

Mountain Coal Company, LLC
Gordon Creek Mines #2, #7, & #8
C/007/016

2001

Annual Report

File in:

Confidential

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Refer to Record No. 0006 Date 03292002

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For additional information

To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.

GENERAL INFORMATION

Permitte Name	Mountain Coal Company, LLC
Mine Name	Gordon Creek 2/7/8 Mines
Operator Name (If other then permittee)	
Permit Expiration Date	August 28, 2004
Permit Number	C/007/016
Authorized Representative Title	Eugene E. DiClaudio, President (Local Representative - Chris Hansen)
Phone Number	(970) 929-2221
Fax Number	(970) 929-5595
E-mail Address	ediciaudio@archcoal.com
Mailing Address	West Elk Mine P.O. Box 591 Somerset, CO 81434
Resident Agent	Corporation Trust Company
Resident Agent Mailing Address	Corporation Trust Center 1209 Orange Street Wilmington, DE
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)	N/A		
MSHA Impoundment(s)	N/A		
NPDES/UPDES Permit(s)	UTG-040004	UPDES Permit	04/30/03
PSD Permit(s) (Air)	N/A		
Other			
	N/A		

RECEIVED
 APR - 1 2002
 DIV OF OIL GAS & MINING

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		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Refuse Piles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Impoundments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Appendix A
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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.

Technical Data:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On file	
Climatological	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Subsidence Monitoring	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vegetation Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Appendix B
Raptor Survey	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Soils Monitoring	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
First quarter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Second quarter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Third quarter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fourth quarter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Geological / Geophysical	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Engineering	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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. 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

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

Certified Impoundment Reports

**MOUNTAIN COAL COMPANY
2001 ANNUAL POND INSPECTION REPORT**

POND: 2/7/8 Sediment Pond

LOCATION: Gordon Creek 2/7/8

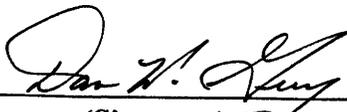
IMPOUNDMENTS	
(1) Stability	Slopes Stable.
(2) Structural Weakness/Erosion	None Noted.
(3) Potential Safety Hazards	None Noted.
(4) Depth of Impounded Water	Upper Cell - Dry, Middle Cell - Dry, Lower Cell - Dry. 6" Snow.
(5) Existing Storage Capacity	5.85 acre feet.
(6) Monitoring Procedures	Quarterly Inspection U.P.D.E.S. Discharge

SEDIMENT PONDS ONLY	Cell #1	Cell #2	Cell #3
(7) Sediment Accumulation (Elevation)	7730.0	7713.0	7704.0
(8) Sediment Cleanout Level (Elevation)	7731.0	N/A	N/A
(9) Principle Spillway (Elevation)	7733.0	7723.0	7713.0
(10) Emergency Spillway (Elevation)	7733.0	7723.0	7713.0
(11) Existing Sediment Capacity (To Cleanout)	0.42	N/A	N/A

GENERAL	
(12) Comments/Recommendations	Cells 2 & 3 Expanded in 1996. Grouted, open channel spillways. 3 cells. No Inflow. No Discharge.

STATEMENT

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



(Signature)

11/28/01

(Date)



**MOUNTAIN COAL COMPANY
2001 ANNUAL POND INSPECTION REPORT**

POND: Jacobs Pond

LOCATION: Gordon Creek 2/7/8

IMPOUNDMENTS	
(1) Stability	<i>Slopes Stable.</i>
(2) Structural Weakness/Erosion	<i>None Noted.</i>
(3) Potential Safety Hazards	<i>None Noted.</i>
(4) Depth of Impounded Water	<i>2.0' Water - 1.5' Below Spillway - Frozen. 8" Snow.</i>
(5) Existing Storage Capacity	<i>N/A</i>
(6) Monitoring Procedures	<i>Quarterly Inspection</i>

SEDIMENT PONDS ONLY	
(7) Sediment Accumulation (Elevation)	<i>N/A</i>
(8) Sediment Cleanout Level (Elevation)	<i>N/A</i>
(9) Principle Spillway (Elevation)	<i>N/A</i>
(10) Emergency Spillway (Elevation)	<i>N/A</i>
(11) Existing Sediment Capacity (To Cleanout)	<i>N/A</i>

