C0070004
Incoming
#3507

COPY

Castle Gate Holding Company
P.O. Box 30
Helper, UT 84526

March 12, 2010

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: **2009 Annual Report, Castle Gate Holding Company, Castle Gate Mine – C/007/0004**

Dear Mr. Haddock

Castle Gate Holding Company is herewith submitting one copy of the Castle Gate Mine 2009 Annual Report for the Salt Lake City Office. One copy for the Price Field Office has been hand delivered to Mr. Steve Demczak.

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

Sincerely,

Dennis N. Ware
Controller and Administrative Manager
(435) 650:2951
dware@alphanr.com

Enclosures

File in:
☐ Confidential
☒ Shelf
☐ Expandable
Refer to Record No 0001 Date 03/12/2010
In C/007/0004, 2010, Incoming
For additional information

RECEIVED
MAR 15 2010
DIV. OF OIL, GAS & MINING

CASTLE GATE MINE

C/007/0004

2009 ANNUAL REPORT

This Annual Report shows information the Division has for your mine. Please review the information to see if it is current. If the information needs to be updated please do so in this document. At the end of each section the operator is asked to verify if the information is correct. Please answer these questions and make all comments on this document. Submit the completed document and any additional information identified in the Appendices to the Division by April 30, 2010. During a complete inspection an inspector will check and verify the information. To enter text, click in the cell and type your response. You can use the tab key to move from one field to the next. To enter an X in a box, click next to the box, right click, and select properties, then the checked circle, then hit enter, or hit the unchecked circle if the X is to be removed.

GENERAL INFORMATION

Permittee Name	Castle Gate Holding Company
Mine Name	Castle Gate Mine
Operator Name (If other then permittee)	
Permit Expiration Date	December 23, 2014
Permit Number	C/007/0004
Authorized Representative Title	Dennis Ware, Controller
Phone Number	(435) 650-2951 or (435) 472:0475
Fax Number	
E-mail Address	dware@alphanr.com
Mailing Address	P.O. Box 30 Helper, Utah 84526-0030
Designated Representative	Dennis N. Ware
Resident Agent	C.T. Corporation
Resident Agent Mailing Address	50 West Broadway, Salt Lake City, UT 84101
Number of Binders Submitted	2

IDENTIFICATION OF OTHER PERMITS

Identify other permits that are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expiration Date
MSHA Mine ID(s)	42-02113	Legal Identity	
MSHA Impoundment(s)	N/A		
NPDES/UPDES Permit(s)	UT0400112	UPDES	May 1, 2013
PSD Permit(s) (Air)	DAQE-037-00	Approval Order	
Other			

Operator, please update any incorrect information.

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan that must be periodically submitted to the Division. Specify whether the information is included as Appendix A to this report or currently on file with the Division.

Certified Reports:	Required Yes	Required No	Included or Included	DOGM file location Vol, Chapter, Page
Excess Spoil Piles	☐	X	☐	
Refuse Piles	☐	X	☐	
Impoundments	☐	X	☐	
Other				
	☐	☐	☐	
	☐	☐	☐	

Operator Comments:

Inspector:
Has the operator complied with this section? Yes ☐ No ☐
Inspector Comments:

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the MRP 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 the particular section is blank, no commitment has been identified and no response is required for this report. If additional written response is required, it should be filed under Appendix B to this report.

Admin R645-301-100
Soils R645-301-200
Biology R645-301-300
Landuse, Cultural Resources, Air Quality R645-301- 400
Engineering R645-301-500
Geology R645-301-600

Hydrology R645-301-700

Bonding & Insurance R645-301-800

Other Commitments

*Reminder: If equipment has been abandoned during 2009, an amendment must be submitted that includes a map showing its location, a description of what was abandoned, whether there were any hazardous or toxic materials and any revision to the PHC as necessary.

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan, which must be periodically submitted to the Division. Specify whether the information is included as Appendix B to this report or currently on file with the Division.

Water Monitoring each quarter which is on file with the Division
Year 10 Vegetation Study for Hardscrabble Canyon

Operator Comments:

Inspector:
Has the operator complied with this section? Yes ☐ No ☐
Inspector Comments:

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Change in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is Requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the annual report. Please provide the Department of Commerce, Annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other change as necessary regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include certified financial statements, audits or worksheets, which may be required to meet bonding requirements. Specify whether the information is currently on file with the Division or included as Appendix C to the report.

Legal / Financial Update	**Required** Yes	No	**Included** or Included	**DOGM File location** Vol, Chapter, Page
Department of Commerce, Annual Report Officers	X	☐	☐	**Volume 1, Appendix 2-3 - Updated in December of 2009,**
Other				
	☐	☐	☐	
	☐	☐	☐	

MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2009, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential. (Please provide a CD.)

Confidential information is limited to:

R645-300-124.310. Information that pertains only to the analysis of the chemical and physical properties of the coal to be mined, except information on components of such coal which are potentially toxic in the environment.

R645-300-124.330. Information on the nature and location of archeological resources on public land and Indian land as required under the Archeological Resources Protection Act of 1979 (P. L. 96-95, 93 Stat. 721, 16 U.S.C. 470).

R645-301-322, Fish and Wildlife Information; R645-301-322.100, the scope and level of detail for such information will be determined by the Division in consultation with state and federal agencies with responsibilities for fish and wildlife and will be sufficient to design the protection and enhancement plan required under R645-301-333 and R645-301-322.230, other species or habitats identified through agency consultation as requiring special protection under state or federal law; R645-301-333.300, Include protective measures that will be used during the active mining phase of operation.

The Division will provide procedures, including notice and opportunity to be heard for persons both seeking and opposing disclosure.

Map Number(s)	Map Title/ Description		
Annual subsidence map		No	
Mine map		No	
Other maps		**Confidential** Yes	No
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Operator Comments:

Inspector:
Has the operator complied with this section? Yes ☐ No ☐
Inspector Comments:

OTHER INFORMATION

Please provide any comments of further information to be included as part of the Annual Report. Any other attachments are to be provided as Appendix E to this report. If information is submitted as a group rather then by individual mine, please identify each of the mine's data in the list below.

Additional attachment to this report? **Yes** X **No** ☐

Overview of reclamation, permitting and phased bond release activities.

Operator Comments:

Inspector:
Has the operator complied with this section? Yes ☐ No ☐
Inspector Comments:

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

CONTENTS

APPENDIX B

Reporting of Technical Data

Including monitoring data, reports, maps, and other information
As required under the approved plan or as required by the Division

In accordance with the requirement of R645-310-130 and R645-301-140

CONTENTS

VEGETATION MONITORING
FOR PHASE III BOND RELEASE
IN HARDSCRABBLE CANYON, UTAH
2008 - 2009

FOR THE
CASTLE GATE HOLDING COMPANY

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

CASTLE GATE HOLDING COMPANY
P.O. Box 92
Orangeville, Utah 84537

February 2010

TABLE OF CONTENTS

INTRODUCTION

Objectives for Monitoring

Hardscrabble Canyon, once the site of early coal mining activities, has been reclaimed and restored to native plant communities similar to those that existed prior to the disturbance by mining. Enough time has passed that the *"Responsibility Period"* for the site has been achieved. This means that the vegetation has been established for a time period long enough that specific parameters can be compared to those pre-set as standards for final revegetation success. If revegetation is deemed successful, an application for *final* or **Phase III Bond Release** can be submitted through the State of Utah, Division of Oil, Gas and Mining (DOGM).

