ENERGY WEST Mining Co.

PACIFICORP

2004 ANNUAL REPORT

COTTONWOOD MINE C/015/019

DES-BEE-DOVE MINES C/015/017

DEER CREEK MINE C/015/018

TRAIL MOUNTAIN MINE C/015/009

*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	PacifiCorp
Mine Name	Cottonwood Mine
Operator Name (If other then permittee)	Energy West Mining Company
Permit Expiration Date	July 6, 2009
Permit Number	C/015/019
Authorized Representative Title	Manager of Geology and Permitting
Phone Number	435-687-4720
Fax Number	435-687-2695
E-mail Address	
Mailing Address	P.O. Box 310 Huntington, Utah 84528
Designated Representative	Chuck Semborski
Resident Agent	Chuck Semborski
Resident Agent Mailing Address	P.O. Box 310 Huntington, Utah 84528
Number of Binders Submitted	3

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)	42-01221	Cottonwood Mine	None
MSHA Impoundment(s)	1211-UT-09-02052-02	North Sediment Pond	None
	1211-UT-09-02052-02	South Sediment Pond	None
NPDES/UPDES Permit(s)	UT0022896	Site 001, 003, 004, 005 consisting of	10/31/07
		mine discharge and sediment ponds	
PSD Permit(s) (Air)	DAQE-694-95	Issued 8/9/95, Includes Trail Mtn Mine	None
	DAQE-835-91	Issued 12/16/91, WRS	None

Other

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and udder the approved plan that must be periodically submitted t 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	☐	☒	☐	☐	
Refuse Piles	☒	☐	☐	☒	
Impoundments	☒	☐	☒	☐	No discharge from sediment ponds in 2004
Other					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

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	☐	☒	☒	☐	Included in Separate Hydrologic Report
Subsidence Monitoring	☒	☐	☒	☐	Included in Separate Subsidence Report
Vegetation Monitoring	☒	☐	☒	☐	Refer to Appendix B
Raptor Survey	☒	☐	☐	☒	Filed in DOGM's Confidental File
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☐	☐	☐	☐	
First quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Second quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Third quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Fourth quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☐	☒	☐	☐	
Other Data					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

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Legal / Financial Update	**Required**		**Included or on File with DOGM**		**Comments**
	Yes	No	Included	On file	
Department of Commerce, Annual Report Officers	☒	☐	☐	☒	
Other					
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____

MINE MAPS

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Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
None	See previous annual reports (mine is currently in cessation)	☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

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

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GENERAL INFORMATION

Permitte Name	PacifiCorp
Mine Name	Des Bee Dove Mien
Operator Name (If other then permittee)	Energy West Mining Company
Permit Expiration Date	August 30, 2005 (Mine reclaimed in 2003)
Permit Number	C/015/017
Authorized Representative Title	Manager of Geology and Permitting
Phone Number	435-687-4720
Fax Number	435-687-2695
E-mail Address	
Mailing Address	P.O. Box 310 Huntington, Utah 84528
Designated Representative	Chuck Semborski
Resident Agent	Chuck Semborski
Resident Agent Mailing Address	P.O. Box 310 Huntington, Utah 84528
Number of Binders Submitted	3

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)	None	Records abandond by MSHA March 27, 1987	
MSHA Impoundment(s)	None		
NPDES/UPDES Permit(s)	UTG040022	Site 001: Sediment Pond	4/30/08
PSD Permit(s) (Air)	N/A		

Other

CERTIFIED REPORTS

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Certified Reports:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☒	☐	☐	☒	
Impoundments	☒	☐	☐	☒	Sediment Pond: Site 001
Other					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

REPORTING OF OTHER TECHNICAL DATA

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Technical Data:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On file	
Climatological	☐	☒	☒	☐	Included in Separate Hydrologic Report
Subsidence Monitoring	☒	☐	☒	☐	Included in Separate Subsidence Report
Vegetation Monitoring	☒	☐	☒	☐	Refer to Appendix B
Raptor Survey	☒	☐	☐	☒	Filed in DOGM's Confidental File
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☐	☐	☐	☐	
First quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Second quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Third quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Fourth quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☐	☒	☐	☐	
Other Data					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

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LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

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Legal / Financial Update	**Required**		**Included or on File with DOGM**		**Comments**
	Yes	No	Included	On file	
Department of Commerce, Annual Report Officers	☒	☐	☐	☒	
Other					
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____

MINE MAPS

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Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
None	See previous annual reports (mine reclaimed in 2003)	☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
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		☐	☐
		☐	☐
		☐	☐
		☐	☐

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GENERAL INFORMATION

Permitte Name	PacifiCorp
Mine Name	Deer Creek Mine
Operator Name (If other then permittee)	Energy West Mining Company
Permit Expiration Date	February 7, 2006
Permit Number	C/015/018
Authorized Representative Title	Manager of Geology and Permitting
Phone Number	435-687-4720
Fax Number	435-687-2695
E-mail Address	
Mailing Address	P.O. Box 310 Huntington, Utah 84528
Designated Representative	Chuck Semborski
Resident Agent	Chuck Semborski
Resident Agent Mailing Address	P.O. Box 310 Huntington, Utah 84528
Number of Binders Submitted	3

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)	42-00221	Deer Creek Mine	None
MSHA Impoundment(s)	None		
NPDES/UPDES Permit(s)	UT0023604	Site 001: Sediment Pond	11/30/07
		Site 002: Mine Discharge	
PSD Permit(s) (Air)	DAQE-926-96	Issued 10/4/96, Mine Tipple	None
	DAQE-926-91	Issued 12/5/91, WRS	None
Other			

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Certified Reports:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☒	☐	☐	☒	
Impoundments	☒	☐	☐	☒	Site 001: Sediment Pond
Other					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

REPORTING OF OTHER TECHNICAL DATA

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Technical Data:	Required		Included or on file with DOGM		Comments
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Climatological	☐	☒	☒	☐	Included in Separate Hydrologic Report
Subsidence Monitoring	☒	☐	☒	☐	Included in Separate Subsidence Report
Vegetation Monitoring	☒	☐	☒	☐	Refer to Appendix B
Raptor Survey	☒	☐	☐	☒	Filed in DOGM's Confidental File
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☐	☐	☐	☐	
First quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Second quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Third quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Fourth quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☐	☒	☐	☐	
Other Data					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	

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Department of Commerce, Annual Report Officers	☒	☐	☐	☒	
Other					
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____

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Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
None	Deer Creek Mine Production Map (Current as of March, 2005)	☒	☐
		☐	☐
		☐	☐
		☐	☐
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		☐	☐
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GENERAL INFORMATION

Permitte Name	PacifiCorp
Mine Name	Trail Mountain Mine
Operator Name (If other then permittee)	Energy West Mining Company
Permit Expiration Date	February 10, 2010
Permit Number	C/015/009
Authorized Representative Title	Manager of Geology and Permitting
Phone Number	435-687-4720
Fax Number	435-687-2695
E-mail Address	
Mailing Address	P.O. Box 310 Huntington, Utah 84528
Designated Representative	Chuck Semborski
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Number of Binders Submitted	3

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)	42-01211	Trail Mountain Mine	None
MSHA Impoundment(s)	None		
NPDES/UPDES Permit(s)	UT0023728	Site 001: Sediment Pond	12/31/07
		Site 002: Mine Discharge	
PSD Permit(s) (Air)	DAQE-694-95	Issued 8/9/95	None
Other			

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Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☒	☐	☐	☒	
Impoundments	☒	☐	☐	☒	Site 001: Sediment Pond
Other					
_____	☐	☐	☐	☐	
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Water Monitoring	☐	☐	☐	☐	
First quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Second quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
Third quarter	☒	☐	☒	☒	Included in Separate Hydrologic Report
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Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☐	☒	☐	☐	
Other Data					
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
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Other					
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____
_____	☐	☐	☐	☐	_____

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Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
None	See previous annual reports (mine is currently in cessation)	☐	☐
		☐	☐
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		☐	☐
		☐	☐
		☐	☐
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Additional attachment to this report? **Yes** ☐ **No** ☒

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

CONTENTS

Impoundment and Refuse Pile Reports are on File at the Division of Oil Gas and Mining in Salt Lake City, Utah

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

2004 Vegetation Monitoring Report - Mt Nebo Scientific
Raptor Monitoring Reports are held in the Confidencial File at the Division of Oil Gas and Mining, Salt Lake City, Utah

ENERGY WEST MINING COMPANY
VEGETATION MONITORING
2004

VEGETATION MONITORING REPORTS
FOR THE
COTTONWOOD MINE AREA
COTTONWOOD CANYON AREA
DES-BEE-DOVE AREA
DEER CREEK MINE AREA
TRAIL MOUNTAIN MINE AREA

Prepared by

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

Patrick D. Collins, Ph.D.

for

ENERGY WEST MINING COMPANY
P.O. Box 310
Huntington, Utah 84528

March 2005

TABLE OF CONTENTS

INTRODUCTION

The following document addresses the results of vegetation monitoring of seeded areas for the year 2004. Listed below are the areas monitored and reported within this document.

COTTONWOOD MINE

Old Fan Road
Reference Area
4th East Road
Storage Yard Slope
Parking Lot Slope
Road/Silo Pad Slope
Tipple Area Slopes
Sediment Pond Banks
Ninth East Breakout

Waste Rock Site (Old)
Cell #1
Cell #2
Cell #3
Cell #4
Cell #5
Cell #6
Cell #7
Berm #1
Berm #2
Berm #3
Berm #4
CTW Reference Area
CTW Soil Piles (A,C)

Waste Rock Site (New)
Road Slopes
Topsoil Stockpiles
Subsoil Stockpile
Sediment Pond Banks

Waste Rock Site
Refuse Berm '91
Refuse Berm '94
Refuse Berm '96

COTTONWOOD CANYON

Fan Portal Area
Reclaimed Slope ('81)
Soil Pile
Reference Area
Tube Conveyor Slope
Belt Portal
Portal (Diesel)
Reclaimed Slope ('98)

DES BEE DOVE

Pumphouse (final)
Access Trail
Bathhouse Slope
East Slope
Deseret Mine Area
Switchbacks
Beehive/Little Dove Mine Area
Substation Area

DEER CREEK MINE

Riparian Reference Area
Mixed Conifer Reference Area
Pinyon-Juniper Reference Area
C2 Conveyor
Riparian Areas
Sediment Pond Dam
Temporary Sediment Basin
Road Side Areas
Gate Areas Slope
Reconstructed Drain Fields
Fan Road Slope
Refuse Pile & Berm
Rockslide & Berm
Water Plant Slope
Pipeline
Deer Canyon

Waste Rock Site
Reference Area
Access Road Slopes
Phase I Diversion
Phase I Berm

Rilda Canyon
Pad Area Slopes
Roadway Slopes
Topsoil Pile

TRAIL MOUNTAIN MINE

Reference Area
Trail Sediment Pond Outslope
Trail Mtn. Parking Lot Extension

METHODS

Vegetation monitoring was conducted on revegetated sites within mine permit areas for the *Energy West Mining Company*. Quantitative data were taken at each site in the growing season of 2004. For previous monitoring years, quantitative data were recorded depending on the sample schedule provided by *Energy West Mining Company*. The data recorded in 2004 is briefly described below.

QUALITATIVE DATA

Qualitative data were recorded on all sites. A qualitative data sheet for each site is included in this report and provides the following information: site name, general area, sample date, observers, slope, exposure, acreage, animal disturbance, erosion damage, cover, dominant plant species observed, and other pertinent notes.

When quantitative data were recorded, results are shown on these data sheets or reference to where the data is located.

Site Name

The site name that is given correlates with *Energy West's* maps of the area and can be used for future reference and sampling.

Area

The "Area" on the data sheets is a reference to the general mine or property areas for quick reference and general use.

Date

Sample dates are also provided. All sample dates are within the 2004 growing season.

Workers

Lists of the names of the individuals who recorded the data.

Exposure

Exposure was recorded on each site. Often the site had several different exposures. In those cases, "variable" was written for the exposure on the data sheet.

Animal Disturbance

Values were given to the relative use by animal species at each site. The values and a brief explanation are given below.

None -	(or negligible), no animal use was observed.
Slight -	only little animal use was observed by droppings, tracks, or cropped vegetation.
Moderate -	a fair degree of use was observed, mostly by the cropped vegetation. Several inches of production still remained available for use by the animals.
Severe -	animal use had taken nearly all of the available current year's production.

Erosion

Erosion of the area was also assessed by qualitative methods. Actual measurements, descriptive notes or values described below were given to each site.

None -	(or negligible) no erosion was observed.
Slight -	small erosion rills beginning, usually less than 2:1 (2 inches wide by 1 inches deep).
Moderate -	erosional rills and gullies from 2:1 to 4:2.
Severe -	erosional rills and gullies over to 4:2 were observed.

Cover

Cover differences or notes may be given on the data sheet or references to the

quantitative data.

Dominant Plant Species Observed

Sometimes plant species that were observed, but were not encountered in the quadrats when sampling. Many of these species were recorded here. However, some of the species were also encountered in the quadrats. Therefore, for a list of all species on a given site, one should refer to both quantitative and qualitative data sheets.

Notes

Site-specific, pertinent notes about each area were also taken i.e. identification of special considerations, areas of differential growth patterns, etc. Notes on specific methodologies on each site were also described here.

Photographs

Color photographs were taken for each site and are included in this report for documentation.

RESULTS

To be consistent with previous years, data sheets for qualitative sampling have been included in this report. For results of the above parameters, refer to the site-specific data sheets.

COTTONWOOD MINE AREA

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Old Fan Road

AREA: Cottonwood Mine (1984)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 13-15 deg.

EXPOSURE: Variable

AREA: .8 acres

ANIMAL USE/DISTURBANCE: Moderate deer use

EROSION: Negligible

COVER: (no quantitative data this year).

DOMINANT PLANT SPECIES OBSERVED:
Artemisia tridentata
Atriplex confertifolia
Cercocarpus montanus
Chrysothamnus nauseosus
Eriogonum corymbosum
Gutierrezia sarothrae
Populus angustifolia
Ribes sp.
Salix exigua
Sambucus caerulea
Symphoricarpos oreophilus

Artemisia ludoviciana
Aster chilensis
Cirsium sp.
Cynoglossum officinale
Linum lewisii
Machaeranthera canescens

Bromus carinatus
Bromus tectorum
Elymus cinereus
Elymus salinus
Elymus spicatus
Elymus junceus
Elymus lanceolatus
Stipa hymenoides
Elymus smithii
Elymus salinus
Sporobolus airoides
Stipa hymenoides

NOTES:
1) We sampled for qualitative data this year.
2) Revegetation site looked excellent.
3) Cover, density and diversity looked excellent.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reference Area

AREA: Cottonwood Mine

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 36 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Minimal

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Abies concolor
Amelanchier utahensis
Artemisia tridentata
Atriplex confertifolia
Chrysothamnus depressus
Chrysothamnus nauseosus
Ephedra viridis
Eriogonum corymbosum
Gutierrezia sarothrae
Juniperus osteosperma
Pinus edulis
Pseudotsuga menziesii
Rosa woodsii
Symphoricarpos oreophilus

Hedysarum occidentale var. canone
Galium boreale
Leptodactylon watsonii

Elymus salinus
Stipa hymenoides

NOTES:
1) Sampled for qualitative data in 2004
2) No major disturbance has disrupted this site.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: 4th East Road

AREA: Cottonwood Mine (1986)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 3 - 5 degrees

EXPOSURE: N

AREA: .1 acre

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (Cover not sampled this year) .

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum
Gutierrezia sarothrae

Aster chilensis
Machaeranthera grindelioides
Medicago sativa
Penstemon palmeri

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus smithii

NOTES:

1) We sampled for qualitative data this year.

2) Excellent grass cover with very few shrubs.

3) Unlike previous years there was very little alfalfa cover.

4) Site looked similar to last year.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Storage Yard Slope

AREA: Cottonwood Mine (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 30 - 40 deg.

EXPOSURE: S & E

AREA: 1.3 acres

ANIMAL USE/DISTURBANCE:

EROSION: Mostly minor

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum
Tamarix chilensis

Aster chilensis
Bassia hyssopifolia
Halogeton glomeratus
Machaeranthera canescens
Penstemon palmeri

Bromus tectorum
Elymus cinereus
Elymus elymoides
Elymus junceus
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES:
1) Sampled for qualitative data only.
2) Different exposures supported different species
3) Site is inactive.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Parking Lot Slope

AREA: Cottonwood Mine

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 26 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE:

EROSION: Slight but controlled by rocks.

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis
Bassia scoparia
Grindelia squarrosa
Halogeton glomeratus
Penstemon palmeri

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus salinus
Elymus spicatus
Stipa hymenoides

NOTES:

1) Sampled for qualitative data.
2) Site is inactive.
3) Mostly weedy species because of erosion control measures (½-inch-plus rock cover) disturbed existing vegetation.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Road/Silo Pad Slope

AREA: Cottonwood Mine (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 35 deg.

EXPOSURE: SE

ACREAGE: 1.4 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Minor in a couple localized areas

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis
Halogeton glomeratus
Penstemon palmeri
Salsola pestifer

Elymus cinereus
Elymus smithii
Elymus spicatus
Stipa hymenoides

NOTES: 1) Some minor erosion in some areas.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Tipple Area Slopes

AREA: Cottonwood Mine (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 35 deg.

EXPOSURE: SW

AREA: .1 acre

ANIMAL USE/DISTURBANCE: None

EROSION: Slight

COVER: (Cover not sampled this year) .

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis
Bassia scoparia
Halogeton glomeratus

Agropyron cristatum
Bromus inermis
Elymus cinereus
Elymus smithii
Elymus spicatus
Elymus junceus
Sporobolus airoides
Stipa hymenoides

NOTES:
1) Inactive area.
2) Sampled for qualitative data only this year.
3) Slopes were stable; a couple of them had slight erosional patterns.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Sediment Pond Banks

AREA: Cottonwood Mine (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 35 deg.

EXPOSURE: Variable

AREA: .9 acre

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum
Salix exigua

Aster chilensis
Bassia scoparia
Grindelia squarrosa
Halogeton glomeratus
Helianthus annuus
Machaeranthera canescens
Melilotus officinalis
Penstemon palmeri
Salsola pestifer

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus salinus
Elymus smithii
Stipa hymenoides
Sporobolus airoides

NOTES:

1) We sampled for qualitative data this year.

2) Area was inactive.

3) There was patchy vegetation growth patterns with some desirable and lots of "weedy" areas. This is due to past erosion control, regular pond maintenance to clean-out, and fluctuating water levels in the ponds.

4) The cover looked good on pond areas that had not been disturbed.

5) There is very little water in the lower pond (~20 ft diameter water). The upper pond had quite a bit more water.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Ninth East Road Breakout Final 1999

AREA: Cottonwood Mine (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE:

EROSION: Negligible, controlled well by plants

COVER: (No quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Chrysothamnus nauseosus

Aster chilensis
Cirsium sp.
Hedysarum boreale
Lepidium montanum
Linum lewisii
Penstemon palmeri

Bromus carinatus
Elymus cinereus
Elymus spicatus
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES:

1) The site looked excellent with very good cover and diversity.

2) Good shrub establishment.

3) Good diversity of forbs, shrubs and grasses.

4) Erosion is being controlled by roughed ground techniques.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #1

AREA: Cottonwood Mine Old Waste Rock Area (1983 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Slight to Moderate

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Chrysothamnus nauseosus
Ephedra viridis
Gutierrezia sarothrae

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus smithii
Hilaria jamesii
Stipa comata

NOTES:

1) Sampled for qualitative data this year.

2) When compared to some years, the plants have suffered in this area due to drought conditions. But the site still looked fairly good considering the drought over the past several years (see below).

3) The site looked better this year compared to last year, but it was still dry.

4) Based on previous studies and scrutiny of data recorded, it is my opinion that it would be counter-productive to try and get cells and berms released at different times (or based on their respective reclamation dates). I tried separating and lumping the data several different ways to arrive at this conclusion. In other words, I think we should record the data and lump all the cells and berms together when the bond release sampling is conducted.

5) Some grasses seemed to have died out and broom snakeweed increased.

6) Species diversity and productivity seemed to have decreased as a result of the drought.

7) The woody species appeared heathy.

8) In 2003 we did not see all the species that we normally see due to dying out or possible dormancy due to drought conditions. Condition of plants seemed a little better in 2004.

9) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #2

AREA: Cottonwood Mine Old Waste Rock Area (1984 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

AREA: ~ 1 acre

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Gutierrezia sarothrae

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus smithii
Hilaria jamesii
Stipa comata
Stipa hymenoides

NOTES: .

1) Sampled for qualitative data in 2004.
2) Same "Notes" in Cell 1.
3) There was a lot of broom snakeweed and needle-and-thread grass this year.
4) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #3

AREA: Cottonwood Mine Old Waste Rock Area (1985 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Gutierrezia sarothrae
Ephedra viridis
Opuntia polyacantha

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Hilaria jamesii
Stipa hymenoides
Stipa comata

NOTES:

1) Sampled for qualitative data in 2004.
2) The warm season grasses were dry and should have been more green this time of year.
3) The site continues to look dry, but was better than last year.
4) Same "Notes" in Cell 1.
5) There was a lot of needle-and-thread grass and galleta.
6) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #4

AREA: Cottonwood Mine Old Waste Rock Area ('86 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0 - 1 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Moderate deer and rabbit use.

