VEGETATION MONITORING

COTTONWOOD/WILBERG, DES-BEE-DOVE, DEER CREEK AND COTTONWOOD FAN PORTAL AREAS

1993

ACT/015/019

PACIFICORP ELECTRIC OPERATIONS
VEGETATION MONITORING OF THE COTTONWOOD/WILBERG, DES-BEE-DOVE, DEER CREEK AND COTTONWOOD FAN PORTAL AREAS

1993

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PACIFICORP ELECTRIC OPERATIONS

VEGETATION MONITORING
OF THE
COTTONWOOD/WILBERG, DES-BEE-DOVE,
DEER CREEK & COTTONWOOD FAN PORTAL AREAS

1993

INTRODUCTION

This report addresses vegetation monitoring of seeded areas and test plots results for 1993. Several of the areas were also sampled in 1990, 1991, and 1992 so comparisons can be made between years. The following is a list of areas monitored and reported within this document.

Cottonwood/Wilberg Area

Old Fan Road
Reference Area
4th East Road
Storage Yard Slope
Parking Lot Slope
Road/Silo Pad Slope
Tipple Area Slopes
Sediment Pond Banks
Waste Rock (Old) Cell 1
Waste Rock (Old) Cell 2

Waste Rock (Old) Cell 3
Waste Rock (Old) Cell 4
Waste Rock (Old) Cell 7
CTW Reference Area
Waste Rock (New) Road Slopes
Waste Rock (New) Topsoil Stockpiles
Waste Rock (New) Subsoil Stockpiles
Waste Rock (New) Sediment Pond Banks
Refuse Berm 1991
Ninth East Road Breakout
Test Plots

Cottonwood Fan Portal Area

Reclaimed Slope
Soil Piles
Sediment Pond Outslope

Des-Bee-Dove Area

Beehive Yard Slope
Beehive Road Berm
Deseret Road Berm
Portal Road Berm
Bathhouse Road Berm
Tipple Slope
Sediment Storage Slope
Sediment Pond Banks
Haul Road Bench
Beehive Substation Slope
Sediment Pond Area
Bathhouse Slope
Material Yard Slope
Test Plots

Deer Creek

Riparian Areas
Sediment Pond Dam
Temp. Sediment Basin
Road Side Areas
Gate Areas Slope
Fan Road Slopes
Refuse Pile and Berm
Rock Slide and Berm
Water Plant Slope
Pipeline
Deer Canyon
Waste Rock Access Road Slopes
Phase I Berm
Phase I Diversion

METHODS

Vegetation monitoring was conducted on revegetated sites and test plots for Pacificorp Electric in the growing season of 1993. Quantitative and/or qualitative data were taken on each site, depending on the monitoring schedule. In other words, quantitative data sampling was not scheduled this year on some sites. Each data sheet will briefly describe the sample parameters specific to that site.

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 Pacificorp's maps of the area and can be used for future reference and sampling.

Area

The "Area" on the data sheet 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 1993 growing season and were before frost.

Workers

Lists the names of the individuals who recorded the data.

Exposure

Exposure was recorded on each site. Often the site had

several exposures differences. 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 of each site. The values and a brief explanation are given below.

None	-	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	-	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 not encountered in the quadrats when sampling. Many of these species were recorded here. However, some of the species that 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 also are described here.

Photographs

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

QUANTITATIVE DATA

Cover and Composition

Cover estimates were made using ocular methods with randomly placed meter square quadrats. Total living cover, litter, rock and bareground were recorded. Cover by species was also recorded. Raw data summation were included in this report and reports all means and standard deviations. Species composition was also assessed from the quadrats. Sample sizes were often kept consistant this year. Because these data are presented to observe only trends for revegetation success and soil stabilization, no attempt was made to achieve sample adequacy for each individual site.

Methods

Woody Species Density

In some areas density estimates were needed. Density of woody plant species were recorded using the point quarter distance method (Cottom and Curtis 1956) and by using belt transects. In the point quarter method, random points were placed on the sample sites and measured into four quarters. The distances to the nearest woody plant species were then recorded in each quarter. The average point-to-individual distance was equal to the square root of the mean area per individual. In the belt transect method, sizes of transects varied with individual sites. In this method total counts of the woody species were conducted in each transect. They were then summed and averaged to calculate the number of individuals per acre.

Production

Total annual biomass was estimated by clipping, drying and weighing current annual productivity. "Double sampling" using four quadrats around the clipped and weighed plot was accomplished.

RESULTS

To be consistent with previous years, data sheets for qualitative and quantitative (including raw data) sampling are included in this report. This gives the reviewer an overall view of the revegetation success of each area. For results of the above parameters, refer to the site-specific data sheets.

COTTONWOOD/WILBERG AREA

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Old Fan Road

AREA: Cottonwood/Wilberg (1984)

DATE: 9/1/93

WORKERS: P. Collins, D. Collins

SLOPE: 13-15 deg.

EXPOSURE: Variable

AREA: .8 acres

ANIMAL USE/DISTURBANCE: None

EROSION: Some slight (or negligible) erosion.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia tridentata
Atriplex confertifolia
Chrysothamnus viscidiflorus
Chrysothamnus nauseosus
Eriogonum corymbosum
Gutierrezia sarothrae

Aster chilensis
Linum lewsii

Agropyron spicatum
Elymus salinus

WOODY SPECIES DENSITY:	No./Acre
Artemisia tridentata	7.26
Atriplex confertifolia	312.18
Chrysothamnus viscidiflorus	14.52
Chrysothamnus nauseosus	2903.99
Eriogonum corymbosum	225.06
Gutierrezia sarothrae	254.09
Ribes cereum	21.78
TOTAL	3738.88

ANNUAL BIOMASS PRODUCTION:

	Pounds/Acre		
	Mean	Std Dev	Samp. Size
Herbaceous species	700.39	459.90	20 (100)
Woody species	202.56	277.21	20 (100)
TOTAL	902.87	249.19	20 (100)

NOTES:

1) Sampled cover, density & productivity.

2) Cover was < 10% weedy spp. Cover estimate include overstory, but none was observed.

3) Placed a 100' transect and sampled regular/random up area.

4) We "double-sampled" on production.

5) For woody spp. density, we used 5' x 50' belt transects.

6) It appears more rock slides occur each year, but it looks relatively stable on the revegetated area.

7) Area still looks well vegetated.

8) It would be too dangerous to try to improve rock stability in the area.

UP&L-COTTONWOOD/WILBERG
Old Fan Road
Acreage: .8
Slope 13-15 deg
Exposure: variable

Sample Date: 1 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Chrysothamnus nauseosus	0.00	0.00	5.00	0.00	10.00	5.00	10.00	0.00	5.00	5.00	25.00
Atriplex confertifolia	0.00	15.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Gutierrezia sarothrae	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eriogonum corymbosum	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
Chrysothamnus viscidiflor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
FORBS											
Aster chilensis	5.00	10.00	5.00	15.00	5.00	30.00	15.00	15.00	50.00	20.00	25.00
Linum lewsii	5.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
Elymus cinereus	5.00	15.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00
Agropyron dasystachyum	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	5.00	0.00	0.00	5.00	5.00	0.00	0.00	10.00	0.00
Sitanion hystrix	10.00	10.00	0.00	25.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Elymus salinus	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER											
Total Living Cover	40.00	50.00	75.00	50.00	35.00	45.00	35.00	25.00	70.00	40.00	50.00
Litter	25.00	10.00	5.00	25.00	25.00	5.00	5.00	5.00	5.00	5.00	25.00
Bareground	5.00	20.00	15.00	10.00	20.00	5.00	5.00	25.00	20.00	10.00	5.00
Rock	30.00	20.00	5.00	15.00	20.00	45.00	55.00	45.00	5.00	45.00	20.00
% COMPOSITION											
Shrubs	25.00	30.00	80.00	20.00	28.57	11.11	28.57	20.00	21.43	25.00	50.00
Forbs	25.00	20.00	13.33	30.00	28.57	66.67	42.86	60.00	71.43	50.00	50.00
Grasses	50.00	50.00	6.67	50.00	42.86	22.22	28.57	20.00	7.14	25.00	0.00

12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00
0.00	0.00	0.00	0.00	10.00	0.00	15.00	0.00	0.00	40.00	0.00	0.00	40.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.00	45.00	40.00	15.00	25.00	25.00	20.00	40.00	40.00	5.00	35.00	20.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	15.00	10.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
5.00	0.00	0.00	0.00	0.00	0.00	5.00	15.00	0.00	10.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
60.00	45.00	40.00	30.00	45.00	45.00	45.00	55.00	55.00	60.00	45.00	50.00	40.00	45.00
5.00	10.00	10.00	10.00	5.00	10.00	15.00	5.00	5.00	10.00	10.00	5.00	25.00	45.00
5.00	5.00	25.00	30.00	15.00	5.00	20.00	5.00	10.00	5.00	15.00	5.00	5.00	5.00
30.00	40.00	25.00	30.00	35.00	40.00	20.00	35.00	30.00	25.00	30.00	40.00	30.00	5.00
8.33	0.00	0.00	0.00	22.22	0.00	44.44	0.00	0.00	75.00	0.00	60.00	100.00	0.00
83.33	100.00	100.00	50.00	55.56	77.78	44.44	72.73	72.73	8.33	77.78	40.00	0.00	0.00
8.33	0.00	0.00	50.00	22.22	22.22	11.11	27.27	27.27	16.67	22.22	0.00	0.00	100.00

UP&L-COTTONWOOD/WILBERG
Old Fan Road
Acreage: .8
Slope 13-15 deg
Exposure: variable
Sample Date: 1 Sept 1993

26.00	27.00	28.00	29.00	30.00	Mean	SDev	Freq	
								SHRUBS
20.00	40.00	0.00	5.00	15.00	8.33	12.41		Chrysothamnus nauseosus
0.00	0.00	0.00	45.00	0.00	5.17	13.45		Atriplex confertifolia
0.00	0.00	5.00	0.00	0.00	0.67	2.13		Gutierrezia sarothrae
0.00	0.00	0.00	0.00	10.00	1.17	3.08		Eriogonum corymbosum
0.00	0.00	0.00	0.00	0.00	0.17	0.90		Chrysothamnus viscidiflorus
								FORBS
15.00	10.00	0.00	0.00	15.00	19.67	14.83		Aster chilensis
0.00	0.00	5.00	0.00	0.00	1.17	2.48		Linum lewsii
								GRASSES
0.00	0.00	0.00	0.00	0.00	2.00	4.20		Elymus cinereus
0.00	0.00	0.00	0.00	0.00	1.33	5.47		Agropyron dasystachyum
0.00	0.00	0.00	0.00	0.00	2.00	3.79		Agropyron spicatum
0.00	10.00	20.00	0.00	10.00	4.17	6.72		Sitanion hystrix
0.00	0.00	0.00	25.00	10.00	2.00	5.57		Elymus salinus
								COVER
35.00	60.00	30.00	75.00	60.00	47.83	12.43		Total Living Cover
5.00	10.00	15.00	10.00	10.00	12.00	9.27		Litter
5.00	5.00	5.00	5.00	20.00	11.17	7.71		Bareground
55.00	25.00	50.00	10.00	10.00	29.00	14.17		Rock
								% COMPOSITION
57.14	66.67	16.67	66.67	41.67	29.95	27.74		Shrubs
42.86	16.67	16.67	0.00	25.00	44.72	28.73		Forbs
0.00	16.67	66.67	33.33	33.33	25.33	22.66		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: REFERENCE AREA

AREA: Cottonwood/Wilberg Mine Site

DATE: 8/31/93

WORKERS: P. Collins, D. Collins

SLOPE: 36 deg.

EXPOSURE: NE

ANIMAL USE/DISTURBANCE: Minimal

EROSION: Minimal

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

WOODY SPECIES DENSITY:

	No./Acre
Abies concolor	12.29
Amalanchier utahensis	221.23
Atriplex confertifolia	12.29
Chrysothamnus viscidiflorus	6.15
Chrysothamnus nauseosus	24.58
Eriogonum corymbosum	36.87
Gutierrezia sarothae	30.73
Juniperus osteosperma	12.29
Pinus edulis	368.72
Pseudotsuga menziesii	6.15
Symphoricarpos oreophilus	12.29
Total	731.43

ANNUAL BIOMASS PRODUCTION:

	Pounds/Acre		
	Mean	Std Dev	Samp. Size
Herbaceous species	173.90	162.11	20 (100)
Woody species	53.50	122.05	20 (100)
TOTAL	228.03	180.97	20 (100)

NOTES:

1) Sampled for cover, density & productivity.
2) Placed a 200' transect north to south and sampled every 10' at right angles from it.
3) Overstory (above breast ht. was taken). Therefore cover could be > 100%.
4) Used point-quarter method for density.
5) Used "double-sampling" techniques for productivity. Also did woody spp. & herbaceous spp. production.
6) Production only estimated understory.

UP&L-COTTONWOOD/WILBERG
Reference Area PJ
Acreage:
Slope 36 deg
Exposure: NE

Sample Date:31 Aug 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pinus edulis	2.00	25.00	5.00	5.00	0.00	0.00	40.00	35.00	0.00	0.00	0.00
Amalanchier utahensis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chrysothamnus viscidiflor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eriogonum corymbosum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex confertifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS											
Hedysarum occidentale can	0.00	0.00	0.00	0.00	10.00	25.00	0.00	0.00	20.00	5.00	0.00
Galium boreale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Machaeranthera grindelioi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
Sitanion hystrix	0.00	0.00	0.00	10.00	5.00	0.00	0.00	0.00	5.00	0.00	10.00
Elymus salinus	18.00	10.00	35.00	25.00	0.00	5.00	5.00	5.00	0.00	25.00	15.00
COVER											
Overstory	0.00	25.00	5.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00	0.00
Understory	20.00	10.00	35.00	40.00	15.00	30.00	22.00	40.00	25.00	30.00	25.00
Litter	5.00	5.00	5.00	10.00	5.00	10.00	10.00	5.00	25.00	10.00	25.00
Bareground	15.00	15.00	20.00	40.00	20.00	15.00	10.00	20.00	25.00	25.00	25.00
Rock	60.00	45.00	35.00	10.00	60.00	45.00	35.00	35.00	25.00	35.00	25.00
% COMPOSITION											
Shrubs	10.00	71.43	12.50	12.50	0.00	0.00	88.89	87.50	0.00	0.00	0.00
Forbs	0.00	0.00	0.00	0.00	66.67	83.33	0.00	0.00	80.00	16.67	0.00
Grasses	90.00	28.57	87.50	87.50	33.33	16.67	11.11	12.50	20.00	83.33	100.00

12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00
0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	25.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	15.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	50.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
0.00	10.00	10.00	20.00	25.00	25.00	20.00	35.00	35.00	10.00	5.00	15.00	0.00	15.00
35.00	20.00	0.00	25.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00
10.00	25.00	20.00	20.00	25.00	30.00	25.00	35.00	35.00	20.00	20.00	15.00	25.00	15.00
25.00	10.00	5.00	20.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
10.00	10.00	5.00	5.00	35.00	15.00	5.00	10.00	5.00	5.00	5.00	30.00	10.00	5.00
20.00	35.00	70.00	30.00	10.00	50.00	65.00	50.00	55.00	70.00	70.00	50.00	35.00	75.00
22.22	33.33	25.00	55.56	50.00	16.67	0.00	0.00	0.00	50.00	25.00	0.00	100.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00
0.00	22.22	75.00	44.44	50.00	83.33	80.00	100.00	100.00	50.00	50.00	100.00	0.00	100.00

UP&L-COTTONWOOD/WILBERG
Reference Area PJ
Acreage:
Slope 36 deg
Exposure: NE
Sample Date:31 Aug 1993

26.00	27.00	28.00	29.00	30.00	Mean	SDev	Freq	
								SHRUBS
0.00	0.00	10.00	0.00	0.00	0.50	1.98		Chrysothamnus nauseosus
0.00	10.00	0.00	0.00	0.00	6.07	11.33		Pinus edulis
10.00	0.00	0.00	0.00	0.00	2.83	9.37		Amalanchier utahensis
0.00	0.00	0.00	0.00	0.00	0.33	1.25		Chrysothamnus viscidiflorus
10.00	0.00	0.00	0.00	0.00	0.33	1.80		Eriogonum corymbosum
0.00	0.00	5.00	0.00	0.00	0.17	0.90		Atriplex confertifolia
								FORBS
0.00	0.00	0.00	0.00	0.00	2.17	5.87		Hedysarum occidentale canone
0.00	0.00	0.00	0.00	0.00	0.17	0.90		Galium boreale
0.00	0.00	0.00	0.00	5.00	0.17	0.90		Machaeranthera grindelioides
								GRASSES
0.00	0.00	0.00	0.00	0.00	1.33	2.87		Sitanion hystrix
10.00	10.00	10.00	25.00	25.00	14.93	10.54		Elymus salinus
								COVER
0.00	0.00	0.00	0.00	0.00	6.10	10.90		Overstory
30.00	20.00	25.00	25.00	30.00	24.73	7.71		Understory
5.00	5.00	5.00	5.00	5.00	8.33	6.37		Litter
5.00	5.00	5.00	5.00	5.00	13.67	9.83		Bareground
60.00	70.00	65.00	65.00	60.00	47.17	18.47		Rock
								% COMPOSITION
66.67	50.00	60.00	0.00	0.00	27.91	31.34		Shrubs
0.00	0.00	0.00	0.00	16.67	10.28	23.24		Forbs
33.33	50.00	40.00	100.00	83.33	57.74	33.82		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: 4th East Road

AREA: Cottonwood/Wilberg (1986)

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 3 - 5 degrees

EXPOSURE: north

AREA: .1 acre

ANIMAL USE/DISTURBANCE: slight

EROSION: Negligible

COVER: (see quantitative data). As indicated in 1992, cover was < 10% weedy species.

DOMINANT PLANT SPECIES OBSERVED:

Medicago sativa
Melilotus officinalis

Agropyron dasystachyum
Agropyron smithii

NOTES: 1) Sampled at regular intervals up road.

UP&L-COTTONWOOD/WILBERG
4th East Road
Acreage: .1
Slope: 3-5 var
Exposure: N

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	Mean	SDev
SHRUBS										
FORBS										
Medicago sativa	15.00	25.00	40.00	10.00	35.00	30.00	25.00	50.00	28.75	12.18
Aster chilensis	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	1.65
GRASSES										
Agropyron smithii	10.00	20.00	10.00	20.00	0.00	10.00	15.00	5.00	11.25	6.50
Agropyron dasystachyum	10.00	0.00	0.00	10.00	25.00	10.00	10.00	5.00	8.75	7.40
Elymus salinus	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	3.31
COVER										
Total Living Cover	40.00	55.00	50.00	40.00	60.00	50.00	50.00	60.00	50.63	7.26
Litter	10.00	25.00	25.00	25.00	20.00	40.00	35.00	30.00	26.25	8.57
Bareground	40.00	5.00	5.00	20.00	5.00	5.00	5.00	5.00	11.25	11.92
Rock	10.00	15.00	20.00	15.00	15.00	5.00	10.00	5.00	11.88	4.96
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	50.00	45.45	80.00	25.00	58.33	60.00	50.00	83.33	56.52	17.63
Grasses	50.00	54.55	20.00	75.00	41.67	40.00	50.00	16.67	43.48	17.63

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Storage Yard Slope

AREA: Cottonwood/Wilberg (1988 Reveg. Area)

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 30 - 40 deg.