This report has been prepared to supplement the bond release application. Phase III Bond Release requires a more intensive vegetation sampling regime than was required for Phase II Bond Release; it also requires two consecutive years of quantitative datasets. Consequently, vegetation sampling was conducted in 2008, and again in 2009. This report describes the *complete* methods and results for the quantitative sampling conducted in 2009 (Year 2 of the required two sample years), however, it also incorporates some summary information from the 2008 sample period (Year 1) to facilitate comparisons. For the *complete* report for 2008, refer to the earlier document called *Vegetation Monitoring for Phase III Bond Release in Hardscrabble Canyon, Year 1: 2008.*

General Site Description

Hardscrabble Canyon is located in Carbon County, Utah and has a rich history in coal mining activities. Those areas previously disturbed by the mining activities have been reclaimed and reseeded with the final seed mixture, most of which were native plant species.

The average elevation of the Reclaimed Areas in Hardscrabble Canyon was approximately 6,700 ft above sea level. The canyon sides are dominated by pinyon-juniper and Gambel's oak/grass plant communities. Most of the Reclaimed Areas were located near the canyon bottoms that, prior to disturbance, were probably once dominated by Gambel's oak, sagebrush and grass communities.

Reference Area

A Reference Area to be used as standards for final revegetation success was chosen at a much earlier date by representatives of the mining company and DOGM. The Mining and Reclamation Plan (MRP) states that "the AML Reference Areas shown on Exhibit 9-6 will be used to evaluate previously mined areas". Because the AML (State of Utah, Division of Oil, Gas & Mining, Abandoned Mined Lands Program) areas were relatively extensive, at least to be sampled as one Reference Area, a biologist from DOGM along with a representative from Plateau Mining Corporation, chose a smaller portion of the AML areas that would be appropriate to be used as the Reference Area for the revegetation at Hardscrabble Canyon. This area was located in a

nearby area called Sowbelly Canyon. More specifically, the Reference Area was located down-canyon (or south) and very close to the previously disturbed mined areas that have also been reclaimed in Sowbelly Canyon. In fact, it is the same Reference Area that was used for a standards for revegetation success in the Reclaimed Areas of Sowbelly Canyon, another area once disturbed my early mining activities.

METHODS

Quantitative and qualitative data were taken from the vegetation of the Reclaimed Areas in Hardscrabble Canyon and the Reference Area in Sowbelly Canyon. Sampling was conducted in September 2009. Methodologies used for sampling were performed in accordance with the *Vegetation Information Guidelines* supplied by DOGM. **(Note**: Neither woody species density nor annual biomass production measurements were not required parameters for final bond release in Hardscrabble Canyon).

Transect and Quadrat Placement

Random/regular placement of sample quadrats were designed in an attempt to provide unbiased accuracy of the data compiled. This was accomplished by establishing one long transect line along the entire length of the Reclaimed Areas. This line was placed in the lowest portion of the reclaimed drainage system. At regular intervals along the drainage transect line, random numbers were generated and used to measure distances at right angles from the drainage and to

determine sample locations. Whether these random numbers were odd or even determined which side of the drainage a given quadrat was placed. The random number selected would be high enough to place quadrats to the lateral limits of the Reclaimed Areas and all areas in-between. This insured that the sample quadrats were placed randomly over the entire study area in an attempt to adequately represent the site as a whole.

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. Additional information recorded on the raw data sheets were: estimated precipitation, slope, exposure, grazing use, animal disturbance and other appropriate notes. Plant nomenclature follows "A Utah Flora" (Welsh et al. 2003).

Sample Size & 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

The values used for "t" and "d" insured that sample adequacy was met with 90% confidence within a 10% deviation from the true mean.

Diversity & Similarity Indices

There are several well-documented methods to assess diversity and similarities in plant communities. The "Motyka Index" is a modified form of the "Sorenson Index", both similarity indices. This index was used on the data and the equation is shown below:

$$IS_{MO}=(\frac{2MW}{MA+MB})x100$$

where,

MW = $\sum$ of the smaller quantitative values of species of two communities,
MA = $\sum$ of the quantitative values of all species in one community,
MB = $\sum$ of the quantitative values of all species in another community.

Two diversity indices have been reported in this document for the Reclaimed and Reference Areas. MacArthur's Diversity Index is an effective diversity measurement and is computed using 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.

Another diversity measurement was provided that shows the average number of species encountered at each quadrat, providing a value for species diversity.

Photographs

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

Raw Data

The raw data for total cover, cover by species, frequency and composition were also submitted in the Appendix of this report which should facilitate future scrutiny of the data and further statistical testing if desired.

RESULTS

Reclaimed Areas

In 2009, sampling results of the Reclaimed Areas in Hardscrabble Canyon showed the most common shrub species for cover and frequency were rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and big sagebrush (*Artemisia tridentata*). The most common forbs were Pacific aster (*Aster ascendens*), Palmer penstemon (*Penstemon palmeri*) and tarragon (*Artemisia dracunculus*). Finally, the most common grasses were bluebunch wheatgrass (*Elymus spicatus*), Gt. Basin wildrye (*E. cinereus*) and western wheatgrass (*E. smithii*). For a list of all species present in the sample quadrats by cover and frequency, refer to Table 1.

The total living cover for the Reclaimed Areas in Hardscrabble Canyon in 2009 was 53.70% (Table 2-A), of which 45.44% of this cover were comprised of grasses, 39.39% from shrubs and 15.17% from forbs (Table 2-B).

Reference Area

As noted previously, the Reference Area chosen to represent revegetation success standards for the Reclaimed Areas in Hardscrabble Canyon was located in Sowbelly Canyon. In 2009, the most common shrub species in the Reference Area were rubber rabbitbrush and fourwing saltbush. The most common forbs were Louisiana sagewort (*Artemisia ludoviciana*) and blue-

leaf aster (*Aster glaucodes*). The most common grasses were western wheatgrass, thickspike wheatgrass (*Elymus trachycaulus*) and cheatgrass (*Bromus tectorum*). For a complete list of all species present in the sample quadrats by cover and frequency, refer to Table 3.

The total living cover for the Reference Area was 39.90% (Table 4-A). All of this cover was represented in the understory cover; it was comprised of 59.25% grasses, 21.39% forbs and 19.37% shrubs (Table 4-B).

FIGURE 1. STUDENT'S T TEST - A Comparison Between the Reclaimed Areas at Hardscrabble Canyon and its Reference Area (**2008-2009**).

2008
Reclaimed Areas: $\bar{x}$=53.95; s=12.17; n=100
Reference Area: $\bar{x}$=42.50; s=8.85; n=50
t = 5.913; df = 148, SL= p<0.01

2009
Reclaimed Areas: $\bar{x}$=53.70; s=13.94; n=100
Reference Area: $\bar{x}$=39.90; s=9.57; n=50
t = 6.293; df = 148, SL= p<0.01

Dataset Comparisons

Comparisons were made between the data of the Hardscrabble Canyon Reclaimed Areas and its Reference Area. To begin, statistical tests were implemented comparing the total living plant cover of the two areas. A Student's t-test suggested that the Reclaimed Areas' total living cover was significantly greater statistically when it was compared to the Reference Area for both the 2008 and 2009 datasets (Figure 1). [**NOTE**: As mentioned above, some results from the 2008 study have been included in this document for comparison purposes].