EROSION: negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Gutierrezia sarothrae
Atriplex canescens

Agropyron cristatum
Elymus smithii
Elymus lanceolatus
Hilaria jamesii
Stipa comata

NOTES:

1) Sampled for qualitative data in 2004.
2) Unlike Cells 1-3, grass species look good here. This is unusual when compared to most previous years (excluding 2003).
3) Galleta (warm season grass) seemed to be doing well.
4) Much fewer shrubs when compared to Cells 1-3.
5) Also unlike Cells 1-3, broom snakeweed was not as common.
6) Site looked better than it did in 2003.
7) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #5 '89 (Reseeded) 93

AREA: Cottonwood Mine Old Waste Rock Area (Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-1 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Used by deer and rabbits mostly

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Chrysothamnus nauseosus
Gutierrezia sarothrae

Halogeton glomeratus

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus smithii
Stipa comata

NOTES:

1) Sampled for qualitative data in 2004.
2) Cheatgrass was not as common this year as it was in 2003.
3) See also "Notes" in Cell 1.
4) There were a few bare spots, but area was mostly vegetated.
5) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #6 '89 (Reseeded) '93

AREA: Cottonwood Mine Waste Rock Area (Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Moderate use by deer and rabbits.

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus
Gutierrezia sarothrae

Halogeton glomeratus

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus smithii
Stipa comata
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.
2) There was lots of cheatgrass in many areas.
3) Also, lots of needle-and-thread grass.
4) See also "Notes" in Cell 1.
5) Some of the bare spots (now dominated by halogeton) mentioned in previous years seemed larger, probably due to drought.
6) Site had good shrub establishment, but unlike previous years, it had more cheatgrass. There was less cheatgrass on the east ½ of plot.
7) The drought seemed to have taken a toll on this plot.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Cell #7 '92 Partial Cell #7 '93

AREA: Cottonwood Mine Old Waste Rock Area (Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0 - 2 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Chrysothamnus nauseosus
Ephedra viridis
Gutierrezia sarothrae

Machaeranthera canescens

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus smithii
Stipa comata
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.
2) See "Notes" in Cell 1.
3) There was low shrub cover, but grass cover looked better than all previous cells except for Cell 4.
4) Overall the plot looked better this year.
5) In most of the plots needle-and-thread grass appeared to be doing better this year. Perhaps the drought conditions enabled this plant to increase, while others decreased.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Berm #1

AREA: Cottonwood Mine Old Waste Rock Area (1983 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 1-20 deg.

EXPOSURE: S

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Chrysothamnus nauseosus
Gutierrezia sarothrae
Ephedra viridis

Halogeton glomeratus
Machaeranthera canescens

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.
2) The north half of the berm has more weedy species. The south half is better.
3) The drought seemed to have favored woody species dominance.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Berm #2

AREA: Cottonwood Mine Old Waste Rock Area (1984 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-20 deg.

EXPOSURE: W & N

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex confertifolia
Atriplex canescens
Chrysothamnus nauseosus
Gutierrezia sarothrae

Agropyron cristatum
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.
2) The drought seemed to have favored woody species dominance.
3) Some disturbance by gas companies.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Berm #3

AREA: Cottonwood Mine Old Waste Rock Area (1985 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 0-20 deg.

EXPOSURE: NE & SW

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Cercocarpus montanus
Chrysothamnus nauseosus
Gutierrezia sarothrae

Machaeranthera canescens

Agropyron cristatum
Bromus tectorum
Elymus smithii
Elymus lanceolatus
Stipa comata
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.
2) The drought seemed to have favored woody species dominance.
3) Lots of mature shrubs, less grass species.
4) Much more shrubs when compared to the Cells.
5) Shrub cover was high.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Berm #4

AREA: Cottonwood Mine Old Waste Rock Area ('86 Interim Reveg)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 28 deg.

EXPOSURE: N, E

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Chrysothamnus nauseosus
Gutierrezia sarothrae
Ephedra viridis

Agropyron cristatum
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES:

1) Sampled for qualitative data in 2004.

2) Lots of mature shrubs present; grass species looked good.

3) This berm looked good with only few weedy species.

4) There was good cover, especially grass cover.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: CTW Reference Area

AREA: Cottonwood Mine Old Waste Rock Area

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 1 - 5 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE:

EROSION: Slight, normal

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Cercocarpus montanus
Ephedra viridis
Juniperus osteosperma
Opuntia polyacantha
Pinus edulis
Yucca harrimaniae

Lepidium montanum
Eriogonum bicolor
Euphorbia fendleri

NOTES:

1) Qualitative data taken in 2004.

2) Like the reclaimed sites, but possibly to a lesser extent, the drought has had an impact on the vegetation. However, it did look better than last year (I saw more forbs).

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: CTW Soil Pile (A,C) '94

AREA: Cottonwood Mine

DATE: September 13-17, 2004

WORKERS: P. Collins, D. Collins

SLOPE: 25 deg.

EXPOSURE: South

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Soil Pile A (South Pile, west of Cells 1 & 2)
Atriplex canescens
Chrysothamnus nauseosus
Gutierrezia sarothrae

Halogeton glomeratus
Machaeranthera canescens

Agropyron cristatum
Elymus junceus
Elymus lanceolatus
Elymus smithii
Elymus cinereus
Stipa hymenoides

Soil Pile B (mostly removed)

Soil Pile C (North Pile, east of Reference Area)
Artemisia tridentata
Atriplex canescens
Atriplex gardneri
Chrysothamnus nauseosus
Gutierrezia sarothrae

Halogeton glomeratus
Penstemon palmeri

Agropyron cristatum
Elymus smithii
Elymus lanceolatus
Sporobolus airoides

NOTES:

1) Only qualitative data taken this year.

2) Piles looked good considering the drought conditions.

3) There was good cover and diversity.

4) There was lots of halogeton on the warmest exposures.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Road Slopes

AREA: Cottonwood Mine New Waste Rock Area (1990 Interim)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus
Ephedra viridis
Pinus edulis
Yucca harrimaniae

Penstemon palmeri

Bromus tectorum
Elymus lanceolatus
Elymus cinereus
Elymus spicatus
Sporobolus airoides
Stipa hymenoides

NOTES: 1) Qualitative data only. Most of the plant species were desirable ones.
2) Good cover and species diversity.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Topsoil Stockpiles

AREA: Cottonwood Mine New Waste Rock Area (1990 Interim)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:
Artemisia tridentata
Atriplex canescens
Atriplex confertifolia
Ceratoides lanata
Juniperus osteosperma

Halogeton glomeratus
Penstemon palmeri

Bromus tectorum
Elymus cinereus
Elymus lanceolatus
Elymus smithii

NOTES:
1) Sampled qualitatively only this year.
2) Majority of site looked very good.
3) Top of north pile had lots of "weedy" species.
4) Species diversity still looked good.
5) All 3 piles looked good.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Subsoil Stockpiles

AREA: Cottonwood Mine New Waste Rock Area (1990 Interim)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE:

EROSION: Slight to moderate (see notes below)

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata (c,s)
Atriplex confertifolia (n,c,s)
Atriplex gardneri (n,c,s)
Eriogonum corymbosum (s)
Ceratoides lanata (n,c,s)*

Elymus cinereus (s)
Elymus lanceolatus (n,c,s)
Elymus smithii (n,c,s)

Section of pile observed: n=north; c=central; s=south

NOTES:

1) Qualitative data taken his year.
2) Not much cover on the bottom of all slopes.
3) Moderate erosion on all sections of slopes, but mostly north and south tops (~00, ~01, ~02, ~03, ~04).
4) There was fair-good cover on the top of the pile.
5) If we listed by total desirable cover, it would be north (worse) to south (best).
6) Although some erosion, it did not appear that they were at risk of failure.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Sediment Pond Banks

AREA: Cottonwood Mine New Waste Rock Area (1990 Interim)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:
Artemisia nova
Artemisia tridentata
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus
Gutierrezia sarothrae

Penstemon palmeri

Elymus lanceolatus
Elymus cinereus
Elymus smithii

NOTES:

1) Site looked good.

2) Sampled qualitatively this year.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Refuse Berm '91 (Final) - New Waste Rock Site

AREA: Cottonwood Mine

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 28 deg.

EXPOSURE: S.

ANIMAL USE/DISTURBANCE: Slight

EROSION: Mostly "Slight", but moderate in a couple of areas.

COVER: (no quantitative data this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
*Ceratoides lanata**

Halogeton glomeratus
Malcomia africana

Elymus lanceolatus
Stipa hymenoides

NOTES:

1) Like the last few years, even though Berm '96 is the most recent revegetation accomplished, the shrubs appear more mature and the cover is greater than the '91 and '94 Berms.
2) Site looks good.
3) There were some grasses, but mostly shrubs present.
4) Species diversity was low.
5) Dominate shrub species was winterfat by far.
6) Sampled qualitatively only this year.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Refuse Berm '94 (Final) - New Waste Rock Site

AREA: Cottonwood Mine

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 25 deg.

EXPOSURE: South

ANIMAL USE/DISTURBANCE: None

EROSION: Slight erosion, on west side.

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Atriplex canescens
Atriplex gardneri
Ceratoides lanata

Malcomia africana

Elymus lanceolatus
Hilaria jamesii
Sporobolus airoides

NOTES:

1) Qualitative data only were recorded this year.
2) Site seemed more diverse in shrub species this year.
4) Good cover.
5) Dominated by saltbush and winterfat.
6) See also notes from Refuse Berm '91.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Refuse Berm (seeded 1996)

AREA: Cottonwood Mine New Waste Rock Area (1990 Interim)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 28 deg.

EXPOSURE: S & E

ANIMAL USE/DISTURBANCE: No obvious disturbance

EROSION: Slight

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Atriplex gardneri

Malcomia africana
Halogeton glomeratus

Elymus junceus
Elymus lanceolatus

NOTES:

1) Recorded qualitative data this year.

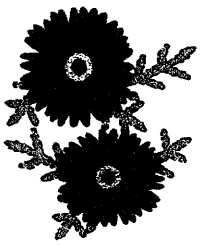
2) There were large mature shrubs in this area.

3) There were areas that had mostly good cover.

4) The site was dominated by fourwing saltbush.

5) Unlike some previous years, grasses were rarely seen this year.

COTTONWOOD CANYON AREA



ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reclaimed Slope (old,'81)

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 35-41 deg.

EXPOSURE: W

ANIMAL USE/DISTURBANCE: Slight to moderate

EROSION: Minor erosion near roadside

COVER: (no quantitative data recorded)

DOMINANT PLANT SPECIES OBSERVED:

*Artemisia tridentata**
Atriplex canescens
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus
Ephedra viridis
Gutierrezia sarothrae
Pinus edulis

Aster foliaceous

Elymus junceus
*Elymus cinereus**
Elymus lanceolatus
Elymus salinus
Elymus smithii

NOTES:

1) Slope is in excellent condition.

2) Qualitative sampling only this year.

3) Dominant above denoted by *.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Soil Piles

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins,

SLOPE: 35 deg.

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE:

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata (s)
Atriplex canescens (n)
Atriplex confertifolia (s)
Chrysothamnus nauseosus (n,s)

Achillea millefolium (n)
Aster chilensis (s)
Aster foliaceous (s)
Descurainia pinnata (s)
Linum lewisii (s)

Elymus cinereus (n,s)
Elymus lanceolatus (n,s)
Elymus smithii (n,s)
Elymus junceus (n,s)
Stipa hymenoides (n)

(s) = occurred on south pile; (n) = occurred on north pile.

NOTES:
1) Recorded only qualitative data this year.
2) In 2002, soil material from the topsoil pile was used to reclaim the 2 sediment ponds historically used at the CFP area. The area was then re-seeded in late summer or early fall 2002.
3) Much of north pile has been removed. The remaining area has been reseeded (see photograph).
4) There was fair cover on the north pile.
5) Site looked much better this year compared to 2003.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reference Area

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 33 deg.

EXPOSURE: W

ANIMAL USE/DISTURBANCE: Slight to moderate

EROSION: Slight, natural patterns.

COVER:(qualitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Amelanchier utahensis
Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum
Ephedra viridis
Juniperus osteosperma
Mahonia repens
Pinus edulis

Stanleya pinnata
Machaeranthera canescens

Elymus salinus
Stipa hymenoides

NOTES:

1) This Reference Area still in good shape.

2) Qualitative data only were taken this year.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: CFP Tube Conveyor Area (1996 Seeding)

AREA: Trail Mtn. Mine/Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 28 deg.

EXPOSURE: W, N, S.

ANIMAL USE/DISTURBANCE: None

EROSION: Negligible. Rocks in area seem to be greatly enhancing erosion control.

COVER: (no quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Artemisia tridentata
Chrysothamnus nauseosus

Aster foliaceous
Linum lewisii
Machaeranthera canescens
Penstemon palmeri

Agropyron cristatum
Dactylis glomeratus
Elymus lanceolatus
Elymus cinereus
Elymus smithii
Stipa hymenoides

NOTES:

1) We sampled qualitative data this year.

2) This year in this area we saw no yellow sweetclover.

3) In 1997 the area was dominated by yellow sweetclover, whereas in 1998 we didn't see much of it. There was a lot again in 1999 and 2000. In 2001 there were many more desirable species and very little sweetclover. In 2002 we saw no yellow

sweetclover and the fourwing saltbush looked much larger and mature. More shrubs were also present.

4) Again, no yellow sweetclover in 2003 and 2004.

5) The site had a good mix of shrubs, forbs and grasses (good diversity).

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Belt Portal ('96)

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins, D. Collins

SLOPE: Variable

EROSION: Negligible

EXPOSURE: SSW

ANIMAL USE/DISTURBANCE: Some use by deer.

COVER: (no quantitative data recorded)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Chrysothamnus nauseosus
Rosa woodsii

Penstemon palmeri

Elymus cinereus
Elymus lanceolatus
Elymus salinus

NOTES:
1) Qualitative sampling done in 2004.
2) Site looked very good.
3) Most of the area was dominated by Gt. Basin Wildrye.
4) Large boulders greatly enhanced erosion control.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Portal Diesel ('96)

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 43 deg.

EXPOSURE: SW

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus

Aster foliaceus

Elymus cinereus
Elymus smithii
Elymus lanceolatus
Stipa hymenoides

NOTES:

1) Quantitative data only in 2004.
2) Cover looked good.
3) Site looked very good.
4) Site was dominated by grasses with some forbs and a few shrubs.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reclaimed Slope (Final) '98

AREA: Cottonwood Fan Portal Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: variable

EXPOSURE: SW

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Chrysothamnus nauseous

Aster chilensis
Aster glaucodes
Linum lewisii
Melilotus officinale
Penstemon palmeri

Elymus lanceolatus
Elymus cinereus
Elymus smithii
Elymus spicatus
Stipa hymenoides

NOTES:
1) Sampled qualitatively this year.
2) Generally, the site looked good.
3) Road areas were rocky.
4) Fair diversity.
5) Shrubs establishment was progressing well.
6) The total living cover was fair in some places, good in others.
7) There was a good representation of forbs, grasses and shrubs

DES-BEE-DOVE AREA

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Pumphouse (Final)

AREA: Des-Bee-Dove

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 2-14 deg.

EXPOSURE: N

AREA: 1.2 acres

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia spinescens
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus
Gutierrezia sarothrae

Artemisia ludoviciana
Machaeranthera grindelioides
Malcomia africana
Salsola pestifer
Penstemon palmeri
Halogeton glomeratus

Elymus smithii
Elymus spicatus
Stipa hymenoides
Elymus lanceolatus

NOTES
1) Diversity looked "excellent".
2) Most of the site looked unbelievably well.
3) However, there were patches where halogeton dominated.
4) There were lots of penstemon, grass and shrub seedlings beginning to germinate.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITTATIVE/QUALITATIVE NOTES
2004

SITE NAME: Access Trail

AREA: Des-Bee-Dove (Final Dec 2003)

DATE: September 20-24, 2004

WORKERS: P. Collins

SLOPE: 5-20 degrees

EXPOSURE: variable

AREA: 3.5 acres

ANIMAL USE/DISTURBANCE: rabbits, cattle and deer

EROSION: Negligible

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Chrysothamnus nauseosus
Gutierrezia sarothrae

Bassia scoparia
Bassia hyssopifolia
*Halogeton glomeratus**
Machaeranthera grindelioides
Malcomia africana
Penstemon palmeri
*Salsola pestifer**

Elymus smithii
Elymus lanceolatus

NOTES:

1) Contractor did a good job creating gouges.
2) ATV tracks were on the trail (they are not supposed to have access?) ~04.
3) Although difficult to identify, it looked like there was quite a bit of fourwing saltbush.
4) The area was dominated by weedy species but there were also lots of desirable species in the area too, especially in the bottom of the gouges.
5) The site looked great for this stage of the revegetation process.

6) I made inquiries to Dennis Oakley regarding specific reclamation dates for the Des-Bee-Dove Area. Below are some notes from Dennis.

- Surface Facility Demolition Project: Initiated and completed in the fall of 1999.
- Maple Gulch Remote Portals: Final reclamation completed in July 2000.
- Pumphouse Area: Final Reclamation completed in the fall of 2000.
- Tipple Valley Fill Removal Project: Excavation initiated in March 2001; project completed May 2001.
- Phase 1 Reclamation - Little Dove/Beehive Area: Completed May 2002.
- Phase 2 Reclamation - Deseret and Tipple Area: Completed June 2003.
- Phase 3 Reclamation - Sediment Pond: Scheduled for 2005.

7) I also asked about the reclamation methodologies used. See notes below.

- Generally, and in order, the reclamation techniques included: site grading, spreading organic matter (alfalfa hay), fertilization, incorporation of these materials (trackhoe), gouging (trackhoe), seeding (by hand), hydro-mulching, transplantations (later).

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Bathhouse Slope

AREA: Des-Bee-Dove (Final 2003)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 32 degrees

EXPOSURE: NE

AREA: 7.6 acres

ANIMAL USE/DISTURBANCE: none observed

EROSION: slight in some areas

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Chrysothamnus nauseosus

Aster chilensis
Bassia hyssopifolia
Halogeton glomeratus
Penstemon palmeri

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES:

1) When viewed from afar, the site looked bare but a closer look revealed many desirable species in gouges.
2) See Reclamation notes for the "Access Trail".

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: East Slope

AREA: Des-Bee-Dove

DATE: September 20-24, 2004

WORKERS: P. Collins

SLOPE: 5-25 degrees

EXPOSURE: variable

AREA: 5.0 acres

ANIMAL USE/DISTURBANCE: negligible

EROSION: On the steep east face there was slight to moderate erosion (~04).

COVER: no quantitative data recorded this year.

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus

Halogeton glomeratus
Malcomia africana
Penstemon palmeri
Salsola pestifer
Triticum aestivum

Elymus smithii
Elymus smithii
Stipa hymenoides

NOTES:

1) The site was dominated by weedy species.
2) Although there were some, there weren't nearly as many desirable species here compared to the Access Trail area. The diversity wasn't as good here either.
3) There were some bare spots too.
4) In the areas that had the lowest cover, the cover was comprised mostly of desirable species.
5) Gouge bottoms had a good representation of desirable species.
6) See Reclamation notes for the "Access Trail".

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Deseret Mine Area

AREA: Des-Bee-Dove

DATE: September 20-25, 2004

WORKERS: P. Collins[2]

SLOPE: NE

EXPOSURE: 20-35 degrees

AREA: 2.7 acres

ANIMAL USE/DISTURBANCE: none observed

EROSION: Negligible

COVER: (no quantitative data recorded)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Ceratoides lanata
Chrysothamnus nauseosus

Halogeton glomeratus
Penstemon palmeri

Elymus smithii
Elymus cinereus
Elymus lanceolatus
Stipa hymenoides

NOTES:

1) There were lots of weeds, but also a good representation of desirable species were present too.

2) Site looked relatively good.

3) See Reclamation notes for the "Access Trail".

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Switchbacks

AREA: Des-Bee-Dove

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: ~ 20 degrees

EXPOSURE: S

AREA: 1.1 acre

ANIMAL USE/DISTURBANCE: Cattle trail in the middle.

EROSION: Negligible

COVER: (no quantitative cover recorded this year).

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Atriplex canescens

Halogeton glomeratus*

Elymus smithii
Elymus cinereus

NOTES:

1) Mostly weedy species in cover (~80%), but some desirable species were present too.

2) See Reclamation notes for the "Access Trail".

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Beehive/Little Dove Mine Area

AREA: Des-Bee-Dove (2003 final)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 20-30 degrees

EXPOSURE: SSE

AREA: 2.1

ANIMAL USE/DISTURBANCE: None observed

EROSION: Negligible

COVER: (no quantitative data recorded)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens

Halogeton glomeratus

Agropyron cristatum
Elymus smithii
Elymus lanceolatus

NOTES:

1) Site was dominated by halogeton.

2) However, there were lots of fourwing saltbush plants present.

3) There was a fair establishment of grasses beginning.

4) See Reclamation notes for the "Access Trail".

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Substation Area

AREA: Des-Bee-Dove (2003 final)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 25 degrees

EXPOSURE: SW

AREA: 0.4 acre

ANIMAL USE/DISTURBANCE: none observed

EROSION: Slight in some areas

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Atriplex canescens
Chrysothamnus nauseosus
Eriogonum corymbosum

Cynoglossum officinale
Halogeton glomeratus

Agropyron cristatum
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

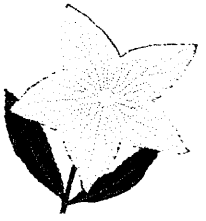
NOTES:

1) Site was dominated by grasses, but there were also lots of weedy species present.