EXPOSURE: N & E

AREA: 1.3 acres

ANIMAL USE/DISTURBANCE: None

EROSION: As the prev. 2 years (1991, 1992), some slight erosion. The more extensive erosion has had some repair work.

COVER: (see quantitative data for total living cover). About the same as 1992, the north exposure had > 75% weeds, whereas, the east exposure had < 10%.

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

NOTES:
1) Sampled regularly around area.
2) As last 2 years, one area was almost devoid of vegetation including weeds. Hence 5% cover in one spot (see photographs).

UP&L-COTTONWOOD/WILBERG
Storage Yard Slope
Acreage: 1.3
Slope: N & E
Exposure: 30 - 40 deg

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	25.00	10.00	30.00	25.00	20.00	30.00	15.00	0.00	0.00	0.00
Atriplex confertifolia	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS										
Aster chilensis	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Penstemon palmeri	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	20.00	10.00	45.00	35.00
GRASSES										
Gryzopsis hymenoides	0.00	0.00	0.00	0.00	15.00	15.00	0.00	0.00	0.00	10.00
Sitanion hystrix	0.00	0.00	0.00	5.00	0.00	0.00	0.00	25.00	0.00	0.00
Agropyron cristatum	0.00	0.00	10.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Agropyron spicatum	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron dasystachyum	10.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	35.00	50.00	50.00	30.00	35.00	50.00	35.00	40.00	45.00	45.00
Litter	10.00	15.00	10.00	15.00	15.00	20.00	15.00	20.00	10.00	10.00
Bareground	25.00	25.00	15.00	15.00	10.00	15.00	20.00	10.00	35.00	5.00
Rock	30.00	10.00	25.00	40.00	40.00	15.00	30.00	30.00	10.00	40.00
% COMPOSITION										
Shrubs	71.43	60.00	60.00	83.33	57.14	60.00	42.86	0.00	0.00	0.00
Forbs	0.00	0.00	20.00	0.00	0.00	10.00	57.14	25.00	100.00	77.78
Grasses	28.57	40.00	20.00	16.67	42.86	30.00	0.00	75.00	0.00	22.22

UP&L-COTTONWOOD/WILBERG
Storage Yard Slope
Acreage: 1.3
Slope: N & E
Exposure: 30 - 40 deg
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
15.50	11.72		Chrysothamnus nauseosus
2.00	6.00		Atriplex confertifolia
			FORBS
0.50	1.50		Aster chilensis
1.00	3.00		Penstemon palmeri
11.00	15.94		Kochia scoparia
			GRASSES
4.00	6.24		Oryzopsis hymenoides
3.00	7.48		Sitanion hystrix
1.50	3.20		Agropyron cristatum
1.50	4.50		Agropyron spicatum
1.50	3.20		Agropyron dasystachyum
			COVER
41.50	7.09		Total Living Cover
14.00	3.74		Litter
17.50	8.44		Bareground
27.00	11.22		Rock
			% COMPOSITION
43.48	30.08		Shrubs
28.99	34.69		Forbs
27.53	20.90		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Parking Lot Slope

AREA: Cottonwood/Wilberg

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 26 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Slight

EROSION: Erosion has been repaired by gravels.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus

Aster chilensis
Kochia scoparia
Grindelia squarrosa
Melilotus officinalis

Elymus cinereus
Oryzopsis hymenoides

NOTES: 1) Most of the species were weedy, except for the very north end of the slope (>80% weeds).

UP&L-COTTONWOOD/WILBERG
Parking Lot Slope
Acreage:
Slope: 26 deg
Exposure: E

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
FORBS										
Aster chilensis	0.00	0.00	20.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
Kochia scoparia	30.00	2.00	15.00	20.00	35.00	35.00	5.00	25.00	0.00	5.00
Grindelia squarrosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
Medicago officinalis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
GRASSES										
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	35.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00
COVER										
Total Living Cover	30.00	10.00	35.00	20.00	35.00	35.00	30.00	35.00	45.00	50.00
Litter	15.00	5.00	10.00	10.00	5.00	15.00	10.00	10.00	10.00	15.00
Bareground	5.00	15.00	15.00	30.00	10.00	5.00	5.00	5.00	15.00	5.00
Rock	50.00	70.00	40.00	40.00	50.00	45.00	55.00	50.00	30.00	30.00
% COMPOSITION										
Shrubs	0.00	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
Forbs	100.00	20.00	100.00	100.00	100.00	100.00	16.67	100.00	44.44	10.00
Grasses	0.00	0.00	0.00	0.00	0.00	0.00	83.33	0.00	55.56	70.00

UP&L-COTTONWOOD/WILBERG
Parking Lot Slope
Acreage:
Slope: 26 deg
Exposure: E
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
1.80	3.63		Chrysothamnus nauseosus
			FORBS
3.00	6.40		Aster chilensis
17.20	13.02		Kochia scoparia
1.00	3.00		Grindelia squarrosa
1.00	3.00		Medicago officinalis
			GRASSES
6.00	12.21		Oryzopsis hymenoides
2.50	7.50		Elymus cinereus
			COVER
32.50	10.78		Total Living Cover
10.50	3.50		Litter
11.00	7.68		Bareground
46.00	11.36		Rock
			% COMPOSITION
10.00	24.08		Shrubs
69.11	38.72		Forbs
20.89	32.51		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Road/Silo Pad Slope

AREA: Cottonwood/Wilberg

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: SE

AREA: 1.4 ac.

ANIMAL USE/DISTURBANCE: slight

EROSION: Erosion under the conveyor has been repaired by gravel, only other slight erosion exists.

COVER: (see quantitative data).

DOMINANT PLANT SPECIES OBSERVED:

Gutierrezia sarothae
Chrysothamnus nauseosus
Eriogonum corymbosum

Salsola iberica
Kochia scoparia
Aster foliaceus

Oryzopsis hymenoides

NOTES:

1) Placed quadrats regularly over area.

2) Cover remains > 50% weedy spp. (as 1992).

3) Area looked good downslope from test plot. Cover was "weedy" under conveyor. Good results on slope north of conveyor also.

UP&L-COTTONWOOD/WILBERG
Road/Silo Pad Slope
Acreage: 1.4
Slope: 35 deg
Exposure: SE

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Eriogonum corymbosum	10.00	25.00	0.00	10.00	0.00	0.00	0.00	0.00	10.00	0.00
Chrysothamnus nauseosus	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	5.00
Atriplex confertifolia	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
FORBS										
Aster chilensis	0.00	15.00	15.00	0.00	0.00	0.00	0.00	5.00	10.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	10.00	20.00	30.00	0.00	15.00
GRASSES										
Oryzopsis hymenoides	0.00	0.00	0.00	25.00	15.00	0.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
COVER										
Total Living Cover	40.00	40.00	40.00	35.00	15.00	20.00	20.00	35.00	40.00	40.00
Litter	5.00	10.00	5.00	5.00	5.00	15.00	5.00	5.00	5.00	15.00
Bareground	10.00	10.00	5.00	5.00	5.00	25.00	10.00	5.00	5.00	10.00
Rock	45.00	40.00	50.00	55.00	75.00	40.00	65.00	55.00	50.00	35.00
% COMPOSITION										
Shrubs	100.00	62.50	62.50	28.57	0.00	0.00	0.00	0.00	50.00	62.50
Forbs	0.00	37.50	37.50	0.00	0.00	100.00	100.00	100.00	25.00	37.50
Grasses	0.00	0.00	0.00	71.43	100.00	0.00	0.00	0.00	25.00	0.00

UP&L-COTTONWOOD/WILBERG
Road/Silo Pad Slope
Acreage: 1.4
Slope: 35 deg
Exposure: SE
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
5.50	7.89		Eriogonum corymbosum
4.50	9.07		Chrysothamnus nauseosus
4.50	9.07		Atriplex confertifolia
			FORBS
4.50	6.10		Aster chilensis
1.00	3.00		Halogeton glomeratus
7.50	10.31		Kochia scoparia
			GRASSES
4.00	8.31		Oryzopsis hymenoides
1.00	3.00		Agropyron spicatum
			COVER
32.50	9.55		Total Living Cover
7.50	4.03		Litter
9.00	5.83		Bareground
51.00	11.58		Rock
			% COMPOSITION
36.61	34.11		Shrubs
43.75	39.63		Forbs
19.64	34.45		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Tipple Area Slope

AREA: Cottonwood/Wilberg (1988 Reveg. Area)

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: variable

AREA: .1 acre

ANIMAL USE/DISTURBANCE:

EROSION: Some erosion has been reduced by dumping gravel/rock over slopes, but some remains. Approx. 10% of the area has been regraveled to fill erosion (see notes below).

COVER: (see quantitative data).

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus

Aster chilensis
Kochia scoparia

Oryzopsis hymenoides

NOTES:

1) Area constantly changing active area. Therefore unstable for plant growth.

2) Cover by composition was greater than 75% weedy species.

UP&L-COTTONWOOD/WILBERG
Tipple Area Slope
Acreage: .1
Slope: 35 deg
Exposure: variable

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00
Atriplex confertifolia	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eriogonum corymbosum	0.00	0.00	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00
FORBS										
Kochia scoparia	50.00	20.00	15.00	0.00	5.00	10.00	0.00	0.00	0.00	5.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	5.00	35.00	10.00	0.00
GRASSES										
Oryzopsis hymenoides	0.00	10.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	50.00	50.00	25.00	10.00	5.00	10.00	10.00	35.00	35.00	5.00
Litter	10.00	15.00	5.00	5.00	1.00	5.00	15.00	15.00	25.00	5.00
Bareground	35.00	30.00	20.00	25.00	24.00	15.00	10.00	5.00	5.00	5.00
Rock	5.00	5.00	50.00	60.00	70.00	70.00	65.00	45.00	35.00	85.00
% COMPOSITION										
Shrubs	0.00	40.00	40.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	100.00	40.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grasses	0.00	20.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00

UP&L-COTTONWOOD/WILBERG
Tipple Area Slope
Acreage: .1
Slope: 35 deg
Exposure: variable
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
4.50	9.07		Chrysothamnus nauseosus
1.00	3.00		Atriplex confertifolia
			Eriogonum corymbosum
			FORBS
10.50	14.74		Kochia scoparia
5.00	10.49		Halogeton glomeratus
			GRASSES
1.50	3.20		Oryzopsis hymenoides
			COVER
23.50	17.04		Total Living Cover
10.10	6.93		Litter
17.40	10.48		Bareground
49.00	25.77		Rock
			% COMPOSITION
13.00	20.02		Shrubs
20.00	33.47		Forbs
7.00	15.52		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Banks

AREA: Cottonwood/Wilberg (1988 Reveg. Area)

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: variable

AREA: .9 acre

ANIMAL USE/DISTURBANCE: None

EROSION: Slight to moderate. Erosion has been maintained on a regular basis.

COVER: (see quantitative data). Composition of cover was > 50% weedy.

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

Atriplex canescens
Chrysothamnus nauseosus

Aster chilensis
Halogeton glomeratus
Kochia scoparia
Machaeranthera canescens
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Apropyron spicatum
Oryzopsis hymenoides

NOTES:
1) Little change from year to year due to constant use and maintenance.
2) Patchy vegetation growth patterns with some desirable and some weedy species. This is due to erosion control and fluctuating water levels in pond.
3) There was probably > 50% weedy species. There was a "band" around the pond of desirable spp. and one of weedy spp.
4) Sampled regularly around pond.

UP&L-COTTONWOOD/WILBERG
Sediment Pond Banks
Acreage: .9
Slope: 35 deg
Exposure: variable

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	25.00	10.00	5.00	0.00	0.00	0.00
Eriogonum corymbosum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
FORBS											
Aster chilensis	5.00	0.00	0.00	0.00	35.00	0.00	0.00	5.00	0.00	0.00	0.00
Grindelia squarrosa	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00
Melilotus officinalis	0.00	35.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Helianthus annuus	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	35.00	5.00	0.00
Malcomia africana	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	30.00	30.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	0.00	10.00	0.00	10.00	20.00	0.00	0.00	0.00	25.00
Hordeum jubatum	0.00	0.00	5.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	20.00	20.00
COVER											
Total Living Cover	40.00	45.00	40.00	40.00	45.00	50.00	60.00	50.00	35.00	40.00	60.00
Litter	10.00	5.00	20.00	10.00	5.00	10.00	5.00	10.00	10.00	5.00	10.00
Bareground	15.00	25.00	5.00	25.00	5.00	5.00	5.00	5.00	15.00	30.00	20.00
Rock	35.00	25.00	35.00	25.00	45.00	35.00	30.00	35.00	40.00	25.00	10.00
% COMPOSITION											
Shrubs	0.00	0.00	0.00	0.00	0.00	50.00	16.67	30.00	0.00	0.00	0.00
Forbs	100.00	0.00	87.50	0.00	100.00	10.00	0.00	10.00	100.00	50.00	0.00
Grasses	0.00	0.00	12.50	100.00	0.00	40.00	83.33	60.00	0.00	50.00	100.00

UP&L-COTTONWOOD/WILBERG
Sediment Pond Banks
Acreage: .9
Slope: 35 deg
Exposure: variable
Sample Date: 8 Sept 1993

12.00	13.00	14.00	15.00	Mean	SDev	Freq	
							SHRUBS
0.00	10.00	0.00	0.00	3.33	6.75		Chrysothamnus nauseosus
0.00	0.00	0.00	0.00	0.67	2.49		Eriogonum corymbosum
							FORBS
0.00	0.00	0.00	0.00	3.00	8.72		Aster chilensis
0.00	0.00	0.00	0.00	1.67	4.35		Grindelia squarrosa
0.00	0.00	0.00	0.00	4.33	11.09		Melilotus officinalis
0.00	0.00	0.00	0.00	0.33	1.25		Helianthus annuus
20.00	10.00	30.00	30.00	8.33	12.87		Kochia scoparia
20.00	0.00	0.00	10.00	5.00	9.66		Halogeton glomeratus
0.00	0.00	0.00	0.00	0.67	2.49		Malcomia africana
							GRASSES
0.00	5.00	0.00	0.00	4.33	10.14		Oryzopsis hymenoides
0.00	5.00	5.00	0.00	5.00	7.75		Agropyron dasystachyum
0.00	0.00	0.00	0.00	3.33	8.10		Hordeum jubatum
0.00	0.00	0.00	0.00				Agropyron cristatum
							COVER
40.00	30.00	35.00	40.00	43.33	8.30		Total Living Cover
5.00	5.00	25.00	15.00	10.00	5.77		Litter
20.00	20.00	5.00	15.00	14.33	8.54		Bareground
35.00	45.00	35.00	30.00	32.33	8.54		Rock
							% COMPOSITION
0.00	33.33	0.00	0.00	8.67	15.63		Shrubs
100.00	33.33	85.71	100.00	51.77	43.67		Forbs
0.00	33.33	14.29	0.00	32.90	36.41		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #1

AREA: Cottonwood/Wilberg Old Waste Rock Area (Interim Reveg)

DATE: 9/1/93

WORKERS: P. Collins, D. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Moderate to heavy deer and rabbit use.

EROSION: None

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

WOODY SPECIES DENSITY:

	No./Acre
Artemisia tridentata	21.78
Atriplex canescens	1981.98
Cercocarpus montanus	21.78
Chrysothamnus nauseosus	65.34
Gutierrezia sarothae	1611.72
Total	3706.60

ANNUAL BIOMASS PRODUCTION:

	Pounds/Acre		
	Mean	Std Dev	Samp. Size
Herbaceous species	192.71	173.56	10 (50)
Woody species	240.93	374.02	10 (50)
TOTAL	438.44	536.54	10 (50)

NOTES:
1) Sampled for cover, density & productivity.
2) Placed a 100' transect and sampled every 10' at right angles from it.
3) Used 5' x 25' belt transects for density.

4) Used "double-sampling" techniques for productivity. Also did woody spp. & herbaceous spp. production.
5) Production did not include weeds.
6) Because the site was so dry and used by animals, production would have been higher if we sampled in the Spring.

UP&L-COTTONWOOD/WILBERG
Cell #1
Old Waste Rock (Interim Reveg)
Slope: 0-1 deg
Exposure: E

Sample Date: 1 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
SHRUBS									
Atriplex canescens	10.00	0.00	0.00	10.00	10.00	30.00	15.00	10.00	10.00
Gutierrezia sarothrae	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	5.00
Ephedra viridis	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cercocarpus montanus	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
FORBS									
Halogeton glomeratus	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphaeralcea coccinea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bassia hyssopifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES									
Agropyron cristatum	10.00	5.00	20.00	5.00	10.00	10.00	15.00	10.00	15.00
Agropyron dasystachyum	15.00	5.00	0.00	5.00	10.00	10.00	0.00	5.00	10.00
Oryzopsis hymenoides	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Sitanion hystrix	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER									
Total Living Cover	35.00	25.00	25.00	20.00	35.00	50.00	40.00	25.00	40.00
Litter	10.00	5.00	5.00	5.00	20.00	10.00	10.00	5.00	10.00
Bareground	30.00	45.00	35.00	20.00	25.00	20.00	20.00	25.00	25.00
Rock	25.00	25.00	35.00	55.00	20.00	20.00	30.00	45.00	25.00
% COMPOSITION									
Shrubs	28.57	20.00	20.00	50.00	42.86	60.00	50.00	40.00	37.50
Forbs	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grasses	71.43	60.00	80.00	50.00	57.14	40.00	50.00	60.00	62.50

10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
0.00	15.00	5.00	0.00	10.00	0.00	0.00	0.00	10.00	10.00	5.00
0.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
15.00	10.00	5.00	0.00	0.00	0.00	0.00	18.00	5.00	10.00	5.00
20.00	10.00	5.00	30.00	25.00	15.00	5.00	17.00	20.00	20.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00
35.00	35.00	15.00	35.00	40.00	20.00	20.00	35.00	35.00	40.00	20.00
15.00	10.00	10.00	10.00	20.00	5.00	10.00	5.00	10.00	5.00	5.00
15.00	25.00	25.00	20.00	25.00	25.00	40.00	35.00	25.00	30.00	10.00
35.00	30.00	50.00	35.00	15.00	50.00	30.00	25.00	30.00	25.00	65.00
0.00	42.86	33.33	0.00	25.00	25.00	25.00	0.00	28.57	25.00	75.00
0.00	0.00	0.00	14.29	0.00	0.00	25.00	0.00	0.00	0.00	0.00
100.00	57.14	66.67	85.71	75.00	75.00	50.00	100.00	71.43	75.00	25.00

UP&L-COTTONWOOD/WILBERG
Cell #1
Old Waste Rock (Interim Reveg)
Slope: 0-1 deg
Exposure: E
Sample Date: 1 Sept 1993

Mean	SDev	Freq	
			SHRUBS
7.50	7.33		Atriplex canescens
1.25	2.17		Gutierrezia sarothrae
0.75	2.38		Ephedra viridis
0.25	1.09		Cercocarpus montanus
			FORBS
0.25	1.09		Halogeton glomeratus
0.25	1.09		Sphaeralcea coccinea
0.25	1.09		Bassia hyssopifolia
			GRASSES
8.40	5.97		Agropyron cristatum
11.35	8.40		Agropyron dasystachyum
0.50	1.50		Oryzopsis hymenoides
0.50	1.50		Sitanion hystrix
			COVER
31.25	9.07		Total Living Cover
9.25	4.55		Litter
26.00	8.00		Bareground
33.50	12.76		Rock
			% COMPOSITION
31.43	18.96		Shrubs
2.96	7.26		Forbs
65.60	18.11		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #2

AREA: Cottonwood/Wilberg Waste Rock Area (Interim Reveg)

DATE: 8/31/93

WORKERS: P. Collins, D. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

AREA: ~ 1 ac.