Next, the Motyka Index was recommended to be used to compare species diversity in the Mining and Reclamation Plan (MRP). Although this index is more of a *similarity index* than a *diversity*

index, it has been employed here to compare the datasets. Language in the MRP assigned the following categories to be used for comparisons with the Motyka Index:

Non-Weedy Shrub Cover,
Weedy Shrub Cover,
Native Perennial Grass Cover,
Introduced Perennial Grass Cover,
Non-Weedy Forb & Grass Cover,
Weedy Forb & Grass Cover.

When using the above categories and employing the Motyka Index, the similarity value between the two communities was 85.120% in 2008 and 89.135% in 2009 (Figure 2).

FIGURE 2. MOTYKA INDEX - A Comparison Between the Reclaimed Areas at Hardscrabble Canyon and its Reference Area (**2008-2009**).

2008

$$IS_{MO}=\left(\frac{2MW}{MA+MB}\right)x100=85.120$$

2009

$$IS_{MO}=\left(\frac{2MW}{MA+MB}\right)x100=89.135$$

MacArthur's Diversity Index was also employed to the datasets of the Reclaimed and Reference Areas. This comparison suggested that the total diversity of the Reclaimed Areas was greater than that of the Reference Area by quite a wide margin for both years (Figure 3).

FIGURE 3. MacARTHUR'S INDEX - A Comparison Between the Reclaimed Areas at Hardscrabble Canyon and its Reference Area (**2008-2009**).

$1/\sum pi^2 =$

2008
Reclaimed Areas: 16.933
Reference Area: 10.507

2009
Reclaimed Areas: 16.104
Reference Area: 8.809

Another method of comparing species diversity of the two areas is to simply calculate the mean number of species present in the sample quadrats. Results from this method in 2008 and 2009 also suggested that the Reclaimed Areas were more diverse with respect to species when compared to the Reference Area (Figure 4).

FIGURE 4. AVERAGE NUMBER OF SPECIES PER SQUARE METER- A Comparison Between the Reclaimed Areas at Hardscrabble Canyon and its Reference Area **(2008-2009)**.

$\bar{x}$ NO. SPP/M^2 =

2008
Reclaimed Areas: 3.41
Reference Area: 2.54

2009
Reclaimed Areas: 3.25
Reference Area: 2.58

SUMMARY & CONCLUSIONS

Quantitative sampling was conducted in the Reclaimed Areas in Hardscrabble Canyon in 2008 and 2009. Additionally, sampling was conducted in a Reference Area that had been chosen previously to represent revegetation success. This report provides the complete methods and results for the 2009 study. It also provides summary results for the 2008 study to facilitate

comparisons between the two years.

The results for total living cover, similarity and diversity in 2008 and 2009 all suggest that the reclaimed site has met or exceeded the revegetation standards set by the Reference Area. Also worth mentioning is that most of the species present in the sample quadrats were "desirable" plant species, and not "weedy" exotics.

The state regulations (R645-301-353) require that the reclaimed plant cover should be "*diverse, effective and permanent*" and should *"at least equal in extent of cover to the natural vegetation of the area*". The same regulations also state that the plant species will "*be compatible with the approved postmining land use*" and should "*have the seasonal characteristics of growth as the original vegetation*". Finally, they should *"be capable of self-regeneration and plant succession*" and well as *"be compatible with the plant and animal species of the area*".

In conclusion, results from quantitative sampling in 2008 and 2009 suggest that the reclaimed plant communities in Hardscrabble Canyon could be considered for final or Phase III Bond Release.

SUMMARY TABLES

Table 1: Hardscrabble Canyon Area. Living Cover and Frequency by Plant Species (2009).

Reclaimed Areas			n=100
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
Artemisia nova	1.80	6.42	12.00
Artemisia tridentata	3.90	9.61	20.00
Atriplex canescens	4.05	10.86	16.00
Ceratoides lanata	1.20	7.28	3.00
Chrysothamnus nauseosus	9.60	17.37	34.00
Gutierrezia sarothrae	0.55	2.64	6.00
Rhus aromatica	0.30	2.98	1.00
Suaeda torreyana	0.65	5.55	2.00
FORBS			
Achillea millefolium	0.15	1.11	2.00
Artemisia dracunculus	1.30	4.16	13.00
Aster ascendens	3.90	11.35	19.00
Hedysarum boreale	0.95	3.65	8.00
Machaeranthera canescens	0.20	1.40	2.00
Medicago sativa	0.05	0.50	1.00
Penstemon palmeri	1.30	4.22	14.00
GRASSES			
Agropyron cristatum	2.25	6.02	21.00
Bromus tectorum	0.95	3.98	8.00
Elymus cinereus	4.20	10.62	23.00
Elymus hispidus	0.45	4.48	1.00
Elymus lanceolatus	3.65	7.10	28.00
Elymus salinus	0.80	6.27	20.00
Elymus smithii	3.10	7.03	25.00
Elymus spicatus	5.25	10.87	27.00
Poa secunda	1.75	8.47	9.00
Stipa hymenoides	1.40	5.70	10.00

Table 2: Hardscrabble Canyon Area. Total Cover and Composition (2009).

Reclaimed Areas		n=100
A. TOTAL COVER	Mean Percent	Standard Deviation
Total Living Cover	53.70	13.94
Litter	11.07	4.92
Bareground	11.19	6.54
Rock	24.04	11.98
B. % COMPOSITION		
Shrubs	39.39	32.58
Forbs	15.17	22.74
Grasses	45.44	32.57