2) There was a good start in establishment of desirable species.

3) See Reclamation notes for the "Access Trail".

DEER CREEK MINE AREA



ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Riparian Reference Area

AREA: Deer Creek

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 2 - 3 deg.

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Moderate use

EROSION: Normal

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Abies concolor
Acer negundo
Chrysothamnus nauseosus
Cornus sericea
Mahonia repens
Populus angustifolia
Rosa woodsii
Salix sp.

Aster foliaceous

Agrostis stolonifera
Dactylis glomerata

NOTES:

1) Qualitative sampling this year.

2) To locate, find a t-post on the side of the road in a more open area. This was past a more coaly area approximately 200' down from "Temporary Storage Area" and it can be seen as one walks down the road. The t-post is 50 ft below the lower part of the "Roadside Area".

3) Site condition is very good.

4) Good representation of shrubs, forbs and grasses.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Mixed Conifer Reference Area

AREA: Deer Creek

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 15-25 deg.

EXPOSURE: WSW

ANIMAL USE/DISTURBANCE: Used by wildlife, mostly deer sign.

EROSION: Normal

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Abies lasiocarpa
Amalanchier utahensis
Brickellia microphylla
Chrysothamnus depressus
Chrysothamnus viscidiflorus
Chrysothamnus nauseosus
*Eriogonum corymbosum**
Juniperus scopulorum
Mahonia repens
Pachystima myrsinites
Pinus edulis
Pseudotsuga menziesii
Symphoricarpos oreophilus

Aster foliaceous
Linum lewisii
Castilleja sp.

*Elymus salinus**
*Elymus spicatus**
Poa fendleriana

NOTES: 1) Reference Area continues to look good.

2) Qualitative sampling this year.

3) Take access road behind (south) wooden water tank.

4) To locate, I found the SW t-post marking the area north of the adjacent drainage.

5) There was a good representation of Spruce/Fir/Grass, but it was mostly more open.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Pinyon-Juniper Reference Area

AREA: Deer Creek

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 28 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Used by wildlife, mostly deer and rabbit sign present.

EROSION: Normal

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Amelanchier utahensis
Cercocarpus montanus
Chrysothamnus nauseosus
*Ephedra viridis**
Eriogonum corymbosum
*Juniperus osteosperma**
Juniperus scopulorum
*Pinus edulis**
Symphoricarpos oreophilus

Bromus carinatus
*Elymus salinus**
Stipa hymenoides

* Dominant species

NOTES:

1) Qualitative sampling this year.

2) Reference area continues to look good.

3) I met with C. Semborski and G. Davis in 1999 to help me locate the site. I used an aerial photograph to find the site, but I never did find t-posts marking it. So, I assumed it was above the "Perimeter Boundary" marker. To get there I walked through more of a Mtn. Brush/PJ community to a more classic PJ area. The transition between the two appears to be where the Reference Area is on the photo. Calling it a PJ Reference area is satisfactory however.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: C2 Conveyor (IU 132-190) '93

AREA: Deer Creek Mine

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 8 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible on flatter area, moderate on slopes

COVER: (no quantitative data this year)

DOMINANT PLANT SPECIES OBSERVED:

*Chrysothamnus nauseosus**+
*Cercocarpus ledifolius**
Ephedra viridis +
Eriogonum corymbosum +
Gutierrezia sarothrae +
Yucca harrimaniae+
*Artemisia tridentata**

Aster chilensis *
*Halogeton glomeratus**
Penstemon palmeri +

Elymus lanceolatus +
*Elymus cinereus**+
*Elymus smithii**+
*Stipa hymenoides**+

NOTES: 1) Qualitative sampling only was done this year.

2) A sediment control area was recently constructed within the area.

3) Surrounding area looked very good. There has been a basin dug immediately in front of this area that catches water before it goes to the silt fences and vegetated area. Vegetation observed in this area is denoted by +.

4) Monitoring schedule by Energy West indicated to "check area behind belt line" We sampled this area too. Vegetation observed in this area is denoted by *. This area had lots of rock cover helping to control erosion.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Riparian Areas

AREA: Deer Creek Mine

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 1 to 5 deg.

EXPOSURE: Variable

AREA: < .5 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (No quantitative data taken this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata (N,S)
Chrysothamnus nauseosus (N)
Gutierrezia sarothrae (S)
Mahonia repens (S)
Populus angustifolia (N,S)
Rosa woodsii (S)
Salix sp. (N,S)
Symphoricarpos oreophilus (S)

Aster chilensis (N,S)
Cirsium sp. (S)
Tragopogon dubius (S)

Agropyron cristatum (N,S)
Elymus hispidus (N,S)
Elymus smithii (N)
Elymus spicatus (S)

N=observed in north riparian area.
S=observed in south riparian area.

NOTES:

1) Qualitative data only again this year.

2) The south area is across and just downstream from the transfer site.

3) Areas had negligible weed growth.

4) To locate, there is an opening just north of the riparian area (0.3 mi. from coal storage road turn off) on the west side of the road. (600 ft south of opening; just past 3rd road post from the opening).

5) Sites looked excellent, nearly weed free now.

6) North riparian area was dominated by intermediate wheatgrass. It had good cover but low species diversity.

7) The south riparian area also looked good and perhaps had higher diversity.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Sediment Pond Dam

AREA: Deer Creek Mine Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 1 - 25 deg.

EXPOSURE: Variable

AREA: < 2 acres

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster foliaceous
Cynoglossum officinale
Salsola pestifer

Elymus smithii
Elymus cinereus
Elymus lanceolatus
Stipa hymenoides

NOTES: 1) Qualitative data only this year.

2) The top areas have a fair representation of desirable species in one area. Another area on the top has been graded and is now a parking area with a turn-about. It is stable.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Temp. Sediment Basin

AREA: Deer Creek Mine Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 1-2 deg.

EXPOSURE: Variable

AREA: < 1 acre.

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Populus angustifolia

Aster chilensis
Astragalus cicer

Elymus cinereus
Elymus smithii
Elymus lanceolatus
Stipa hymenoides

NOTES:

1) There was a good representation of desirable species and almost no weedy species.

2) Some recent disturbance to the vegetation was made by sediment control work.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Roadside Areas

AREA: Deer Creek (1990 Reveg. Area)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 5 deg.

EXPOSURE: NE

AREA: < 1 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible.

COVER: (qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:
Chrysothamnus nauseosus (E,W)
Gutierrezia sarothrae (W)
Populus angustifolia (E)

Aster chilensis (E,W)
Artemisia dracunculus (E,W)
Astragalus cicer (W)
Grindelia squarrosa (E,W)
Halogeton glomeratus (E)
Machaeranthera canescens (E)

Bromus carinatus (E,W)
Elymus smithii (E,W)
Elymus lanceolatus (W)
Elymus cinereus (E,W)
Stipa hymenoides (W)

E = present on east side; *W* = present on west side.

NOTES:
1) Qualitative data sampled.
2) Cover was very good.
3) Dominated by grasses, mostly Gt. Basin wildrye.
4) Good diversity of grasses.
5) Very few weedy species.
6) Sampled both sides of the road.
7) Located just upstream from the Riparian Reference Area and downslope from where the conveyor crosses the road.
8) Halogeton dominated small fill area (fill from sediment pond) ~04

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Gate Area Slope

AREA: Deer Creek (1990 Reveg. Area)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 20 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Some erosion, but stable

COVER: (qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:
Chrysothamnus nauseosus

Halogeton glomeratus
Bassia scoparia

Elymus cinereus
Elymus lanceolatus
Elymus smithii
Stipa hymenoides

NOTES: 1) Qualitative data only recorded this year. Site looked in good condition considering the slope angle.

2) Site had very good vegetative cover and good grass diversity. Grasses dominate the site.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Drain Field (Reconstruction '97)

AREA: Deer Creek

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 2 - 3 deg.

EXPOSURE: N

ANIMAL USE/DISTURBANCE: Used by wildlife

EROSION: Negligible

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Juniperus osteosperma

Aster chilensis
Astragalus cicer
Cirsium sp.
Medicago sativa
Penstemon palmeri
Xanthium pennsylvanica

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus spicatus
Elymus smithii
Stipa hymenoides

NOTES:

1) Qualitative sampling this year.

2) To locate it, it is 0.7 miles south of northern riparian area (it's on the back side of the conveyor).

3) Site had excellent cover, mostly grasses.

4) Grasses dominated site. Gt. Basin wildrye was more dominant in some areas, other areas were dominated by wheatgrasses (see photograph).

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Fan Road Slopes

AREA: Deer Creek (1989 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: Variable

EXPOSURE: Variable

AREA: 1.1 acres

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Slight (see below)

COVER: (qualitative only this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis
Cirsium sp.
Halogeton glomeratus
Medicago sativa
Penstemon palmeri

Agropyron cristatum
Elymus smithii
Elymus cinereus
Elymus spicatus
Hordeum jubatum
Poa pratensis
Stipa hymenoides

NOTES:

1) There were very few woody species here.
2) By the way the map looked, we considered everything on the south side of road (right as you walk up) the Fan Road Slopes
3) Qualitative data only recorded this year.
4) There was some moderate erosion in some areas (e.g. behind the water tank and on the other side of the road; see photograph ~04).

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Refuse Pile & Berm

AREA: Deer Creek (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 27 deg.

EXPOSURE: NE 300 deg.

AREA: 4.0 acres

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible in most areas.

COVER: (qualitative data only this year)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis
Halogeton glomeratus
Penstemon palmeri

Agropyron cristatum
Bromus inermis
Elymus lanceolatus
Elymus spicatus
Elymus salinus
Elymus cinereus
Stipa hymenoides

NOTES:

1) Qualitative sampling only was done this year.

2) Site looked good.

3) Refuse pile vegetation was considered fair to good for cover and diversity. There was a good representation of forbs and grasses on both exposures. The dominants were rubber rabbitbrush, Palmer penstemon, bluebunch wheatgrass and aster.

4) The berm was dominated by rubber rabbitbrush and bluebunch wheatgrass.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Rock Slide and Berm

AREA: Deer Creek

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 53+ deg.

EXPOSURE: W

AREA: .5 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Mostly minor to moderate (on rock slide area).

COVER: (Qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster chilensis

Elymus lanceolatus
Elymus cinereus
Elymus spicatus
Elymus salinus

NOTES:

1) Methods: Qualitative data only this year.

2) Areas appear stable.

3) No large erosional rills.

4) Total living cover was good.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Water Plant Slope

AREA: Deer Creek (1988 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 38 deg.

EXPOSURE: NE

ANIMAL USE/DISTURBANCE:

EROSION: Mostly slight. One re-seeded area had moderate erosion last year but had been repaired.

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Eriogonum corymbosum
Rosa woodsii

Aster chilensis
Cynoglossum officinale
Halogeton glomeratus
Machaeranthera grindelioides
Penstemon palmeri

Agropyron cristatum
Bromus carinatus
Elymus cinereus
Elymus smithii
Elymus spicatus
Stipa comata

NOTES:

1) We sampled qualitatively this year.

2) Cover looked good.

3) Map showed this slope to be on the left as you walk uphill. The slope on the right were considered Fan Road Slopes.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Pipeline

AREA: Deer Creek (1986 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 5 - 30 deg.

EXPOSURE: Variable

AREA: 3.5 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (Cover not sampled this year; qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:

Amelanchier utahensis
Artemisia tridentata
Atriplex canescens
Atriplex confertifolia
Chrysothamnus nauseosus
Clematis columbiana
Eriogonum corymbosum
Juniperus osteosperma
Juniperus scopulorum
Pinus edulis
Populus angustifolia
Rhus simplicifolia
Rosa woodsii
Salix sp.
Tamarix chinensis

Aster chilensis
Aster foliaceous
Castilleja sp.
Grindelia squarrosa

Machaeranthera canescens
Penstemon palmeri

Agropyron cristatum
Bromus tectorum
Elymus lanceolatus
Elymus cinereus
Elymus smithii
Elymus spicatus
Sporobolus airoides
Stipa hymenoides

NOTES:

1) Qualitative sampling only was done this year.

2) Most of the area was in excellent shape.

3) Road grading inevitably disturbs some species.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Deer Canyon

AREA: Deer Creek (1986 Reveg. Area)

DATE: September 13-17, 2004

WORKERS: P. Collins

SLOPE: 15-20 deg.

EXPOSURE: E

AREA: 0.1 acre

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible

COVER: (qualitative data only this year)

DOMINANT PLANT SPECIES OBSERVED:

Cercocarpus ledifolius
Chrysothamnus nauseosus

Aster chilensis
Cirsium sp.
Machaeranthera canescens

Elymus spicatus
Elymus lanceolatus
Elymus cinereus
Elymus smithii
Stipa hymenoides

NOTES:

1) Qualitative sampling only was done this year.

2) Site had excellent and fair diversity.

3) It was dominated by grasses with a fair representation of rubber rabbitbrush.

4) Rocks were enhancing erosion control.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reference Area (Atriplex)

AREA: Deer Creek Waste Rock

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 10-20 deg

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Moderate

EROSION: Moderate

COVER: (qualitative data only)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex gardneri
Atriplex confertifolia
Chrysothamnus nauseosus
Artemisia nova
Eriogonum corymbosum

Stipa hymenoides

NOTES: 1) Qualitative sampling this year.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Access Road Slopes

AREA: Deer Creek Waste Rock Site (1989 Interim Reveg. Area)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 20 - 25 deg.

EXPOSURE: Variable

AREA: Part of 5 acres

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Erosion repair work has been accomplished recently, there was some slight to moderate erosion on the cut slopes (~04).

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Fill Slopes

Artemisia tridentata
Atriplex confertifolia
Atriplex canescens
Ceratoides lanata
Chrysothamnus nauseosus
Juniperus osteosperma
Yucca harrimaniae

Machaeranthera grindelioides
Penstemon palmeri

Bromus tectorum
Elymus cinereus
Elymus lanceolatus
Elymus smithii
Sporobolus airoides

Cut Slopes

Atriplex canescens
Atriplex confertifolia
Atriplex gardneri
Chrysothamnus nauseosus
Eriogonum corymbosum
Sarcobatus vermiculatus

Halogeton glomeratus

Elymus lanceolatus
Elymus smithii

NOTES:
1) Qualitative sampling only was done this year
2) Areas looked good.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Phase I Diversion

AREA: Deer Creek Waste Rock Site (1989 Final Reveg. Area)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 5 deg.

EXPOSURE: Variable

AREA: 4 acres

ANIMAL USE/DISTURBANCE: Negligible.

EROSION: Negligible

COVER: (no quantitative data this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Atriplex canescens
Atriplex gardneri
Artemisia tridentata
Chrysothamnus nauseosus
Eriogonum corymbosum
Sarcobatus vermiculatus

Eriogonum gordoni
Halogeton glomeratus
Machaeranthera grindelioides
Malcomia africana
Penstemon palmeri

Agropyron cristatum
Sporobolus airoides
Elymus lanceolatus
Elymus cinereus
Stipa hymenoides

NOTES:

1) There was lots of halogeton this year; could be drought related.

2) Silt fence is still in area. I thought we did a study for justification to remove it. (~04)

3) Added for future reference: *In 2001, I called Dennis Oakley and Chuck Semborski about sampling this for bond release as planned previously. I wanted to ascertain which areas should be concentrated on for bond release. I spoke with Chuck and then visited him about this. When he looked at the engineer's drawings of this area, they showed that the berms would be re-disturbed and used as a cover source once the waste site was filled to capacity. This was not straightforward to us because the monitoring schedule calls the site "Final Reveg. 1989". This was confusing to me because "Phase I" suggested that there are more phases. At any rate, we decided that sampling as intensive as is necessary for bond release would not be necessary until it is used for cover.*

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Phase I Berm

AREA: Deer Creek Waste Rock Site (1989 Final Reveg. Area)

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 0-29 deg.

EXPOSURE: Variable

AREA: 4 Acres

ANIMAL USE/DISTURBANCE: Slight

EROSION: Minor on slopes, but some may reach "moderate" rating soon. (~04)

COVER: (No quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex gardneri
Atriplex canescens
Atriplex confertifolia
Atriplex corrugata
Chrysothamnus nauseosus
Sarcobatus vermiculatus

Halogeton glomeratus
Malcomia africana
Machaeranthera grindelioides

Agropyron cristatum
Elymus cinereus
Elymus lanceolatus
Elymus smithii
Sporobolus airoides
Stipa hymenoides

NOTES:
1) Qualitative sampling only was done this year.
2) Halogeton was a dominant species this year.
3) The side slopes were mostly in fair condition.

TRAIL MOUNTAIN MINE AREA

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Pad Area Slopes (96)

AREA: Rilda Canyon

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 20-30 deg.

EXPOSURE: Variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: Minimal

COVER: (no quantitative data were recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Elymus cinereus
Elymus smithii
Elymus lanceolatus

NOTES:

1) Qualitative sampling only was done this year.
2) Most slopes had excellent vegetative cover.
3) Grasses dominated the areas.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Roadway Slopes

AREA: Rilda Canyon

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 10-20 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Heavily grazed

EROSION: Negligible (which is excellent for such a steep slope cuts)

COVER: (No quantitative data were recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Chrysothamnus nauseosus
Populus tremuloides
Rosa woodsii

Aster glaucodes
Astragalus cicer
Crepis sp.
Cirsium sp.
Cynoglossum officinale
Medicago sativa
Melilotus officinalis
Penstemon eatonii

Elymus lanceolatus
Elymus smithii
Elymus cinereus

NOTES: 1) Qualitative sampling only was done this year.

2) The drought has had an effect on the cover.

3) Mostly grasses were visible this time last year. This year the area has many more forbs.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Topsoil Pile (Roadway Slopes on separate sheet)

AREA: Rilda Canyon

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 30 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Heavily grazed

EROSION: Negligible to Slight

COVER: (Cover not sampled this year)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Rosa woodsii
Populus tremuloides

Melilotus officinalis
Astragalus cicer
Cirsium sp.
Cynoglossum officinale
Penstemon palmeri

Elymus lanceolatus
Elymus smithii
Elymus cinereus

NOTES:

1) Qualitative sampling only was done.

2) Good cover, but it would have been a lot better if it had not been so heavily grazed.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Reference Area (Grassland/Shrub)

AREA: Trail Mountain Mine

DATE: September 20-25, 2004

WORKERS: P. Collins

EXPOSURE: W

ANIMAL USE/DISTURBANCE: Yes, normal conditions

EROSION: Negligible

COVER: (No quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Amelanchier utahensis
Atriplex confertifolia
Chrysothamnus nauseosus
Ephedra viridis
Eriogonum corymbosum
Juniperus osteosperma

Achillea millefolium
Aster foliaceus
Astragalus spp.
Penstemon spp.
Lomatium nuttallii

*Elymus salinus**
Stipa hymenoides

NOTES:
1) Recorded qualitative data only.
2) I used previous photos to locate area.
3) Site looked excellent.
4) No change or disturbance to the area.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Sediment Pond Outslope

AREA: Trail Mountain Mine Area

DATE: September 20-25, 2004

WORKERS: P. Collins, D. Collins

SLOPE: 25 deg.

EXPOSURE: E&S

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Negligible to Slight

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Artemisia tridentata
Brickelia microphylla
Chrysothamnus nauseosus

Aster foliaceus
Halogeton glomeratus
Iva axillaris

Agropyron cristatum
Elymus cinereus

NOTES:

1) Qualitative sampling only was done this year.

2) In 2003 there were very dry plants (look dead) probably due to the 4th year of drought conditions. (I didn't believe at that time they are dead, maybe dormant). The plants looked much better in 2004.

2) The north side of the outslope was dominated by halogeton and almost no desirable species.

3) The boulder area was dominated by aster, while the other areas were dominated by grasses.

4) Most of the area had good cover except the very north end of the east face.

ENERGY WEST MINING COMPANY
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
2004

SITE NAME: Parking Lot Extension ('96)

AREA: Trail Mountain Mine Area

DATE: September 20-25, 2004

WORKERS: P. Collins

SLOPE: 20 deg.