ANIMAL USE/DISTURBANCE: Heavy use by wildlife

EROSION: None

COVER: (see quantitative data)

DENSITY:

	No./Acre
Atriplex canescens	2156.22
Gutierrezia sarothae	457.38
Total	2613.60

ANNUAL BIOMASS PRODUCTION:

	Pounds/Acre		
	Mean	Std Dev	Samp. Size
Herbaceous species	209.17	252.84	10 (50)
Woody species	310.60	678.35	10 (50)
TOTAL	520.42	710.82	10 (50)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Halogeton glomeratus
Melilotus officinalis

Cell 2 (continued)

Salsola iberica
Agropyron intermedium
Agropyron cristatum
Agropyron smithii
Hilaria jamesii
Sitanion hystrix

NOTES:

1) Sampled for cover, freq., density & productivity.

2) Placed a 100' transect and sampled every 10' at right angles from it.

3) Used 5' x 25' belt transects for density.

4) Used "double-sampling" techniques for productivity. Also did woody spp. & herbaceous spp. production.

5) Production did not include weeds.

6) Because the site was so dry and used by animals, production would have been higher if we sampled in the Spring.

7) Some patches desirable spp.

8) Condition = good

9) As last year, this cell was better in condition than Cell 1, but not as good as Cell 3.

UP&L-COTTONWOOD/WILBERG
Cell #2
Old Waste Rock (Interim Reveg)
Slope: 0-1 deg
Exposure: E

Sample Date: 1 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
SHRUBS									
Atriplex canescens	10.00	0.00	15.00	10.00	20.00	0.00	0.00	10.00	15.00
Artemisia tridentata	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS									
Bassia hyssopifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES									
Agropyron dasystachyum	15.00	20.00	30.00	15.00	10.00	20.00	20.00	10.00	10.00
Agropyron cristatum	0.00	5.00	0.00	10.00	10.00	0.00	20.00	0.00	0.00
Bromus tectorum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oryzopsis hymenoides	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sitanian hystrix	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER									
Total Living Cover	40.00	30.00	45.00	35.00	40.00	25.00	40.00	20.00	25.00
Litter	10.00	5.00	10.00	10.00	5.00	15.00	15.00	10.00	10.00
Bareground	10.00	10.00	15.00	30.00	40.00	15.00	20.00	15.00	20.00
Rock	40.00	55.00	30.00	25.00	15.00	45.00	25.00	55.00	45.00
% COMPOSITION									
Shrubs	25.00	0.00	33.33	28.57	50.00	20.00	0.00	50.00	60.00
Forbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grasses	75.00	100.00	66.67	71.43	50.00	80.00	100.00	50.00	40.00

10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
40.00	10.00	0.00	35.00	5.00	0.00	20.00	10.00	10.00	0.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	5.00	5.00	0.00	10.00	0.00	25.00	5.00	10.00	15.00
5.00	20.00	5.00	5.00	15.00	20.00	15.00	0.00	30.00	10.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	5.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	35.00	20.00	50.00	35.00	30.00	35.00	35.00	45.00	30.00	35.00
10.00	5.00	5.00	5.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00
10.00	10.00	10.00	20.00	25.00	15.00	5.00	10.00	25.00	25.00	35.00
30.00	50.00	65.00	25.00	20.00	45.00	50.00	45.00	20.00	35.00	20.00
80.00	28.57	0.00	70.00	14.29	0.00	57.14	28.57	22.22	33.33	28.57
0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	71.43	100.00	20.00	85.71	100.00	42.86	71.43	77.78	66.67	71.43

UP&L-COTTONWOOD/WILBERG
Cell #2
Old Waste Rock (Interim Reveg)
Slope: 0-1 deg
Exposure: E
Sample Date: 1 Sept 1993

Mean	SDev	Freq	
			SHRUBS
11.00	10.91		Atriplex canescens
0.25	1.09		Artemisia tridentata
0.50	2.18		Chrysothamnus nauseosus
			FORBS
0.25	1.09		Bassia hyssopifolia
			GRASSES
11.50	8.23		Agropyron dasystachyum
9.00	8.46		Agropyron cristatum
0.25	1.09		Bromus tectorum
1.50	4.50		Oryzopsis hymenoides
0.75	2.38		Sitanian hystrix
			COVER
35.00	8.51		Total Living Cover
9.75	3.70		Litter
18.25	9.12		Bareground
37.00	14.00		Rock
			% COMPOSITION
31.48	22.97		Shrubs
0.50	2.18		Forbs
68.02	23.90		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #3

AREA: Cottonwood/Wilberg Waste Rock Area (Interim Reveg)

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 0-1 deg.

EXPOSURE: E

AREA:

ANIMAL USE/DISTURBANCE: Heavy use by wildlife. I think the deer use the PJ cover all day. Then in late evening and early morning's really utilize this open area.

EROSION: None

COVER: ~35-40% (by quick visual estimate)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex canescens
Atriplex cuneata

Halogeton glomeratus
Melilotus officinalis
Salsola iberica

Agropyron intermedium
Agropyron smithii
Agropyron cristatum
Hilaria jamesii
Stipa comata

NOTES:

1) More density of shrubs than Cells 1 & 2
2) Best cell when compared to Cells 1 & 2
3) Condition: excellent
4) Did qualitative measurements only.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #4

AREA: Cottonwood/Wilberg Waste Rock Area (Interim Reveg)

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 1 - 2 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Heavy cattle use/disturbance 3-4 years ago. Deer use extensively now. I think the deer (& rabbits) use the PJ cover all day. Then in late evening and early morning's they really utilize this open area.

EROSION: None

COVER: Approx. 35%

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Atriplex canescens
Atriplex cuneata

Halogeton glomeratus
Melilotus officinalis
Salsola iberica

Agropyron intermedium
Agropyron smithii
Agropyron cristatum
Hilaria jamesii
Stipa comata

NOTES:
1) Qualitative sampling only. Estimated cover by visually inspection only (no quadrats).
2) Good grass cover.
3) Much fewer shrubs than #3
4) Condition: good

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #5

AREA: Cottonwood/Wilberg Waste Rock Area (OLD)

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 1 - 2 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE:

EROSION: None

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

NOTES: 1) This cell was reseeded this year.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #6

AREA: Cottonwood/Wilberg Waste Rock Area (OLD)

DATE:

WORKERS: P. Collins, D. Collins

SLOPE: 1 - 2 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: 2 - 3 years ago there was heavy disturbance by cattle.

EROSION: None

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

NOTES: 1) This cell was reseeded this year.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Cell #7

AREA: Cottonwood/Wilberg Waste Rock Area (new 1992)

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 1-2 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: moderate

EROSION: minimal

COVER: ~ 40% by qualitative methods

DOMINANT PLANT SPECIES OBSERVED:

Kochia scoparia
Sisymbrium altissimum

(some new grass beginning)

NOTES:

1) This cell was seeded in 1992.

2) Some new grass spp. beginning to sprout, but they were unidentifiable. Otherwise, this cell was almost exclusively "weedy" species.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: CTW Reference Area

AREA: Cottonwood/Wilberg Waste Rock Area (OLD)

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 1 - 5 deg

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Deer use common

EROSION: slight

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

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

Eriogonum bicolor
Euphorbia fendleri
Penstemon pachyphyllus

DENSITY:	NO./ACRE
Cercocarpus montanus	57.59
Ephedra viridis	187.18
Juniperus osteosperma	201.58
Opuntia polyacantha	36.00
Pinus edulis	352.76
Yucca harrimaniae	28.80
TOTAL	863.91

ANNUAL BIOMASS PRODUCTION:

	Pounds/Acre		
	Mean	Std Dev	Samp. Size
Herbaceous species	41.74	181.66	15 (75)
Woody species	328.10	445.71	15 (75)
TOTAL	368.71	500.10	15 (75)

NOTES:
1) Cover estimated with m^2 quadrats (ocular).
2) Density estimated by pt. quarter method.
3) Production estimated by clipping and weighing (double sampling).

UP&L-COTTONWOOD/WILBERG
CTW Reference Area
Old Waste Rock Area
Slope 1-5 deg
Exposure: E

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Pinus edulis	18.00	0.00	15.00	0.00	0.00	50.00	0.00	0.00	0.00	40.00	5.00
Opuntia polyacantha	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Juniperus ostersperma	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	10.00	0.00	0.00
Yucca harrimaniae	0.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00
Ephedra viridis	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	0.00	0.00	0.00
Lepidium montanum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS											
Penstemon sp.	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
Eriogonum bicolor	0.00	0.00	0.00	10.00	5.00	0.00	0.00	0.00	0.00	0.00	3.00
Euphorbia fendleri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Eriogonum sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
COVER											
Overstory	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	20.00	8.00
Understory	20.00	10.00	15.00	10.00	10.00	25.00	25.00	10.00	10.00	20.00	2.00
Litter	5.00	25.00	20.00	25.00	10.00	40.00	5.00	10.00	75.00	55.00	45.00
Bareground	25.00	55.00	5.00	60.00	50.00	5.00	45.00	70.00	10.00	3.00	25.00
Rock	50.00	10.00	60.00	5.00	30.00	5.00	25.00	10.00	5.00	2.00	20.00
% COMPOSITION											
Shrubs	90.00	100.00	100.00	0.00	50.00	100.00	92.00	100.00	100.00	100.00	50.00
Forbs	10.00	0.00	0.00	100.00	50.00	0.00	8.00	0.00	0.00	0.00	50.00
Grasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00
0.00	0.00	30.00	45.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	0.00	0.00	0.00	0.00	0.00	9.00	5.00	0.00	10.00	0.00	0.00	35.00	35.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	10.00	0.00	0.00	0.00	0.00	1.00	5.00	20.00	27.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	0.00	30.00	25.00	0.00	15.00	9.00	5.00	0.00	20.00	0.00	15.00	35.00	20.00
1.00	10.00	1.00	20.00	25.00	15.00	1.00	5.00	20.00	20.00	10.00	5.00	5.00	15.00
10.00	25.00	19.00	20.00	5.00	5.00	10.00	20.00	30.00	35.00	5.00	15.00	5.00	45.00
55.00	60.00	25.00	30.00	10.00	60.00	60.00	65.00	45.00	10.00	5.00	55.00	50.00	10.00
10.00	5.00	25.00	5.00	60.00	5.00	20.00	5.00	5.00	15.00	80.00	10.00	5.00	10.00
96.00	100.00	96.77	100.00	100.00	100.00	100.00	100.00	100.00	92.50	0.00	75.00	87.50	100.00
4.00	0.00	3.23	0.00	0.00	0.00	0.00	0.00	0.00	7.50	100.00	25.00	12.50	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

UP&L-COTTONWOOD/WILBERG
CTW Reference Area
Old Waste Rock Area
Slope 1-5 deg
Exposure: E
Sample Date: 2 Sept 1993

26.00	27.00	28.00	29.00	30.00	Mean	SDev	Freq	
								SHRUBS
0.00	8.00	40.00	45.00	15.00	11.87	16.75		Pinus edulis
0.00	0.00	0.00	0.00	0.00	0.33	1.80		Opuntia polyacantha
0.00	0.00	0.00	0.00	0.00	4.43	9.60		Juniperus osterspermа
0.00	0.00	0.00	0.00	0.00	0.43	2.33		Yucca harrimaniae
0.00	0.00	0.00	0.00	0.00	2.77	6.39		Ephedra viridis
0.00	0.00	0.00	0.00	0.00	0.83	4.49		Lepidium montanum
								FORBS
0.00	0.00	0.00	0.00	0.00	0.20	0.54		Penstemon sp.
5.00	2.00	0.00	0.00	0.00	1.17	2.31		Eriogonum bicolor
0.00	0.00	0.00	0.00	0.00	0.50	1.69		Euphorbia fendleri
5.00	0.00	0.00	0.00	0.00	0.17	0.90		Eriogonum sp.
								GRASSES
								COVER
0.00	0.00	20.00	25.00	0.00	9.87	11.37		Overstory
10.00	10.00	20.00	20.00	15.00	12.83	7.34		Understory
5.00	5.00	55.00	50.00	65.00	24.80	19.99		Litter
60.00	60.00	3.00	3.00	15.00	34.47	23.60		Bareground
25.00	25.00	2.00	2.00	5.00	18.03	19.61		Rock
								% COMPOSITION
0.00	80.00	100.00	100.00	100.00	83.66	30.78		Shrubs
100.00	20.00	0.00	0.00	0.00	16.34	30.78		Forbs
0.00	0.00	0.00	0.00	0.00	0.00	0.00		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Road Slopes

AREA: Cottonwood/Wilberg New Waste Rock Area (1990 Interim)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: variable

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: Slight

COVER: (see quant. data)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Ceratoides lanata

Halogeton glomeratus
Hedysarum boreale
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Elymus cinereus
Oryzopsis hymenoides

NOTES: 1) Approximately 50% of the cover was dominated by weedy plant species in 1992. This year about 90% of the cover were desirable species. A marked improvement.
2) To record the quantative data, we placed meter sq. quadrats randomly entire length of the road.

UP&L-COTTONWOOD/WILBERG
Road Slopes
New Waste Rock Site (1990)
Slope: variable
Exposure: variable

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex canescens	10.00	5.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
Ceratoides lanata	0.00	0.00	5.00	5.00	5.00	5.00	20.00	0.00	0.00	10.00
Atriplex confertifolia	0.00	0.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00
FORBS										
Medicago sativa	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	5.00
Penstemon palmeri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
Salsola iberica	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
GRASSES										
Elymus salinus	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus cinereus	0.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	20.00	10.00
Agropyron smithii	0.00	25.00	10.00	0.00	0.00	5.00	10.00	0.00	0.00	10.00
Oryzopsis hymenoides	10.00	0.00	0.00	0.00	0.00	0.00	10.00	15.00	10.00	0.00
Sitanion hystrix	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Agropyron dasystachyum	15.00	0.00	15.00	0.00	15.00	15.00	5.00	0.00	0.00	5.00
COVER										
Total Living Cover	35.00	40.00	35.00	25.00	35.00	40.00	50.00	25.00	35.00	40.00
Litter	10.00	10.00	10.00	10.00	5.00	10.00	10.00	5.00	5.00	5.00
Bareground	30.00	25.00	30.00	40.00	25.00	25.00	25.00	5.00	25.00	45.00
Rock	25.00	25.00	25.00	25.00	35.00	25.00	15.00	65.00	35.00	10.00
% COMPOSITION										
Shrubs	28.57	12.50	14.29	20.00	57.14	37.50	40.00	0.00	0.00	25.00
Forbs	0.00	25.00	0.00	20.00	0.00	0.00	0.00	20.00	14.29	12.50
Grasses	71.43	62.50	85.71	60.00	42.86	62.50	60.00	80.00	85.71	62.50

UP&L-COTTONWOOD/WILBERG
Road Slopes
New Waste Rock Site (1990)
Slope: variable
Exposure: variable
Sample Date: 17 Sept 1993

11.00	12.00	Mean	SDev	Freq	
					SHRUBS
5.00	5.00	2.92	3.80		Atriplex canescens
5.00	0.00	4.58	5.57		Ceratoides lanata
0.00	0.00	1.25	2.98		Atriplex confertifolia
					FORBS
0.00	0.00	1.25	2.17		Medicago sativa
0.00	0.00	0.25	0.83		Penstemon palmeri
0.00	0.00	0.17	0.55		Halogeton glomeratus
0.00	0.00	0.83	1.86		Salsola iberica
					GRASSES
0.00	0.00	0.83	1.86		Elymus salinus
0.00	0.00	0.83	2.76		Agropyron spicatum
10.00	10.00	5.00	6.12		Elymus cinereus
5.00	5.00	5.83	7.02		Agropyron smithii
5.00	0.00	4.17	5.34		Oryzopsis hymenoides
0.00	5.00	0.83	1.86		Sitanion hystrix
5.00	5.00	6.67	6.24		Agropyron dasystachyum
					COVER
35.00	30.00	35.42	6.60		Total Living Cover
5.00	10.00	7.92	2.47		Litter
35.00	25.00	27.92	9.46		Bareground
25.00	35.00	28.75	13.09		Rock
					% COMPOSITION
28.57	16.67	23.35	15.87		Shrubs
0.00	0.00	7.65	9.50		Forbs
71.43	83.33	69.00	12.48		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Topsoil Stockpiles

AREA: Cottonwood/Wilberg Waste Rock Area (1990 Interim)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: variable

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: Slight

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Ceratoides lanata

Halogeton glomeratus
Hedysarum boreale
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Elymus cinereus
Oryzopsis hymenoides
Poa secunda
Sitanion hystrix
Sporobo/lus airoides

NOTES:
1) We sampled 2 piles. Both desirable and weedy species were common, the north pile was about 1:1 desirable spp. vs. weedy. The south pile had > 90% desirable spp. (the data were combined on the summary sheets).
2) We placed quadrats randomly on 2 piles.
3) All areas had good representation of growth.
4) There was good species diversity.

UP&L-COTTONWOOD/WILBERG
Toosoil Stockpiles
New Waste Rock Site (1990)
Slope: variable
Exposure: variable

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Ceratoides lanata	5.00	5.00	0.00	10.00	5.00	10.00	10.00	0.00	5.00	5.00
Atriplex canescens	5.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex confertifolia	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS										
Medicago sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00
Salsola iberica	5.00	20.00	40.00	20.00	10.00	0.00	0.00	0.00	0.00	20.00
Halogeton glomeratus	10.00	0.00	10.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
Astragalus cicer	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
GRASSES										
Sitanion hystrix	0.00	0.00	0.00	0.00	0.00	5.00	3.00	5.00	0.00	0.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00
Agropyron smithii	0.00	0.00	0.00	10.00	0.00	0.00	10.00	10.00	5.00	0.00
Oryzopsis hymenoides	25.00	15.00	0.00	10.00	0.00	0.00	5.00	0.00	15.00	25.00
Agropyron dasystachyum	0.00	0.00	0.00	0.00	10.00	0.00	5.00	5.00	5.00	0.00
COVER										
Total Living Cover	50.00	45.00	60.00	50.00	50.00	25.00	35.00	25.00	35.00	50.00
Litter	5.00	5.00	10.00	5.00	15.00	15.00	10.00	15.00	5.00	5.00
Bareground	15.00	30.00	15.00	25.00	10.00	25.00	25.00	30.00	30.00	25.00
Rock	30.00	20.00	15.00	20.00	25.00	35.00	30.00	30.00	30.00	20.00
% COMPOSITION										
Shrubs	20.00	22.22	16.67	20.00	10.00	40.00	28.57	0.00	14.29	10.00
Forbs	30.00	44.44	83.33	40.00	60.00	0.00	5.71	20.00	14.29	40.00
Grasses	50.00	33.33	0.00	40.00	30.00	60.00	65.71	80.00	71.43	50.00

UP&L-COTTONWOOD/WILBERG
Topsoil Stockpiles
New Waste Rock Site (1990)
Slope: variable
Exposure: variable
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
5.50	3.50		Ceratoides lanata
1.50	2.29		Atriplex canescens
0.50	1.50		Atriplex confertifolia
			FORBS
1.00	2.00		Medicago sativa
11.50	12.66		Salsola iberica
4.00	6.63		Halogeton glomeratus
0.20	0.60		Astragalus cicer
			GRASSES
1.30	2.05		Sitanion hystrix
0.50	1.50		Elymus cinereus
1.00	2.00		Agropyron spicatum
3.50	4.50		Agropyron smithii
9.50	9.60		Oryzopsis hymenoides
2.50	3.35		Agropyron dasystachyum
			COVER
42.50	11.24		Total Living Cover
9.00	4.36		Litter
23.00	6.78		Bareground
25.50	6.10		Rock
			% COMPOSITION
18.17	10.43		Shrubs
33.78	24.18		Forbs
48.05	22.24		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Subsoil Piles

AREA: Cottonwood/Wilberg New Waste Rock Area (1990 Interim)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: variable

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: As last year, areas that were mulched had many more desirable spp. and a minimum of erosion. Unmulched area had more erosion (1"-2" deep).