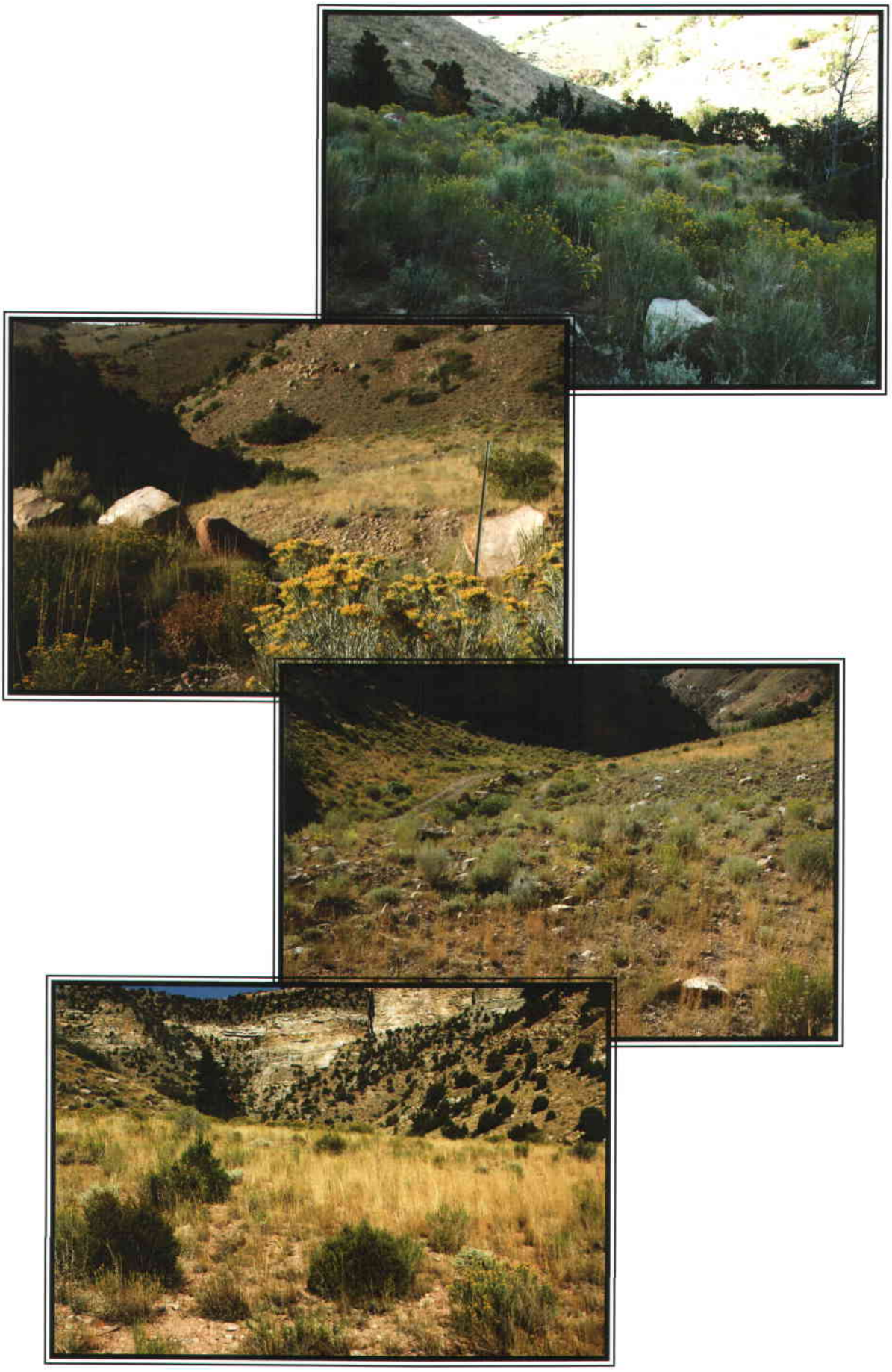
Table 3: Hardscrabble Reference Area (located in Sowbelly Canyon). Living Cover and Frequency by Plant Species (2009).

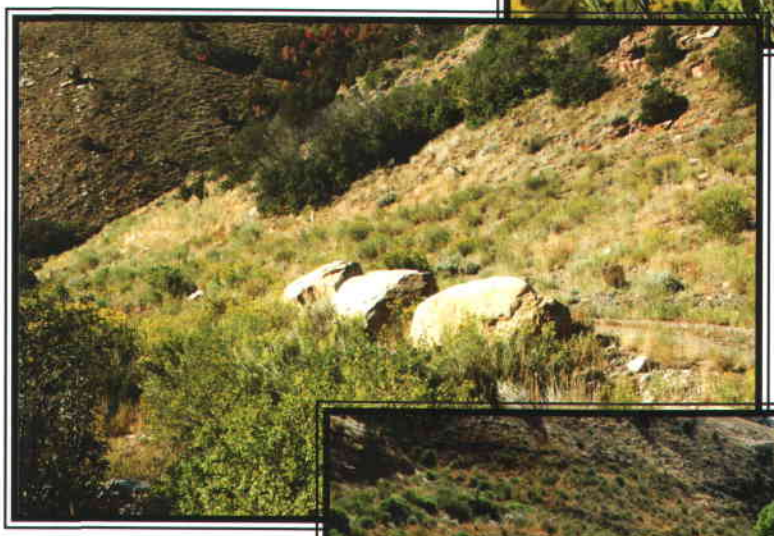
Reference Area			n=50
	Mean Percent	Standard Deviation	Percent Frequency
TREES & SHRUBS			
Atriplex canescens	2.30	4.92	20.00
Chrysothamnus nauseosus	5.20	10.00	28.00
Gutierrezia sarothrae	0.50	1.80	8.00
FORBS			
Artemisia ludoviciana	4.80	7.68	36.00
Aster glaucodes	3.50	6.02	30.00
Medicago sativa	0.20	1.40	2.00
Solidago sp.	0.20	1.40	2.00
GRASSES			
Bromus inermis	0.20	1.40	2.00
Bromus tectorum	2.80	7.15	16.00
Dactylis glomeratus	0.60	2.15	8.00
Elymus hispidus	0.60	4.20	2.00
Elymus lanceolatus	5.90	9.52	38.00
Elymus salinus	1.10	5.94	4.00
Elymus smithii	10.10	12.90	46.00
Poa secunda	0.30	2.10	2.00
Stipa hymenoides	1.60	4.18	14.00

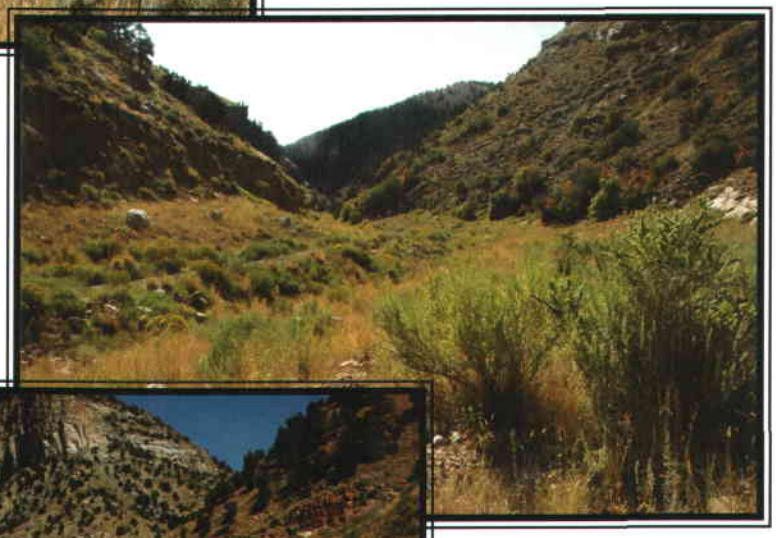
Table 4: Hardscrabble Canyon Area. Total Cover and Composition (2009).