EXPOSURE: NW

ANIMAL USE/DISTURBANCE: Negligible

EROSION: Slight

COVER: (no quantitative data recorded this year)

DOMINANT PLANT SPECIES OBSERVED:

Aster foliaceus

*Elymus cinereus**
Elymus smithii

* dominant species

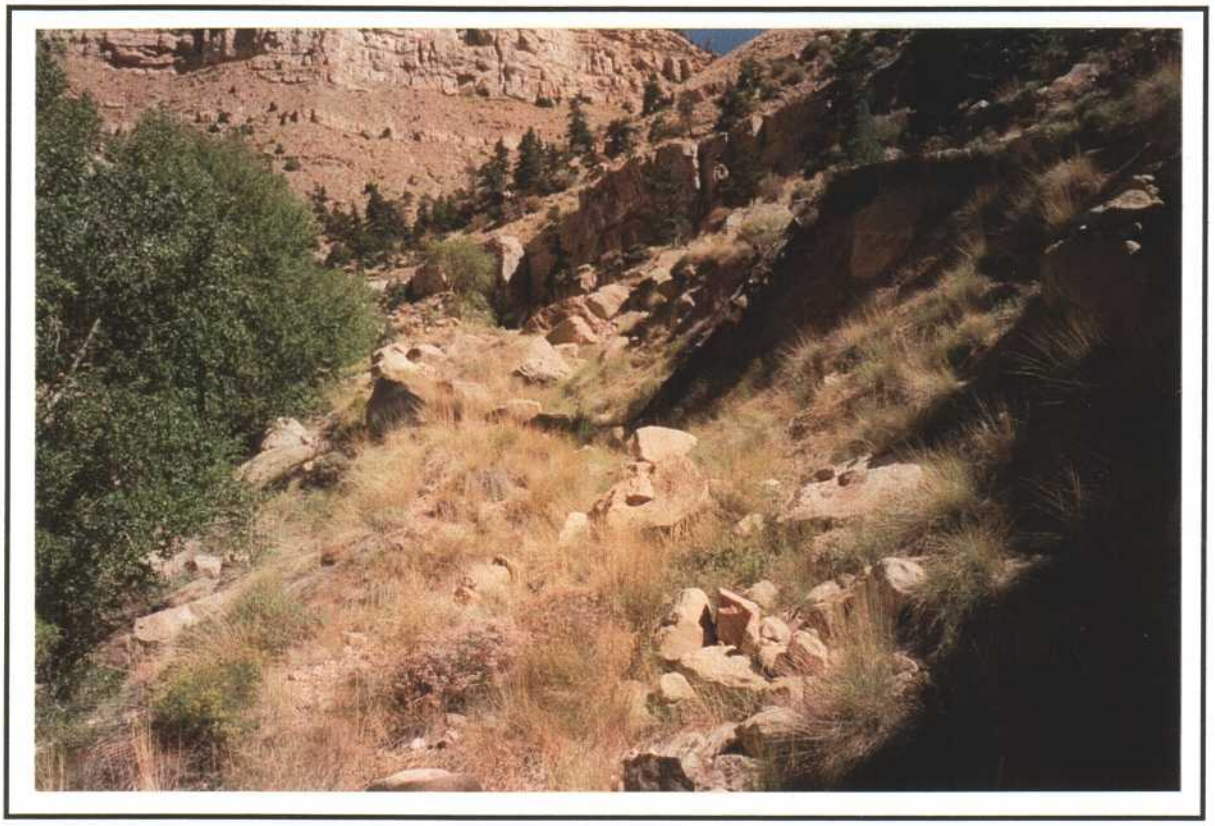
NOTES:

1) Qualitative sampling only was done this year.

2) Silt fences remain in good condition.

3) Site looks good

COLOR PHOTOGRAPHS of the SAMPLE AREAS

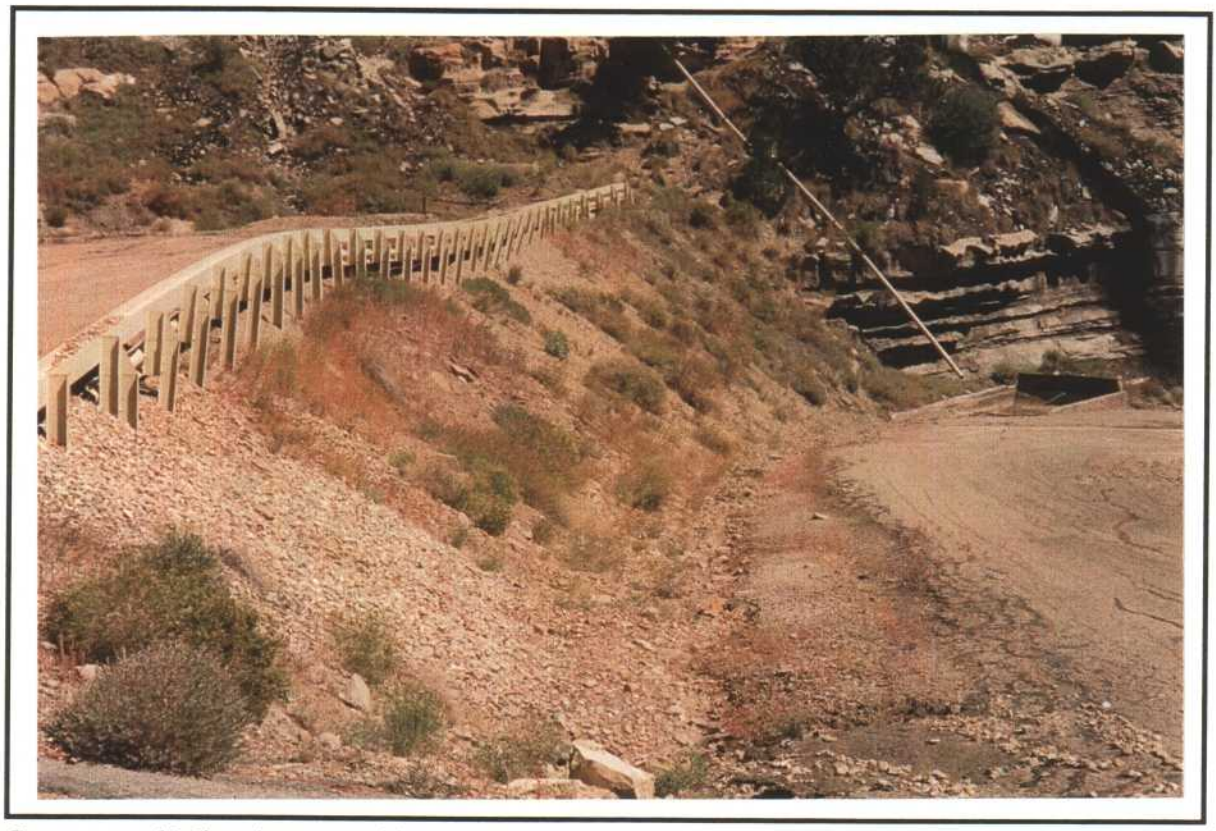


Cottonwood Mine Area - Old Fan Road

Cottonwood Mine Area - Reference Area

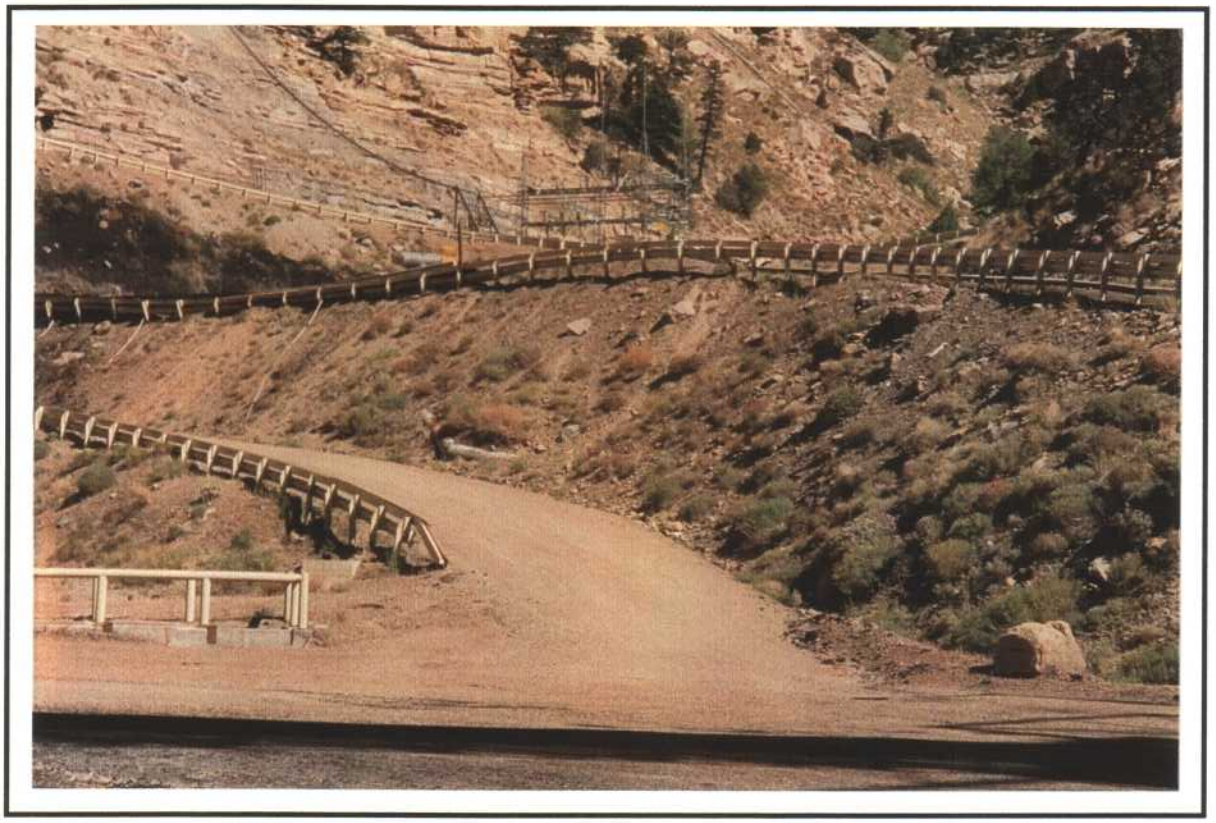
Cottonwood Mine Area - 4th East Road

Cottonwood Mine Area - Storage Yard Slopes

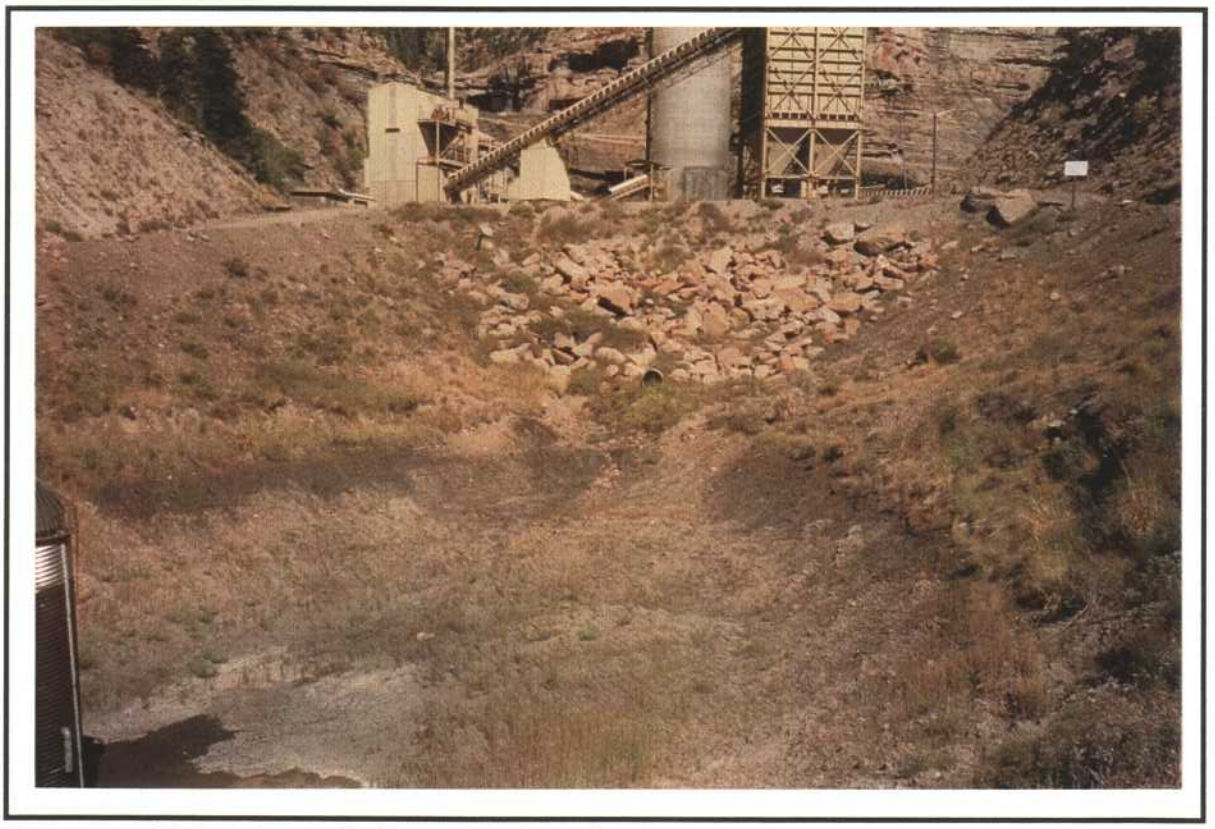


Cottonwood Mine Area - Parking Lot Slope

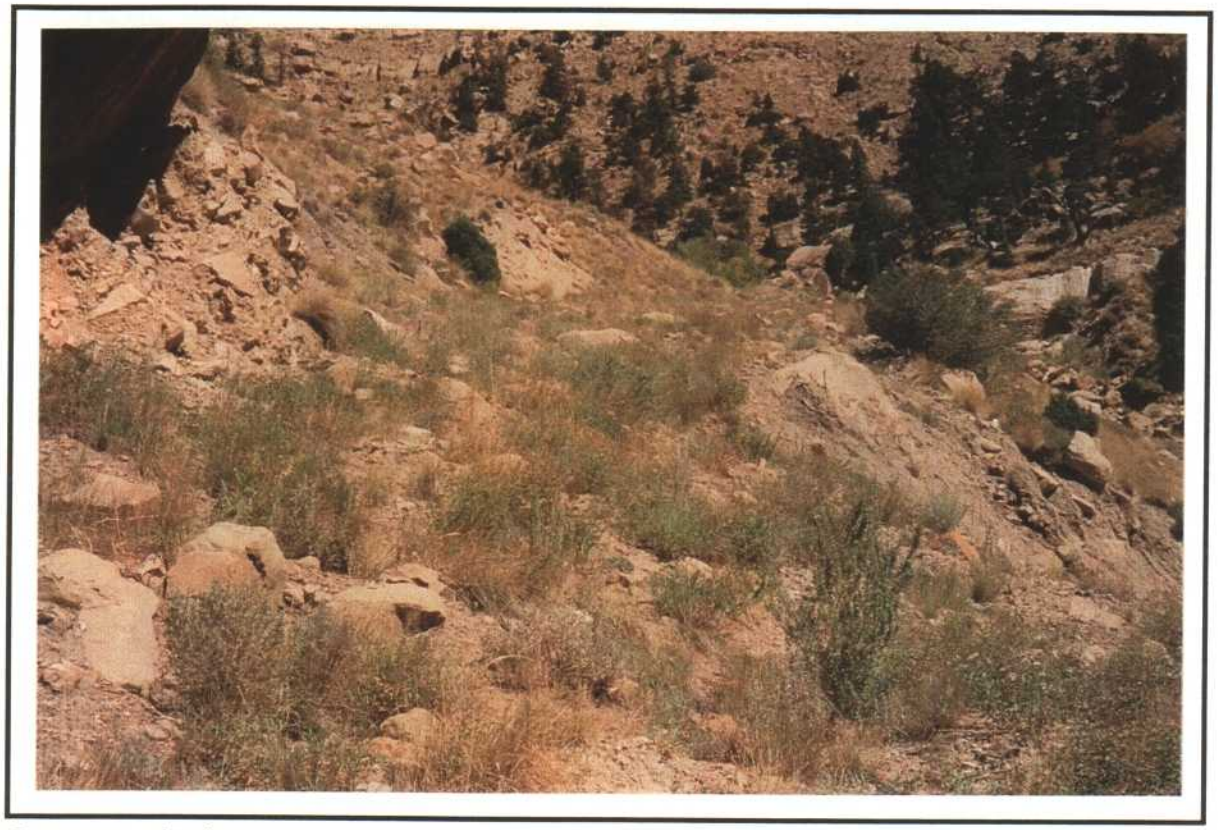
Cottonwood Mine Area - Road/Silo Pad Slope



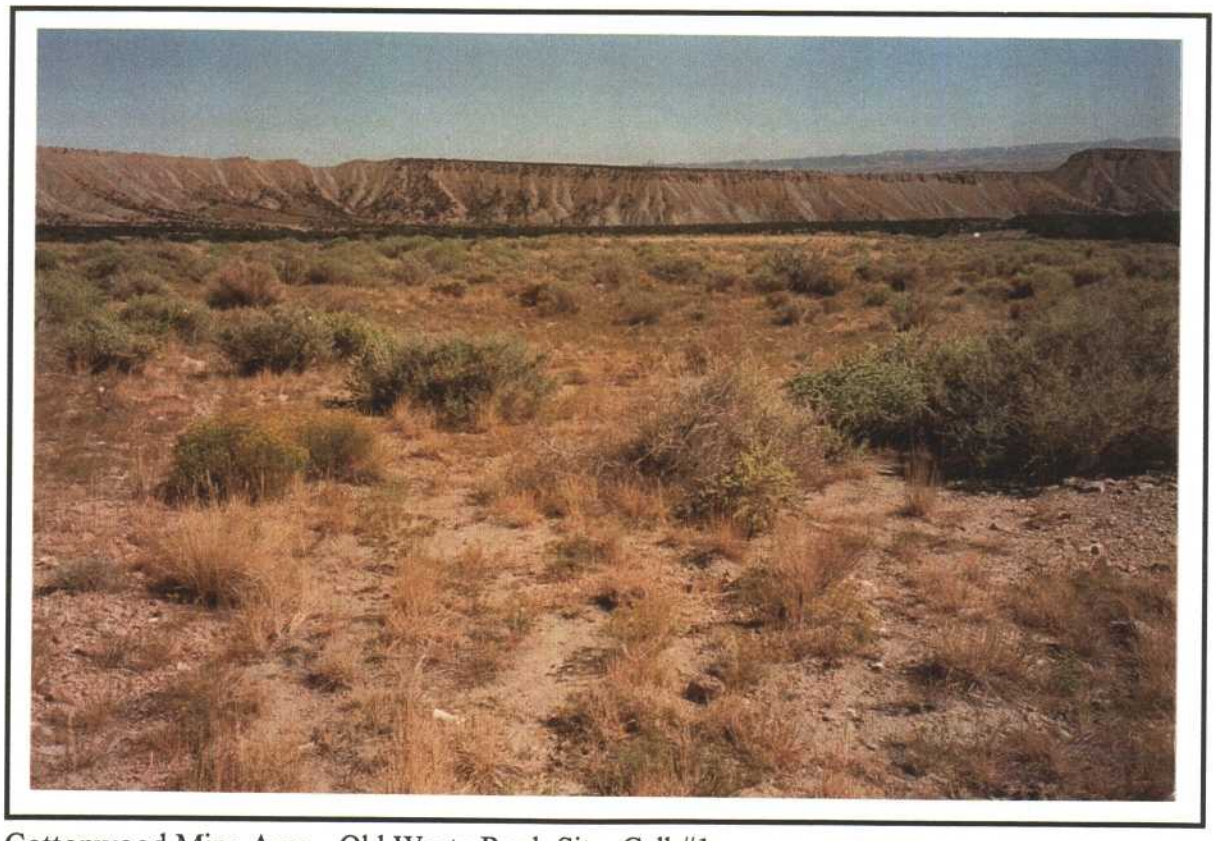
Cottonwood Mine Area - Tipple Area Slopes



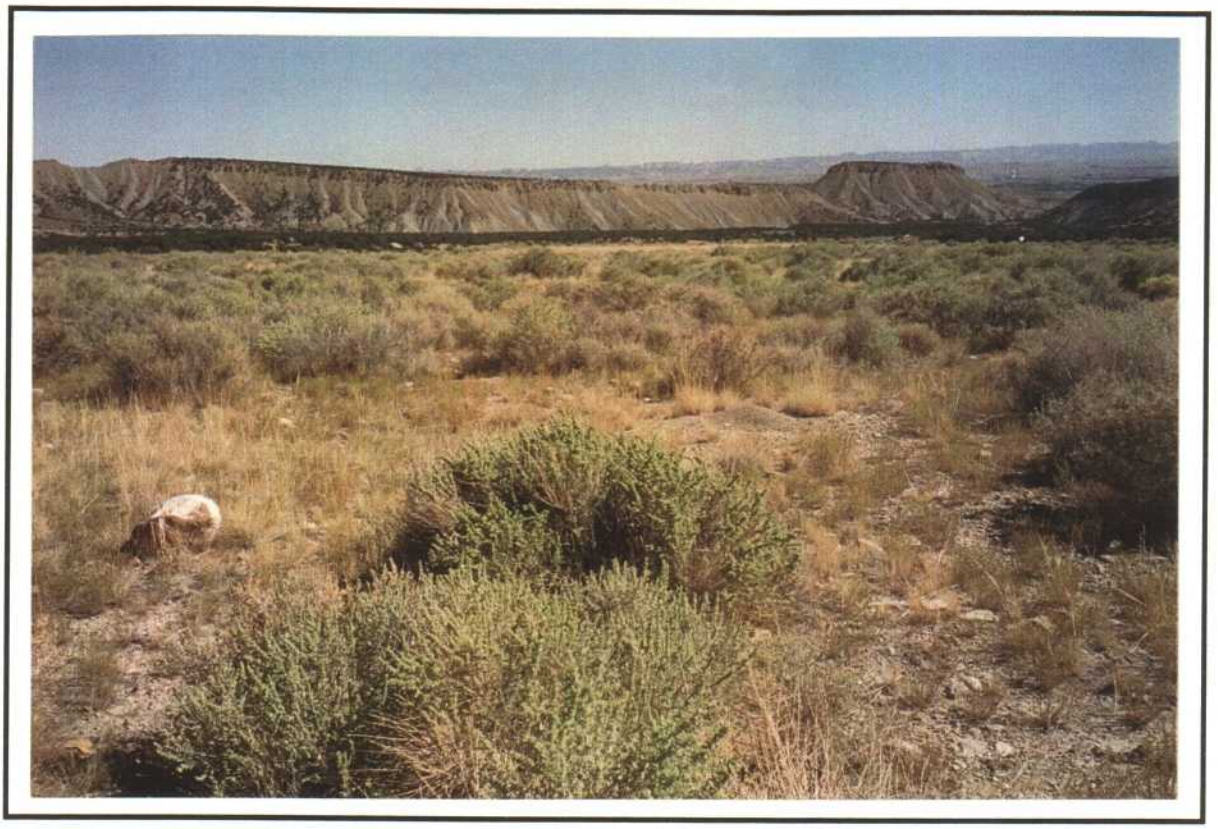
Cottonwood Mine Area - Sediment Pond Banks