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Ceratoides lanata

Halogeton glomeratus
Hedysarum boreale
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Elymus cinereus
Oryzopsis hymenoides
Sitanion hystrix

NOTES:
1) Most common shrub:forb:grass were winterfat:yellow
2) The top of the pile had more desirable spp. growth in areas where water had collected.
3) As last year, more growth continues to occur in gouges.
4) Unmulched areas were dominated by weeds.
5) Areas that were mulched had many more desirable spp. and a minimum of erosion.
6) The areas with erosion control mat has the best representation of shrub growth.
7) We sampled randomly on all piles combining the data for summaries.

UP&L-COTTONWOOD/WILBERG
Subsoil Piles
New Waste Rock Site (1990)
Slope: variable
Exposure: variable

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex canescens	10.00	0.00	0.00	5.00	5.00	5.00	25.00	0.00	5.00	0.00
Ceratoides lanata	0.00	0.00	0.00	10.00	5.00	0.00	0.00	0.00	0.00	0.00
Atriplex gardneri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
FORBS										
Medicago sativa	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogeton glomeratus	0.00	25.00	35.00	5.00	0.00	25.00	20.00	0.00	0.00	0.00
Salsola iberica	30.00	20.00	10.00	5.00	15.00	0.00	0.00	0.00	0.00	0.00
Astragalus cicer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	5.00
GRASSES										
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	15.00	0.00	0.00
Oryzopsis hymenoides	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	0.00	0.00	0.00	10.00	5.00	0.00	0.00	5.00	0.00	0.00
COVER										
Total Living Cover	50.00	45.00	45.00	35.00	30.00	35.00	45.00	25.00	20.00	25.00
Litter	10.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Bareground	35.00	40.00	45.00	55.00	60.00	55.00	45.00	65.00	70.00	65.00
Rock	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
% COMPOSITION										
Shrubs	20.00	0.00	0.00	42.86	33.33	14.29	55.56	0.00	25.00	80.00
Forbs	70.00	100.00	100.00	28.57	50.00	71.43	44.44	0.00	75.00	20.00
Grasses	10.00	0.00	0.00	28.57	16.67	14.29	0.00	100.00	0.00	0.00

UP&L-COTTONWOOD/WILBERG
Subsoil Piles
New Waste Rock Site (1990)
Slope: variable
Exposure: variable
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
5.50	7.23		Atriplex canescens
1.50	3.20		Ceratoides lanata
2.00	6.00		Atriplex gardneri
			FORBS
0.50	1.50		Medicago sativa
11.00	13.00		Halogeton glomeratus
8.00	10.05		Salsola iberica
2.00	4.58		Astragalus cicer
			GRASSES
0.50	1.50		Elymus cinereus
2.00	4.58		Agropyron dasystachyum
0.50	1.50		Oryzopsis hymenoides
2.00	3.32		Agropyron smithii
			COVER
35.50	9.86		Total Living Cover
6.00	2.00		Litter
53.50	11.19		Bareground
5.00	0.00		Rock
			% COMPOSITION
27.10	25.13		Shrubs
55.94	31.66		Forbs
16.95	29.20		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Banks

AREA: Cottonwood/Wilberg New Waste Rock Area (1990 Interim)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: variable

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Slight

EROSION: Minimal on outside bank, slight on inside banks.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Artemisia tridentata
Atriplex canescens
Ceratoides lanata

Halogeton glomeratus
Hedysarum boreale
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Elymus cinereus
Oryzopsis hymenoides
Sitanion hystrix
Sporobolus airoides

NOTES:
1) The cover was represented by < 25% weeds this year (the cover was < 50% weeds in 1992).
2) Site looks good.

UP&L-COTTONWOOD/WILBERG
Sediment Pond Banks
New Waste Rock Site (1990)
Slope: variable
Exposure: variable

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Artemisia tridentata	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex canescens	0.00	20.00	5.00	30.00	20.00	10.00	10.00	10.00	30.00	10.00
Ceratoides lanata	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00
FORBS										
Medicaga sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	5.00	5.00	5.00	0.00	0.00	0.00	0.00
Salsola iberica	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	30.00
GRASSES										
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00
Sitanion hystrix	5.00	15.00	10.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	10.00	0.00	20.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	15.00	5.00	5.00	0.00	5.00
COVER										
Total Living Cover	35.00	35.00	35.00	40.00	35.00	40.00	30.00	40.00	40.00	50.00
Litter	10.00	5.00	10.00	20.00	15.00	15.00	30.00	10.00	5.00	5.00
Bareground	30.00	30.00	35.00	5.00	25.00	20.00	15.00	20.00	25.00	20.00
Rock	25.00	30.00	20.00	35.00	25.00	25.00	25.00	30.00	30.00	25.00
% COMPOSITION										
Shrubs	57.14	57.14	14.29	75.00	57.14	25.00	50.00	25.00	75.00	30.00
Forbs	0.00	0.00	0.00	12.50	28.57	12.50	0.00	0.00	25.00	60.00
Grasses	42.86	42.86	85.71	12.50	14.29	62.50	50.00	75.00	0.00	10.00

UP&L-COTTONWOOD/WILBERG
Sediment Pond Banks
New Waste Rock Site (1990)
Slope: variable
Exposure: variable
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
2.00	6.00		Artemisia tridentata
14.50	9.60		Atriplex canescens
1.00	2.00		Ceratoides lanata
			FORBS
0.50	1.50		Medicaga sativa
1.50	2.29		Halogeton glomeratus
4.00	8.89		Salsola iberica
			GRASSES
2.50	7.50		Oryzopsis hymenoides
4.00	4.90		Sitanion hystrix
4.00	6.63		Agropyron smithii
1.00	3.00		Elymus cinereus
3.00	4.58		Agropyron dasystachyum
			COVER
38.00	5.10		Total Living Cover
12.50	7.50		Litter
22.50	8.14		Bareground
27.00	4.00		Rock
			% COMPOSITION
46.57	20.52		Shrubs
13.86	18.53		Forbs
39.57	28.02		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

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

AREA: Cottonwood/Wilberg

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 28 deg.

EXPOSURE: S

ANIMAL USE/DISTURBANCE: Grazed by cattle

EROSION: Negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

WOODY SPECIES DENSITY:

	No./Acre
Atriplex canescens	101857.36
Ceratoides lanata	43653.16
Total	145510.52

NOTES:
1) Most of the litter on the data was erosion control mat.
2) Sampled by placing a 200' transect line down and placing a quadrat every 20'.
3) Woody spp. density was done by the point quarter method.
4) There was a good representation of grasses and shrubs, but few forbs.

UP&L-COTTONWOOD/WILBERG
Refuse Berm 1991 (Final)
Waste Rock Site (1991)
Slope: 28 deg
Exposure: S

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex canescens	35.00	20.00	15.00	10.00	15.00	10.00	10.00	5.00	20.00	30.00
Ceratoides lanata	0.00	0.00	10.00	5.00	5.00	15.00	35.00	20.00	10.00	0.00
FORBS										
Lepidium perforiatum	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	10.00	3.00	0.00	0.00	0.00	0.00
Salsola iberica	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
GRASSES										
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
Agropyron smithii	10.00	10.00	5.00	10.00	5.00	15.00	0.00	20.00	5.00	10.00
COVER										
Total Living Cover	45.00	30.00	35.00	25.00	40.00	45.00	45.00	45.00	45.00	45.00
Litter	30.00	20.00	35.00	55.00	30.00	25.00	30.00	25.00	10.00	30.00
Bareground	20.00	45.00	25.00	15.00	23.00	25.00	20.00	10.00	20.00	20.00
Rock	5.00	5.00	5.00	5.00	7.00	5.00	5.00	20.00	25.00	5.00
% COMPOSITION										
Shrubs	77.78	66.67	71.43	60.00	50.00	55.56	100.00	55.56	66.67	66.67
Forbs	0.00	0.00	14.29	0.00	37.50	11.11	0.00	0.00	0.00	11.11
Grasses	22.22	33.33	14.29	40.00	12.50	33.33	0.00	44.44	33.33	22.22

UP&L-COTTONWOOD/WILBERG
Refuse Berm 1991 (Final)
Waste Rock Site (1991)
Slope: 28 deg
Exposure: S
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
17.00	9.00		Atriplex canescens
10.00	10.49		Ceratoides lanata
			FORBS
1.50	2.29		Lepidium perforiatum
1.30	3.03		Halogeton glomeratus
0.20	0.60		Salsola iberica
			GRASSES
1.00	3.00		Agropyron dasystachyum
9.00	5.39		Agropyron smithii
			COVER
40.00	7.07		Total Living Cover
29.00	10.91		Litter
22.30	8.70		Bareground
8.70	7.01		Rock
			% COMPOSITION
67.03	13.51		Shrubs
7.40	11.44		Forbs
25.57	13.11		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Ninth East Road Breakout

AREA: Cottonwood/Wilberg (1988 Reveg. Area)

DATE: 9/1/93

WORKERS: P. Collins, D. Collins

SLOPE: variable

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: slight

EROSION: Some slight erosion.

COVER: (see also quantitative data) Cover was < 10% weedy species.

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamus nauseosus

Aster chilensis
Melilotus officinalis

Agropyron dasystachyum
Oryzopsis hymenoides
Agropyron cristatum

NOTES:
1) Sampled regularly up road.
2) Erosion control mat still on road.

UP&L-COTTONWOOD/WILBERG
Ninth East Breakout
1988 Reveg Area
Slope: variable
Exposure: variable

Sample Date: 1 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Aster chilensis	10.00	15.00	0.00	0.00	5.00	5.00	10.00	10.00	25.00	0.00
Melilotus officinalis	15.00	10.00	15.00	10.00	30.00	5.00	5.00	15.00	0.00	5.00
GRASSES										
Agropryon dasystachyum	0.00	0.00	20.00	20.00	0.00	15.00	25.00	10.00	5.00	40.00
COVER										
Total Living Cover	25.00	25.00	35.00	30.00	35.00	25.00	40.00	35.00	30.00	45.00
Litter	5.00	5.00	10.00	5.00	10.00	5.00	5.00	45.00	10.00	10.00
Bareground	60.00	60.00	35.00	55.00	5.00	5.00	5.00	10.00	55.00	40.00
Rock	10.00	10.00	20.00	10.00	50.00	65.00	50.00	10.00	5.00	5.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	100.00	100.00	42.86	33.33	100.00	40.00	37.50	71.43	83.33	11.11
Grasses	0.00	0.00	57.14	66.67	0.00	60.00	62.50	28.57	16.67	88.89

UP&L-COTTONWOOD/WILBERG
Ninth East Breakout
1988 Reveg Area
Slope: variable
Exposure: variable
Sample Date: 1 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
8.00	7.48		Aster chilensis
11.00	8.00		Melilotus officinalis
			GRASSES
13.50	12.46		Agropryon dasystachyum
			COVER
32.50	6.42		Total Living Cover
11.00	11.58		Litter
33.00	23.15		Bareground
23.50	21.34		Rock
			% COMPOSITION
0.00	0.00		Shrubs
61.96	31.21		Forbs
38.04	31.21		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Test Plots

AREA: Cottonwood/Wilberg

DATE: 9/2/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: E (S)

ANIMAL USE/DISTURBANCE: Negligible (fenced)

EROSION: slight

COVER: (see summary below & quantitative data sheets)

NOTES: 1) See reference drawing below.

ROAD

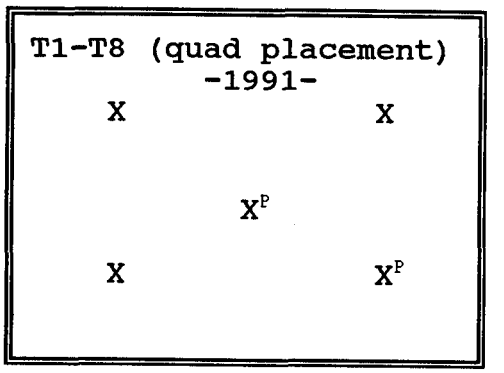
T1* Hydro Mulch	T2* Mulch Blanket	T3* Hay & Netting	T4* No Mulch
T5** Hydro Mulch	T6** Mulch Blanket	T7** Hay & Netting	T8** No Mulch

* Non-irrigated plots

** Irrigated plots

*** Plots are 20' x 20' with 5' between

SITE NAME: Test Plots (continued)



^P Production sample locations

PLANT SPECIES PLANTED

Amalanchier alnifolia
Atriplex canescens
Chrysothamnus nauseosus
Ephedra viridis
Picea pungens
Pseutosuga menziesii

Aster glaucodes
Linum lewsii
Medilotus officinalis
Sphraeralcea coccinea

Agropyron dasystachum
Agropyron intermedium
Agropyron smithii
Agropyron spicatum
Orzopsis hymenoides
Stipa comata

PLANT SPECIES OBSERVED

Chrysothamnus nauseosus
Eriogonum corymbosum

Aster glaucodes
Eriogonum sp.
Halogeton glomeratus
Kochia scoparia
Melilotus officialis
Penstemon palmeri
Salsola iberica

Agropyron spicatum
Agropyrom dasystachyum

SITE NAME: Test Plots (continued)

METHODS: Cover: Ocular methods by m^2 quadrats.
Density: Total counts within subplots.
Production: clip & weighing, excluding weeds (double sampling)

SUMMARY FOR 1993 (see also quantitative data sheets)

	COVER (%living)	DESIRABLE SPP. (%)	DENSITY (No./ac)
T1	34.00	17.00	2295.80
T2	22.00	4.00	326.70
T3	39.00	7.00	326.70
T4	24.00	6.00	217.80
T5	44.00	43.00	4356.00
T6	45.00	45.00	3158.10
T7	41.00	38.00	871.20
T8	42.00	39.00	2613.60

ANNUAL BIOMASS PRODUCTION:

T1

	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	527.38	426.95	2 (10)
Woody species	271.81	216.78	2 (10)
TOTAL	799.10	451.46	2 (10)

T2

	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	2.93	4.50	2 (10)
Woody species	.14	.35	2 (10)
TOTAL	3.07	4.41	2 (10)

T3

	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	22.41	57.93	2 (10)
Woody species	23.51	60.78	2 (10)
TOTAL	45.92	76.67	2 (10)

SITE NAME: Test Plots (continued)

T4	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	4391.55	13862.01	2 (10)
Woody species	22.16	42.70	2 (10)
TOTAL	4413.70	13854.27	2 (10)

T5	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	494.68	390.74	2 (10)
Woody species	400.47	451.23	2 (10)
TOTAL	895.15	837.46	2 (10)

T6	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	537.26	404.96	2 (10)
Woody species	394.85	117.83	2 (10)
TOTAL	933.22	436.16	2 (10)

T7	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	257.99	66.57	2 (10)
Woody species	366.64	348.24	2 (10)
TOTAL	624.63	349.25	2 (10)

SITE NAME: Test Plots (continued)

T8	Pounds/Acre Mean	Std Dev	Samp. Size
Herbaceous species	304.62	61.56	2 (10)
Woody species	431.53	574.04	2 (10)
TOTAL	736.15	620.46	2 (10)

CONCLUSIONS: Clearly, the plots that were once irrigated continue to do better than unirrigated.