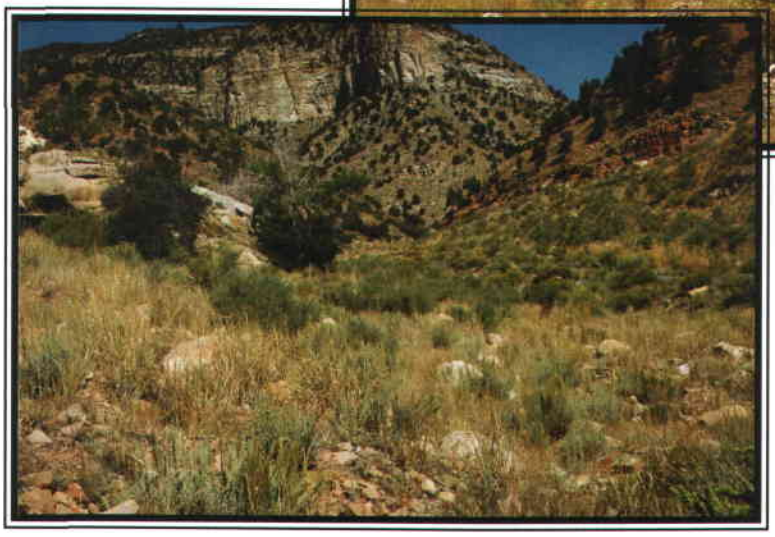
Reference Area		n=50
A. TOTAL COVER	Mean Percent	Standard Deviation
Total Living Cover	39.90	9.57
Litter	28.30	13.25
Bareground	8.50	6.73
Rock	23.30	15.51
B. % COMPOSITION		
Shrubs	19.37	25.89
Forbs	21.39	19.32
Grasses	59.25	27.36

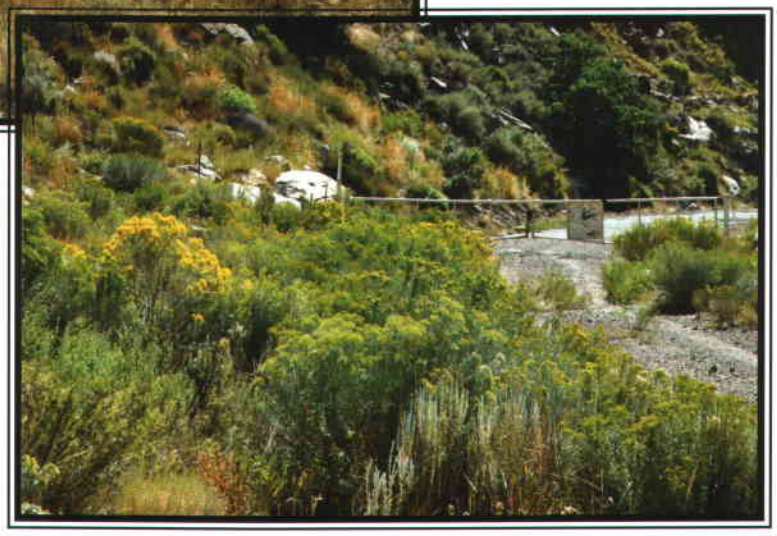
COLOR PHOTOGRAPHS
OF THE
SAMPLE AREAS











APPENDIX

Hardscrabble Reclaimed
Exposure: Variable
Slope: Variable

Sample Date: 10-12 Sept 2009	1.00	2.00	3.00	4.00	5.00	6.00	7.00
TREES & SHRUBS							
Artemisia nova	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Artemisia tridentata	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ceratoides lanata	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chrysothamnus nauseosus	15.00	0.00	40.00	25.00	75.00	15.00	40.00
Gutierrezia sarothrae	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhus aromatica	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sueda torreyana	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS							
Achillea millefolium	0.00	5.00	10.00	0.00	0.00	0.00	0.00
Artemisia dracunculus	0.00	0.00	0.00	0.00	0.00	0.00	25.00
Aster ascendens	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hedysarum boreale	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicago sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Penstemon palmeri	5.00	5.00	0.00	0.00	0.00	0.00	0.00
GRASSES							
Agropyron cristatum	0.00	0.00	0.00	15.00	0.00	0.00	0.00
Bromus tectorum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus hispidus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus lanceolatus	15.00	25.00	0.00	0.00	0.00	0.00	0.00
Elymus salinus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus smithii	10.00	0.00	10.00	0.00	0.00	20.00	0.00
Elymus spicatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stipa hymenoides	0.00	15.00	5.00	0.00	0.00	10.00	0.00
COVER							
Total Living Cover	55.00	50.00	65.00	40.00	75.00	45.00	65.00
Litter	15.00	10.00	5.00	10.00	10.00	10.00	25.00
Bareground	20.00	10.00	5.00	15.00	5.00	25.00	5.00
Rock	10.00	30.00	25.00	35.00	10.00	20.00	5.00
% COMPOSITION							
Shrubs	45.45	0.00	61.54	62.50	100.00	33.33	61.54
Forbs	9.09	20.00	15.38	0.00	0.00	0.00	38.46
Grasses	45.45	80.00	23.08	37.50	0.00	66.67	0.00

8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	15.00
5.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	40.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	35.00	45.00	70.00	5.00	0.00	25.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	5.00	0.00	20.00	20.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	5.00	0.00	0.00	5.00	0.00	5.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	0.00	0.00	20.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
35.00	50.00	65.00	75.00	30.00	40.00	35.00	45.00	65.00	35.00
10.00	10.00	10.00	5.00	10.00	10.00	5.00	10.00	10.00	10.00
35.00	15.00	10.00	5.00	15.00	10.00	10.00	10.00	10.00	15.00
20.00	25.00	15.00	15.00	45.00	40.00	50.00	35.00	15.00	40.00
28.57	80.00	69.23	93.33	33.33	0.00	85.71	88.89	69.23	57.14
14.29	0.00	0.00	0.00	0.00	0.00	0.00	11.11	7.69	14.29
57.14	20.00	30.77	6.67	66.67	100.00	14.29	0.00	23.08	28.57

18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00
0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	30.00	0.00	10.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	5.00	0.00	10.00	0.00	30.00	55.00	0.00	0.00
0.00	15.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
10.00	0.00	5.00	10.00	0.00	45.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	30.00	20.00	5.00	5.00	0.00	15.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	15.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	40.00	50.00	45.00	45.00	60.00	80.00	85.00	55.00	35.00
10.00	10.00	10.00	10.00	10.00	10.00	5.00	3.00	20.00	10.00
20.00	10.00	10.00	15.00	15.00	15.00	5.00	11.00	10.00	20.00
35.00	40.00	30.00	30.00	30.00	15.00	10.00	1.00	15.00	35.00
0.00	62.50	10.00	11.11	77.78	0.00	81.25	82.35	18.18	28.57
14.29	0.00	20.00	0.00	0.00	8.33	0.00	0.00	0.00	57.14
85.71	37.50	70.00	88.89	22.22	91.67	18.75	17.65	81.82	14.29

28.00	29.00	30.00	31.00	32.00	33.00	34.00	35.00	36.00	37.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	10.00	20.00	0.00	0.00	35.00	5.00	0.00
35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
0.00	15.00	5.00	0.00	0.00	10.00	5.00	5.00	0.00	0.00
0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00
15.00	0.00	10.00	0.00	0.00	0.00	5.00	15.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
0.00	25.00	45.00	0.00	10.00	25.00	20.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80.00	50.00	70.00	70.00	40.00	35.00	60.00	65.00	50.00	35.00
4.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	5.00
4.00	5.00	5.00	5.00	10.00	20.00	10.00	10.00	5.00	10.00
12.00	35.00	15.00	15.00	40.00	35.00	20.00	15.00	25.00	50.00
68.75	0.00	0.00	14.29	50.00	0.00	0.00	53.85	10.00	85.71
6.25	0.00	7.14	0.00	12.50	0.00	33.33	0.00	0.00	14.29
25.00	100.00	92.86	85.71	37.50	100.00	66.67	46.15	90.00	0.00