Cottonwood Mine Area - Ninth East Breakout

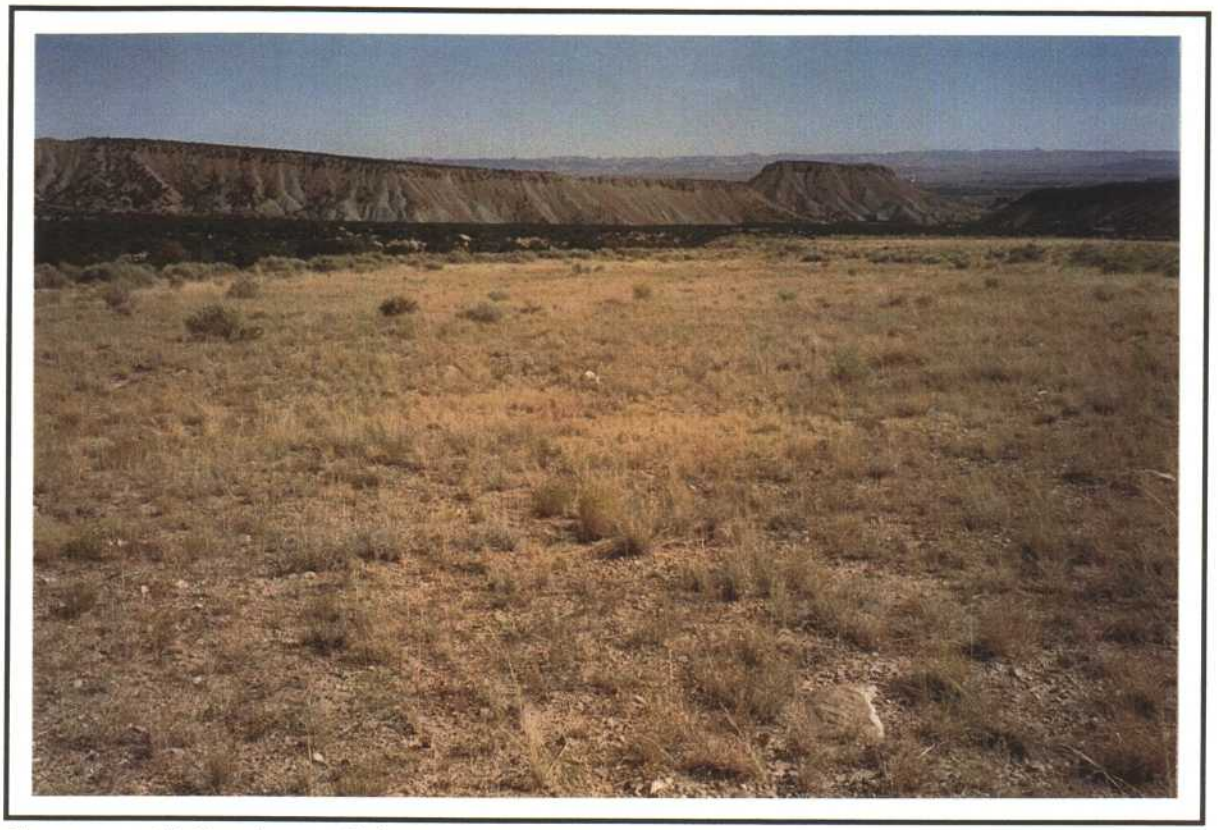


Cottonwood Mine Area - Old Waste Rock Site, Cell #1

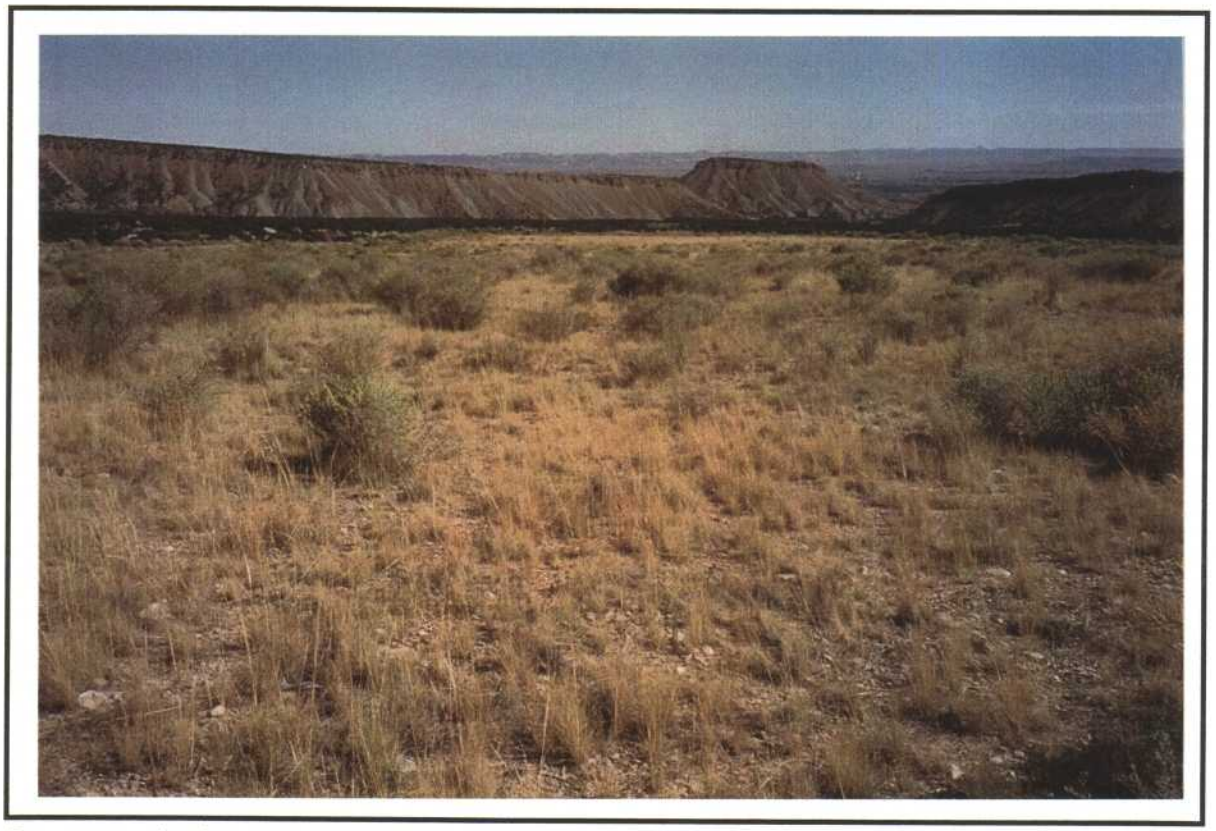


Cottonwood Mine Area - Old Waste Rock Site, Cell #2

Cottonwood Mine Area - Old Waste Rock Site, Cell #3



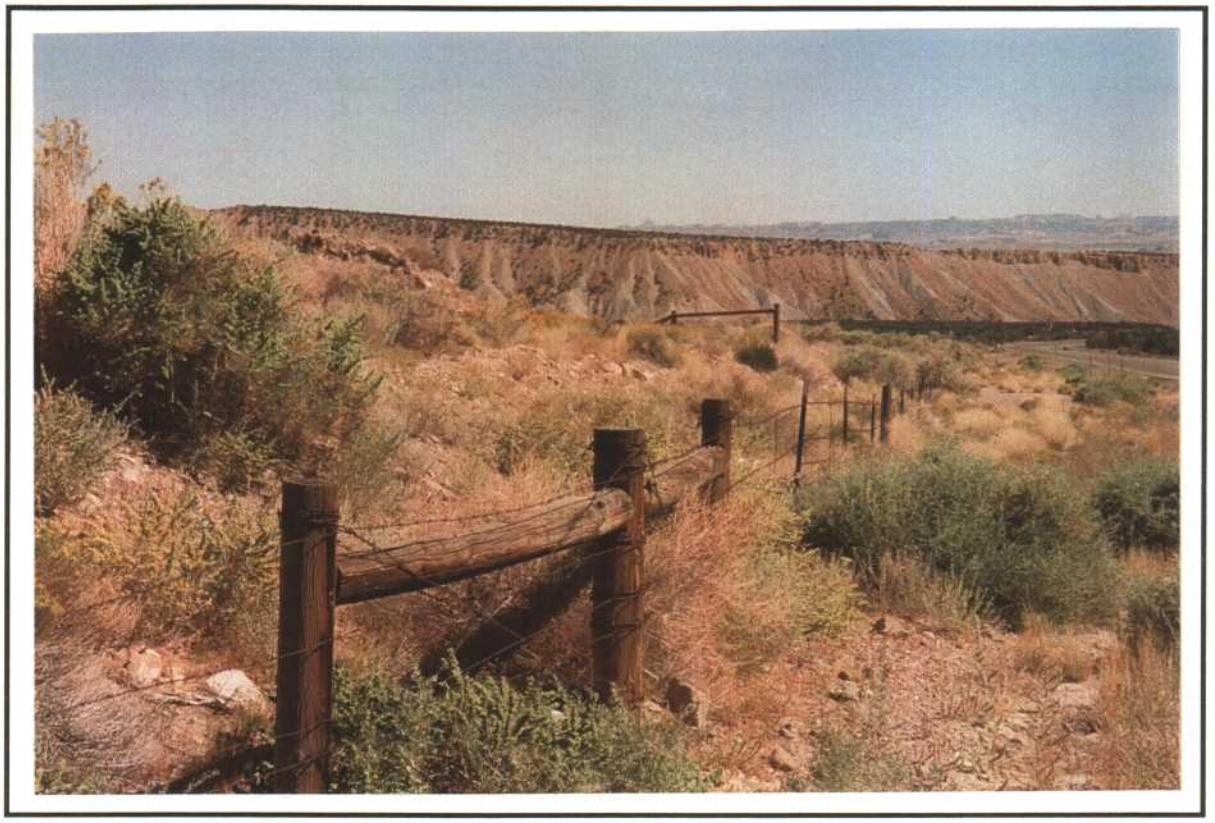
Cottonwood Mine Area - Old Waste Rock Site, Cell #4



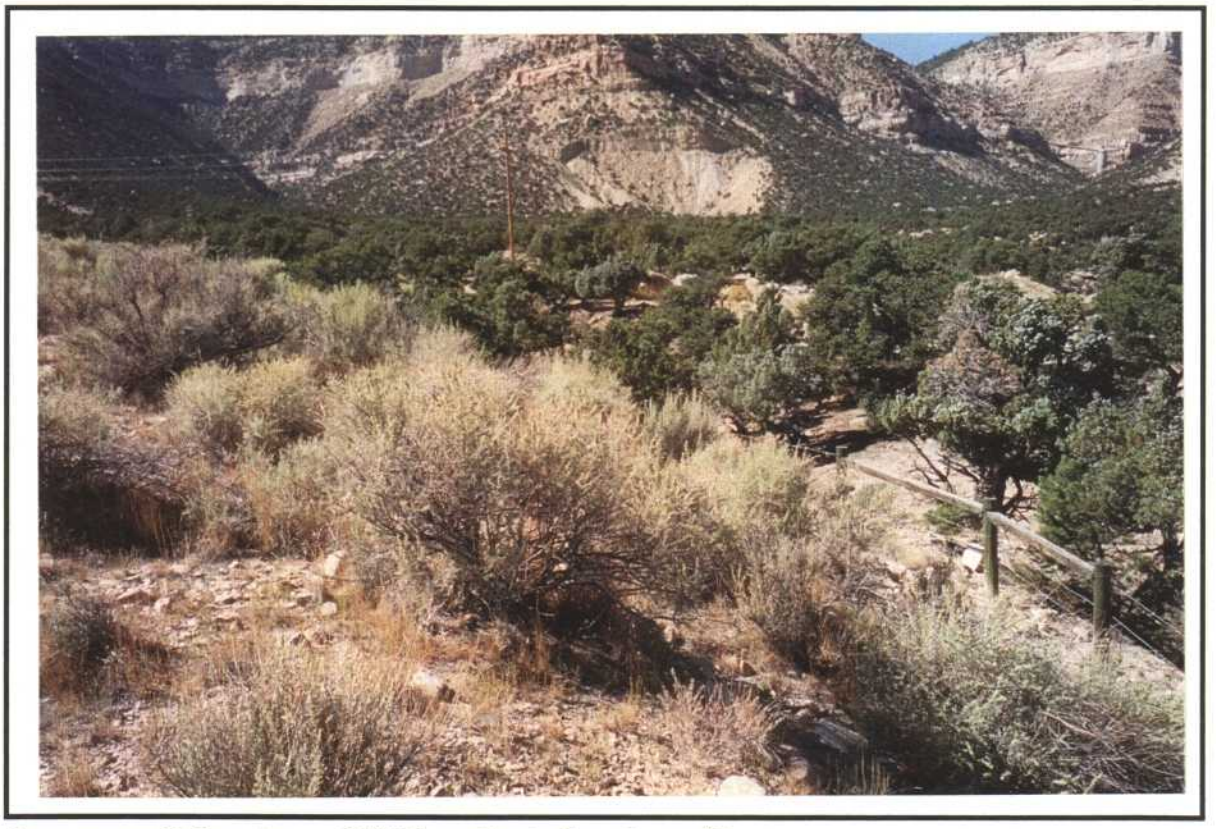
Cottonwood Mine Area - Old Waste Rock Site, Cell #5

Cottonwood Mine Area - Old Waste Rock Site, Cell #6

Cottonwood Mine Area - Old Waste Rock Site, Cell #7



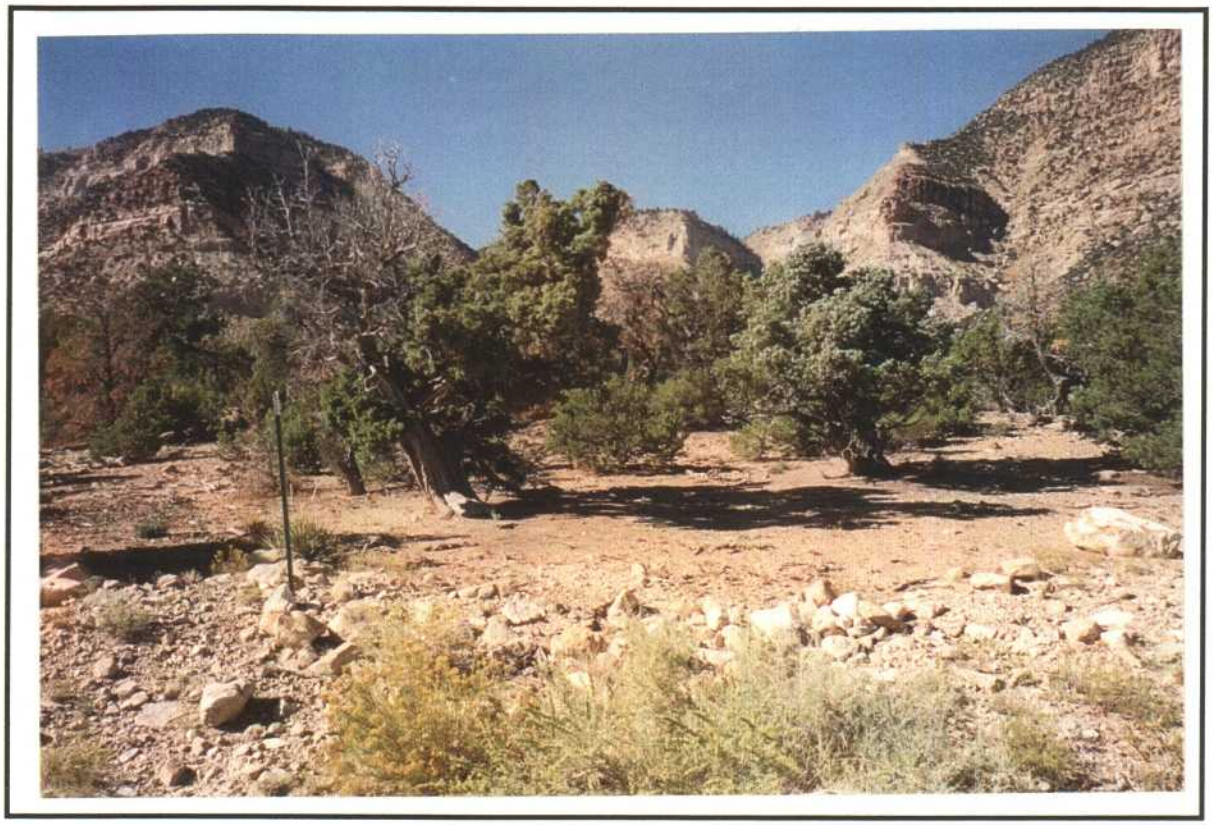
Cottonwood Mine Area - Old Waste Rock Site, Berm #1



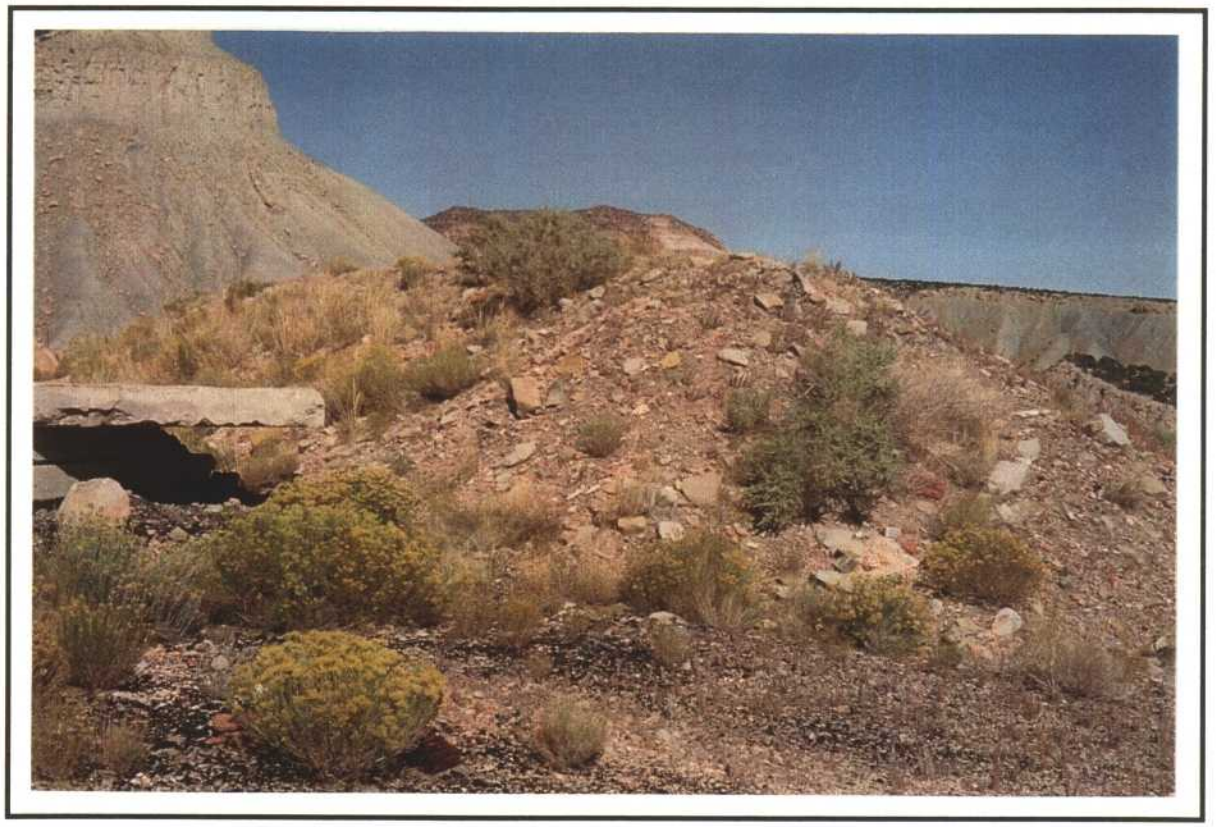
Cottonwood Mine Area - Old Waste Rock Site, Berm #2