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #1 (T1)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Chrysothamnus nauseosus	0.00	0.00	5.00	0.00	35.00	8.00	13.64	
FORBS								
Halogeton glomeratus	5.00	20.00	0.00	2.00	0.00	5.40	7.53	
Kochia scoparia	15.00	15.00	5.00	8.00	15.00	11.60	4.27	
Aster chilensis	0.00	0.00	20.00	5.00	10.00	7.00	7.48	
GRASSES								
Elymus cinereus	0.00	0.00	5.00	0.00	0.00	1.00	2.00	
Agropyron intermedium	0.00	0.00	0.00	0.00	5.00	1.00	2.00	
COVER								
Total Living Cover	20.00	35.00	35.00	15.00	65.00	34.00	17.44	
Litter	20.00	10.00	10.00	5.00	5.00	10.00	5.48	
Bareground	50.00	45.00	50.00	65.00	25.00	47.00	12.88	
Rock	10.00	10.00	5.00	15.00	5.00	9.00	3.74	
% COMPOSITION								
Shrubs	0.00	0.00	14.29	0.00	53.85	13.63	20.86	
Forbs	100.00	100.00	71.43	100.00	38.46	81.98	24.41	
Grasses	0.00	0.00	14.29	0.00	7.69	4.40	5.77	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #2 (T2)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Eriogonum corymbosum	5.00	0.00	0.00	0.00	3.00	1.60	2.06	
FORBS								
Halogeton glomeratus	0.00	15.00	20.00	0.00	0.00	7.00	8.72	
Kochia scoparia	3.00	15.00	20.00	15.00	2.00	11.00	7.18	
Melilotus officinalis	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
Aster chilensis	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
GRASSES								
Agropyron intermedium	2.00	0.00	0.00	0.00	0.00	0.40	0.80	
COVER								
Total Living Cover	20.00	30.00	40.00	15.00	5.00	22.00	12.08	
Litter	15.00	30.00	5.00	10.00	5.00	13.00	9.27	
Bareground	50.00	35.00	50.00	70.00	70.00	55.00	13.42	
Rock	15.00	5.00	5.00	5.00	20.00	10.00	6.32	
% COMPOSITION								
Shrubs	25.00	0.00	0.00	0.00	60.00	17.00	23.58	
Forbs	65.00	100.00	100.00	100.00	40.00	81.00	24.58	
Grasses	10.00	0.00	0.00	0.00	0.00	2.00	4.00	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #3 (T3)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Chrysothamnus nauseosus	0.00	0.00	0.00	10.00	0.00	2.00	4.00	
FORBS								
Halogeton glomeratus	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
Aster chilensis	0.00	0.00	0.00	25.00	0.00	5.00	10.00	
Kochia scoparia	35.00	35.00	40.00	5.00	40.00	31.00	13.19	
GRASSES								
COVER								
Total Living Cover	40.00	35.00	40.00	40.00	40.00	39.00	2.00	
Litter	10.00	20.00	10.00	15.00	25.00	16.00	5.83	
Bareground	45.00	35.00	45.00	35.00	15.00	35.00	10.95	
Rock	5.00	10.00	5.00	10.00	20.00	10.00	5.48	
% COMPOSITION								
Shrubs	0.00	0.00	0.00	25.00	0.00	5.00	10.00	
Forbs	100.00	100.00	100.00	75.00	100.00	95.00	10.00	
Grasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #4 (T4)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Eriogonum corymbosum	0.00	0.00	0.00	0.00	10.00	2.00	4.00	
FORBS								
Halogeton glomeratus	15.00	0.00	5.00	5.00	5.00	6.00	4.90	
Aster chilensis	15.00	0.00	0.00	5.00	0.00	4.00	5.83	
Kochia scoparia	0.00	20.00	20.00	0.00	20.00	12.00	9.80	
GRASSES								
COVER								
Total Living Cover	30.00	20.00	25.00	10.00	35.00	24.00	8.60	
Litter	10.00	10.00	5.00	5.00	10.00	8.00	2.45	
Bareground	55.00	45.00	50.00	70.00	25.00	49.00	14.63	
Rock	5.00	25.00	20.00	15.00	30.00	19.00	8.60	
% COMPOSITION								
Shrubs	0.00	0.00	0.00	0.00	28.57	5.71	11.43	
Forbs	100.00	100.00	100.00	100.00	71.43	94.29	11.43	
Grasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #5 (T5)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Erigonum corymbosum	20.00	10.00	5.00	5.00	20.00	12.00	6.78	
Chrysothamnus nauseosus	0.00	0.00	20.00	10.00	0.00	6.00	8.00	
FORBS								
Aster chilensis	10.00	15.00	45.00	0.00	20.00	18.00	15.03	
Penstemon palmeri	2.00	0.00	0.00	0.00	0.00	0.40	0.80	
Melilotus officinalis	3.00	5.00	5.00	0.00	0.00	2.60	2.24	
Kochia scoparia	0.00	0.00	0.00	5.00	0.00	1.00	2.00	
GRASSES								
Agropyron spicatum	0.00	5.00	0.00	0.00	0.00	1.00	2.00	
Agropyron dasystachyum	0.00	0.00	0.00	0.00	5.00	1.00	2.00	
Agropyron intermedium	5.00	0.00	0.00	0.00	5.00	2.00	2.45	
COVER								
Total Living Cover	40.00	35.00	75.00	20.00	50.00	44.00	18.28	
Litter	5.00	5.00	5.00	5.00	5.00	5.00	0.00	
Bareground	30.00	40.00	15.00	65.00	25.00	35.00	17.03	
Rock	25.00	20.00	5.00	10.00	20.00	16.00	7.35	
% COMPOSITION								
Shrubs	50.00	28.57	33.33	75.00	40.00	45.38	16.46	
Forbs	37.50	57.14	66.67	25.00	40.00	45.26	14.82	
Grasses	12.50	14.29	0.00	0.00	20.00	9.36	8.03	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #6 (T6)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Chrysothamnus nauseosus	13.00	10.00	5.00	10.00	5.00	8.60	3.14	
Eriogonum corymbosum	0.00	10.00	0.00	0.00	0.00	2.00	4.00	
FORBS								
Aster chilensis	5.00	20.00	15.00	15.00	45.00	20.00	13.42	
Linum lewsii	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
Melilotus officinalis	2.00	0.00	5.00	5.00	0.00	2.40	2.24	
GRASSES								
Agropyron spicatum	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
Agropyron dasystachyum	5.00	5.00	10.00	5.00	10.00	7.00	2.45	
Agropyron intermedium	5.00	5.00	5.00	0.00	0.00	3.00	2.45	
COVER								
Total Living Cover	40.00	50.00	40.00	35.00	60.00	45.00	8.94	
Litter	5.00	10.00	10.00	10.00	5.00	8.00	2.45	
Bareground	50.00	20.00	35.00	20.00	30.00	31.00	11.14	
Rock	5.00	20.00	15.00	35.00	5.00	16.00	11.14	
% COMPOSITION								
Shrubs	32.50	40.00	12.50	28.57	8.33	24.38	12.05	
Forbs	30.00	40.00	50.00	57.14	75.00	50.43	15.33	
Grasses	37.50	20.00	37.50	14.29	16.67	25.19	10.21	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #7 (T7)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Chrysothamnus nauseosus	5.00	0.00	0.00	0.00	0.00	1.00	2.00	
Atriplex confertifolia	0.00	25.00	0.00	0.00	0.00	5.00	10.00	
FORBS								
Aster chilensis	10.00	5.00	20.00	20.00	30.00	17.00	8.72	
Kochia scoparia	5.00	0.00	5.00	0.00	5.00	3.00	2.45	
GRASSES								
Agropyron spicatum	0.00	5.00	0.00	5.00	0.00	2.00	2.45	
Oryzopsis hymenoides	0.00	0.00	5.00	0.00	0.00	1.00	2.00	
Agropyron cristatum	0.00	0.00	5.00	0.00	0.00	1.00	2.00	
Agropyron intermedium	10.00	5.00	5.00	15.00	0.00	7.00	5.10	
Agropyron dasystachyum	10.00	0.00	0.00	0.00	10.00	4.00	4.90	
COVER								
Total Living Cover	40.00	40.00	40.00	40.00	45.00	41.00	2.00	
Litter	25.00	10.00	15.00	20.00	20.00	18.00	5.10	
Bareground	25.00	45.00	25.00	35.00	20.00	30.00	8.94	
Rock	10.00	5.00	20.00	5.00	15.00	11.00	5.83	
% COMPOSITION								
Shrubs	12.50	62.50	0.00	0.00	0.00	15.00	24.24	
Forbs	37.50	12.50	62.50	50.00	77.78	48.06	22.23	
Grasses	50.00	25.00	37.50	50.00	22.22	36.94	11.84	

UP&L-COTTONWOOD/WILBERG
TEST PLOTS
Test Plot #8 (T8)
Slope: 35 deg
Exposure: E(S)

Sample Date: 2 Sept 1993	1.00	2.00	3.00	4.00	5.00	Mean	SDev	Freq
SHRUBS								
Eriogonum corymbosum	0.00	0.00	30.00	0.00	0.00	6.00	12.00	
Chrysothamnus nauseosus	5.00	5.00	5.00	0.00	0.00	3.00	2.45	
FORBS								
Aster chilensis	25.00	25.00	10.00	30.00	55.00	29.00	14.63	
Kochia scoparia	5.00	5.00	0.00	5.00	0.00	3.00	2.45	
GRASSES								
Agropyron intermedium	0.00	0.00	5.00	0.00	0.00	1.00	2.00	
COVER								
Total Living Cover	35.00	35.00	50.00	35.00	55.00	42.00	8.72	
Litter	5.00	5.00	5.00	5.00	5.00	5.00	0.00	
Bareground	30.00	25.00	25.00	35.00	5.00	24.00	10.20	
Rock	30.00	35.00	20.00	25.00	35.00	29.00	5.83	
% COMPOSITION								
Shrubs	14.29	14.29	70.00	0.00	0.00	19.71	25.94	
Forbs	85.71	85.71	20.00	100.00	100.00	78.29	29.83	
Grasses	0.00	0.00	10.00	0.00	0.00	2.00	4.00	

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICCORP ELECTRIC OPERATIONS (SEPT. 1993)

Cottonwood/Wilberg - Old Fan Road

Cottonwood/Wilberg - Reference Area

Cottonwood/Wilberg - 4th East Road

Cottonwood/Wilberg - Storage Yard Slope

Cottonwood/Wilberg - Parking Lot Slope

Cottonwood/Wilberg - Road/Silo Pad Slope

Cottonwood/Wilberg - Tipple Area Slopes

Cottonwood/Wilberg - Sediment Pond Banks

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Cottonwood/Wilberg - Old Waste Rock - Cell #1

Cottonwood/Wilberg - Old Waste Rock - Cell #2

Cottonwood/Wilberg - Old Waste Rock - Cell #3

Cottonwood/Wilberg - Old Waste Rock - Cell #4

Cottonwood/Wilberg - Old Waste Rock - Cell #5

Cottonwood/Wilberg - CTW Reference Area

Cottonwood/Wilberg -New Waste Rock - Road Slopes

Cottonwood/Wilberg - New Waste Rock
Topsoil Stockpiles - South

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Cottonwood/Wilberg - New Waste Rock
Topsoil Stockpiles - North

Cottonwood/Wilberg - New Waste Rock
Subsoil Stockpile

Cottonwood/Wilberg - New Waste Rock
Sediment Pond Banks

Cottonwood/Wilberg - New Waste Rock
Refuse Berm

Cottonwood/Wilberg - Ninth East Breakout

Cottonwood/Wilberg - Test Plots '88

COTTONWOOD FAN PORTAL AREA

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Reclaimed Slope

AREA: Cottonwood Fan Portal Area

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: W

ANIMAL USE/DISTURBANCE: Wildlife use this steep slope.

EROSION: Negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia nova
Artemisia tridentata
Atriplex canescens
Atriplex confertifolia
Chrysothamnus nauseosus

Aster foliaceus
Halogeton glomeratus

Agropyron cristatum
Elymus salinus
Elymus junceus
Elymus cinereus
Stipa hymenoides

NOTES: 1) Sampled regularly along entire slope.
2) As the previous years indicate also, slope looked very good.

UP&L-COTTONWOOD FAN PORTAL
Reclaimed Slope
Exposure: W
Slope: 35 deg.

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
SHRUBS									
Artemisia tridentata	0.00	5.00	0.00	0.00	10.00	25.00	0.00	0.00	0.00
Chrysothamnus nauseosus	0.00	25.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS									
Aster chilensis	0.00	0.00	5.00	0.00	10.00	0.00	5.00	0.00	0.00
GRASSES									
Agropyron cristatum	0.00	10.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00
Elymus cinereus	40.00	0.00	20.00	10.00	0.00	20.00	15.00	15.00	25.00
Oryzopsis hymenoides	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
COVER									
Total Living Cover	40.00	40.00	25.00	30.00	20.00	45.00	35.00	30.00	35.00
Litter	20.00	10.00	10.00	5.00	5.00	20.00	5.00	10.00	5.00
Bareground	5.00	15.00	10.00	10.00	25.00	10.00	10.00	25.00	5.00
Rock	35.00	35.00	55.00	55.00	50.00	25.00	50.00	35.00	55.00
% COMPOSITION									
Shrubs	0.00	75.00	0.00	0.00	50.00	55.56	14.29	16.67	0.00
Forbs	0.00	0.00	20.00	0.00	50.00	0.00	14.29	0.00	0.00
Grasses	100.00	25.00	80.00	100.00	0.00	44.44	71.43	83.33	100.00

10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
30.00	0.00	25.00	0.00	0.00	5.00	30.00	0.00	0.00	0.00	30.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00
0.00	0.00	0.00	30.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00	20.00	5.00	10.00
0.00	35.00	25.00	10.00	40.00	20.00	0.00	10.00	10.00	20.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.00	35.00	50.00	50.00	40.00	35.00	40.00	40.00	30.00	40.00	50.00
10.00	10.00	15.00	5.00	10.00	10.00	5.00	10.00	5.00	10.00	15.00
5.00	5.00	15.00	20.00	5.00	15.00	25.00	5.00	5.00	5.00	5.00
45.00	50.00	20.00	25.00	45.00	40.00	30.00	45.00	60.00	45.00	30.00
75.00	0.00	50.00	60.00	0.00	14.29	75.00	75.00	0.00	37.50	60.00
0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	0.00
25.00	100.00	50.00	40.00	100.00	57.14	25.00	25.00	100.00	62.50	40.00

UP&L-COTTONWOOD FAN PORTAL
Reclaimed Slope
Exposure: W
Slope: 35 deg.
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
8.00	11.87		Artemisia tridentata
2.50	6.22		Chrysothamnus nauseosus
3.00	9.00		Atriplex canescens
			FORBS
1.50	3.20		Aster chilensis
			GRASSES
5.25	5.80		Agropyron cristatum
16.25	12.13		Elymus cinereus
1.00	4.36		Oryzopsis hymenoides
			COVER
37.50	7.83		Total Living Cover
9.75	4.60		Litter
11.25	7.22		Bareground
41.50	11.30		Rock
			% COMPOSITION
32.91	30.18		Shrubs
5.64	12.81		Forbs
61.44	31.85		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Soil Piles

AREA: Cottonwood Fan Portal Area

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Moderate

EROSION: Slight

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia tridentata
Atriplex canescens
Atriplex confertifolia
Brickelia scabra
Chrysothamnus nauseosus

Aster foliaceus
Halogeton glomeratus
Medicago sativa

Agropyron cristatum
Bromus carinatus
Elymus cinereus
Elymus spicatus
Elymus lanceolatus
Elymus smithii

NOTES: 1) Sampled regularly on subsoil and topsoil piles.

UP&L-COTTONWOOD FAN PORTAL
Soil Piles
Exposure: Variable
Slope: 35 deg.

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
SHRUBS									
Atriplex confertifolia	5.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00
Chrysothamnus nauseosus	5.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
Brickelia microphylla	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Artemisia tridentata	0.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	20.00
FORBS									
Aster chilensis	15.00	5.00	0.00	0.00	10.00	0.00	15.00	0.00	5.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES									
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	0.00	0.00	10.00	0.00	5.00	5.00	0.00
Agropyron dasystachyum	0.00	0.00	5.00	0.00	10.00	0.00	0.00	0.00	0.00
Bromus carinatus	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Agropyron smithii	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus cinereus	0.00	20.00	5.00	0.00	0.00	20.00	15.00	25.00	20.00
COVER									
Total Living Cover	35.00	35.00	40.00	35.00	30.00	45.00	35.00	35.00	45.00
Litter	5.00	10.00	10.00	10.00	10.00	5.00	5.00	20.00	20.00
Bareground	35.00	25.00	25.00	30.00	30.00	25.00	10.00	25.00	5.00
Rock	25.00	30.00	25.00	25.00	30.00	25.00	50.00	20.00	30.00
% COMPOSITION									
Shrubs	28.57	14.29	75.00	100.00	0.00	55.56	0.00	0.00	44.44
Forbs	42.86	14.29	0.00	0.00	33.33	0.00	42.86	0.00	11.11
Grasses	28.57	71.43	25.00	0.00	66.67	44.44	57.14	100.00	44.44

10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
25.00	5.00	0.00	0.00	15.00	0.00	25.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	10.00	0.00
0.00	15.00	20.00	35.00	5.00	5.00	5.00	0.00	0.00	0.00	10.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	20.00	20.00	10.00	5.00	45.00	5.00	20.00	30.00	25.00	25.00
40.00	40.00	40.00	45.00	40.00	50.00	50.00	45.00	45.00	35.00	40.00
5.00	10.00	5.00	5.00	10.00	10.00	5.00	25.00	15.00	15.00	10.00
25.00	25.00	10.00	20.00	35.00	10.00	10.00	10.00	15.00	25.00	10.00
30.00	25.00	45.00	30.00	15.00	30.00	35.00	20.00	25.00	25.00	40.00
62.50	12.50	0.00	0.00	37.50	0.00	80.00	55.56	22.22	0.00	12.50
12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00
25.00	87.50	100.00	100.00	62.50	100.00	20.00	44.44	66.67	100.00	87.50

UP&L-COTTONWOOD FAN PORTAL
Soil Piles
Exposure: Variable
Slope: 35 deg.
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
5.00	9.08		Atriplex confertifolia
2.75	7.15		Chrysothamnus nauseosus
0.25	1.09		Brickelia microphylla
4.50	9.86		Artemisia tridentata
			FORBS
2.75	4.87		Aster chilensis
0.25	1.09		Halogeton glomeratus
			GRASSES
1.50	3.91		Agropyron spicatum
5.75	8.70		Agropyron cristatum
1.00	2.55		Agropyron dasystachyum
0.50	1.50		Bromus carinatus
0.50	1.50		Agropyron smithii
15.50	11.82		Elymus cinereus
			COVER
40.25	5.36		Total Living Cover
10.50	5.68		Litter
20.25	9.15		Bareground
29.00	8.15		Rock
			% COMPOSITION
30.03	31.04		Shrubs
8.40	14.11		Forbs
61.57	30.87		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Outslopes

AREA: Trail Mtn. Mine

DATE: 9/8/93

WORKERS: P. Collins, D. Collins

SLOPE: 25 deg.

EXPOSURE: E & S

ANIMAL USE/DISTURBANCE: Slight

EROSION: Slight

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Aster chilensis
Halogeton glomeratus
Kochia scoparia

Agropyron cristatum
Elymus cinereus

NOTES:
1) Sampled over entire outslopes, east and south exposures (on outside of fence).
2) Cover was variable by species. Some areas were mostly grasses, others were forbs.
3) The north end was mostly weedy species (this shown on last quadrat of quant. data).

UP&L-TRAIL MOUNTAIN MINE SITE
Sediment Pond Out Slope (South end)
Exposure: S & E
Slope: 25 deg.

Sample Date: 8 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00
Aster chilensis	35.00	20.00	25.00	15.00	10.00	0.00	0.00	0.00	0.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00
GRASSES										
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	0.00	35.00	0.00	0.00	0.00
Elymus cinereus	0.00	0.00	0.00	0.00	25.00	20.00	0.00	40.00	0.00	0.00
COVER										
Total Living Cover	35.00	20.00	25.00	15.00	35.00	20.00	35.00	40.00	40.00	40.00
Litter	2.00	10.00	5.00	5.00	5.00	5.00	5.00	10.00	5.00	5.00
Bareground	3.00	5.00	5.00	5.00	5.00	65.00	50.00	35.00	40.00	45.00
Rock	60.00	65.00	65.00	75.00	55.00	10.00	10.00	15.00	15.00	10.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	100.00	100.00	100.00	100.00	28.57	0.00	0.00	0.00	100.00	100.00
Grasses	0.00	0.00	0.00	0.00	71.43	100.00	100.00	100.00	0.00	0.00

UP&L-TRAIL MOUNTAIN MINE SITE
Sediment Pond Out Slope (South end)
Exposure: S & E
Slope: 25 deg.
Sample Date: 8 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
4.00	12.00		Kochia scoparia
10.50	12.13		Aster chilensis
4.00	12.00		Halogeton glomeratus
			GRASSES
3.50	10.50		Agropyron cristatum
8.50	13.79		Elymus cinereus
			COVER
30.50	9.07		Total Living Cover
5.70	2.33		Litter
25.80	22.42		Bareground
38.00	26.48		Rock
			% COMPOSITION
0.00	0.00		Shrubs
62.86	46.16		Forbs
37.14	46.16		Grasses

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATION (SEPT. 1993)

Cottonwood Fan Portal - Reclaimed Slopes (1)

Cottonwood Fan Portal - Reclaimed Slopes (2)

Cottonwood Fan Portal - Soil Piles

TRAIL MOUNTAIN MINE - Sediment Pond Outslope

DES-BEE-DOVE AREA

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Beehive Yard Slope

AREA: Des-Bee-Dove (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 20-50 deg.

