fourwing saltbush, rubber rabbitbrush (*Chrysothamnus nauseosus*), and big sagebrush (*Artemisia tridentata*). The total annual

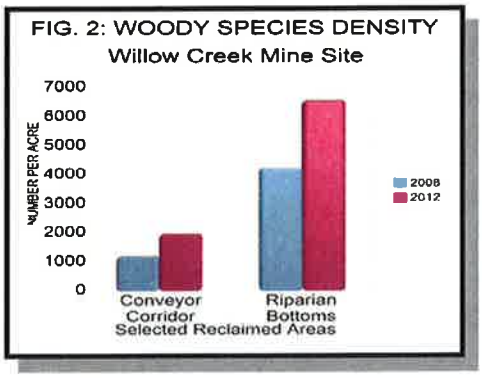
biomass production for the area was 1,536.78 pounds per acre and was nearly equally represented by woody and herbaceous plants (Table 4).

Riparian Bottoms

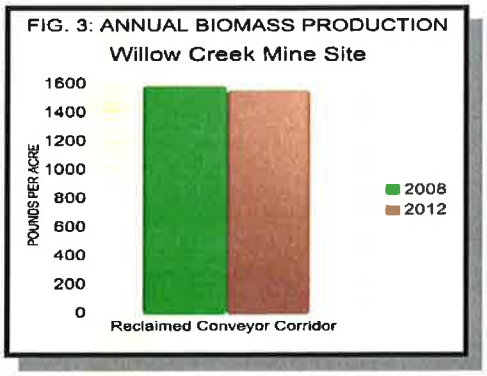
The reclaimed Riparian Bottoms were dominated by coyote willow (*Salix exigua*) by a wide margin. For a list of all plant species present in the sample quadrats along with their cover and frequency values, refer to Table 5.



The total living cover (overstory and understory cover combined) for this reclaimed site was estimated to be 84.50%, of which 57.00% came from understory and 27.50% from overstory cover (Table 6-A). The composition of the understory cover by lifeform was 93.60% trees & shrubs, 4.89% grasses and 1.52% forbs (Table 6-B). Table 7 shows the woody species density in this area and consisted of a total of 6,455 individuals per acre with the dominants here consisting of coyote willow, Wood's rose (*Rosa woodsii*), big sagebrush, golden current (*Ribes aureum*) and rubber rabbitbrush.



Comparisons Between Sample Years



Figures 1-3 compares the fundamental parameters (total living cover, woody species density and production) for the last two sample years (2008 and 2012).

SUMMARY & CONCLUSIONS

Willow Creek's MRP outlines the years that quantitative vegetation sampling is to be conducted in the reclaimed areas of the mine site. Sampling was required in selected areas in 2012 – these areas were the Conveyor Corridor and the Riparian Bottoms. The following parameters were measured: cover by plant species, frequency, total living cover, composition, woody species density and annual biomass production.

Results suggest that the vegetation in the selected reclaimed areas is becoming well established and should, in the near future, be a candidate for final bond release. Furthermore, in a graphically comparison of crucial parameters between the previous sample period (2008) and the current sample period (2012), the data suggest an increase in total living cover (Fig. 1) and woody species density (Fig. 2) in the Conveyor Corridor and Riparian Bottoms. Annual biomass productivity in the Conveyor Corridor was nearly identical for the two sample years (Fig. 3).

DATA SUMMARY TABLES

Table 1: Willow Creek Mine Site. Living Cover and Frequency by Plant Species (2012).

Reclaimed Conveyor Corridor			n=50
	Mean Percent	**Standard Deviation**	**Percent Frequency**
SHRUBS			
Atriplex canescens	12.20	19.83	38.00
Artemisia tridentata	1.60	7.58	6.00
Ceratoides lanata	0.60	4.20	2.00
Chrysothamnus nauseosus	2.00	9.80	4.00
FORBS			
Achillea millefolium	0.60	3.10	4.00
Linum lewisii	0.20	1.40	2.00
Machaeranthera canescens	0.60	4.20	2.00
Melilotus officinalis	0.20	1.40	2.00
Penstemon palmeri	2.60	8.44	10.00
GRASSES			
Elymus cinereus	5.00	10.25	24.00
Elymus lanceolatus	1.80	5.17	12.00
Elymus salinus	1.40	6.93	4.00
Elymus smithii	10.20	19.13	32.00
Elymus spicatus	17.00	19.52	54.00
Stipa hymenoides	0.80	4.40	4.00

Table 2: Willow Creek Mine Site. Total Cover and Composition (2012).