GENERAL	
(12) Comments/Recommendations	<i>Stock/Wildlife Watering Pond.</i>

STATEMENT

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



(Signature)

11/28/01

(Date)



**MOUNTAIN COAL COMPANY
2001 ANNUAL POND INSPECTION REPORT**

POND: Sweet's Pond **LOCATION:** Gordon Creek 2/7/8

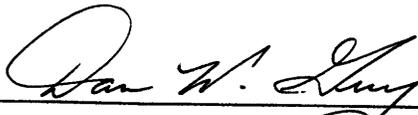
IMPOUNDMENTS	
(1) Stability	Slopes Stable.
(2) Structural Weakness/Erosion	None Noted.
(3) Potential Safety Hazards	None Noted.
(4) Depth of Impounded Water	60"
(5) Existing Storage Capacity	(2.10 acre feet) Pond frozen. Not a sediment Pond.
(6) Monitoring Procedures	Quarterly Inspection

SEDIMENT PONDS ONLY	
(7) Sediment Accumulation (Elevation)	N/A
(8) Sediment Cleanout Level (Elevation)	N/A
(9) Principle Spillway (Elevation)	N/A
(10) Emergency Spillway (Elevation)	N/A
(11) Existing Sediment Capacity (To Cleanout)	N/A

GENERAL	
(12) Comments/Recommendations	Not a Sediment Pond. Operating properly.

STATEMENT

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



(Signature)

11/28/01

(Date)



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

Vegetation Data

VEGETATION MONITORING
FOR
SEDIMENT CONTROL

AT THE
GORDON CREEK 2/7/8 MINES

Prepared by

MT. NEBO SCIENTIFIC, INC.

330 East 400 South, Suite 6

Springville, Utah 84663

(801) 489-6937

Patrick D. Collins, Ph.D.

for

CANYON FUEL COMPANY

P.O. Box 719

Helper, Utah 84526



February 2001

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VEGETATION MONITORING FOR SEDIMENT CONTROL

INTRODUCTION

Mined land reclamation has been conducted to restore an area called Gordon Creek 2/7/8 Mines to a condition that is close to what it was prior to disturbances made by mining activities. The Gordon Creek 2/7/8 Mine site is located in the Bryner Canyon and Beaver Creek area at about 7,500 to 8,000 ft elevation in Carbon County, Utah. General plant communities surrounding the area include Mountain Brush/Grass, Oak Shrubland, Sagebrush/Grass, Aspen, and Douglas Fir.

During reclamation, final seeding for most of the area occurred in October 1998 with follow-up seeding on the regraded roads in October 1999. Also seeded were slopes along the roadsides leading to the reclaimed areas. These areas were seeded to maintain slope stability and to help control erosional sediments. To allow time for the vegetation to become established, silt fences were also installed temporarily as an artificial means of sediment control. The *Sediment Control Area* is located at the extreme east end of the reclaimed areas (near the present parking area).

The following report has been prepared to monitor the success of the vegetation in order to provide data that addresses whether or not the present condition of the vegetative cover is adequate to control erosion without the assistance of the silt fences. Quantitative sampling of the

vegetation on the seeded slopes was conducted to monitor its success. Additionally, vegetation of a *Reference Area* that was previously chosen to be a standard for final revegetation success was sampled to be used for comparisons of background erosional conditions.

METHODS

Methodologies used herein were performed in accordance with the guidelines supplied by the State of Utah, Division of Oil, Gas and Mining (DOGM). Quantitative and qualitative data were taken from the vegetation of the Sediment Control Area and the Reference Area. Sampling was conducted in mid-September, 2000.

Transect and Quadrat Placement

A transect tape line was placed the entire length of the Sediment Control Area. Random numbers were generated and used to place sample quadrats along the transect line. The random numbers selected could be high enough to place quadrats to the limits of the Sediment Control Area as well as 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.

In the Reference Area three separate transect lines were placed randomly over the entire length of the area. To adequately sample the area, random numbers were taken at right angles from these transect lines. Whether the random numbers were odd or even dictated which direction and side

of the transect lines the random quadrat locations were placed. Like the Sediment Control Area, sample quadrats were placed over the entire Reference Area using these random numbers so that data represented the site as a whole.

Cover and Composition

Total cover estimates were made using ocular methods with meter square quadrats. Species composition, cover by species, 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., 1993).