38.00	39.00	40.00	41.00	42.00	43.00	44.00	45.00	46.00	47.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	30.00	0.00	65.00	30.00	60.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	30.00	5.00	0.00	10.00
0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
0.00	20.00	30.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	15.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	40.00	10.00	0.00	0.00	20.00	0.00
10.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	45.00	40.00	35.00	50.00	50.00	30.00	70.00	50.00	70.00
5.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00	10.00	5.00
5.00	30.00	25.00	35.00	15.00	10.00	10.00	5.00	10.00	5.00
55.00	15.00	25.00	20.00	30.00	30.00	50.00	15.00	30.00	20.00
0.00	0.00	0.00	0.00	0.00	60.00	0.00	92.86	60.00	85.71
71.43	0.00	0.00	0.00	0.00	0.00	100.00	7.14	0.00	14.29
28.57	100.00	100.00	100.00	100.00	40.00	0.00	0.00	40.00	0.00

48.00	49.00	50.00	51.00	52.00	53.00	54.00	55.00	56.00	57.00
35.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	5.00	0.00
0.00	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	20.00	15.00	0.00	0.00	0.00	0.00	0.00	30.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	10.00	5.00	0.00	0.00	0.00	20.00	0.00	15.00	0.00
0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	5.00	0.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	45.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	20.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70.00	45.00	45.00	50.00	45.00	50.00	40.00	70.00	35.00	35.00
5.00	25.00	15.00	25.00	25.00	10.00	10.00	10.00	10.00	10.00
5.00	10.00	10.00	10.00	5.00	10.00	25.00	5.00	15.00	25.00
20.00	20.00	30.00	15.00	25.00	30.00	25.00	15.00	40.00	30.00
64.29	77.78	44.44	30.00	0.00	60.00	0.00	71.43	14.29	85.71
21.43	22.22	11.11	0.00	0.00	20.00	62.50	0.00	57.14	0.00
14.29	0.00	44.44	70.00	100.00	20.00	37.50	28.57	28.57	14.29

58.00	59.00	60.00	61.00	62.00	63.00	64.00	65.00	66.00	67.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
0.00	45.00	10.00	0.00	35.00	0.00	0.00	40.00	25.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	20.00
10.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	0.00	0.00	15.00	0.00	0.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	30.00	70.00	0.00	0.00	35.00	10.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	25.00	0.00	0.00	20.00	0.00	0.00
20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	25.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
65.00	70.00	65.00	70.00	70.00	55.00	60.00	70.00	45.00	70.00
10.00	10.00	10.00	10.00	10.00	10.00	15.00	10.00	10.00	10.00
5.00	5.00	10.00	10.00	10.00	20.00	10.00	10.00	20.00	10.00
20.00	15.00	15.00	10.00	10.00	15.00	15.00	10.00	25.00	10.00
53.85	64.29	15.38	0.00	50.00	18.18	0.00	57.14	88.89	50.00
15.38	0.00	15.38	0.00	0.00	18.18	41.67	0.00	0.00	42.86
30.77	35.71	69.23	100.00	50.00	63.64	58.33	42.86	11.11	7.14

68.00	69.00	70.00	71.00	72.00	73.00	74.00	75.00	76.00	77.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	30.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	30.00
0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	5.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	10.00	0.00	30.00	15.00	0.00
0.00	0.00	0.00	5.00	15.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	25.00	0.00	0.00	0.00	20.00	40.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	25.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	10.00
0.00	10.00	0.00	25.00	0.00	10.00	25.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	45.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65.00	55.00	50.00	50.00	70.00	35.00	45.00	70.00	65.00	55.00
10.00	15.00	10.00	20.00	10.00	10.00	15.00	5.00	10.00	10.00
10.00	10.00	10.00	5.00	5.00	10.00	15.00	5.00	10.00	10.00
15.00	20.00	30.00	25.00	15.00	45.00	25.00	20.00	15.00	25.00
53.85	54.55	30.00	30.00	0.00	42.86	0.00	0.00	0.00	54.55
30.77	9.09	0.00	20.00	35.71	28.57	0.00	42.86	23.08	0.00
15.38	36.36	70.00	50.00	64.29	28.57	100.00	57.14	76.92	45.45

78.00	79.00	80.00	81.00	82.00	83.00	84.00	85.00	86.00	87.00
0.00	10.00	10.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	0.00	20.00	15.00	0.00	0.00	70.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	5.00	0.00	10.00	0.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	0.00	10.00	0.00	15.00	0.00	10.00
0.00	5.00	0.00	0.00	0.00	0.00	0.00	10.00	70.00	10.00
0.00	15.00	0.00	0.00	45.00	0.00	0.00	0.00	0.00	0.00
70.00	40.00	40.00	50.00	65.00	35.00	70.00	35.00	70.00	35.00
5.00	10.00	10.00	10.00	15.00	10.00	25.00	25.00	15.00	20.00
5.00	10.00	10.00	20.00	5.00	20.00	4.00	10.00	5.00	5.00
20.00	40.00	40.00	20.00	15.00	35.00	1.00	30.00	10.00	40.00
0.00	50.00	25.00	70.00	0.00	57.14	0.00	0.00	0.00	0.00
85.71	0.00	50.00	30.00	0.00	14.29	100.00	28.57	0.00	42.86
14.29	50.00	25.00	0.00	100.00	28.57	0.00	71.43	100.00	57.14

88.00	89.00	90.00	91.00	92.00	93.00	94.00	95.00	96.00	97.00
0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	10.00	25.00	45.00	0.00	25.00	0.00	0.00	0.00
0.00	0.00	25.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00
0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	15.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	25.00	0.00	10.00	0.00	25.00	0.00	60.00	0.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	55.00	70.00	40.00	65.00	70.00	50.00	55.00	60.00	60.00
20.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
5.00	10.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00	15.00
15.00	15.00	10.00	40.00	15.00	15.00	30.00	25.00	20.00	15.00
0.00	54.55	64.29	62.50	69.23	85.71	50.00	100.00	0.00	66.67
83.33	27.27	0.00	25.00	15.38	0.00	0.00	0.00	0.00	0.00
16.67	18.18	35.71	12.50	15.38	14.29	50.00	0.00	100.00	33.33

Hardscrabble Reclaimed
Exposure: Variable
Slope: Variable
Sample Date: 10-12 Sept 2009

