



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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TO: File

FROM: Paul Baker, Reclamation Biologist 

DATE: February 11, 1994

RE: Vegetation at Boreholes and Revegetation Test Plot, Consolidation Coal Company, Emery Deep Mine, ACT/015/015, Folder #2, Emery County, Utah

On February 9, 1994, I visited the Emery Deep Mine and quantified vegetation within and adjacent to three boreholes and the main revegetation test plot. I used a one square meter quadrat for most of the measurements. A 100-foot tape was used to measure shrub canopies on a belt transect on an undisturbed area near the abandoned road to borehole #1.

No attempt was made to achieve sample adequacy according to the formula in the Division's "Vegetation Information Guidelines, Appendix A". I sampled until I felt that the area had been adequately characterized for the purposes of knowing approximately how much vegetative cover is present from various life forms.

The area within the disturbed area at borehole #3 was not sampled; there was no vegetation except a small amount near a berm on the south side of the area. The pipeline from this borehole was also not measured. It was clear that it contained a similar amount of vegetation as the immediately adjacent areas. The roads leading to sites 1 and 3 were not measured. There was no undisturbed area near the vegetation test plot, but I felt that the undisturbed area near borehole #2 probably corresponds fairly well with what would naturally occur in this area.

Although vegetation in the revegetation test plot was measured at about 28%, the vegetation is very spotty. It is nearly 100% in some places but there is none in others. The areas where there is the most vegetation is in some swales mainly on the east side.

The one area where I felt that any near-future revegetation efforts should be concentrated is the abandoned road leading to borehole 1. This area has very little vegetation other than weeds. Although it does not have too much less vegetation than adjacent areas, the species need to be improved. A potential problem in this area is that we saw a lot of signs of rabbits, and they could make it difficult to reestablish grasses, forbs, or desirable shrubs.



Page 2  
ACT/015/015  
February 11, 1994

Borehole #1

	Disturbed Area	Undisturbed Area
Bare	49.7	79.0
Rock	16.6	0.0
Litter	4.3	2.4
Vegetation	29.4	18.6

Abandoned Road to Borehole #1

	Disturbed Area	Undisturbed Area
Bare	77.0	
Rock	2.3	
Litter	5.0	
Vegetation	15.7	15.4 Shrubs plus about 10 annuals

Borehole #2

	Disturbed Area	Undisturbed Area
Bare	76.6	83.8
Rock	0.0	0.0
Litter	4.6	3.2
Vegetation	18.8	13.0

Borehole #3

	Disturbed Area	Undisturbed Area
Bare	Not	92.1
Rock	measured	3.5
Litter		0.9
Vegetation		3.5

Revegetation Test Plot

	Disturbed Area	Undisturbed Area
Bare	63.2	83.8
Rock	0.0	0.0
Litter	8.3	3.2
Vegetation	28.5	13.0

Bare	Shrubs	Grass	Litter	Rock	Annuals	
<b>BH #1</b>						
65	15	0	20	0	0	Disturbed
86	7	4	1	2	0	
48	10	0	2	40	0	
59	35	3	2	1	0	
49	10	0	1	40	0	
17	0	0	8	5	70	
49	25	1	0	10	15	
25	0	0	0	35	40	
49.75	12.75	1	4.25	16.625	15.625	Averages
78	2	0	5	0	15	Undisturb
69	5	0	1	0	25	
89	0	0	1	0	10	
80	0	0	0	0	20	
79	1	15	5	0	0	
79	1.6	3	2.4	0	14	Averages
80	0	0	3	2	15	Old Road
74	2	0	5	4	15	
77	0	0	7	1	15	
77	0.666667	0	5	2.333333	15	Averages
<b>B.H. #2</b>						
75	8	2	5	0	10	Disturbed
87	0	0	8	0	5	
60	20	0	5	0	15	
77	10	0	5	0	8	
66	25	0	3	0	6	
89	3	0	4	0	4	
82	12	3	2	0	1	
76.57143	11.14286	0.714286	4.571429	0	7	Averages
91	7	0	2	0	0	Undisturb
92	8	0	0	0	0	near
72	20	0	8	0	0	BH#2
94	5	0	1	0	0	
70	25	0	5	0	0	
83.8	13	0	3.2	0	0	Averages
86	0	0	3	3	8	BH #3
73	3	0	3	12	9	Undisturb
90	0	0	1	6	3	
97	0	0	0	3	0	
100	0	0	0	0	0	
99	0	0	0	1	0	
97	0	0	0	3	0	
95	5	0	0	0	0	
92.125	1	0	0.875	3.5	2.5	Averages
87	5	0	3	0	5	Test Plot
89	0	0	1	0	10	
82	0	0	3	0	15	
25	5	15	15	0	40	
70	0	0	5	0	25	
2	45	5	48	0	0	
62	0	0	8	0	30	
91	0	0	2	0	7	
92	0	0	2	0	6	
0	0	97	3	0	0	
96	0	0	1	0	3	
63.27273	5	10.63636	8.272727	0	12.81818	Averages

Printed from Disc  
7/27/99 JDS

Andalex Resources  
Water Monitoring Reports  
1993  
Wildcat Loadout

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Quarterly Monitoring  
WCW 1 - WCW 4

January 1 to March 31, 1993

Water Monitoring - 1st Quarter 1993

WCW - 1	No Flow
WCW - 2	No Flow
WCW - 3	No Flow
WCW - 4	No Flow

April 1 to June 30, 1993

Water Monitoring - 2nd Quarter 1993

WCW - 1	No Flow
WCW - 2	No Flow
WCW - 3	No Flow
WCW - 4	No Flow

July 1 to September 30, 1993

Water Monitoring - 3rd Quarter 1993

WCW - 1	No Flow
WCW - 2	No Flow
WCW - 3	No Flow
WCW - 4	No Flow

October 1 to December 31, 1993

Water Monitoring - 4th Quarter 1993

WCW - 1	No Flow
WCW - 2	No Flow
WCW - 3	No Flow
WCW - 4	No Flow

UPDES UTG 040007

1993

001-006

NO DISCHARGE

WILDCAT

1993

\*RAINFALL

May 8, 1993	.56
May 17, 1993	.31
May 28, 1993	.13
August 10, 1993	1.50
August 22, 1993	.34
August 25, 1993	.70
September 12, 1993	1.40
October 9, 1993	.60
November 12, 1993	.40
<b>Total</b>	<b>5.94</b>

\* Does not include snowfall