Reclaimed Conveyor Corridor		n=50
A. TOTAL COVER	**Mean Percent**	**Standard Deviation**
Total Living Cover	56.80	12.87
Litter	13.40	5.52
Bareground	10.60	7.32
Rock	19.20	11.63
B. % COMPOSITION		
Shrubs	26.49	34.60
Forbs	7.87	19.10
Grasses	65.65	34.66

Table 3: Willow Creek Mine Site. Woody Species Density (2012).

Reclaimed Conveyor Corridor	n=10
SPECIES	**Individuals Per Acre**
Artemisia tridentata	151.08
Atriplex confertifolia	5.40
Atriplex canescens	938.86
Ceratoides lanata	37.77
Chrysothamnus nauseosus	755.41
Ephedra viridis	16.19
Gutierrezia sarothrae	5.40
Kochia prostrata	10.79
TOTAL	**1920.89**

Table 4: Willow Creek Mine Site. Annual Biomass Production (2012).

Reclaimed Conveyor Corridor

(n=25; double sampling n=100)

	Pounds/Acre	
LIFEFORM	**MEAN**	**STD. DEV.**
Herbaceous	721.69	863.42
Woody	815.09	898.63
TOTAL	**1536.78**	613.63

Table 5: Willow Creek Mine Site. Living Cover and Frequency by Plant Species (2012).

Reclaimed Riparian Bottoms			n=30
OVERSTORY	**Mean Percent**	**Standard Deviation**	**Percent Frequency**
TREES & SHRUBS			
Populus angustifolia	0.83	4.49	3.33
Ribes aureum	0.83	4.49	3.33
Rosa woodsii	2.17	6.28	13.33
Salix exigua	25.33	16.78	80.00
UNDERSTORY			
TREES & SHRUBS			
Acer glabrum	0.50	2.69	3.33
Artemisia tridentata	2.00	6.00	10.00
Chrysothamnus nauseosus	2.17	5.43	16.67
Populus angustifolia	2.50	9.55	6.67
Ribes aureum	2.33	7.04	10.00
Rosa woodsii	10.50	20.22	26.67
Salix exigua	33.33	17.90	90.00
FORBS			
Asclepia speciosa	0.33	1.80	3.33
Melilotus officinale	0.50	2.69	3.33
GRASSES			
Elymus cinereus	1.17	6.28	3.33
Elymus salinus	0.83	4.49	3.33
Phalaris arundinacea	0.83	4.49	3.33

Table 6: Willow Creek Mine Site. Woody Species Density (2012).

Reclaimed Riparian Bottoms		n=30
A. TOTAL COVER	**Mean Percent**	**Standard Deviation**
Overstory (O)	27.50	14.53
Understory (U)	57.00	13.39
Litter	14.50	11.93
Bareground	6.30	3.87
Rock	22.20	12.90
O+U	84.50	16.65
B. % COMPOSITION		
Trees & Shrubs	93.60	16.34
Forbs	1.52	8.16
Grasses	4.89	14.68

Table 3: Willow Creek Mine Site. Woody Species Density (2012).

Reclaimed Riparian Bottoms	n=30
SPECIES	**Individuals Per Acre**
Acer glabrum	107.58
Artemisia tridentata	537.90
Atriplex canescens	53.79
Chrysothamnus nauseosus	484.11
Populus angustifolia	161.37
Ribes aureum	484.11
Rosa woodsii	914.44
Salix exigua	3711.54
TOTAL	**6454.86**

COLOR PHOTOGRAPHS OF THE SAMPLE AREAS

THE RECLAIMED CONVEYOR CORRIDOR

THE RECLAIMED WILLOW BOTTOMS