EXPOSURE: SE

AREA: 1.6 acres

ANIMAL USE/DISTURBANCE: None observed

EROSION: Contained by upslope ground holding fences and structures

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Atriplex confertifolia
Ceratoides lanata
Chrysothamnus nauseosus

Halogeton glomeratus
Penstemon palmeri

Agrpyron cristatum
Agropyron dasystachyum
Agropyron smithii
Agropyron spicatum
Elymus cinereus
Orzopsis hymenoides

NOTES:

1) Methods: Because the slope was wet and slippery, we estimated the quadrats from a distances.
2) Good density of woody species presently established.
3) Chain link fence covering the ground is holding earth well.

UP&L-DES BEE DOVE
Beehive Yard Slope
1988 Reveg Area
Acreage: 1.6
Slope: 20 - 50 deg
Exposure: SE

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	10.00	0.00	10.00	0.00	15.00	10.00	10.00	5.00	20.00	20.00
Atriplex confertifolia	10.00	25.00	0.00	5.00	5.00	15.00	15.00	0.00	0.00	0.00
FORBS										
Halogeton glomeratus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
Penstemon palmeri	0.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	10.00	0.00
GRASSES										
Agropyron smithii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
Agropyron dasystachyum	0.00	10.00	5.00	0.00	0.00	0.00	15.00	15.00	0.00	0.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00
Elymus salinus	15.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stipa hymenoides	0.00	0.00	20.00	0.00	30.00	10.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	35.00	40.00	40.00	15.00	50.00	40.00	40.00	35.00	40.00	35.00
Litter	5.00	5.00	10.00	5.00	10.00	5.00	20.00	5.00	10.00	5.00
Bareground	5.00	15.00	10.00	5.00	20.00	5.00	15.00	15.00	15.00	5.00
Rock	55.00	40.00	40.00	75.00	20.00	50.00	25.00	45.00	35.00	55.00
% COMPOSITION										
Shrubs	57.14	62.50	25.00	33.33	40.00	62.50	62.50	14.29	50.00	57.14
Forbs	0.00	0.00	12.50	33.33	0.00	0.00	0.00	0.00	50.00	0.00
Grasses	42.86	37.50	62.50	33.33	60.00	37.50	37.50	85.71	0.00	42.86

UP&L-DES BEE DOVE
Beehive Yard Slope
1988 Reveg Area
Acreage: 1.6
Slope: 20 - 50 deg
Exposure: SE
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
10.00	6.71		Chrysothamnus nauseosus
7.50	8.14		Atriplex confertifolia
			FORBS
1.00	3.00		Halogeton glomeratus
2.00	3.32		Penstemon palmeri
			GRASSES
1.00	3.00		Agropyron smithii
4.50	6.10		Agropyron dasystachyum
1.50	4.50		Elymus cinereus
0.50	1.50		Agropyron spicatum
1.00	2.00		Agropyron cristatum
2.00	4.58		Elymus salinus
6.00	10.20		Stipa hymenoides
			COVER
37.00	8.43		Total Living Cover
8.00	4.58		Litter
11.00	5.39		Bareground
44.00	15.13		Rock
			% COMPOSITION
46.44	16.50		Shrubs
9.58	16.88		Forbs
43.98	21.25		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Beehive Road Berm

AREA: Des-Bee-Dove (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 30°

EXPOSURE: variable

ANIMAL USE/DISTURBANCE: Minimal

EROSION: Minimal

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum

Halogeton glomeratus

Agropyron dasystachyum
Elymus salinus
Sitanion hystrix

NOTES:

1) For quant. data, we sampled at regular intervals along berm.
2) There was a good representation of weedy species

UP&L-DES BEE DOVE
Beehive Road Berm
1988 Reveg Area
Acreage: .1
Slope: 30 deg
Exposure: variable

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	Mean	SDev	Freq
SHRUBS											
Atriplex confertifolia	0.00	15.00	7.00	15.00	10.00	10.00	15.00	20.00	11.50	5.77	
FORBS											
Halogeton glomeratus	30.00	5.00	0.00	0.00	10.00	10.00	5.00	0.00	7.50	9.35	
Kochia scoparia	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.63	1.65	
GRASSES											
Agropyron cristatum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	1.65	
Agropyron dasystachyum	0.00	0.00	0.00	10.00	5.00	0.00	0.00	0.00	1.88	3.48	
Agropyron smithii	3.00	0.00	0.00	0.00	10.00	5.00	0.00	0.00	2.25	3.42	
Elymus cinereus	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.66	
COVER											
Total Living Cover	35.00	25.00	7.00	25.00	40.00	25.00	20.00	20.00	24.63	9.34	
Litter	5.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	6.25	2.17	
Bareground	10.00	10.00	20.00	5.00	25.00	25.00	25.00	30.00	18.75	8.57	
Rock	50.00	60.00	68.00	60.00	25.00	45.00	50.00	45.00	50.38	12.24	
% COMPOSITION											
Shrubs	0.00	60.00	100.00	60.00	25.00	40.00	75.00	100.00	57.50	32.79	
Forbs	85.71	20.00	0.00	0.00	37.50	40.00	25.00	0.00	26.03	27.29	
Grasses	14.29	20.00	0.00	40.00	37.50	20.00	0.00	0.00	16.47	15.16	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Deseret Road Berm

AREA: Des-Bee-Dove (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 6-10 deg.

EXPOSURE: E

AREA: .2 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: Negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus

Halogeton glomeratus
Kochia scoparia

Oryzopsis hymenoides

NOTES:

1) Not much change from last year.
2) Methods: For cover we placed meter sq. quadrats at regular intervals along inside of berm (nearest road).
3) Most of the herbaceous spp. were weedy exotic species.

UP&L-DES BEE DOVE
Desert Road Berm
1988 Reveg Area
Acreage:
Slope: 6-10 deg
Exposure: E

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex confertifolia	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
Chrysothamnus nauseosus	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	20.00	15.00
FORBS										
Halogetum glomeratus	25.00	20.00	10.00	0.00	15.00	15.00	10.00	40.00	15.00	10.00
Kochia scoparia	0.00	15.00	5.00	0.00	20.00	0.00	35.00	0.00	0.00	0.00
GRASSES										
Agropyron dasystachyum	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
Agropyron smithii	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	25.00	35.00	40.00	35.00	35.00	35.00	45.00	40.00	35.00	40.00
Litter	5.00	5.00	5.00	5.00	5.00	15.00	5.00	5.00	10.00	5.00
Bareground	45.00	10.00	25.00	10.00	15.00	25.00	30.00	20.00	40.00	5.00
Rock	25.00	50.00	30.00	50.00	45.00	25.00	20.00	35.00	15.00	50.00
% COMPOSITION										
Shrubs	0.00	0.00	62.50	14.29	0.00	0.00	0.00	0.00	57.14	75.00
Forbs	100.00	100.00	37.50	0.00	100.00	42.86	100.00	100.00	42.86	25.00
Grasses	0.00	0.00	0.00	85.71	0.00	57.14	0.00	0.00	0.00	0.00

UP&L-DES BEE DOVE
Desert Road Berm
1988 Reveg Area
Acreage:
Slope: 6-10 deg
Exposure: E
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
4.00	8.31		Atriplex confertifolia
4.00	7.00		Chrysothamnus nauseosus
			FORBS
16.00	10.20		Halogetum glomeratus
7.50	11.46		Kochia scoparia
			GRASSES
1.00	3.00		Agropyron dasystachyum
2.00	6.00		Oryzopsis hymenoides
2.00	6.00		Agropyron smithii
			COVER
36.50	5.02		Total Living Cover
6.50	3.20		Litter
22.50	12.50		Bareground
34.50	12.74		Rock
			% COMPOSITION
20.89	29.39		Shrubs
64.82	37.00		Forbs
14.29	29.28		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Portal Road Berm

AREA: Des-Bee-Dove (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 30 deg.

EXPOSURE: SW

AREA: .1 acre

ANIMAL USE/DISTURBANCE: Cattle on road was again evident

EROSION: As previous years', very little erosion occurring.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus

Halogeton glomeratus

Elymus salinus
Oryzopsis hymenoides

NOTES:
1) Methods: For cover we placed meter sq. quadrats at regular intervals.
2) I took a samples on inside, top, then on the outside of the berm.
3) The inside of the berm had been scraped for road maintenance. That why it's so sparse and weedy.

UP&L-DES BEE DOVE
Portal Road Berm
1988 Reveg Area
Acreage: .1
Slope: 30 deg
Exposure: SW

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	Mean	SDev	Freq
SHRUBS										
Chrysothamnus nauseosus	5.00	0.00	40.00	0.00	15.00	0.00	10.00	10.00	13.36	
Atriplex confertifolia	0.00	0.00	0.00	0.00	0.00	20.00	0.00	2.86	7.00	
Eriogonum corymbosum	0.00	0.00	0.00	0.00	0.00	10.00	0.00	1.43	3.50	
FORBS										
Halogeton glomeratus	20.00	0.00	0.00	5.00	0.00	0.00	0.00	3.57	6.93	
Kochia scoparia	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.71	1.75	
GRASSES										
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	10.00	0.00	1.43	3.50	
Elymus salinus	0.00	25.00	0.00	0.00	0.00	0.00	0.00	3.57	8.75	
Agropyron dasystachyum	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.71	1.75	
Oryzopsis hymenoides	0.00	5.00	0.00	0.00	0.00	0.00	15.00	2.86	5.25	
COVER										
Total Living Cover	25.00	30.00	40.00	5.00	25.00	40.00	25.00	27.14	10.97	
Litter	5.00	5.00	5.00	5.00	5.00	5.00	10.00	5.71	1.75	
Bareground	50.00	5.00	10.00	10.00	15.00	5.00	25.00	17.14	14.85	
Rock	20.00	60.00	45.00	80.00	55.00	50.00	40.00	50.00	17.11	
% COMPOSITION										
Shrubs	20.00	0.00	100.00	0.00	60.00	75.00	40.00	42.14	35.44	
Forbs	80.00	0.00	0.00	100.00	20.00	0.00	0.00	28.57	39.80	
Grasses	0.00	100.00	0.00	0.00	20.00	25.00	60.00	29.29	35.09	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Bathhouse Road Berm

AREA: Des-Bee-Dove (1988 Interim Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 30 deg.

EXPOSURE: SW

AREA: .1 acre

ANIMAL USE/DISTURBANCE: Slight

EROSION: Erosion has been repaired

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus

Halogeton glomeratus
Kochia scoparia

Agropyron smithii
Agropyron dasystachyum
Oryzopsis hymenoides
Sitanion hystix

NOTES: 1) Veg. cover was still quite weedy, but seemed to look better this year
2) Methods: For cover we placed meter sq. quadrats at regular intervals over the entire length of the road berm.

UP&L-DES BEE DOVE
Bathhouse Road Berm
1988 Interim Reveg
Acreage: .1
Slope: 30 deg
Exposure: SW

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	Mean	SDev	Freq
SHRUBS										
Chrysothamnus nauseosus	20.00	10.00	50.00	10.00	0.00	30.00	0.00	17.14	16.66	
FORBS										
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	25.00	3.57	8.75	
Penstemon palmeri	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.71	1.75	
GRASSES										
Poa pratensis	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.43	1.05	
Agropyron smithii	0.00	0.00	0.00	10.00	2.00	0.00	0.00	1.71	3.45	
Agropyron dasystachyum	5.00	5.00	0.00	0.00	0.00	0.00	0.00	1.43	2.26	
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.71	1.75	
COVER										
Total Living Cover	25.00	20.00	50.00	20.00	5.00	35.00	25.00	25.71	12.94	
Litter	5.00	5.00	10.00	10.00	5.00	10.00	10.00	7.86	2.47	
Bareground	25.00	25.00	10.00	20.00	15.00	15.00	20.00	18.57	5.15	
Rock	45.00	50.00	30.00	50.00	75.00	40.00	45.00	47.86	12.78	
% COMPOSITION										
Shrubs	80.00	50.00	100.00	50.00	0.00	85.71	0.00	52.24	37.11	
Forbs	0.00	25.00	0.00	0.00	0.00	0.00	100.00	17.86	34.63	
Grasses	20.00	25.00	0.00	50.00	100.00	14.29	0.00	29.90	32.67	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Tipple Slope

AREA: Des-Bee-Dove (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 40-45 deg.

EXPOSURE: variable

AREA: .4 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: There was some slight erosion in some areas, but relatively little when the steep slope angle is considered.

COVER: Because of dangerous slope, cover was estimated by nonconventional methods as 35%.

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Chrysothamnus nauseosus
Eriogonum corymbosum

Halogeton glomeratus
Kochia scopari

Elymus cinereus

NOTES:
1) The slope vegetation looks better this year than it did last.
2) Vegetation cover looked good in some areas with desirable species, while other areas were quite weedy.
3) Methods: For cover we had to estimate from a distance because the slope was much too steep to safely place quadrats.
4) Some coal fines were mixed in soils/spoils.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Storage Slope

AREA: Des-Bee-Dove (1988 Interim Reveg. Area)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 3 - 5 deg.

EXPOSURE: S SE

AREA: 4.4 acres

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible on flat. Slight to moderate on slopes.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia
Atriplex gardneri
Chrysothamnus nauseosus
Sarcobatus vermiculatus
Sueada torreyana

Halogeton glomeratus
Kochia scoparia
Suaeda calceoliformis

NOTES: 1) Mostly weedy, but some woody spp. too.
2) Methods: For cover we placed meter sq. quadrats at placed randomly over entire site.

UP&L-DES BEE DOVE
Sediment Storage Slope
1988 Interim Reveg
Acreage: 4.4 acre
Slope: 3 - 5 deg
Exposure: S,SE

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Chrysothamnus nauseosus	0.00	0.00	0.00	10.00	0.00	0.00	15.00	5.00	0.00	0.00	0.00
Suaeda torreyana	0.00	0.00	5.00	5.00	5.00	0.00	0.00	0.00	0.00	15.00	5.00
Atriplex gardneri var. cu	0.00	0.00	5.00	25.00	0.00	25.00	0.00	5.00	0.00	0.00	0.00
Atriplex confertifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS											
Halogeton glomeratus	30.00	35.00	20.00	0.00	25.00	5.00	0.00	0.00	5.00	10.00	30.00
Suaeda calceoliformis	5.00	0.00	10.00	0.00	5.00	0.00	5.00	0.00	0.00	20.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00
Bassia hyssopifolia	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
COVER											
Total Living Cover	35.00	40.00	40.00	40.00	35.00	30.00	20.00	10.00	25.00	45.00	35.00
Litter	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Bareground	55.00	50.00	45.00	50.00	55.00	60.00	70.00	80.00	65.00	45.00	55.00
Rock	5.00	5.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
COMPOSITION											
Shrubs	0.00	0.00	25.00	100.00	14.29	83.33	75.00	100.00	0.00	33.33	14.29
Forbs	100.00	100.00	75.00	0.00	85.71	16.67	25.00	0.00	100.00	66.67	85.71
Grasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

UP&L-DES BEE DOVE
Sediment Storage Slope
1988 Interim Reveg
Acreage: 4.4 acre
Slope: 3 - 5 deg
Exposure: S,SE
Sample Date: 17 Sept 1993

12.00	13.00	14.00	15.00	16.00	Mean	SDev	Freq	
								SHRUBS
0.00	0.00	0.00	0.00	0.00	1.88	4.28		Chrysothamnus nauseosus
25.00	5.00	5.00	5.00	0.00	4.69	6.49		Suaeda torreyana
0.00	0.00	0.00	0.00	0.00	3.75	8.20		Atriplex gardneri var. cuneata
0.00	0.00	0.00	0.00	15.00	0.94	3.63		Atriplex confertifolia
								FORBS
5.00	10.00	35.00	0.00	10.00	13.75	12.81		Halogeton glomeratus
0.00	0.00	5.00	40.00	10.00	6.25	10.23		Suaeda calceoliformis
0.00	0.00	0.00	0.00	0.00	1.25	4.84		Kochia scoparia
0.00	25.00	0.00	0.00	0.00	1.88	6.09		Bassia hyssopifolia
								GRASSES
								COVER
30.00	40.00	45.00	45.00	35.00	34.38	9.33		Total Living Cover
5.00	10.00	5.00	5.00	10.00	5.63	1.65		Litter
60.00	45.00	45.00	45.00	50.00	54.69	9.92		Bareground
5.00	5.00	5.00	5.00	5.00	5.31	1.21		Rock
								% COMPOSITION
83.33	12.50	11.11	11.11	42.86	37.88	36.17		Shrubs
16.67	87.50	88.89	88.89	57.14	62.12	36.17		Forbs
0.00	0.00	0.00	0.00	0.00	0.00	0.00		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Banks

AREA: Des-Bee-Dove (1988 Interim Reveg Area)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 30 deg.

EXPOSURE: E & W

AREA: .9 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: Some slight erosion beginning

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex gardneri
Chrysothamnus nauseosus

Halogeton glomeratus
Kochia scoparia
Salsola iberica

NOTES: 1) We sampled regularly around the two banks. These area are marked on the field map.
2) Vegetative cover seems to be improving when compared to last year

UP&L-DES BEE DOVE
Sediment Pond Banks
1988 Interim Reveg
Acreage: .9 acre
Slope: 30 deg
Exposure: E & W

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex gardneri	0.00	0.00	0.00	15.00	0.00	0.00	20.00	15.00	0.00	10.00
Chrysothamnus nauseosus	35.00	40.00	50.00	35.00	20.00	35.00	15.00	10.00	30.00	30.00
FORBS										
Machaeranthera canescens	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES										
Agropyron dasystachyum	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
Elymus salinus	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	35.00	40.00	60.00	50.00	30.00	45.00	35.00	25.00	30.00	40.00
Litter	10.00	10.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	5.00
Bareground	40.00	30.00	20.00	40.00	25.00	25.00	55.00	55.00	35.00	20.00
Rock	15.00	20.00	15.00	5.00	35.00	20.00	5.00	15.00	30.00	35.00
% COMPOSITION										
Shrubs	100.00	100.00	83.33	100.00	66.67	77.78	100.00	100.00	100.00	100.00
Forbs	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grasses	0.00	0.00	0.00	0.00	33.33	22.22	0.00	0.00	0.00	0.00

UP&L-DES BEE DOVE
Sediment Pond Banks
1988 Interim Reveg
Acreage: .9 acre
Slope: 30 deg
Exposure: E & W
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
6.00	7.68		Atriplex gardneri
30.00	11.40		Chrysothamnus nauseosus
			FORBS
1.00	3.00		Machaeranthera canescens
			GRASSES
1.00	3.00		Agropyron dasystachyum
1.00	3.00		Elymus salinus
			COVER
39.00	9.95		Total Living Cover
7.00	2.45		Litter
34.50	12.34		Bareground
19.50	10.36		Rock
			% COMPOSITION
92.78	11.67		Shrubs
1.67	5.00		Forbs
5.56	11.39		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Haul Road Bench

AREA: Des-Bee-Dove (1986 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 3 - 5 deg.