98.00	99.00	100.00	Mean	SDev	Freq	
						TREES & SHRUBS
0.00	0.00	0.00	1.80	6.42	12.00	*Artemisia nova*
0.00	0.00	0.00	3.90	9.61	20.00	*Artemisia tridentata*
10.00	0.00	0.00	4.05	10.86	16.00	*Atriplex canescens*
0.00	35.00	0.00	1.20	7.28	3.00	*Ceratoides lanata*
0.00	0.00	25.00	9.60	17.37	34.00	*Chrysothamnus nauseosus*
0.00	0.00	0.00	0.55	2.64	6.00	*Gutierrezia sarothrae*
0.00	0.00	0.00	0.30	2.98	1.00	*Rhus aromatica*
0.00	0.00	10.00	0.65	5.55	2.00	*Sueda torreyana*
						FORBS
0.00	0.00	0.00	0.15	1.11	2.00	*Achillea millefolium*
0.00	0.00	0.00	1.30	4.16	13.00	*Artemisia dracunculus*
0.00	0.00	0.00	3.90	11.35	19.00	*Aster ascendens*
0.00	0.00	0.00	0.95	3.65	8.00	*Hedysarum boreale*
0.00	0.00	0.00	0.20	1.40	2.00	*Machaeranthera canescens*
0.00	0.00	0.00	0.05	0.50	1.00	*Medicago sativa*
0.00	0.00	0.00	1.30	4.22	14.00	*Penstemon palmeri*
						GRASSES
0.00	0.00	0.00	2.25	6.02	21.00	*Agropyron cristatum*
0.00	0.00	0.00	0.95	3.98	8.00	*Bromus tectorum*
0.00	0.00	0.00	4.20	10.62	23.00	*Elymus cinereus*
0.00	0.00	0.00	0.45	4.48	1.00	*Elymus hispidus*
10.00	0.00	10.00	3.65	7.10	28.00	*Elymus lanceolatus*
0.00	0.00	0.00	0.80	6.27	20.00	*Elymus salinus*
10.00	0.00	10.00	3.10	7.03	25.00	*Elymus smithii*
10.00	10.00	20.00	5.25	10.87	27.00	*Elymus spicatus*
0.00	0.00	0.00	1.75	8.47	9.00	*Poa secunda*
0.00	0.00	0.00	1.40	5.70	10.00	*Stipa hymenoides*
						COVER (reclaimed)
40.00	45.00	75.00	53.70	13.94		Total Living Cover
5.00	10.00	5.00	11.07	4.92		Litter
5.00	5.00	15.00	11.19	6.54		Bareground
50.00	40.00	5.00	24.04	11.98		Rock
						% COMPOSITION
25.00	77.78	46.67	39.39	32.58		Shrubs
0.00	0.00	0.00	15.17	22.74		Forbs
75.00	22.22	53.33	45.44	32.57		Grasses

PLATEAU MINING

Hardscrabble/Sowbelly Reference Area

Exposure: Variable

Slope: Variable

Sample Date: 10-11 Sept 2009	1.00	2.00	3.00	4.00	5.00	6.00	7.00
TREES & SHRUBS							
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	15.00	0.00
Chrysothamnus nauseosus	35.00	35.00	10.00	30.00	30.00	10.00	0.00
Gutierrezia sarothrae	5.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS							
Artemisia ludoviciana	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aster glaucodes	0.00	0.00	20.00	10.00	0.00	0.00	0.00
Medicago sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solidago sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES							
Bromus inermis	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Bromus tectorum	0.00	0.00	10.00	0.00	0.00	0.00	25.00
Dactylis glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus hispidus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus lanceolatus	0.00	0.00	0.00	20.00	0.00	25.00	0.00
Elymus salinus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus smithii	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stipa hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER							
Total Living Cover	50.00	35.00	40.00	60.00	30.00	50.00	25.00
Litter	30.00	10.00	10.00	30.00	55.00	35.00	10.00
Bareground	10.00	45.00	5.00	5.00	5.00	5.00	5.00
Rock	10.00	10.00	45.00	5.00	10.00	10.00	60.00
% COMPOSITION							
Shrubs	80.00	100.00	25.00	50.00	100.00	50.00	0.00
Forbs	0.00	0.00	50.00	16.67	0.00	0.00	0.00
Grasses	20.00	0.00	25.00	33.33	0.00	50.00	100.00

8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
5.00	10.00	30.00	0.00	10.00	0.00	0.00	15.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	20.00	0.00	0.00	0.00	10.00	0.00	0.00
10.00	20.00	15.00	0.00	0.00	10.00	20.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	30.00	20.00	15.00	30.00	40.00	5.00	0.00	35.00	30.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	60.00	65.00	35.00	45.00	50.00	45.00	35.00	35.00	40.00
20.00	30.00	25.00	15.00	40.00	40.00	40.00	5.00	25.00	45.00
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
40.00	5.00	5.00	45.00	10.00	5.00	10.00	55.00	35.00	10.00
14.29	16.67	46.15	0.00	33.33	0.00	0.00	42.86	0.00	25.00
28.57	33.33	23.08	57.14	0.00	20.00	44.44	42.86	0.00	0.00
57.14	50.00	30.77	42.86	66.67	80.00	55.56	14.29	100.00	75.00

18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00
10.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	10.00	10.00	10.00	10.00	0.00	0.00	10.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	5.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	25.00	0.00	20.00	25.00	30.00	10.00	15.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	15.00	0.00	0.00	0.00	20.00	15.00	0.00	20.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00
40.00	35.00	35.00	30.00	35.00	40.00	40.00	35.00	35.00	50.00
50.00	20.00	15.00	20.00	25.00	25.00	30.00	35.00	35.00	10.00
5.00	10.00	10.00	10.00	20.00	10.00	10.00	10.00	5.00	10.00
5.00	35.00	40.00	40.00	20.00	25.00	20.00	20.00	25.00	30.00
25.00	28.57	28.57	0.00	0.00	0.00	0.00	0.00	0.00	10.00
0.00	0.00	28.57	33.33	28.57	25.00	25.00	14.29	28.57	30.00
75.00	71.43	42.86	66.67	71.43	75.00	75.00	85.71	71.43	60.00

28.00	29.00	30.00	31.00	32.00	33.00	34.00	35.00	36.00	37.00
0.00	10.00	0.00	0.00	15.00	0.00	5.00	0.00	0.00	20.00
0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	0.00	5.00	0.00	20.00	0.00
10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	0.00	10.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	40.00	35.00	0.00	30.00	10.00	10.00	0.00	20.00
0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
30.00	50.00	40.00	35.00	35.00	30.00	30.00	30.00	30.00	40.00
40.00	10.00	25.00	55.00	20.00	55.00	40.00	25.00	10.00	40.00
10.00	10.00	5.00	5.00	10.00	5.00	10.00	10.00	5.00	10.00
20.00	30.00	30.00	5.00	35.00	10.00	20.00	35.00	55.00	10.00
0.00	50.00	0.00	0.00	42.86	0.00	16.67	33.33	0.00	50.00
33.33	20.00	0.00	0.00	28.57	0.00	16.67	33.33	66.67	0.00
66.67	30.00	100.00	100.00	28.57	100.00	66.67	33.33	33.33	50.00

38.00	39.00	40.00	41.00	42.00	43.00	44.00	45.00	46.00	47.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	15.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	25.00	0.00	0.00	0.00	5.00	0.00	25.00	10.00
0.00	0.00	0.00	0.00	0.00	15.00	10.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	5.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	5.00	0.00	0.00	5.00	0.00	10.00	0.00	0.00	40.00
0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	15.00	0.00
5.00	15.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	10.00	0.00	10.00	10.00	0.00	10.00
35.00	30.00	50.00	40.00	35.00	35.00	40.00	30.00	40.00	60.00
45.00	25.00	30.00	20.00	40.00	20.00	25.00	10.00	45.00	30.00
10.00	25.00	10.00	5.00	5.00	5.00	5.00	10.00	5.00	5.00
10.00	20.00	10.00	35.00	20.00	40.00	30.00	50.00	10.00	5.00
28.57	0.00	0.00	0.00	28.57	42.86	0.00	0.00	0.00	0.00
28.57	33.33	50.00	0.00	0.00	42.86	37.50	0.00	62.50	16.67
42.86	66.67	50.00	100.00	71.43	14.29	62.50	100.00	37.50	83.33