Cottonwood Mine Area - Old Waste Rock Site, Berm #3

Cottonwood Mine Area - Old Waste Rock Site, Berm #4

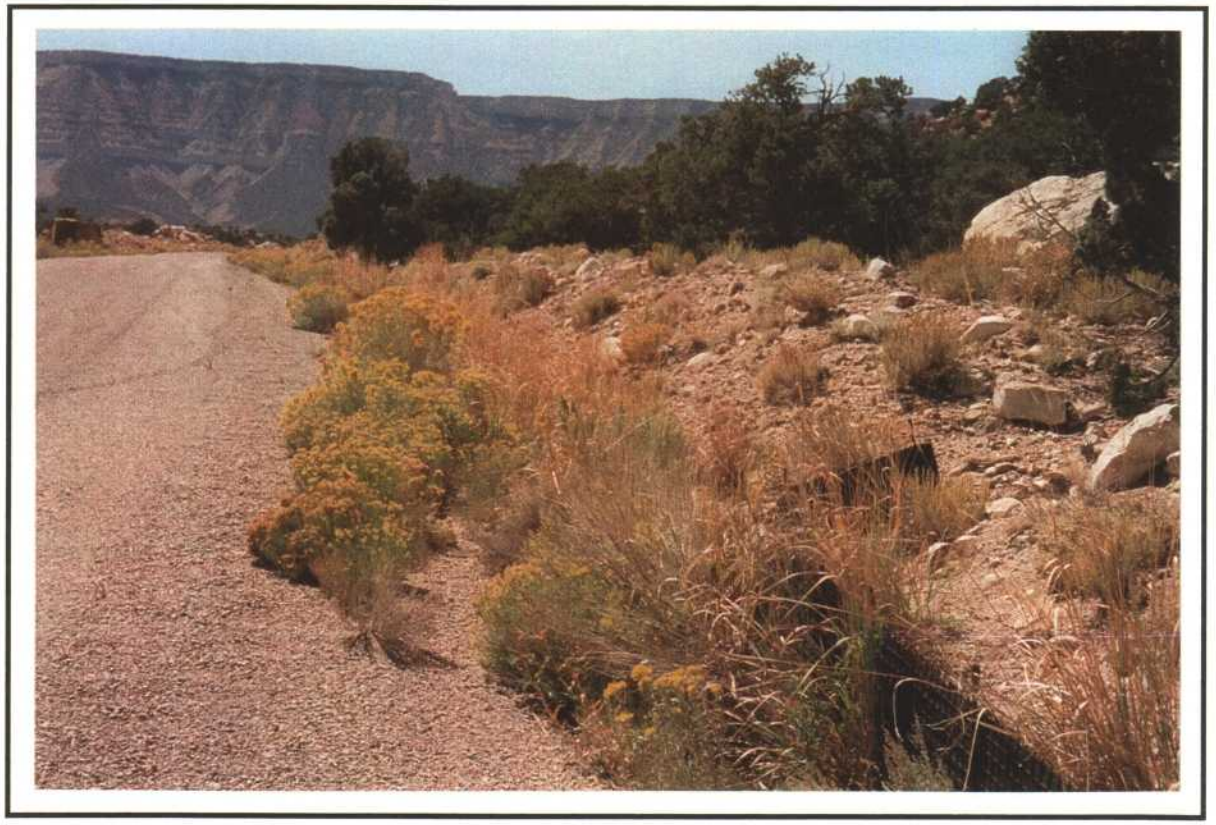


Cottonwood Mine Area - Old Waste Rock Site, CTW Reference Area



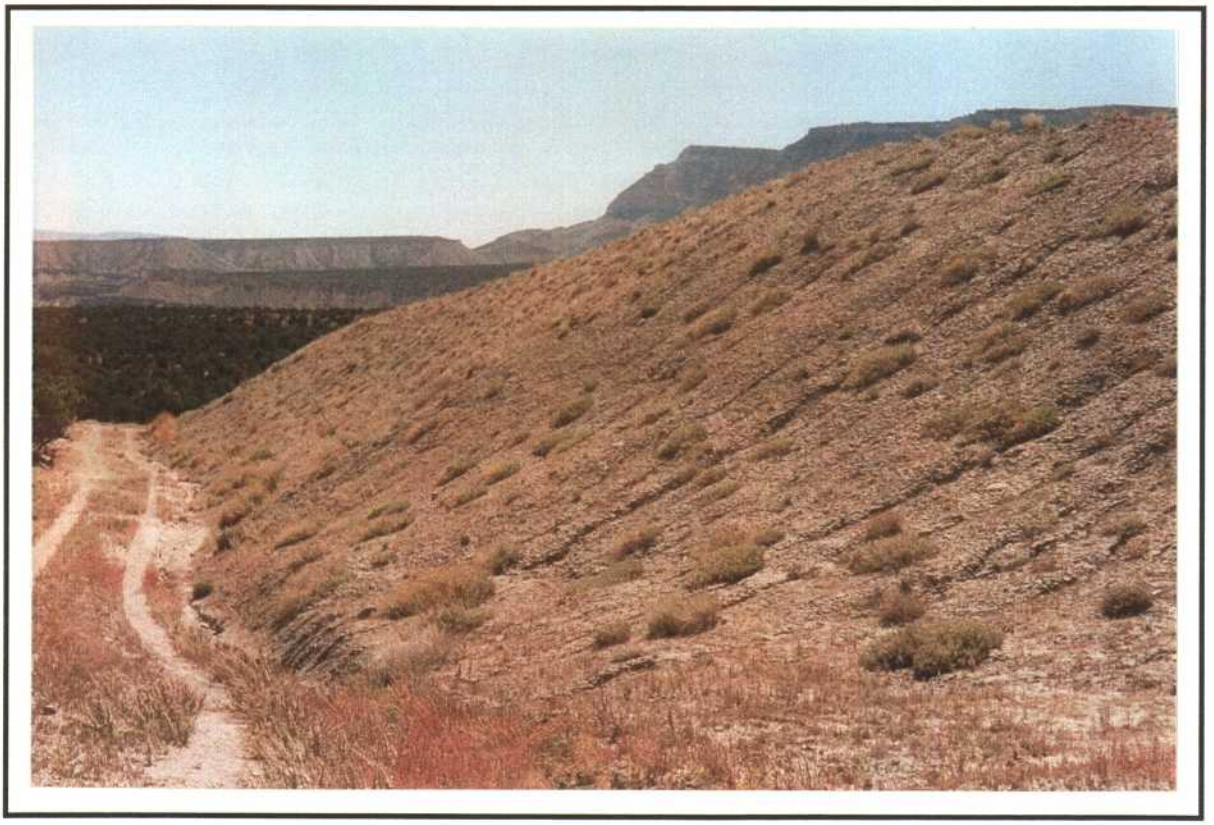
Cottonwood Mine Area - Old Waste Rock Site, CTW Soil Pile (A)

Cottonwood Mine Area - Old Waste Rock Site, CTW Soil Pile (C)



Cottonwood Mine Area - New Waste Rock Site, Road Slopes

Cottonwood Mine Area - New Waste Rock Site, Topsoil Stockpiles

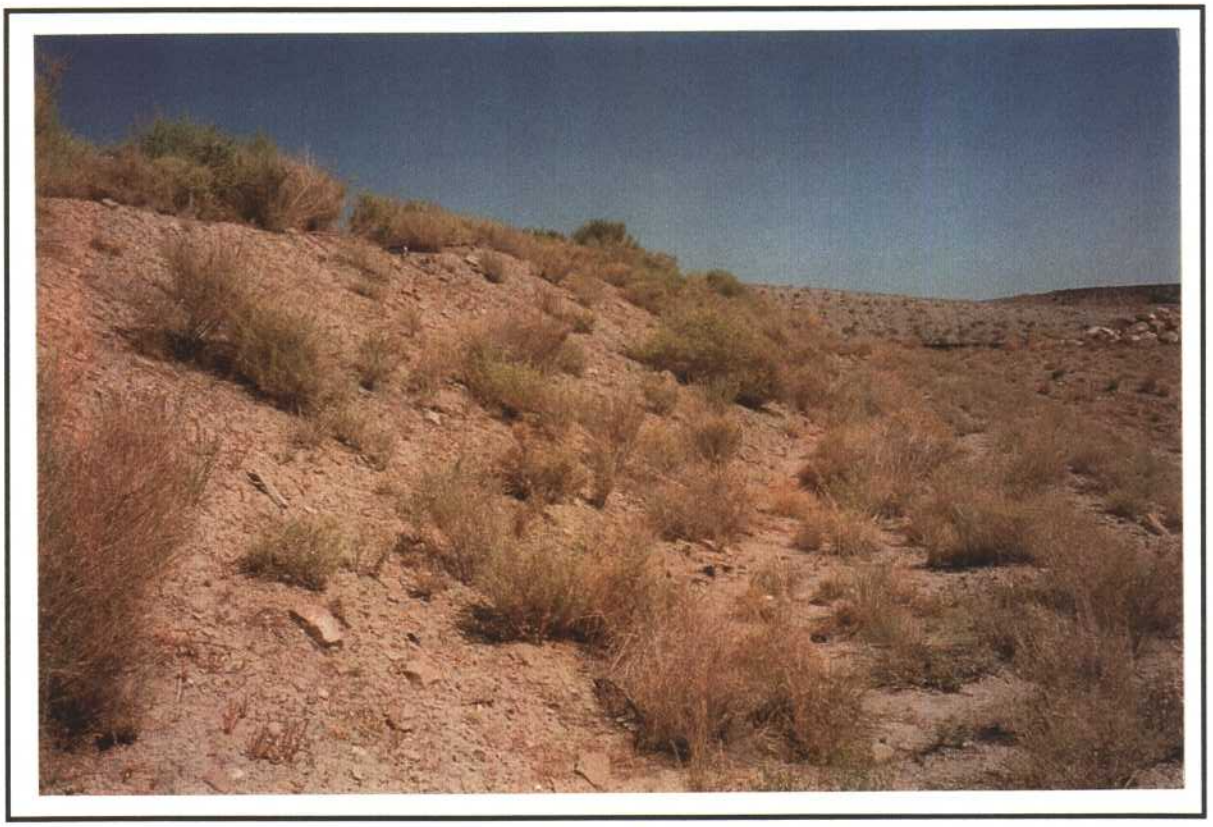


Cottonwood Mine Area - New Waste Rock Site, Subsoil Stockpiles

Cottonwood Mine Area - New Waste Rock Site, Sediment Pond Banks

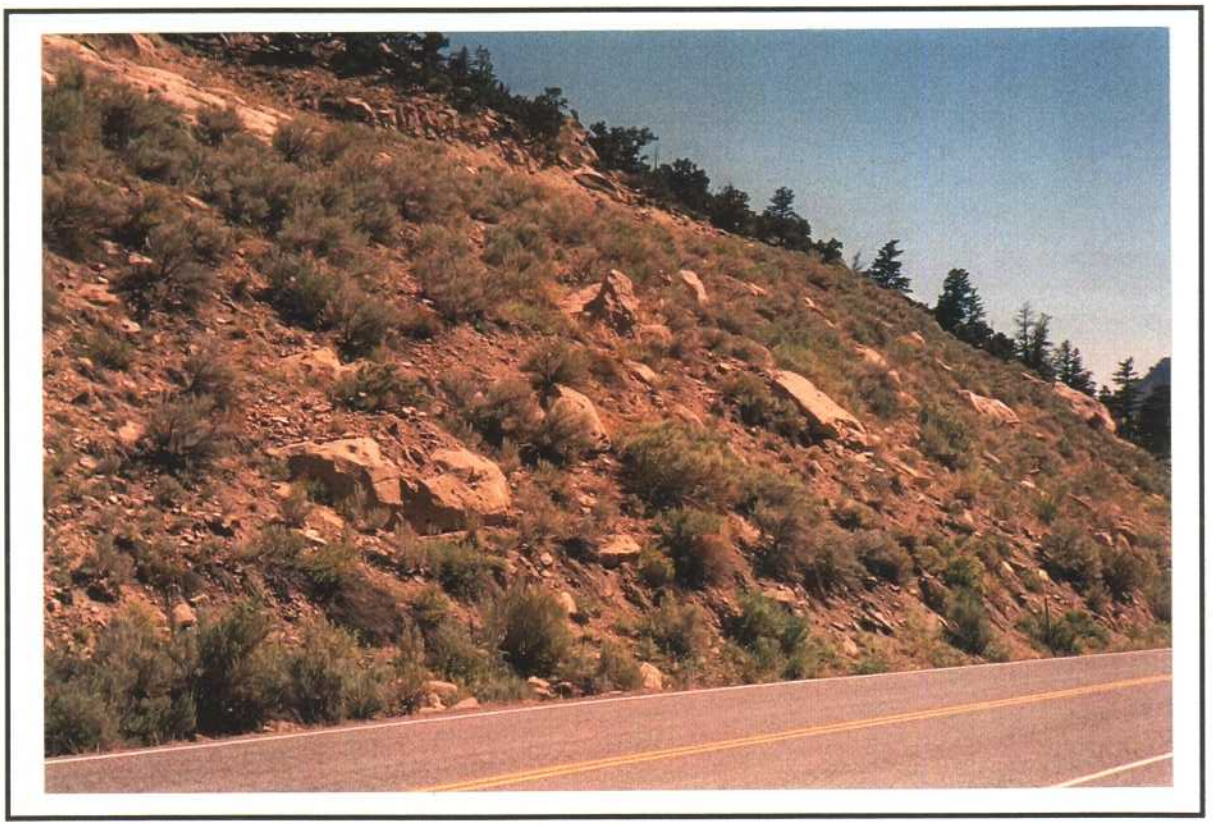
Cottonwood Mine Area - New Waste Rock Site, Refuse Berm 1991

Cottonwood Mine Area - New Waste Rock Site, Refuse Berm 1994



Cottonwood Mine Area - New Waste Rock Site, Refuse Berm 1996

Cottonwood Mine Area - New Waste Rock Site, Refuse Berms 1991, 1994, 1996 (top)

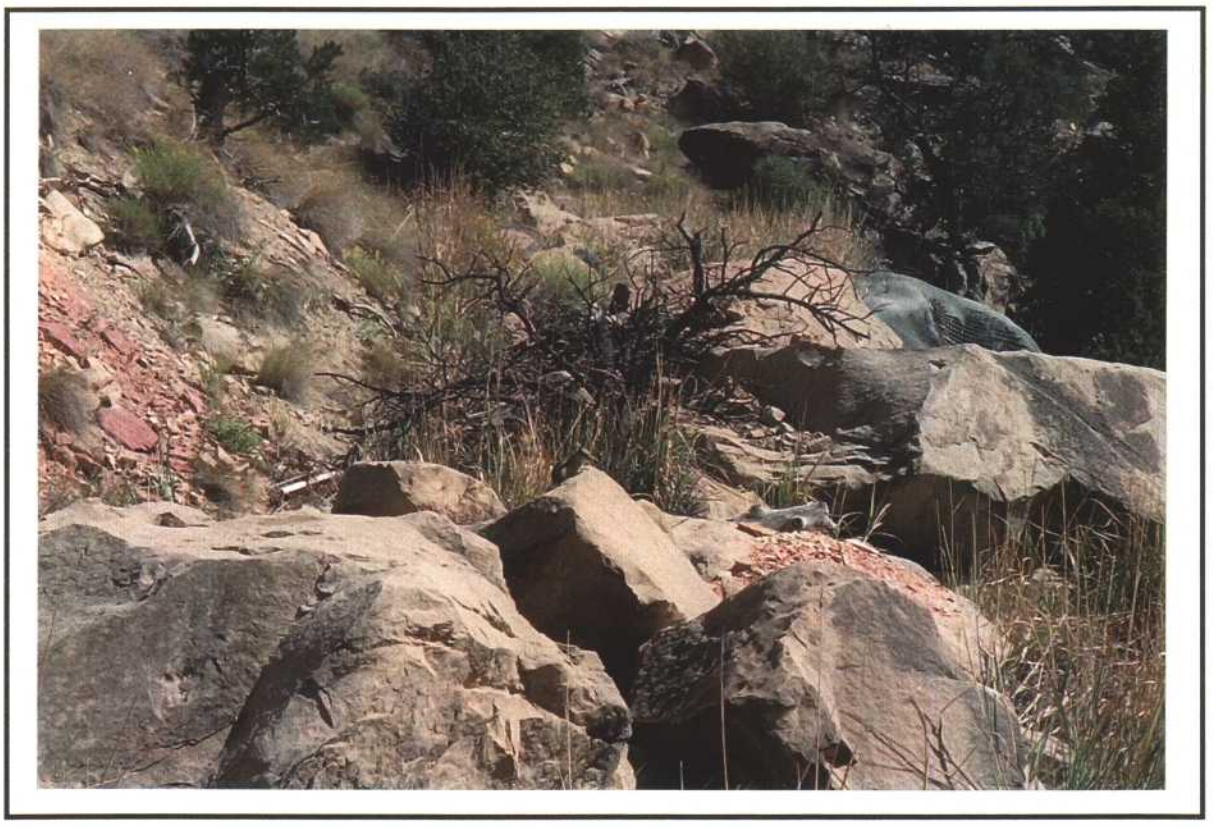


Cottonwood Canyon Area - Reclaimed Slope '81

Cottonwood Canyon Area - Soil Pile

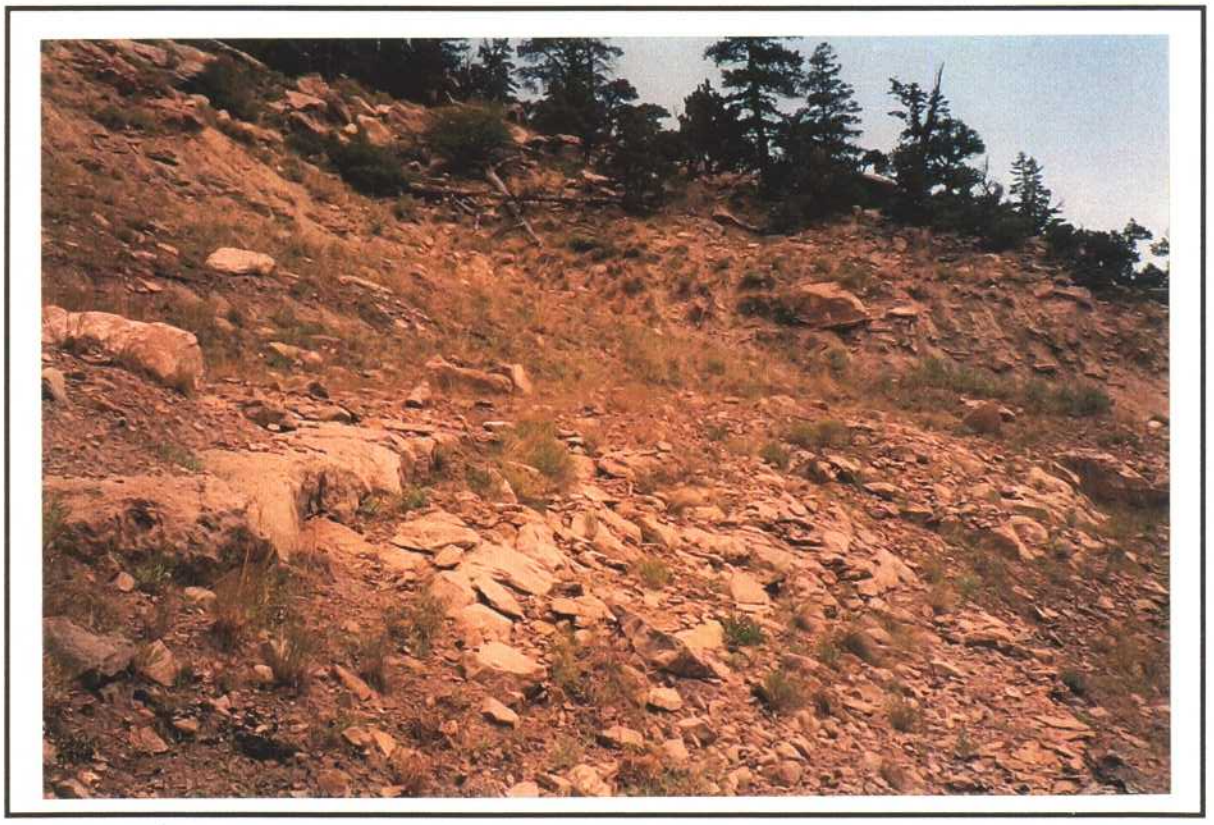
Cottonwood Canyon Area - Cotton Fan Portal Reference Area