Sample Adequacy & Statistical Comparisons

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" was set so that sample adequacy was at least 80% confidence

within a 10% deviation from the true mean.

Photographs

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

Raw Data

The raw data for cover and composition have been summarized on a spreadsheet and are included in this report.

RESULTS

Sediment Control Area

The total living cover for the Sediment Control Area was 52.75% (Table 1-A). The living cover was nearly equally represented by forbs and grasses at 49.60% and 44.06%, respectively, whereas shrubs represented 6.34% of the cover (Table 1-B).

The most common species in the Sediment Control Area was the forb called Cicer milkvetch (*Astragalus cicer*), followed by the grasses Gt. Basin wildrye (*Elymus cinereus*) and thickspike wheatgrass (*E. lanceolatus*). Several other desirable species were important in the data. For a

list of cover and frequency by species, refer to Table 1-C.

Reference Area

The Reference Area had a total living cover of 40.83% (Table 2-A), 73% of which were grasses, 25% shrubs and only 2% forbs (Table 2-B).

The dominant plant species for the Reference Area was the grass, Salina wildrye (*Elymus salinus*). It was present in all of the sample quadrats (Table 2-C). The next most common species were the shrubs antelope bitterbrush (*Purshia tridentata*) and alder-leaf mountain mahogany (*Cercocarpus montanus*).

Statistical Comparison

One of the most important components of erosion control on disturbed lands is plant cover. It is this parameter that was focused on for sampling the Sediment Control Area of the Gordon Creek 2/7/8 Mine site. As a measure of background plant cover, an undisturbed Reference Area was chosen to be used for comparisons. When statistical tests were employed (Student's t-test) to compare the two areas, the Sediment Control Area had significantly more cover than the Reference Area (Fig. 1).

FIG. 1. COVER - Student's t test that compares the cover between the Sediment Control and Reference Areas

Reclaimed Area: $\bar{x}=52.75$; $s=11.01$; $n=20$

Reference Area: $\bar{x}=40.83$; $s=14.72$; $n=30$

$t=3.087$; $df=48$, $SL=p<.005$

CONCLUSIONS

The Sediment Control Area had a statistically significant greater amount of total living cover when compared to the Reference Area. The species composition for the Sediment Control Area favored herbaceous species (forbs and grasses) that are very important for controlling surface runoff and subsequent erosion of soil resources. Furthermore, all species present in the Sediment Control Area that were reported from quantitative sampling were "desirable" shrubs or perennial herbs, as opposed to "weedy" or annual species. Finally, many of the species present were rhizomatous or sod-forming – another important erosion control attribute.

The results of vegetation monitoring of the Sediment Control Area and comparisons with the Reference Area described in this report strongly suggest that the silt fences designed to control erosion while vegetation was becoming established, may no longer be needed. The reclaimed slopes should be able to control erosion to a level as good as or better than the native, undisturbed vegetation in the area.

TABLE 1: Summary of total cover (A), composition (B), and cover and frequency by species (C) for the Sediment Control Area of Gordon Creek 2/7/8 Mines (2000).

A.				
TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	
Total Living	52.75	11.01	20	
Litter	10.00	4.47	20	
Bareground	18.50	8.38	20	
Rock	18.75	8.50	20	

B.				
UNDERSTORY COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE	
Shrubs	6.34	12.30	20	
Forbs	49.60	16.44	20	
Grasses	44.06	14.61	20	

C.				
UNDERSTORY COVER BY SPECIES				
	MEAN COVER	STANDARD DEVIATION	RELATIVE FREQUENCY	SAMPLE SIZE
<u>Trees & Shrubs</u>				
<i>Artemisia tridentata</i>	0.25	1.09	5.00	20
<i>Chrysothamnus nauseosus</i>	3.50	7.60	25.00	20
<u>Forbs</u>				
<i>Astragalus cicer</i>	20.50	11.82	90.00	20
<i>Hedysarum boreale</i>	1.25	3.11	15.00	20
<i>Medicago sativa</i>	4.00	7.68	30.00	20
<i>Penstemon</i> sp.	0.60	1.53	15.00	20
<u>Grasses</u>				
<i>Bromus carinatus</i>	0.50	2.18	5.00	20
<i>Elymus cinereus</i>	9.15	8.62	80.00	20
<i>Elymus lanceolatus</i>	8.50	7.09	70.00	20
<i>Elymus salinus</i>	0.75	2.38	10.00	20
<i>Elymus spicatus</i>	3.25	4.26	45.00	20
<i>Elymus trachycaulus</i>	0.50	2.18	5.00	20