EXPOSURE: SW

ANIMAL USE/DISTURBANCE: Slight

EROSION: Some intensive work has been done to control erosion off the steep slopes to the south of the sample are. This work seems to be working well to control erosion and possible slope failure.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex cuneata
Atriplex canescens
Atriplex confertifolia
Artemisia tridentata

Halogeton glomeratus
Kochia scoparia
Malcomia africa
Salsola iberica

Elymus cinereus
Oryzopsis hymenoides

NOTES:

1) Quantitative Methods: We placed a point at regular intervals over the area. From these points we place the quadrats in random locations.
2) The were patches of desirable species and patches of weedy species. Because the area has had good precipitation (and presumably favorable seed set), I look for more desirable species observed in 1994.

UP&L-DES BEE DOVE
Haul Road Bench
1986 Reveg Area
Acreage:
Slope: 3-5 deg
Exposure: SW

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex cuneata	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS										
Halogeton glomeratus	2.00	5.00	10.00	0.00	25.00	35.00	25.00	15.00	30.00	30.00
Melilotus officinalis	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00	5.00
Bassia hyssopifolia	0.00	5.00	0.00	40.00	0.00	0.00	15.00	10.00	0.00	5.00
GRASSES										
Elymus cinereus	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sitanion hystrix	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oryzopsis hymenoides	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	15.00	40.00	10.00	40.00	25.00	40.00	40.00	25.00	35.00	40.00
Litter	5.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	10.00	5.00
Bareground	70.00	30.00	80.00	50.00	65.00	50.00	50.00	65.00	45.00	50.00
Rock	10.00	20.00	5.00	5.00	5.00	5.00	5.00	5.00	10.00	5.00
COMPOSITION										
Shrubs	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	33.33	25.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Grasses	66.67	62.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

UP&L-DES BEE DOVE
Haul Road Bench
1986 Reveg Area
Acreage:
Slope: 3-5 deg
Exposure: SW
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
0.50	1.50		Atriplex cuneata
			FORBS
17.70	12.23		Halogeton glomeratus
0.30	0.90		Melilotus officinalis
1.50	2.29		Kochia scoparia
7.50	11.88		Bassia hyssopifolia
			GRASSES
1.00	3.00		Elymus cinereus
0.50	1.50		Sitanion hystrix
2.00	6.00		Oryzopsis hymenoides
			COVER
31.00	10.91		Total Living Cover
6.00	2.00		Litter
55.50	13.68		Bareground
7.50	4.61		Rock
			% COMPOSITION
1.25	3.75		Shrubs
85.83	28.39		Forbs
12.92	25.85		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Beehive Substation Slope

AREA: Des-Bee-Dove (1986 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 35 deg.

EXPOSURE: S

AREA: .1 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: Some slight erosion continuing. There was a couple of large horizontal fissures on the top of the slope creating the possibility of future slope failure.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Atriplex confertifolia

Penstemon palmeri
Halogeton glomeratus
Salsola iberica

Agropyron cristatum
Elymus salinus
Elymus cinereus

NOTES: 1) The area continues to maintain good spp. diversity.
2) Methods: For cover we placed meter sq. quadrats at regular intervals over area.

UP&L-DES BEE DOVE
Beehive Substation Slope
1986 Reveg Area
Acreage: .1
Slope: 35 deg
Exposure: S

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	Mean	SDev	Freq
SHRUBS									
Chrysothamnus nauseosus	25.00	15.00	15.00	35.00	30.00	35.00	25.83	8.37	
Atriplex confertifolia	0.00	0.00	30.00	0.00	0.00	0.00	5.00	11.18	
FORBS									
Halogeton glomeratus	20.00	0.00	0.00	0.00	0.00	0.00	3.33	7.45	
GRASSES									
Agropyron smithii	0.00	0.00	0.00	5.00	0.00	5.00	1.67	2.36	
Agropyron dasystachyum	0.00	0.00	0.00	0.00	5.00	5.00	1.67	2.36	
Agropyron spicatum	0.00	0.00	0.00	10.00	0.00	0.00	1.67	3.73	
Agropyron cristatum	0.00	0.00	0.00	0.00	5.00	0.00	0.83	1.86	
COVER									
Total Living Cover	45.00	15.00	45.00	50.00	40.00	45.00	40.00	11.55	
Litter	5.00	5.00	10.00	15.00	5.00	5.00	7.50	3.82	
Bareground	30.00	30.00	25.00	20.00	15.00	5.00	20.83	8.86	
Rock	20.00	50.00	20.00	15.00	40.00	45.00	31.67	13.74	
% COMPOSITION									
Shrubs	55.56	100.00	100.00	70.00	75.00	77.78	79.72	15.95	
Forbs	44.44	0.00	0.00	0.00	0.00	0.00	7.41	16.56	
Grasses	0.00	0.00	0.00	30.00	25.00	22.22	12.87	13.07	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Area

AREA: Des-Bee-Dove (1985 Reveg. Area)

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 0-10 deg.

EXPOSURE: S

AREA: .7 acre

ANIMAL USE/DISTURBANCE: Heavy rabbit use

EROSION: Negligible

COVER: See quantitative data (< 25% weeds by cover)

DOMINANT PLANT SPECIES OBSERVED: (see also quant. data sheet)

Atriplex cuneata
Atriplex canescens
Atriplex confertifolia
Chrysothamnus nauseosus
Chrysothamnus viscidiflorus
Sarcobatus vermiculatus

Halogeton glomeratus
Machaeranthera canescens
Melilotus officinalis
Salsola iberica

Agropyron spicatus
Elymus salinus
Elymus cinereus
Oryzopsis hymenoides
Sitanion hystrix

NOTES: 1) Area looks very good.
2) Sampling was done randomly around entire area.

UP&L-DES BEE DOVE
Sediment Pond Area
1985 Reveg Area
Acreage: .7
Slope: 0-10 deg
Exposure: S

Sample Date: 17 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Atriplex canescens	25.00	30.00	0.00	15.00	10.00	0.00	0.00	15.00	0.00	0.00
Gutierrezia sarothrae	5.00	0.00	10.00	0.00	5.00	0.00	0.00	0.00	30.00	0.00
Chrysothamnus nauseosus	0.00	0.00	25.00	0.00	0.00	0.00	5.00	0.00	0.00	7.00
Atriplex confertifolia	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex gardneri	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	8.00
FORBS										
Halogeton glomeratus	10.00	0.00	0.00	5.00	0.00	10.00	0.00	0.00	0.00	0.00
Malcomia africana	0.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00
GRASSES										
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	10.00	0.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Bromus tectorum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	0.00	0.00	20.00	0.00	0.00	25.00	5.00	0.00
COVER										
Total Living Cover	40.00	40.00	35.00	50.00	35.00	50.00	15.00	40.00	50.00	15.00
Litter	20.00	25.00	20.00	20.00	10.00	10.00	5.00	10.00	5.00	5.00
Bareground	10.00	15.00	20.00	15.00	30.00	20.00	20.00	20.00	10.00	75.00
Rock	30.00	20.00	25.00	15.00	25.00	20.00	60.00	30.00	35.00	5.00
% COMPOSITION										
Shrubs	75.00	75.00	100.00	50.00	42.86	20.00	33.33	37.50	60.00	100.00
Forbs	25.00	0.00	0.00	50.00	0.00	60.00	0.00	0.00	0.00	0.00
Grasses	0.00	25.00	0.00	0.00	57.14	20.00	66.67	62.50	40.00	0.00

UP&L-DES BEE DOVE
Sediment Pond Area
1985 Reveg Area
Acreage: .7
Slope: 0-10 deg
Exposure: S
Sample Date: 17 Sept 1993

Mean	SDev	Freq	
			SHRUBS
9.50	10.83		Atriplex canescens
5.00	8.94		Gutierrezia sarothrae
3.70	7.50		Chrysothamnus nauseosus
1.00	3.00		Atriplex confertifolia
1.80	3.63		Atriplex gardneri
			FORBS
2.50	4.03		Halogeton glomeratus
4.00	8.00		Malcomia africana
			GRASSES
2.00	4.00		Agropyron spicatum
0.50	1.50		Poa secunda
0.50	1.50		Bromus tectorum
0.50	1.50		Agropyron dasystachyum
1.00	2.00		Agropyron smithii
5.00	8.94		Agropyron cristatum
			COVER
37.00	12.29		Total Living Cover
13.00	7.14		Litter
23.50	18.03		Bareground
26.50	13.79		Rock
			% COMPOSITION
59.37	26.19		Shrubs
13.50	22.14		Forbs
27.13	26.23		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Bathhouse Slope

AREA: Des-Bee-Dove (1984 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 25 deg.

EXPOSURE: variable

AREA: 2.3 acre

ANIMAL USE/DISTURBANCE: Rabbit and cattle near bottom.

EROSION: Only slight erosion appeared evident this year.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Atriplex confertifolis
Chrysothamnus nauseosus

Kochia scoparia

Agropyron dasystachyum
Agropyron smithii
Agropyron cristatum
Agropyron spicatum
Elymus salinus
Oryzopsis hymenoides

NOTES:
1) Vegetative cover is maintaining good & diverse.
2) Methods: For cover we placed meter sq. quadrats at regular intervals at different elevations an at right angles on the slope to attempt to adequately represent it.

UP&L-DES BEE DOVE
Bathhouse Slope
1984 Reveg Area
Acreage: 2.3 acre
Slope: 25 deg.
Exposure: variable

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Eriogonum corymbosum	0.00	10.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
Chrysothamnus nauseosus	40.00	25.00	0.00	20.00	10.00	20.00	2.00	20.00	5.00	0.00
FORBS										
Salsola iberica	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Halogetum glomeratus	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
GRASSES										
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Agropyron dasystachyum	5.00	0.00	5.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
Oryzopsis hymenoides	5.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	10.00	0.00
Elymus salinus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	20.00	0.00
COVER										
Total Living Cover	55.00	40.00	35.00	45.00	30.00	35.00	15.00	50.00	35.00	25.00
Litter	5.00	25.00	5.00	15.00	25.00	15.00	5.00	5.00	5.00	5.00
Bareground	15.00	15.00	25.00	30.00	20.00	10.00	5.00	10.00	10.00	40.00
Rock	25.00	20.00	35.00	10.00	25.00	40.00	75.00	35.00	50.00	30.00
% COMPOSITION										
Shrubs	72.73	87.50	0.00	77.78	33.33	57.14	13.33	40.00	14.29	0.00
Forbs	0.00	12.50	85.71	0.00	0.00	0.00	33.33	0.00	0.00	80.00
Grasses	27.27	0.00	14.29	22.22	66.67	42.86	53.33	60.00	85.71	20.00

UP&L-DES BEE DOVE
Bathhouse Slope
1984 Reveg Area
Acreage: 2.3 acre
Slope: 25 deg.
Exposure: variable
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
2.50	5.12		Eriogonum corymbosum
14.20	12.40		Chrysothamnus nauseosus
			FORBS
1.00	3.00		Salsola iberica
1.00	2.00		Kochia scoparia
4.00	8.00		Halogetum glomeratus
			GRASSES
1.50	4.50		Elymus cinereus
2.00	6.00		Agropyron spicatum
1.00	2.00		Agropyron smithii
1.30	2.05		Agropyron dasystachyum
1.50	3.20		Oryzopsis hymenoides
1.50	3.20		Agropyron cristatum
5.00	10.25		Elymus salinus
			COVER
36.50	11.19		Total Living Cover
11.00	8.00		Litter
18.00	10.30		Bareground
34.50	17.10		Rock
			% COMPOSITION
39.61	31.09		Shrubs
21.15	32.46		Forbs
39.24	25.53		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Materials Yard Slope

AREA: Des-Bee-Dove (1984 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 20-25 deg.

EXPOSURE: SE

AREA: 1.1 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: As was the case in 1992, some erosion has been repaired by erosion control mats and seems to be doing an adequate job.

COVER: (See quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data.)

Atriplex confertifolia
Atriplex gardneri
Chrysothamnus nauseosus

Aster chilensis
Hedysarum boreale

Agropyron dasystachyum
Agropyron smithii
Elymus salinus
Oryzopsis hymenoides

NOTES:
1) Area still looks very good with only a few weedy spp.
2) Not much change from 1991 or 1992.
3) Methods: For cover we placed meter sq. quadrats at random location over the entire slope.

UP&L-DES BEE DOVE
Material Yard Slope
1984 Reveg Area
Acreage: 1.1 acre
Slope: 20-25 deg
Exposure: SE

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	10.00	5.00	5.00	5.00	30.00	0.00	0.00	20.00	20.00	0.00
Atriplex confertifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
FORBS										
Aster chilensis	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Machaeranthera canescens	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES										
Elymus cinereus	10.00	0.00	0.00	0.00	5.00	15.00	0.00	0.00	0.00	0.00
Agropyron smithii	0.00	5.00	5.00	20.00	0.00	10.00	10.00	10.00	10.00	10.00
Agropyron dasystachyum	10.00	5.00	25.00	0.00	10.00	0.00	15.00	10.00	10.00	15.00
Oryzopsis hymenoides	10.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	5.00
COVER										
Total Living Cover	40.00	20.00	40.00	35.00	45.00	25.00	35.00	40.00	40.00	35.00
Litter	20.00	20.00	10.00	25.00	15.00	25.00	20.00	10.00	20.00	10.00
Bareground	25.00	40.00	25.00	20.00	20.00	25.00	25.00	20.00	20.00	20.00
Rock	15.00	20.00	25.00	20.00	20.00	25.00	20.00	30.00	20.00	35.00
% COMPOSITION										
Shrubs	25.00	25.00	12.50	14.29	66.67	0.00	0.00	50.00	50.00	14.29
Forbs	0.00	25.00	0.00	14.29	0.00	0.00	28.57	0.00	0.00	0.00
Grasses	75.00	50.00	87.50	71.43	33.33	100.00	71.43	50.00	50.00	85.71

UP&L-DES BEE DOVE
Material Yard Slope
1984 Reveg Area
Acreage: 1.1 acre
Slope: 20-25 deg
Exposure: SE
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
9.50	9.86		Chrysothamnus nauseosus
0.50	1.50		Atriplex confertifolia
			FORBS
1.00	3.00		Aster chilensis
0.50	1.50		Kochia scoparia
0.50	1.50		Machaeranthera canescens
			GRASSES
3.00	5.10		Elymus cinereus
8.00	5.57		Agropyron smithii
10.00	7.07		Agropyron dasystachyum
2.50	3.35		Oryzopsis hymenoides
			COVER
35.50	7.23		Total Living Cover
17.50	5.59		Litter
24.00	5.83		Bareground
23.00	5.57		Rock
			% COMPOSITION
25.77	21.48		Shrubs
6.79	10.89		Forbs
67.44	19.90		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Test Plot (1989)

AREA: Des-Bee-Dove

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 26 deg.

EXPOSURE: S

AREA: .6 acre

ANIMAL USE/DISTURBANCE: None observed within fence.

EROSION: Slight and moderate erosion beginning.

COVER: ~25%

PLANT SPECIES PLANTED	PLANT SPECIES OBSERVED
Atriplex canescens	Sarcobatus vermiculatus
Atriplex corrugata	
Atriplex confertifolia	
Ceratoides lanata	
Kochia prostrata	
	(Annual chenopod)
Linum lewsii	Kochia scoparia
Medilotus officinalis	Bassia hyssopifolia
Sphraeralcea coccinea	Kochia scoparia
Agropyron dasystachum	Agropyron smithii
Agropyron smithii	
Elymus cinereus	
Orzopsis hymenoides	
Sporobolus airoides	

NOTES: 1) Atriplex sp. annual germinated.
2) Woody species density was low.

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Test Plot (1992)

AREA: Des-Bee-Dove

DATE: 9/17/93

WORKERS: P. Collins, D. Collins

SLOPE: 3-5 deg.

EXPOSURE: SW

AREA:

ANIMAL USE/DISTURBANCE: None

EROSION: None, had erosion control mat recently installed.

COVER:

PLANT SPECIES OBSERVED

Bassia hyssopifolia
Halogeton glomeratus

Elymus salinus
Sitanion hystrix

NOTES: 1) Dominated by weedy species, especially the two forbs listed above. A few grass individuals are beginning to grow.
2) I need to see the "as-builts" for next year's sampling (ask G. Davis).

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATION (SEPT. 1993)

Des Bee Dove - Beehive Yard Slope

Des Bee Dove - Beehive Road Berm

Des Bee Dove - Deseret Road Berm

Des Bee Dove - Portal Road Berm

Des Bee Dove - Bathhouse Road Berm

Des Bee Dove - Tipple Slope

Des Bee Dove - Sediment Storage Slope

Des Bee Dove - Sediment Pond Banks

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Des Bee Dove - Haul Road Bench

Des Bee Dove - Beehive Substation Slope

Des Bee Dove - Sediment Pond Area

Des Bee Dove - Bathhouse Slope

Des Bee Dove - Material Yard Slope

Des Bee Dove - Test Plot '89

Des Bee Dove - Test Plot '92

Des Bee Dove - Overview Shot

DEER CREEK AREA

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Riparian Areas

AREA: Deer Creek Mine Area

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 1 to 5 deg.

EXPOSURE: variable

AREA: < .5 acre

ANIMAL USE/DISTURBANCE: slight

EROSION: negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Mahonia repens

Chenopodium fremontii
Chrysothamnus nauseosus
Helianthus annus
Kochia scoparia
Melilotus officinalis
Salsola iberica
Circium sp.

Agropyron cristatum
Agropyron elongatum
Agropyron smithii
Elymus cinereus
Oryzopsis hymenoides
Poa pratensis

NOTES:
1) Sampled both riparian areas and combined data.
2) The north riparian area is #'s 1-5, south is #'s 6-10 on the quant. data summary.
3) > 50% weedy species by cover on north area.
4) < 25% weeds on the south area.

UP&L-DEER CREEK
Riparian Areas
Acreage: < .5 acre
Slope: 1-5 deg
Exposure: variable

Sample Date: 16 Sept 1993	North 1-5					South 6-10				
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Rosa woodsii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	10.00	0.00
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00
Artemisia tridentata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
Mahonia repens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
FORBS										
Circium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	15.00
Aster chilensis	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Kochia scoparia	40.00	50.00	35.00	10.00	40.00	0.00	0.00	0.00	0.00	0.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Melilotus officinalis	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00	0.00
Medicago sativa	0.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00
GRASSES										
Agropyron elongatum	10.00	0.00	7.00	20.00	0.00	5.00	10.00	15.00	20.00	10.00
Agropyron cristatum	0.00	0.00	8.00	0.00	10.00	10.00	15.00	10.00	10.00	5.00
Agrpyron dasystachyum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Poa pratensis	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
COVER										
Total Living Cover	50.00	50.00	50.00	30.00	50.00	35.00	40.00	45.00	45.00	45.00
Litter	25.00	25.00	30.00	30.00	10.00	5.00	10.00	10.00	10.00	15.00
Bareground	15.00	20.00	10.00	35.00	30.00	40.00	25.00	25.00	40.00	35.00
Rock	10.00	5.00	10.00	5.00	10.00	20.00	25.00	20.00	5.00	5.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.22	22.22	33.33
Forbs	80.00	100.00	70.00	33.33	80.00	42.86	25.00	22.22	11.11	33.33
Grasses	20.00	0.00	30.00	66.67	20.00	57.14	75.00	55.56	66.67	33.33

UP&L-DEER CREEK
Riparian Areas
Acreage: < .5 acre
Slope: 1-5 deg
Exposure: variable
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
1.50	3.20		Rosa woodsii
0.30	0.90		Chrysothamnus nauseosus
0.20	0.60		Artemisia tridentata
1.50	4.50		Mahonia repens
			FORBS
2.50	5.12		Circium sp.
0.50	1.50		Aster chilensis
17.50	19.91		Kochia scoparia
0.50	1.50		Machaeranthera canescens
1.00	2.00		Melilotus officinalis
1.00	2.00		Medicago sativa
			GRASSES
9.70	6.77		Agropyron elongatum
6.80	5.02		Agropyron cristatum
0.50	1.50		Agrpyron dasystachyum
0.50	1.50		Poa pratensis
			COVER
44.00	6.63		Total Living Cover
17.00	9.00		Litter
27.50	9.81		Bareground
11.50	7.09		Rock
			% COMPOSITION
7.78	12.22		Shrubs
49.79	28.66		Forbs
42.44	23.81		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Sediment Pond Dam

AREA: Deer Creek Mine Area

DATE: 9/7/93

WORKERS: P. Collins, D. Collins

SLOPE: 1 - 25 deg.