Cottonwood Canyon Area - Tube Conveyor



Cottonwood Canyon Area - Belt Portal

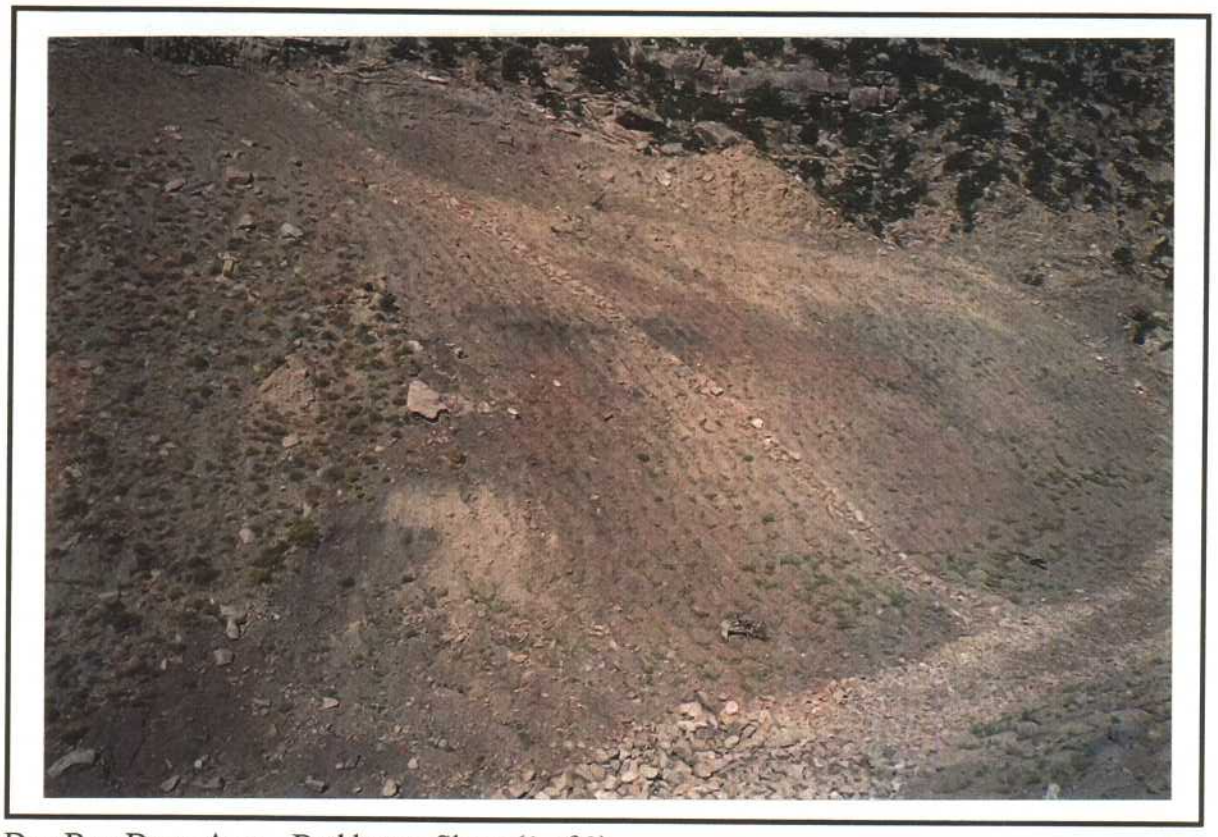
Cottonwood Canyon Area - Portal (Diesel)



Cottonwood Canyon Area - Reclaimed Slope '98

Des-Bee-Dove Area - Pumphouse

Des-Bee-Dove Area - Access Trail



Des-Bee-Dove Area - Bathhouse Slope (1 of 2)

Des-Bee-Dove Area - Bathhouse Slope (2 of 2)

Des-Bee-Dove Area - East Slope (1 of 2)

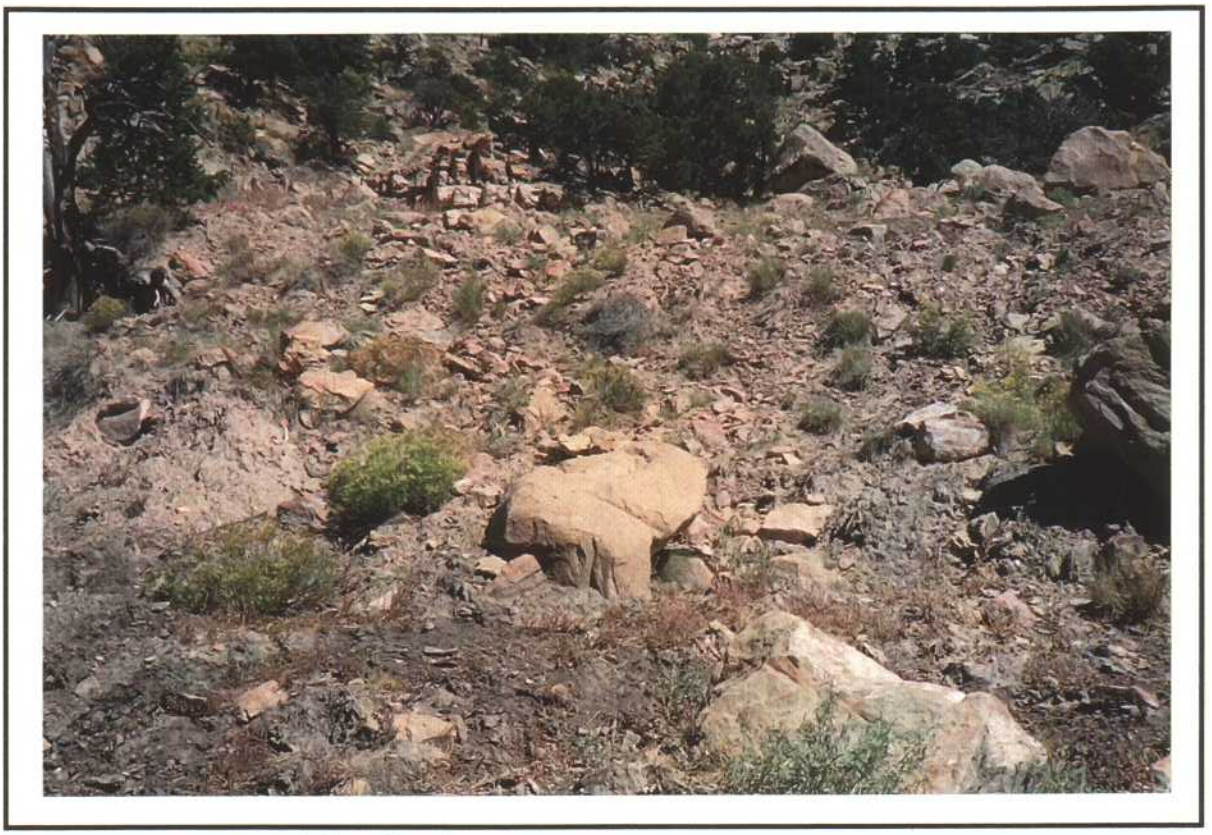
Des-Bee-Dove Area - East Slope (2 of 2)

Des-Bee-Dove Area - General East Slope & Bathhouse Slope

Des-Bee-Dove Area - Deseret Mine Area

Des-Bee-Dove Area - Switchbacks

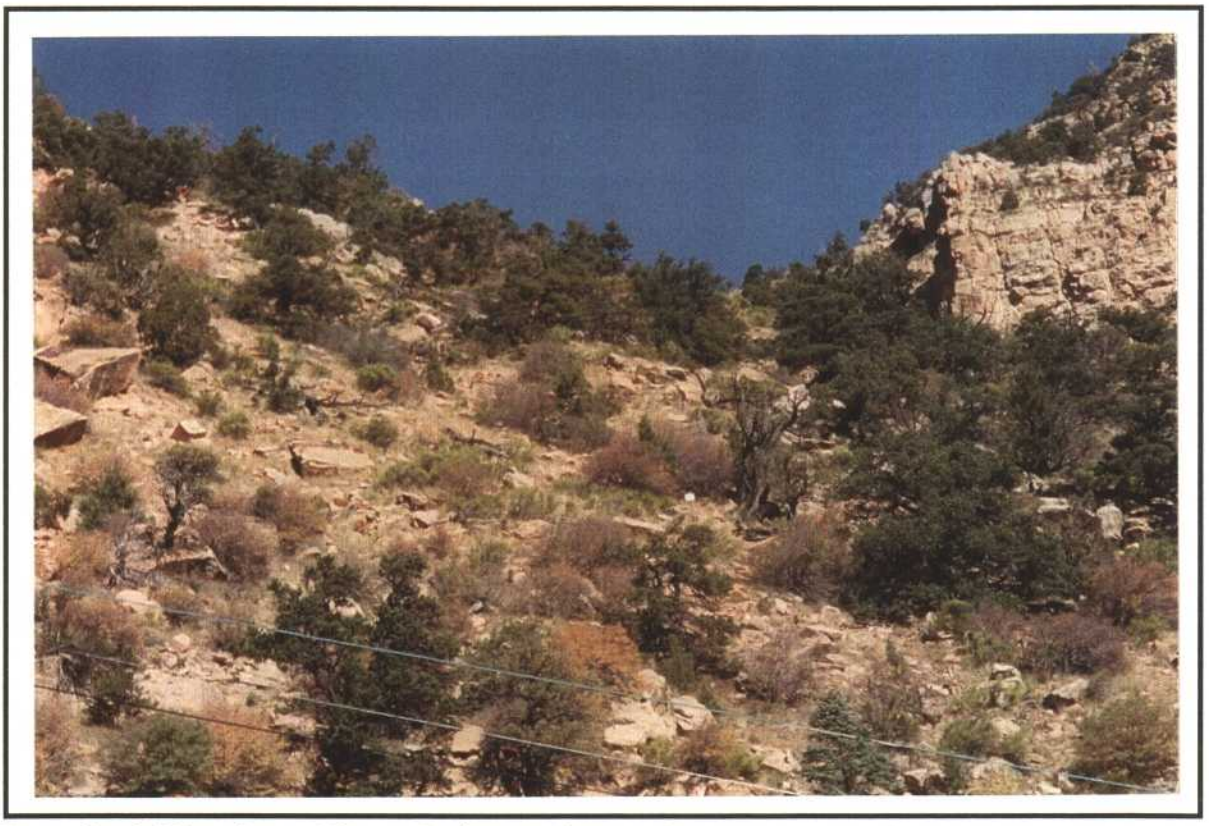
Des-Bee-Dove Area - Beehive/Little Dove Mine Area



Des-Bee-Dove Area - Substation Area

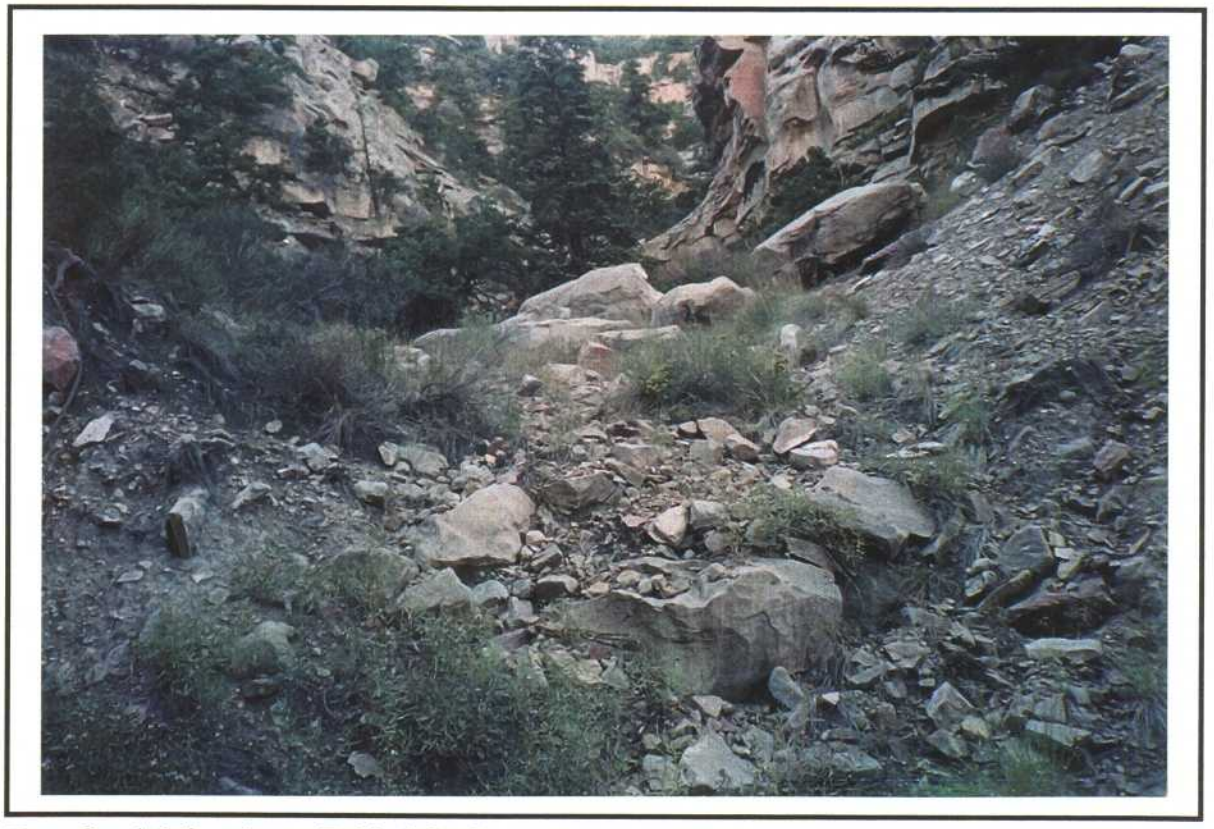
Deer Creek Mine Area - Riparian Reference Area

Deer Creek Mine Area -Mixed Conifer Reference Area



Deer Creek Mine Area - Pinyon-Juniper Reference Area

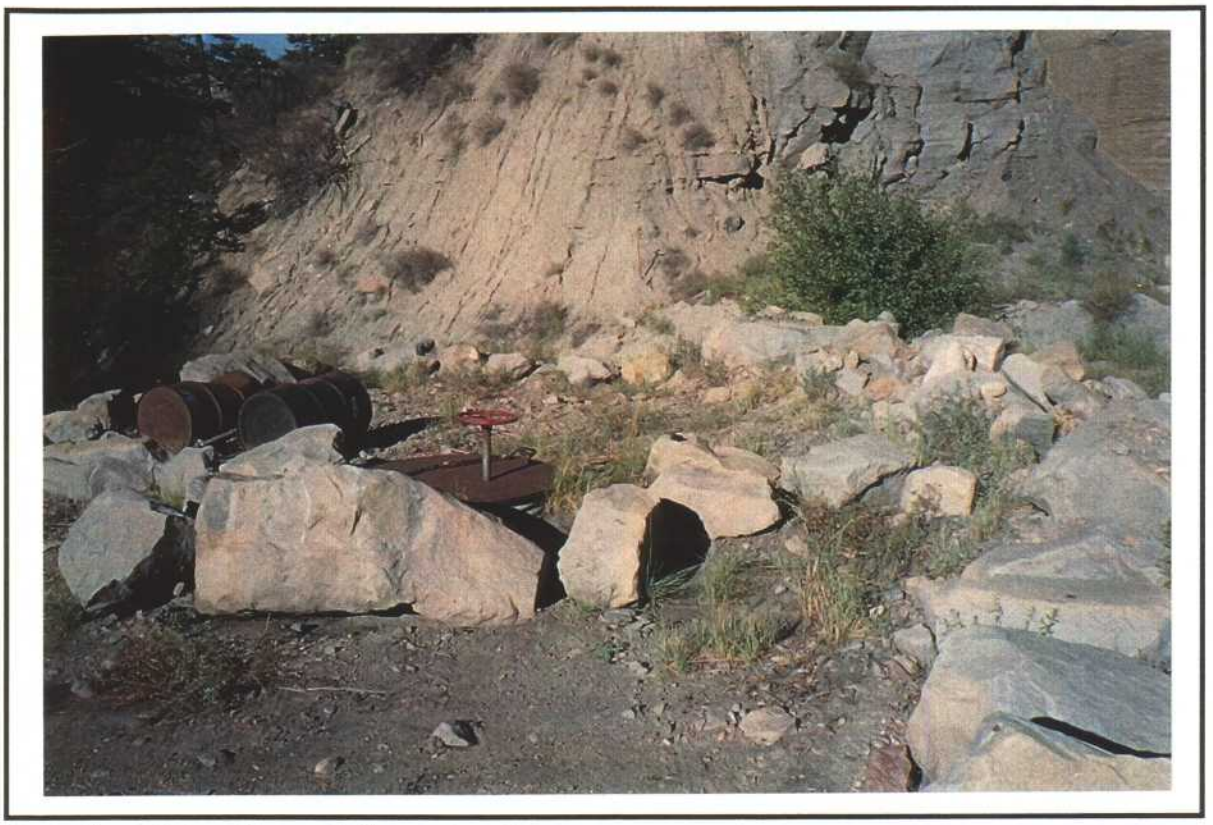
Deer Creek Mine Area - C2 Conveyor



Deer Creek Mine Area - Behind C2 Conveyor

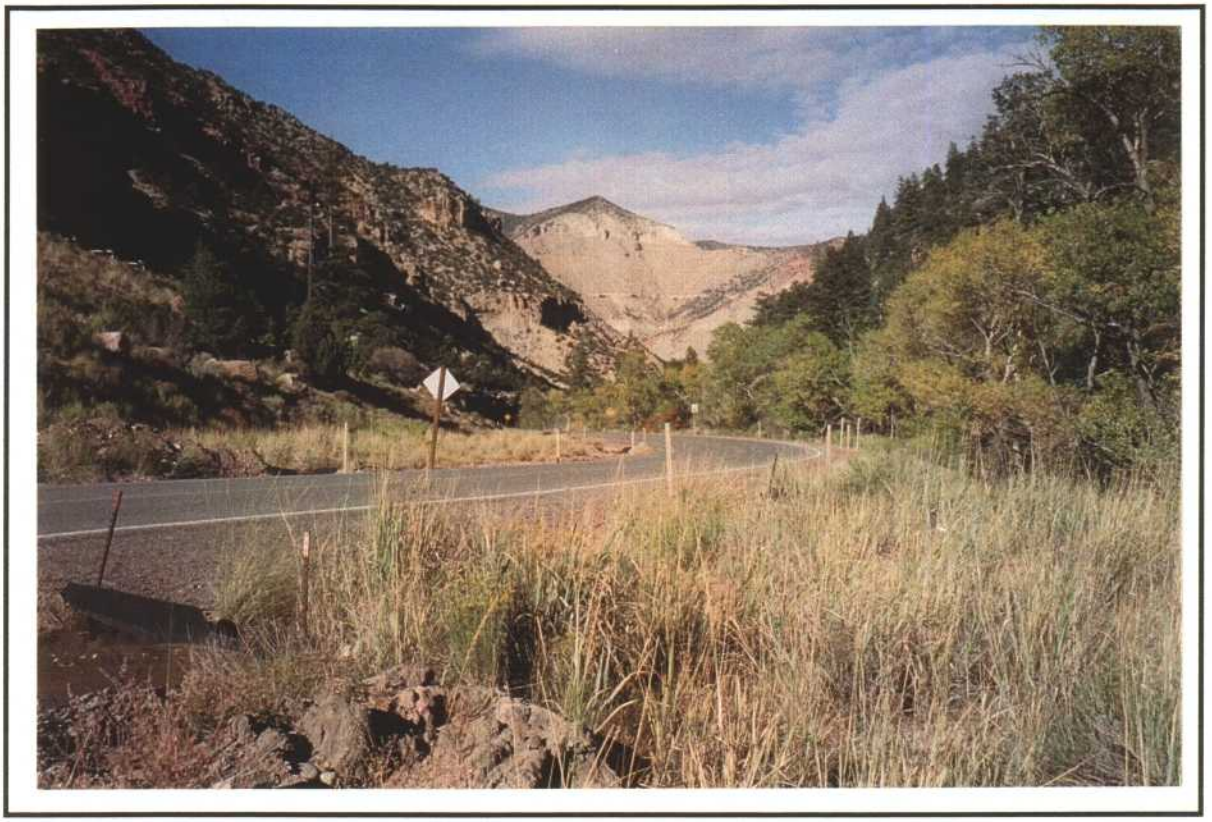
Deer Creek Mine Area - Riparian Area (North)

Deer Creek Mine Area - Riparian Area (South)



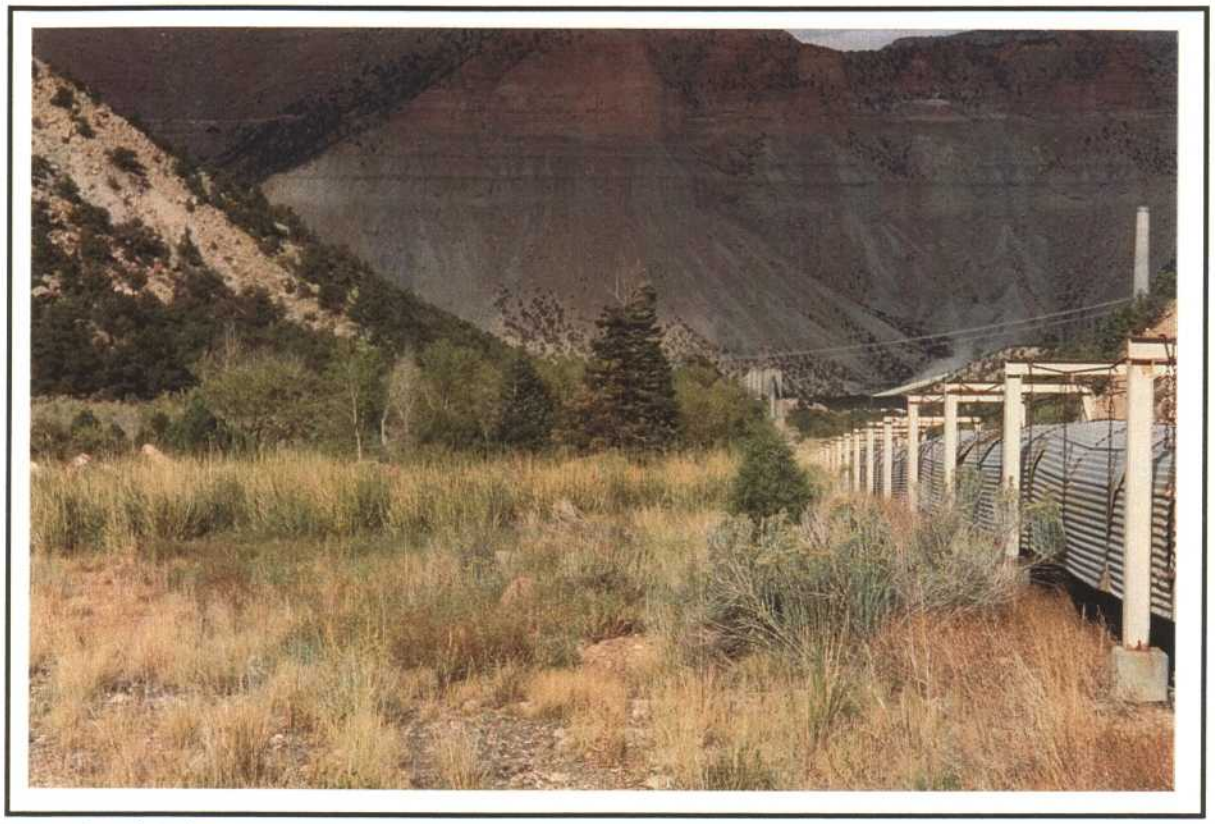
Deer Creek Mine Area - Sediment Pond Dam