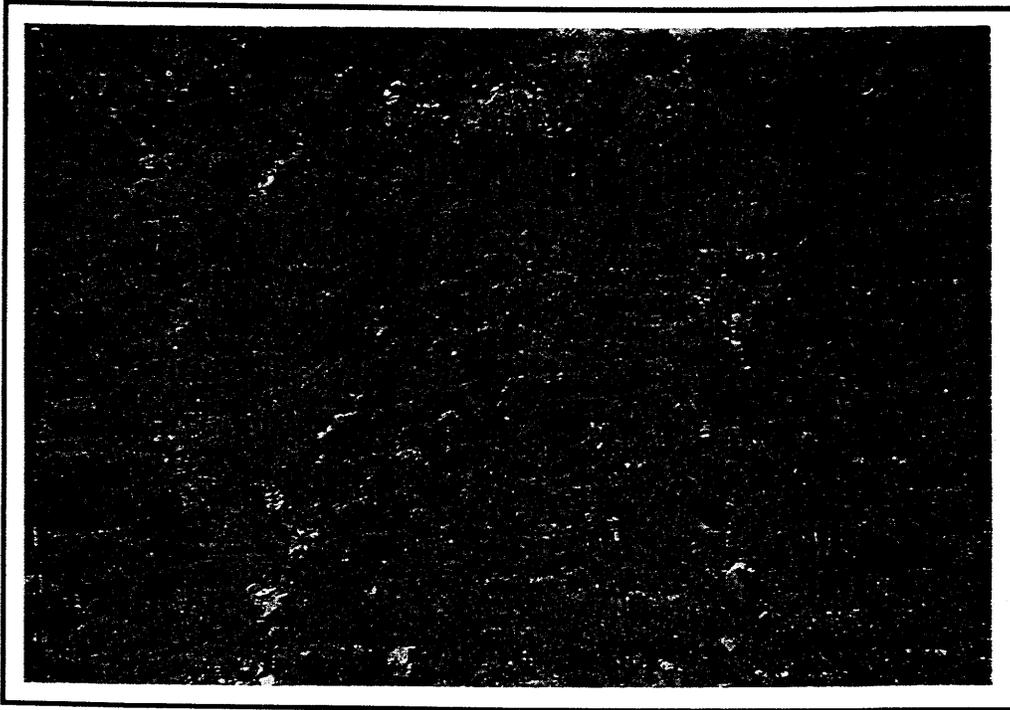
TABLE 2: Summary of total cover (A), composition (B), and cover and frequency by species (C) for the Reference Area of Gordon Creek 2/7/8 Mines (2000).

A.				
TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	
Total Living	40.83	14.72	30	
Litter	17.33	11.01	30	
Bareground	18.40	13.95	30	
Rock	23.43	17.40	30	