PLATEAU MINING
Hardscrabble/Sowbelly Reference Area
Exposure: Variable
Slope: Variable

48.00	49.00	50.00	Mean	SDev	Freq	Sample Date: 10-11 Sept 2009
						TREES & SHRUBS
0.00	0.00	0.00	2.30	4.92	20.00	*Atriplex canescens*
0.00	0.00	0.00	5.20	10.00	28.00	*Chrysothamnus nauseosus*
0.00	0.00	0.00	0.50	1.80	8.00	*Gutierrezia sarothrae*
						FORBS
0.00	10.00	30.00	4.80	7.68	36.00	*Artemisia ludoviciana*
0.00	0.00	0.00	3.50	6.02	30.00	*Aster glaucodes*
0.00	0.00	0.00	0.20	1.40	2.00	*Medicago sativa*
0.00	0.00	0.00	0.20	1.40	2.00	*Solidago sp.*
						GRASSES
0.00	0.00	0.00	0.20	1.40	2.00	*Bromus inermis*
20.00	20.00	30.00	2.80	7.15	16.00	*Bromus tectorum*
0.00	0.00	0.00	0.60	2.15	8.00	*Dactylis glomeratus*
0.00	0.00	0.00	0.60	4.20	2.00	*Elymus hispidus*
10.00	10.00	0.00	5.90	9.52	38.00	*Elymus lanceolatus*
0.00	0.00	0.00	1.10	5.94	4.00	*Elymus salinus*
0.00	0.00	0.00	10.10	12.90	46.00	*Elymus smithii*
0.00	0.00	0.00	0.30	2.10	2.00	*Poa secunda*
0.00	10.00	0.00	1.60	4.18	14.00	*Stipa hymenoides*
						COVER
30.00	50.00	60.00	39.90	9.57		Total Living Cover
40.00	10.00	25.00	28.30	13.25		Litter
20.00	5.00	5.00	8.50	6.73		Bareground
10.00	35.00	10.00	23.30	15.51		Rock
						% COMPOSITION
0.00	0.00	0.00	19.37	25.89		Shrubs
0.00	20.00	50.00	21.39	19.32		Forbs
100.00	80.00	50.00	59.25	27.36		Grasses

APPENDIX C

Legal Financial, Compliance and Related Information

Annual Report of Officers
As submitted to the Utah Department of Commerce

Other change in ownership and control information
As required under R645-301-110

CONTENTS

APPENDIX D

Mine Maps

As required under R645-302-525-270

CONTENTS

APPENDIX E

Other Information

In accordance with the requirements of R645-301 and R645-302

CONTENTS

Overview of reclamation, permitting and phased bond release activities.

CASTLE GATE MINE
Overview of Reclamation and Phased Bond Release Activity
Permit Number C/007/0004

The Castle Gate Mine permit area is located approximately 10 miles north of Price, Utah and in the Wasatch Plateau coal fields in Carbon County. The complex consists of various separate areas including: the Hardscrabble Canyon No.3 and 4 Mine facilities with 39.0 acres; the Sowbelly Gulch No.5 Mine facilities with 21.0 acres; and the Price Canyon Adit No.1 Mine with 3.0 acres. The disturbed (bonded) area for the entire Castle Gate Mine complex is 63.0 acres. The permit area is 7,619 acres, more or less. The performance bond for the Castle Gate Mine is $490,100. The permit was renewed on December 24, 2009 and expires on December 24, 2013.

This area has a history of various mining operations producing coal since the turn of the 1880's, when Teacum Pratt opened the first operation for house coal. Mining activities were consolidated in 1971 under the Braztah Corporation, which in turn became the Price River Coal Company in 1979, then Castle Gate Coal Company in 1986, Amax Coal Company in 1991, Amax Coal Holding Company in 1996, and Castle Gate Holding Company in 1998.

The Reclamation history of the various areas within the Castle Gate Mine Permit is as follows:

Hardscrabble Canyon

Hardscrabble reclamation began in 1984 with reclamation of the Goose Island refuse pile followed by reclamation of the No.3 and 4 Mine areas during the years of 1993 through 1999 and 2002. The road through the disturbed area was altered but left in place for the post mining land use. In 1997, AMAX Coal Company, Castle Gate Holding Company's predecessor, received an Earth Day Award from the Board of Oil, Gas and Mining for "outstanding final reclamation and site restoration". The company was commended for enhancing the post mining land use by restoring the canyon to a more natural configuration and paying particular attention to wildlife habitat while providing better downstream water quality. Phase I bond release was approved on February 14, 2001 for 37.1 acres. Phase II bond release of 37.1 acres was approved on June 5, 2003. In 2003, the Hardscrabble Canyon site was nominated by the Division of Oil, Gas and Mining for an "Excellence in Surface Coal Mining Reclamation Award" and was selected by the Department of Interior's Office of Surface Mining as one of the "National Award" winners and went on to win the "Best of the Best" award. In 2008 Mt. Nebo Scientific, Inc. performed a year-nine revegetation study in Hardscrabble Canyon (not including the substation) in preparation for Phase III bond release. In 2009 Mt. Nebo Scientific, Inc. performed a year-TEN revegetation study in Hardscrabble Canyon (not including the

substation) in preparation for Phase III bond release.

Reclamation work on 0.78 acres associated with the substation in Hardscrabble Canyon was completed in the fall of 2002. In September 2004 a Phase I bond release application was submitted for the substation area. On September 08, 2005 DOGM performed the phased bond release site inspection of the substation area and on October 11, 2005 issued a report stating that the site met the requirements for phase I bond release. In 2007 Mt. Nebo Scientific, Inc. performed a year-four revegetation study on the substation area in Hardscrabble Canyon in preparation for a Phase II bond release application.

Sowbelly Gulch/Canyon

Sowbelly Gulch reclamation began in 1992 with all but the substation area being reclaimed by the end of 1995. Phase I bond release of 18.2 acres was approved on January 31, 1997 (excluding the substation). Phase II bond release of the 18.2 acres was approved on June 5, 2003. In 2004 year-9 vegetation monitoring was conducted and in 2005 year-10 vegetation monitoring was conducted to demonstrate vegetation success in preparation for Phase III bond release.

Reclamation work on 1.84 acres associated with the substation in Sowbelly Canyon was completed in the fall of 2002. In September of 2004 a Phase I bond release application was submitted for the substation area. On September 08, 2005 DOGM performed the phased bond release site inspection of the substation area and on September 27, 2005 issued a report stating that the site met the requirements for phase I bond release. In 2007 Mt. Nebo Scientific, Inc. performed a year-four revegetation study on the substation area in Sowbelly Canyon in preparation for a Phase II bond release application.

Adit No. 1

Reclamation work on about 1.7 acres of disturbance at the Adit No. 1 was performed during the fall of 2002. In 2004 the Adit No.1 aerial survey was completed and in April of 2005 a Phase I bond release application was submitted. On September 08, 2005 DOGM performed the phased bond release site inspection and on September 27, 2005 issued a report stating that the site met the requirements for phase I bond release. In 2007 Mt. Nebo Scientific, Inc. performed a year-four revegetation study ate the Adit No. 1 in preparation for a Phase II bond release application.