Deer Creek Mine Area - Temporary Sediment Basin



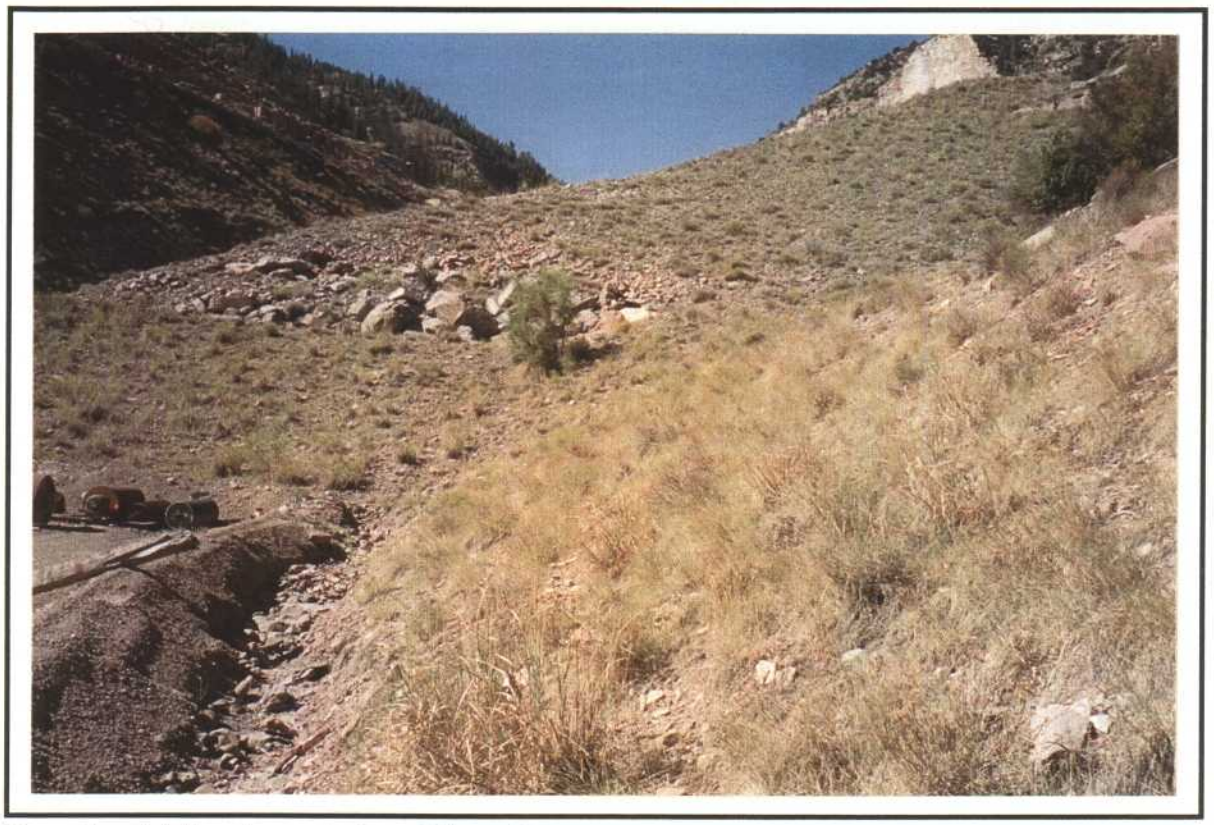
Deer Creek Mine Area - Road Side Areas

Deer Creek Mine Area - Gate Area Slopes



Deer Creek Mine Area - Reconstructed Drain Fields

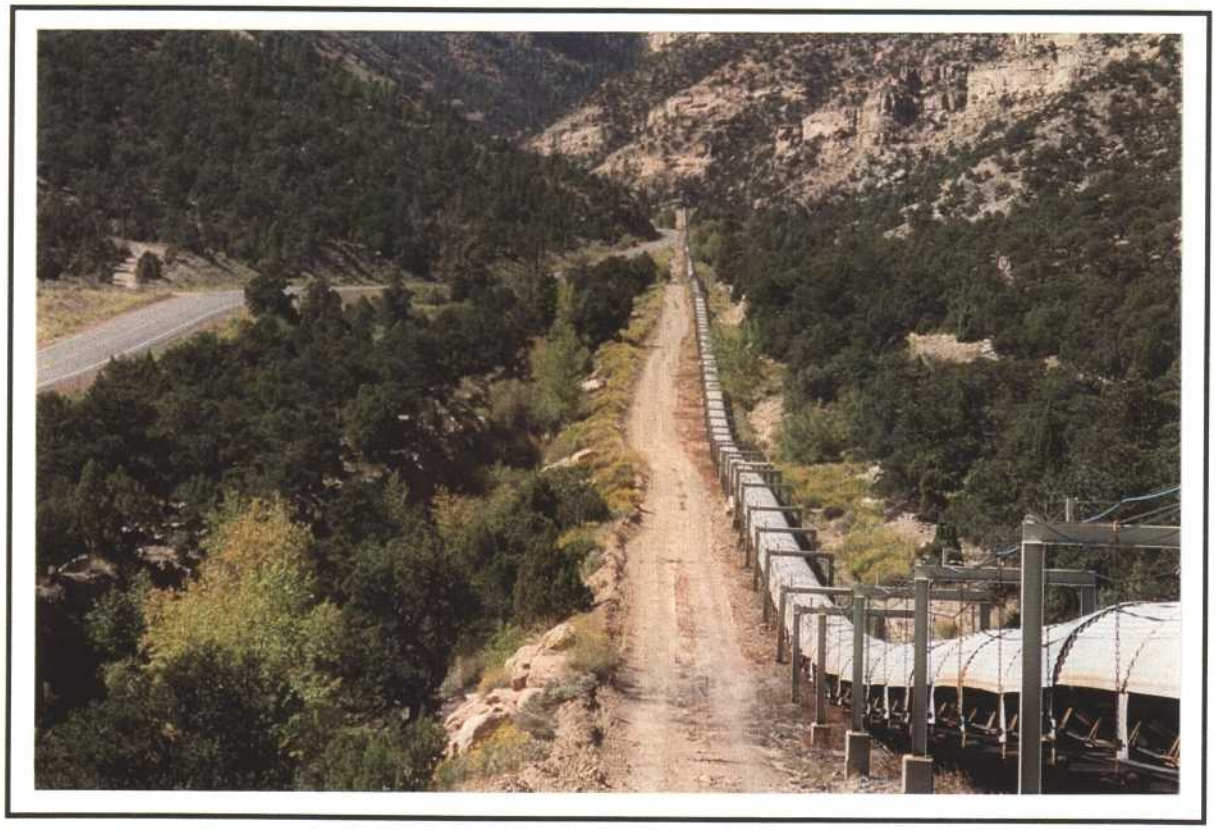
Deer Creek Mine Area - Fan Road Slope



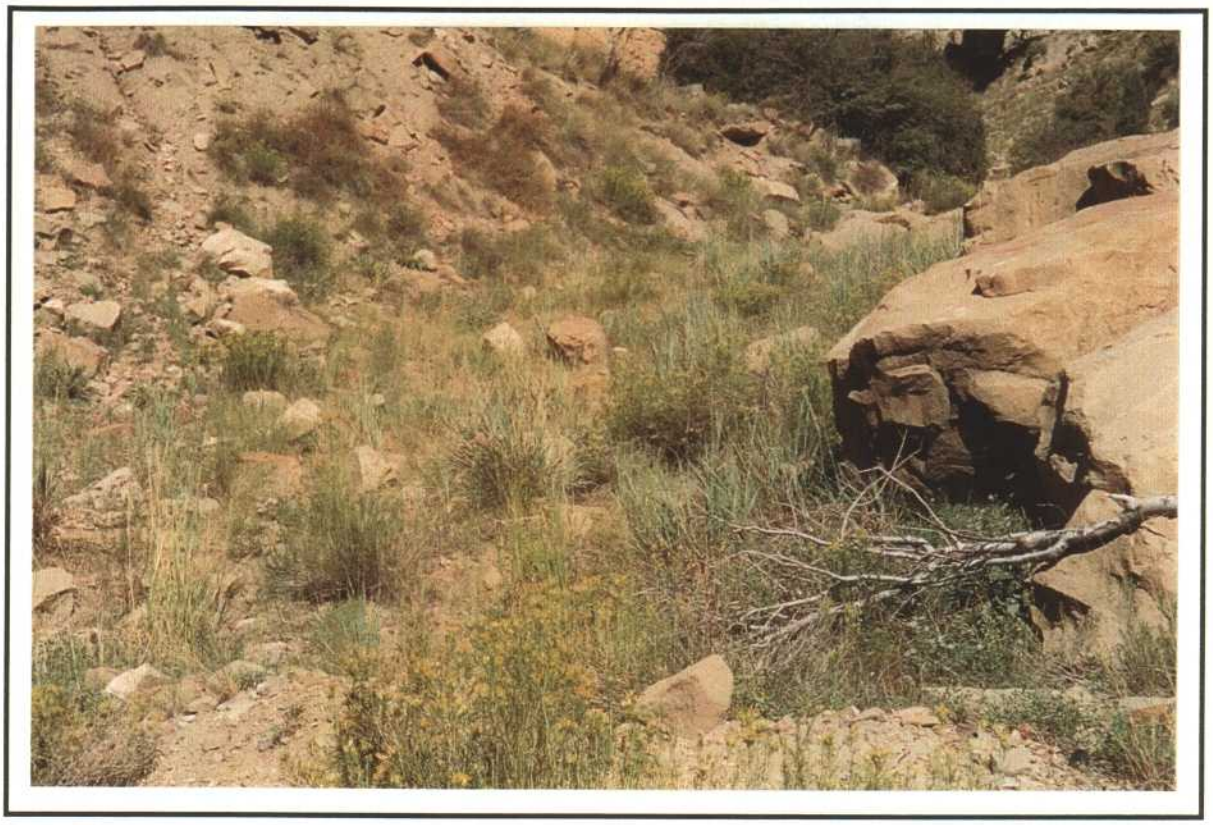
Deer Creek Mine Area - Refuse Pile and Berm

Deer Creek Mine Area - Rockslide and Berm

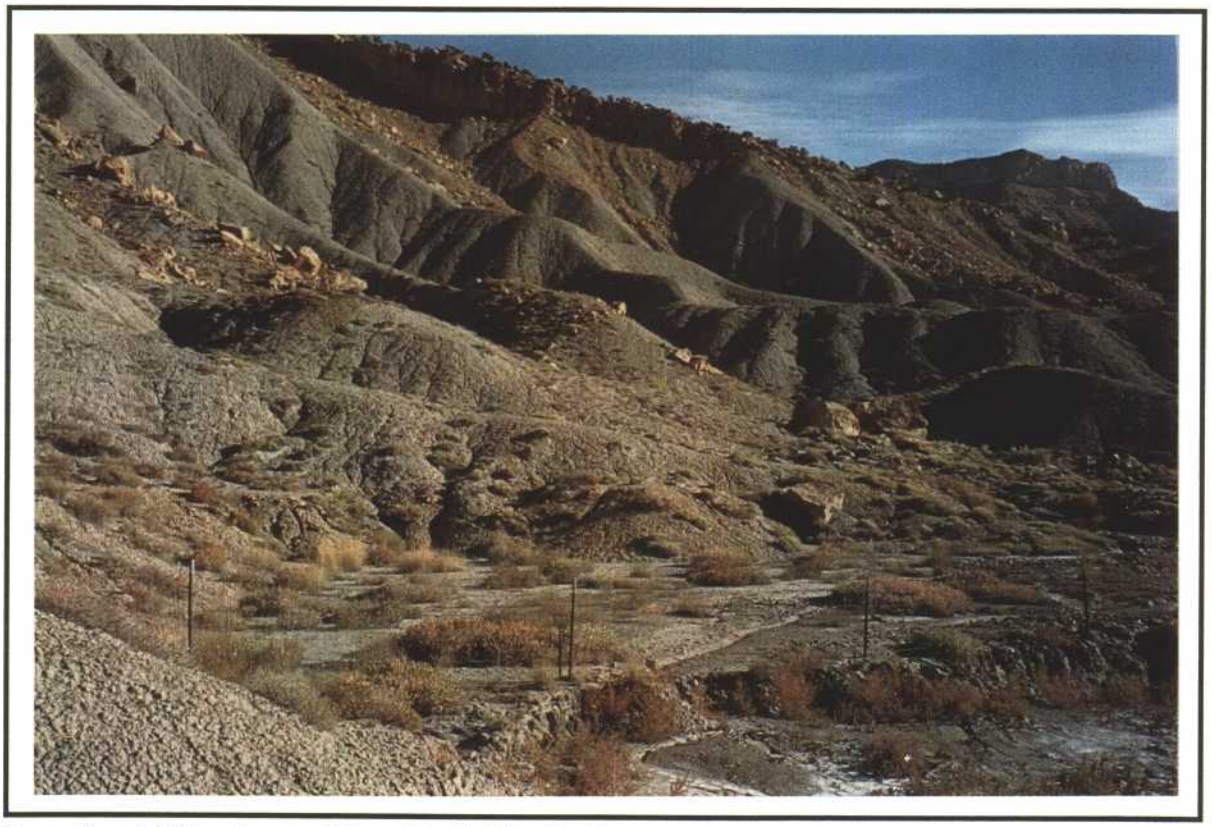
Deer Creek Mine Area - Water Plant Slope



Deer Creek Mine Area - Pipeline



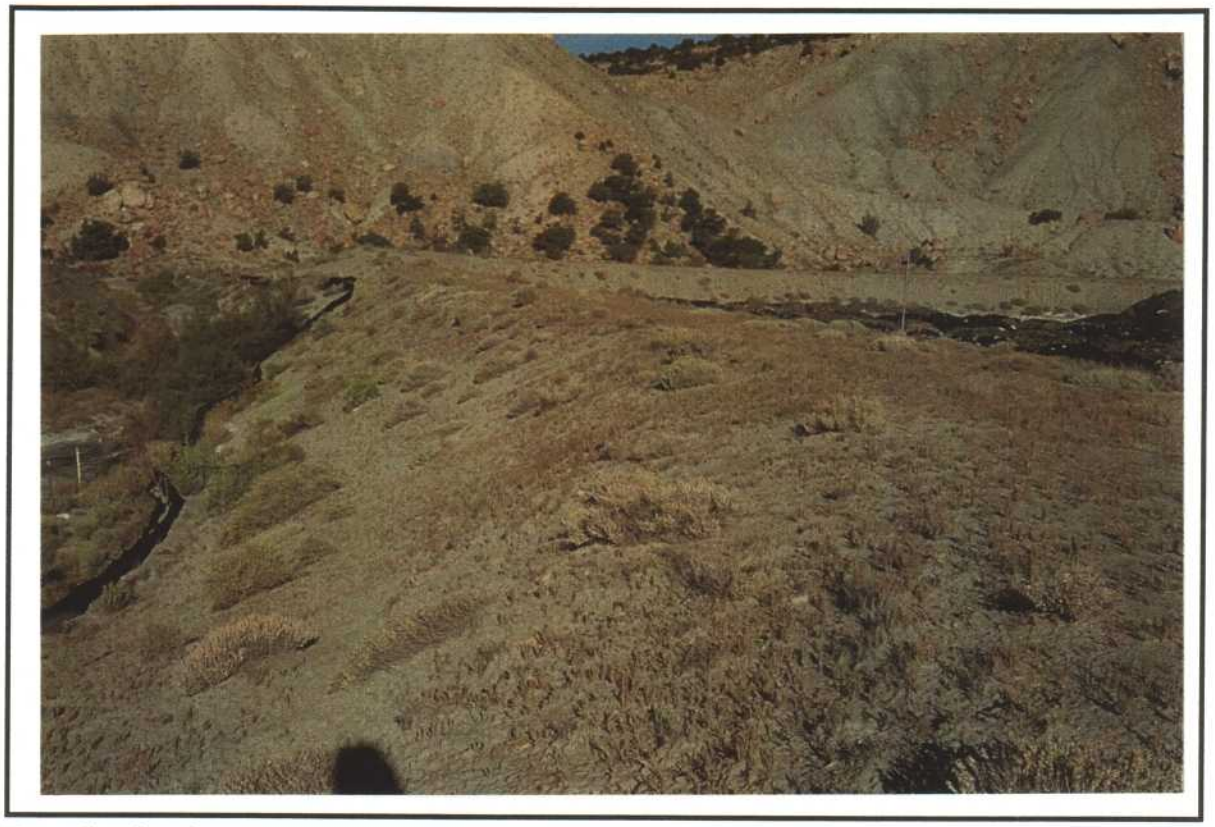
Deer Creek Mine Area - Deer Canyon



Deer Creek Mine Area - Waste Rock Site, Reference Area

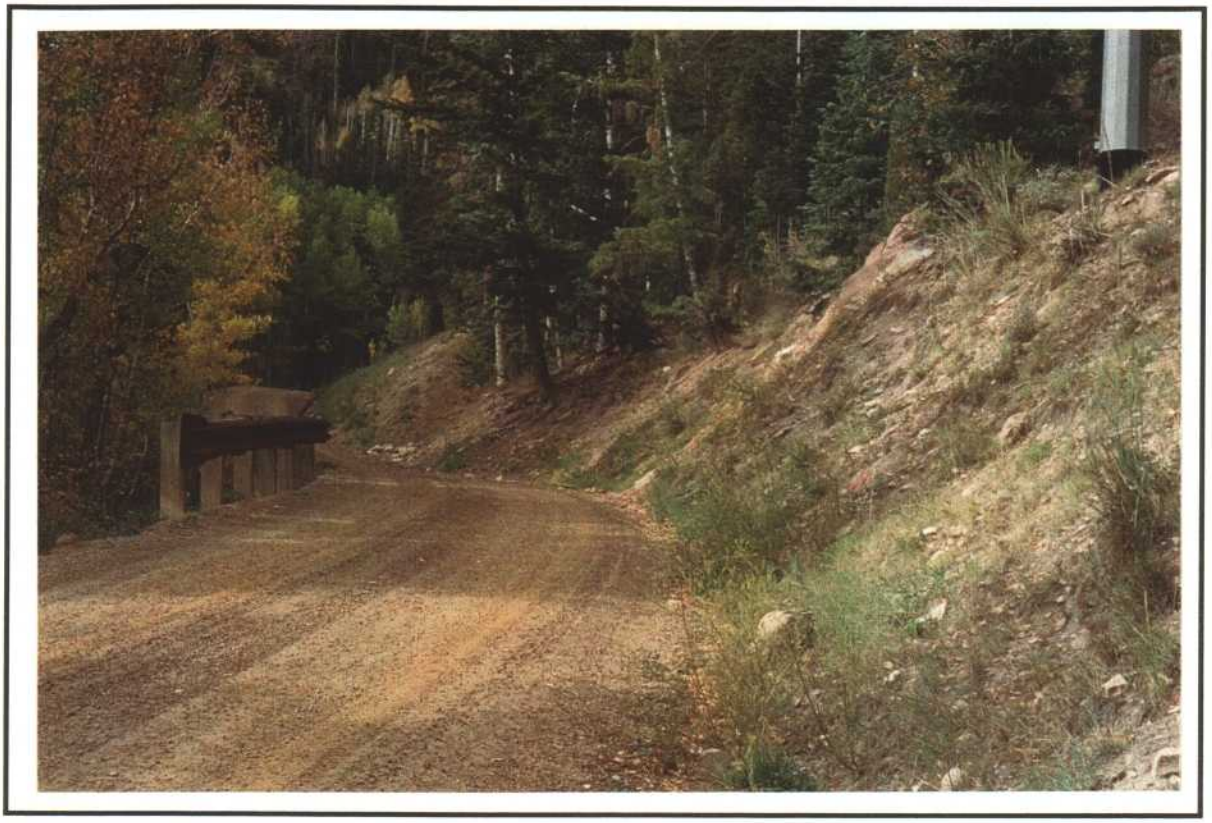
Deer Creek Mine Area - Waste Rock Site, Access Road Slopes

Deer Creek Mine Area - Waste Rock Site, Phase I Diversion



Deer Creek Mine Area - Waste Rock Site, Phase I Berm

Deer Creek Mine Area - Rilda Canyon, Pad Area Slopes



Deer Creek Mine Area - Rilda Canyon, Roadway Slopes

Deer Creek Mine Area - Rilda Canyon, Topsoil Pile

Trail Mountain Mine Area - Reference Area

Trail Mountain Mine Area - Sediment Pond Outslope

Trail Mountain Mine Area - Parking Lot Extension

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

Legal and Financial Information is Located in the MRP of each Mine Permit
as Supplemental Volume - Legal and Financial Information

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

No Information Reported