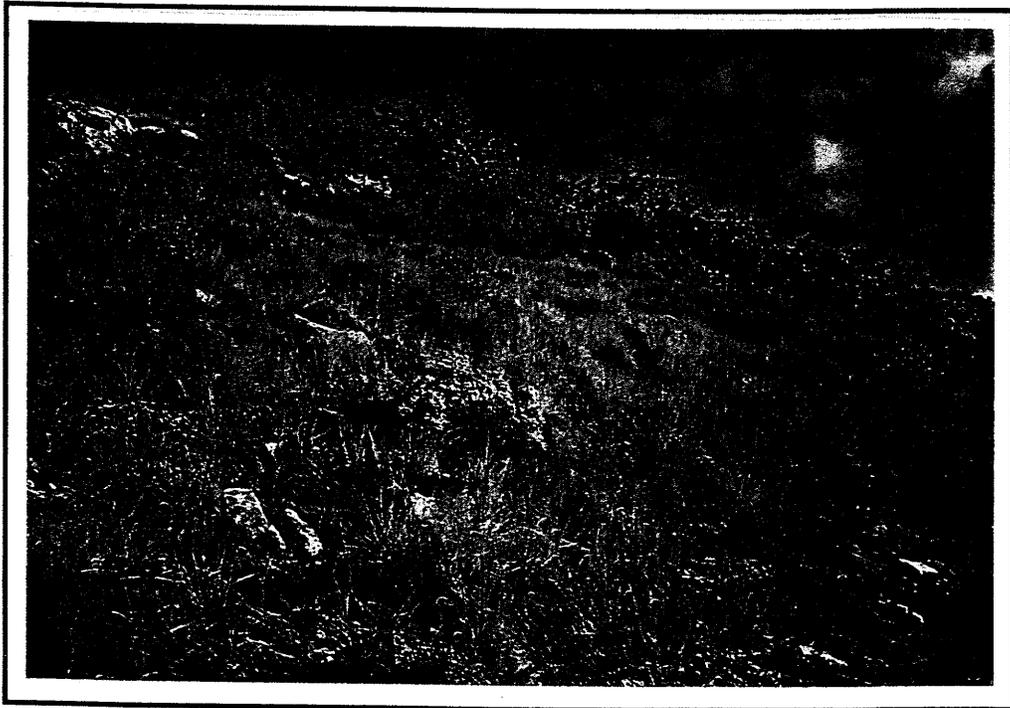
B.				
UNDERSTORY COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE	
Shrubs	24.60	25.96	30	
Forbs	1.97	6.01	30	
Grasses	73.43	26.74	30	

C.				
UNDERSTORY COVER BY SPECIES				
	MEAN COVER	STANDARD DEVIATION	RELATIVE FREQUENCY	SAMPLE SIZE
<u>Trees & Shrubs</u>				
<i>Amalanchier utahensis</i>	0.23	1.26	3.33	30
<i>Artemisia tridentata</i>				
<i>Cercocarpus montanus</i>	2.33	6.16	16.67	30
<i>Eriogonum corymbosum</i>	1.17	4.02	10.00	30
<i>Gutierrezia sarothrae</i>	1.33	2.56	23.33	30
<i>Purshia tridentata</i>	7.33	15.48	26.67	30
<i>Symphoricarpos oreophilus</i>	0.33	1.25	6.67	30
<u>Forbs</u>				
<i>Artemisia dracunculus</i>	0.33	1.25	3.33	30
<i>Eriogonum sp.</i>	0.33	1.25	6.67	30
<i>Stanleya pinnata</i>	0.03	0.18	3.33	30
<u>Grasses</u>				
<i>Elymus salinus</i>	26.37	9.74	100.00	30
<i>Stipa hymenoides</i>	1.13	2.43	20.00	30

COLOR PHOTOGRAPHS



Sediment Control Area



Reference Area

CANYON FUELS - GORDON CREEK 2/7/8

Sediment Control Area

Reclaimed Area

Exposure: S

Slope: 20 deg

Sample Date: 19 Sept 00

	1.00	2.00	3.00	4.00	5.00	6.00	7.00
TREES & SHRUBS							
<i>Artemisia tridentata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Chrysothamnus nauseosus</i>	25.00	0.00	5.00	5.00	10.00	0.00	0.00
FORBS							
<i>Astragalus cicer</i>	20.00	25.00	45.00	20.00	0.00	40.00	35.00
<i>Hedysarum boreale</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Medicago sativa</i>	0.00	0.00	0.00	0.00	30.00	0.00	0.00
<i>Penstemon sp.</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES							
<i>Bromus carinatus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Elymus cinereus</i>	10.00	10.00	0.00	35.00	5.00	15.00	5.00
<i>Elymus lanceolatus</i>	0.00	0.00	10.00	0.00	5.00	10.00	20.00
<i>Elymus salinus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Elymus spicatus</i>	10.00	10.00	5.00	0.00	5.00	0.00	0.00
<i>Elymus trachycaulus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER							
Total Living Cover	65.00	45.00	65.00	60.00	55.00	65.00	60.00
Litter	10.00	10.00	5.00	5.00	5.00	5.00	10.00
Bareground	5.00	25.00	20.00	10.00	20.00	10.00	15.00
Rock	20.00	20.00	10.00	25.00	20.00	20.00	15.00
% COMPOSITION							
Shrubs	38.46	0.00	7.69	8.33	18.18	0.00	0.00
Forbs	30.77	55.56	69.23	33.33	54.55	61.54	58.33
Grasses	30.77	44.44	23.08	58.33	27.27	38.46	41.67

8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00
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
25.00	5.00	10.00	25.00	0.00	30.00	20.00	20.00	25.00	25.00
0.00	0.00	0.00	0.00	10.00	5.00	0.00	0.00	0.00	0.00
0.00	5.00	5.00	15.00	0.00	15.00	0.00	0.00	0.00	10.00
5.00	5.00	2.00	0.00	0.00	0.00	0.00	0.00	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	3.00	0.00	10.00	5.00	10.00	0.00	25.00	10.00
0.00	15.00	15.00	10.00	10.00	5.00	10.00	15.00	10.00	10.00
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	5.00	15.00	0.00	5.00
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.00	30.00	40.00	50.00	30.00	60.00	45.00	50.00	60.00	70.00
5.00	10.00	10.00	10.00	5.00	15.00	10.00	10.00	10.00	20.00
25.00	35.00	20.00	10.00	25.00	10.00	30.00	25.00	15.00	5.00
25.00	25.00	30.00	30.00	40.00	15.00	15.00	15.00	15.00	5.00
0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66.67	50.00	42.50	80.00	33.33	83.33	44.44	40.00	41.67	50.00
33.33	50.00	45.00	20.00	66.67	16.67	55.56	60.00	58.33	50.00

CANYON FUELS - GORDON CREEK 2

Sediment Control Area

Reclaimed Area

Exposure: S

Slope: 20 deg

Sample Date: 19 Sept 00

18.00	19.00	20.00	Mean	SDev	Freq	
						TREES & SHRUBS
0.00	0.00	0.00	0.25	1.09	5.00	<i>Artemisia tridentata</i>
0.00	25.00	0.00	3.50	7.60	25.00	<i>Chrysothamnus nauseosus</i>
						FORBS
10.00	10.00	20.00	20.50	11.82	90.00	<i>Astragalus cicer</i>
10.00	0.00	0.00	1.25	3.11	15.00	<i>Hedysarum boreale</i>
0.00	0.00	0.00	4.00	7.68	30.00	<i>Medicago sativa</i>
0.00	0.00	0.00	0.60	1.53	15.00	<i>Penstemon sp.</i>
						GRASSES
10.00	0.00	0.00	0.50	2.18	5.00	<i>Bromus carinatus</i>
15.00	15.00	5.00	9.15	8.62	80.00	<i>Elymus cinereus</i>
0.00	0.00	25.00	8.50	7.09	70.00	<i>Elymus lanceolatus</i>
0.00	5.00	0.00	0.75	2.38	10.00	<i>Elymus salinus</i>
5.00	5.00	0.00	3.25	4.26	45.00	<i>Elymus spicatus</i>
0.00	0.00	0.00	0.50	2.18	5.00	<i>Elymus trachycaulus</i>
						COVER
50.00	60.00	50.00	52.75	11.01		Total Living Cover
20.00	10.00	15.00	10.00	4.47		Litter
20.00	15.00	30.00	18.50	8.38		Bareground
10.00	15.00	5.00	18.75	8.50		Rock
						% COMPOSITION
0.00	41.67	0.00	6.34	12.30		Shrubs
40.00	16.67	40.00	49.60	16.44		Forbs
60.00	41.67	60.00	44.06	14.61		Grasses

CANYON FUELS - GORDON CREEK 2/7/8

Reference Area

Exposure: SSE

Slope: 33 deg

Sample Date: 20 Sept 00

	1.00	2.00	3.00	4.00	5.00	6.00	7.00
TREES & SHRUBS							
<i>Amalanchier utahensis</i>	7.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Cercocarpus montanus</i>	0.00	0.00	0.00	0.00	15.00	0.00	20.00
<i>Eriogonum corymbosum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Gutierrezia sarothrae</i>	0.00	10.00	5.00	0.00	0.00	0.00	0.00
<i>Purshia tridentata</i>	0.00	0.00	0.00	25.00	0.00	50.00	10.00
<i>Symphoricarpos oreophilus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS							
<i>Artemisia dracunculus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Eriogonum jamesii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stanleya pinnata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES							
<i>Stipa hymenoides</i>	0.00	10.00	0.00	0.00	0.00	0.00	0.00
<i>Elymus salinus</i>	33.00	15.00	30.00	40.00	35.00	10.00	20.00
COVER							
Total Living Cover	40.00	35.00	35.00	65.00	50.00	60.00	50.00
Litter	15.00	10.00	10.00	20.00	45.00	20.00	15.00
Bareground	30.00	30.00	20.00	10.00	4.00	10.00	20.00
Rock	15.00	25.00	35.00	5.00	1.00	10.00	15.00
% COMPOSITION							
Shrubs	17.50	28.57	14.29	38.46	30.00	83.33	60.00
Forbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grasses	82.50	71.43	85.71	61.54	70.00	16.67	40.00

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	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	10.00	0.00	0.00	5.00	0.00	20.00	0.00	0.00
5.00	0.00	0.00	0.00	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	0.00	0.00	0.00	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	1.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	4.00	0.00	0.00	0.00	5.00	0.00	0.00
40.00	35.00	25.00	35.00	35.00	20.00	30.00	40.00	25.00	25.00
45.00	35.00	40.00	40.00	40.00	35.00	35.00	65.00	30.00	25.00
10.00	10.00	10.00	15.00	20.00	10.00	10.00	5.00	5.00	10.00
15.00	40.00	5.00	30.00	10.00	10.00	5.00	20.00	40.00	35.00
30.00	15.00	45.00	15.00	30.00	45.00	50.00	10.00	25.00	30.00
11.11	0.00	25.00	0.00	12.50	28.57	0.00	30.77	16.67	0.00
0.00	0.00	0.00	2.50	0.00	14.29	14.29	0.00	0.00	0.00
88.89	100.00	75.00	97.50	87.50	57.14	85.71	69.23	83.33	100.00

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	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	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	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	20.00	25.00	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	0.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
5.00	25.00	25.00	20.00	10.00	25.00	40.00	25.00	20.00	30.00
75.00	25.00	30.00	25.00	40.00	75.00	40.00	25.00	20.00	35.00
20.00	10.00	15.00	10.00	10.00	20.00	25.00	50.00	20.00	35.00
4.00	15.00	15.00	10.00	10.00	4.00	10.00	20.00	5.00	15.00
1.00	50.00	40.00	55.00	40.00	1.00	25.00	5.00	55.00	15.00
86.67	0.00	16.67	20.00	75.00	66.67	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.33	100.00	83.33	80.00	25.00	33.33	100.00	100.00	100.00	100.00

CANYON FUELS - GORD

Reference Area

Exposure: SSE

Slope: 33 deg

Sample Date: 20 Sept 00

28.00	29.00	30.00	Mean	SDev	Freq	
						TREES & SHRUBS
0.00	0.00	0.00	0.23	1.26	3.33	<i>Amalanchier utahensis</i>
0.00	0.00	0.00	2.33	6.16	16.67	<i>Cercocarpus montanus</i>
0.00	0.00	0.00	1.17	4.02	10.00	<i>Eriogonum corymbosum</i>
0.00	0.00	0.00	1.33	2.56	23.33	<i>Gutierrezia sarothrae</i>
0.00	15.00	10.00	7.33	15.48	26.67	<i>Purshia tridentata</i>
0.00	5.00	0.00	0.33	1.25	6.67	<i>Symphoricarpos oreophilus</i>
						FORBS
0.00	0.00	7.00	0.23	1.26	3.33	<i>Artemisia dracunculus</i>
0.00	0.00	0.00	0.33	1.25	6.67	<i>Eriogonum sp.</i>
0.00	0.00	0.00	0.03	0.18	3.33	<i>Stanleya pinnata</i>
						GRASSES
0.00	0.00	0.00	1.13	2.43	20.00	<i>Stipa hymenoides</i>
30.00	35.00	8.00	26.37	9.74	100.00	<i>Elymus salinus</i>
						COVER
30.00	55.00	25.00	40.83	14.72		Total Living Cover
30.00	30.00	5.00	17.33	11.01		Litter
35.00	10.00	65.00	18.40	13.95		Bareground
5.00	5.00	5.00	23.43	17.40		Rock
						% COMPOSITION
0.00	36.36	40.00	24.60	25.96		Shrubs
0.00	0.00	28.00	1.97	6.01		Forbs
100.00	63.64	32.00	73.43	26.74		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

No Contents

APPENDIX D

Mine Maps

As required under R645-302-525-270

APPENDIX E

Other Information

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

No Contents