EXPOSURE: variable

AREA: < 2 acres

ANIMAL USE/DISTURBANCE: moderate

EROSION: negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Aster foliaceus
Bassia hyssopifolia
Grindelia squarrosa
Kochia scoparia
Machaeranthera canescens
Melilotus officinalis
Penstemon sp.
Salsola iberica

Agropyron smithii
Elymus cinereus
Orzopsis hymenodes

NOTES: 1) <50% weeds by cover, but many desirable spp. also.
2) Site looked better this year with more desirable species beginning to become established.

UP&L-DEER CREEK
Sediment Pond Dam
Acreage: < 2 acre
Slope: 1-25 deg
Exposure: variable

Sample Date: 7 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Bassia hyssopifolia	0.00	10.00	30.00	20.00	0.00	15.00	20.00	0.00	0.00	20.00
Aster chilensis	5.00	5.00	0.00	0.00	5.00	15.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	10.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00
Melilotus officinalis	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Grindelia squarrosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00
GRASSES										
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
Bromus carinatus	0.00	0.00	0.00	0.00	0.00	10.00	5.00	5.00	0.00	0.00
Elymus cinereus	0.00	0.00	5.00	0.00	5.00	0.00	5.00	5.00	0.00	0.00
Agropyron smithii	35.00	25.00	5.00	20.00	30.00	5.00	5.00	5.00	15.00	0.00
COVER										
Total Living Cover	40.00	40.00	50.00	45.00	40.00	45.00	40.00	45.00	45.00	50.00
Litter	5.00	5.00	5.00	10.00	5.00	10.00	10.00	10.00	10.00	10.00
Bareground	35.00	30.00	25.00	30.00	30.00	25.00	25.00	25.00	25.00	15.00
Rock	20.00	25.00	20.00	15.00	25.00	20.00	25.00	20.00	20.00	25.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	12.50	37.50	80.00	55.56	12.50	66.67	62.50	66.67	66.67	40.00
Grasses	87.50	62.50	20.00	44.44	87.50	33.33	37.50	33.33	33.33	60.00

UP&L-DEER CREEK
Sediment Pond Dam
Acreage: (2 acre
Slope: 1-25 deg
Exposure: variable
Sample Date: 7 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
11.50	10.50		Bassia hyssopifolia
3.00	4.58		Aster chilensis
2.00	3.32		Kochia scoparia
0.50	1.50		Melilotus officinalis
3.00	9.00		Grindelia squarrosa
2.50	7.50		Machaeranthera canescens
			GRASSES
3.00	9.00		Oryzopsis hymenoides
2.00	3.32		Bromus carinatus
2.00	2.45		Elymus cinereus
14.50	11.72		Agropyron smithii
			COVER
44.00	3.74		Total Living Cover
8.00	2.45		Litter
26.50	5.02		Bareground
21.50	3.20		Rock
			% COMPOSITION
0.00	0.00		Shrubs
50.06	22.34		Forbs
49.94	22.34		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Temp. Sediment Basin

AREA: Deer Creek Mine Area

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 1-2 deg.

EXPOSURE: variable

AREA: < 1 acre.

ANIMAL USE/DISTURBANCE: Slight

EROSION: Negligible

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Aster chilensis
Bassia hyssopifolia
Kochia scoparia
Melilotus officinalis

NOTES: 1) The vegetation was patchy when desirable species and weeds were compared. For example some areas had <25% weeds, whereas others has >75% weeds. The site seems to have improved somewhat from last year.

UP&L-DEER CREEK
Temp. Sediment Basin
Acreage: (1 acre
Slope: 1-2 deg
Exposure: variable

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Melilotus officinalis	15.00	5.00	0.00	10.00	5.00	0.00	0.00	0.00	0.00	0.00
Aster chilensis	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	10.00	15.00	10.00	0.00	0.00	45.00	45.00	20.00	0.00
Bassia hyssopifolia	0.00	0.00	0.00	0.00	35.00	30.00	0.00	0.00	0.00	5.00
GRASSES										
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Bromus carinatus	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Agropyron smithii	10.00	5.00	25.00	10.00	5.00	0.00	0.00	0.00	20.00	5.00
Elymus cinereus	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	15.00
COVER										
Total Living Cover	25.00	35.00	40.00	40.00	45.00	40.00	45.00	45.00	40.00	35.00
Litter	35.00	50.00	15.00	35.00	10.00	10.00	10.00	10.00	25.00	5.00
Bareground	5.00	10.00	10.00	15.00	40.00	40.00	35.00	35.00	5.00	15.00
Rock	35.00	5.00	35.00	10.00	5.00	10.00	10.00	10.00	30.00	45.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	60.00	85.71	37.50	50.00	88.89	75.00	100.00	100.00	50.00	14.29
Grasses	40.00	14.29	62.50	50.00	11.11	25.00	0.00	0.00	50.00	85.71

UP&L-DEER CREEK
Temp. Sediment Basin
Acreage: < 1 acre
Slope: 1-2 deg
Exposure: variable
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
3.50	5.02		Melilotus officinalis
1.50	4.50		Aster chilensis
14.50	16.65		Kochia scoparia
7.00	12.88		Bassia hyssopifolia
			GRASSES
0.50	1.50		Agropyron spicatum
0.50	1.50		Oryzopsis hymenoides
0.50	1.50		Bromus carinatus
8.00	8.12		Agropyron smithii
1.00	3.00		Elymus cinereus
2.00	4.58		Agropyron dasystachyum
			COVER
39.00	5.83		Total Living Cover
20.50	14.22		Litter
21.00	13.93		Bareground
19.50	14.22		Rock
			% COMPOSITION
0.00	0.00		Shrubs
66.14	27.09		Forbs
33.86	27.09		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Roadside Area

AREA: Deer Creek (1990 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 5 deg.

EXPOSURE: NE

AREA: < 1 acre

ANIMAL USE/DISTURBANCE: Slight

EROSION: Minimal

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Aster chilensis
Bassia hyssopifolia
Grindelia squarrosa
Halogeton glomeratus
Helianthus annus
Machaeranthera canescens
Kochia scoparia
Melilotus officinalis

Agropyron dasystachyum
Agropyron smithii
Agropyron spicatum
Bromus carinatus
Elymus cinereus
Hordeum jubatum
Oryzopsis hymenoides
Sitanion hystrix

NOTES:
1) Sampled both sides of the road randomly.
2) Had good representation of weedy and desirable spp.
3) < 50% weeds by cover in areas of the erosion control mounds
4) < 10% weed cover on the bottom areas where water collects.
5) Site seemed to have improved this year when compared to 1992. The east side looked better.

UP&L-DEER CREEK
Roadside Area
1990 Reveg Area
Acreage: (1 acre
Slope: 5 deg
Exposure: NE

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Kochia scoparia	0.00	5.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
Melilotus officinalis	5.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	5.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
GRASSES										
Poa pratensis	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	20.00	0.00
Bromus carinatus	0.00	0.00	0.00	10.00	0.00	5.00	0.00	5.00	0.00	0.00
Elymus cinereus	0.00	10.00	0.00	5.00	0.00	5.00	0.00	10.00	10.00	0.00
Agropyron smithii	10.00	20.00	30.00	15.00	20.00	15.00	35.00	20.00	0.00	30.00
Oryzopsis hymenoides	5.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00
Sitanion hystrix	5.00	5.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	25.00	40.00	35.00	40.00	35.00	40.00	35.00	45.00	35.00	30.00
Litter	10.00	20.00	25.00	10.00	15.00	20.00	30.00	25.00	10.00	15.00
Bareground	30.00	10.00	15.00	15.00	10.00	15.00	25.00	20.00	10.00	10.00
Rock	35.00	30.00	25.00	35.00	40.00	25.00	10.00	10.00	45.00	45.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	20.00	12.50	14.29	12.50	42.86	0.00	0.00	11.11	14.29	0.00
Grasses	80.00	87.50	85.71	87.50	57.14	100.00	100.00	88.89	85.71	100.00

UP&L-DEER CREEK
Roadside Area
1990 Reveg Area
Acreage: < 1 acre
Slope: 5 deg
Exposure: NE
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
1.50	2.29		Kochia scoparia
2.00	2.45		Melilotus officinalis
1.00	3.00		Halogeton glomeratus
			GRASSES
2.50	6.02		Poa pratensis
2.00	3.32		Bromus carinatus
4.00	4.36		Elymus cinereus
19.50	9.86		Agropyron smithii
1.50	2.29		Oryzopsis hymenoides
2.00	3.32		Sitanion hystrix
			COVER
36.00	5.39		Total Living Cover
18.00	6.78		Litter
16.00	6.63		Bareground
30.00	12.04		Rock
			% COMPOSITION
0.00	0.00		Shrubs
12.75	12.06		Forbs
87.25	12.06		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Gate Area Slope

AREA: Deer Creek (1990 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 15 deg.

EXPOSURE: E

ANIMAL USE/DISTURBANCE: Slight

EROSION: Slight

COVER: (see quant. data)

DOMINANT PLANT SPECIES OBSERVED: (see also quant. data)

Chrysothamus nauseosus

Aster chilensis
Halogeton glomeratus
Kochia scoparia
Medicago sativa
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Agropyron smithii
Agropyron spicatum
Elymus cinereus
Oryzopsis hymenoides

NOTES: 1) < 25% representation of weeds when compared to desirable species.

2) Most of the litter in the quant. data was erosion control mat, but it's more decomposed.

UP&L-DEER CREEK
Gate Area Slope
1990 Reveg Area
Acreage:
Slope: 15 deg
Exposure: E

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Kochia scoparia	5.00	0.00	0.00	5.00	15.00	0.00	0.00	0.00	0.00	0.00
Astragalus cicer	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicago sativa	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Salsola iberica	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	30.00
GRASSES										
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Bromus carinatus	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	25.00	10.00	25.00	0.00	5.00	5.00	0.00	0.00	10.00	5.00
Oryzopsis hymenoides	5.00	5.00	5.00	15.00	0.00	5.00	45.00	35.00	15.00	0.00
Elymus cinereus	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00
COVER										
Total Living Cover	35.00	30.00	40.00	30.00	25.00	15.00	45.00	35.00	30.00	40.00
Litter	35.00	25.00	25.00	25.00	65.00	10.00	10.00	10.00	25.00	20.00
Bareground	20.00	25.00	15.00	20.00	5.00	20.00	5.00	5.00	10.00	5.00
Rock	10.00	20.00	20.00	25.00	5.00	55.00	40.00	50.00	35.00	35.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	14.29	16.67	12.50	50.00	60.00	0.00	0.00	0.00	16.67	75.00
Grasses	85.71	83.33	87.50	50.00	40.00	100.00	100.00	100.00	83.33	25.00

UP&L-DEER CREEK
Gate Area Slope
1990 Reveg Area
Acreage:
Slope: 15 deg
Exposure: E
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
2.50	4.61		Kochia scoparia
1.00	2.00		Astragalus cicer
1.00	2.00		Medicago sativa
3.50	8.96		Salsola iberica
			GRASSES
0.50	1.50		Agropyron dasystachyum
0.50	1.50		Bromus carinatus
0.50	1.50		Agropyron spicatum
8.50	8.96		Agropyron smithii
13.00	14.53		Oryzopsis hymenoides
1.50	2.29		Elymus cinereus
			COVER
32.50	8.14		Total Living Cover
25.00	15.49		Litter
13.00	7.48		Bareground
29.50	15.56		Rock
			% COMPOSITION
0.00	0.00		Shrubs
24.51	25.75		Forbs
75.49	25.75		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Fan Road Slopes

AREA: Deer Creek (1989 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: Variable

EXPOSURE: Variable

AREA: 1.1 acres

ANIMAL USE/DISTURBANCE: Potguts were observed

EROSION: As last year, slight - in only about 5% of the area.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Aster chilensis
Halogeton glomeratus
Machaeranthera canescens
Salsola iberica

Agropyron cristatum
Agropyron dasystachum
Agropyron smithii
Elymus cinereus
Elymus salinus

NOTES: 1) Much of the areas seemed to have been recently disturbed along much of the slope for maintenance and to create channels.
2) There were a lot of localized patch of vegetation that were weed dominated.

UP&L-DEER CREEK
Fan Road Slopes
1989 Reveg Area
Acreage: 1.1
Slope: variable
Exposure: variable

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
FORBS										
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Aster chilensis	35.00	20.00	30.00	10.00	30.00	35.00	5.00	5.00	25.00	5.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
GRASSES										
Elymus cinereus	0.00	20.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	35.00	40.00	40.00	20.00	40.00	35.00	5.00	10.00	25.00	10.00
Litter	5.00	10.00	10.00	10.00	5.00	5.00	2.00	5.00	5.00	5.00
Bareground	5.00	10.00	20.00	5.00	10.00	5.00	3.00	5.00	5.00	5.00
Rock	55.00	40.00	30.00	65.00	45.00	55.00	90.00	80.00	65.00	80.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	100.00	50.00	75.00	50.00	75.00	100.00	100.00	100.00	100.00	100.00
Grasses	0.00	50.00	25.00	50.00	25.00	0.00	0.00	0.00	0.00	0.00

UP&L-DEER CREEK
Fan Road Slopes
1989 Reveg Area
Acreage: 1.1
Slope: variable
Exposure: variable
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
			FORBS
0.50	1.50		Machaeranthera canescens
20.00	12.04		Aster chilensis
0.50	1.50		Kochia scoparia
			GRASSES
3.00	6.40		Elymus cinereus
1.00	3.00		Agropyron cristatum
1.00	3.00		Agropyron spicatum
			COVER
26.00	13.19		Total Living Cover
6.20	2.64		Litter
7.30	4.75		Bareground
60.50	18.23		Rock
			% COMPOSITION
0.00	0.00		Shrubs
85.00	20.00		Forbs
15.00	20.00		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Refuse Pile & Berm

AREA: Deer Creek (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 27 deg.

EXPOSURE: NE 300 deg.

AREA: 4.0 acres

ANIMAL USE/DISTURBANCE: None observed

EROSION: Slight

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Chrysothamnus viscidiflorus
Eriogonum corymbosum

Aster chilensis
Halogeton glomeratus
Iva axillaris
Kochia scoparia
Melilotus officinalis
Salsola iberica

Agropyron cristatum
Agropyron dasystachyum
Agropyron smithii
Agropyron spicatum
Elymus cinereus

NOTES: 1) Patchy areas of weeds and some of desirable species.
2) Sampled entire area by random methods

UP&L-DEER CREEK
Refuse Pile & Berm
1988 Reveg Area
Acreage: 4.0 acres
Slope: 27 deg
Exposure: NE (300 deg)

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Eriogonum corymbosum	0.00	5.00	0.00	0.00	10.00	0.00	5.00	0.00	0.00	0.00
Chrysothamnus nauseosus	5.00	15.00	0.00	0.00	0.00	0.00	5.00	0.00	20.00	0.00
FORBS										
Aster chilensis	0.00	0.00	0.00	0.00	0.00	0.00	5.00	40.00	0.00	5.00
Medilotus officinalis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
Kochia scoparia	20.00	15.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES										
Elymus cinereus	0.00	0.00	25.00	0.00	0.00	20.00	10.00	0.00	0.00	0.00
Agropyron spicatum	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron smithii	10.00	0.00	10.00	0.00	0.00	5.00	0.00	0.00	5.00	0.00
Agropyron cristatum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	35.00	40.00	40.00	35.00	10.00	25.00	25.00	40.00	35.00	5.00
Litter	15.00	5.00	10.00	5.00	5.00	5.00	5.00	5.00	10.00	2.00
Bareground	10.00	10.00	25.00	15.00	10.00	5.00	5.00	5.00	5.00	3.00
Rock	40.00	45.00	25.00	45.00	75.00	65.00	65.00	50.00	50.00	90.00
% COMPOSITION										
Shrubs	14.29	50.00	0.00	0.00	100.00	0.00	40.00	0.00	57.14	0.00
Forbs	57.14	37.50	0.00	85.71	0.00	0.00	20.00	100.00	28.57	100.00
Grasses	28.57	12.50	100.00	14.29	0.00	100.00	40.00	0.00	14.29	0.00

UP&L-DEER CREEK
Refuse Pile & Berm
1988 Reveg Area
Acreage: 4.0 acres
Slope: 27 deg
Exposure: NE (300 deg)
Sample Date: 16 Sept 1993

11.00	12.00	Mean	SDev	Freq	
					SHRUBS
0.00	5.00	2.08	3.20		Eriogonum corymbosum
0.00	5.00	4.17	6.40		Chrysothamnus nauseosus
					FORBS
0.00	0.00	4.17	10.96		Aster chilensis
0.00	0.00	0.83	2.76		Medilotus officinalis
40.00	10.00	9.17	12.72		Kochia scoparia
0.00	0.00	0.42	1.38		Halogeton glomeratus
					GRASSES
0.00	10.00	5.42	8.53		Elymus cinereus
0.00	0.00	0.42	1.38		Agropyron spicatum
0.00	0.00	0.42	1.38		Agropyron dasystachyum
0.00	10.00	3.33	4.25		Agropyron smithii
0.00	0.00	0.42	1.38		Agropyron cristatum
					COVER
40.00	40.00	30.83	11.70		Total Living Cover
5.00	5.00	6.42	3.35		Litter
5.00	5.00	8.58	5.95		Bareground
50.00	50.00	54.17	16.44		Rock
					% COMPOSITION
0.00	25.00	23.87	30.76		Shrubs
100.00	25.00	46.16	39.04		Forbs
0.00	50.00	29.97	35.00		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Rock Slide and Berm

AREA: Deer Creek

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 53+ deg.

EXPOSURE:

AREA: .5 acre

ANIMAL USE/DISTURBANCE: None observed

EROSION: Slight erosion. Area appears to have had work done for maintenance. A channel was created affecting the slope and slope toe.

COVER: Cover was estimated by nonconventional methods because of steep and dangerous slopes (see quant. data).

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus

Aster chilensis
Halogeton glomeratus

Agropyron smithii
Agropyron dasystachum
Elymus cinereus

NOTES: 1) Methods: As mentioned above, for cover, (because of dangerously steep slopes) we had to make estimations by viewing from a distance.
2) Numbers 1-4 of the quant. data were on the berm, numbers 5-10 on the rock slide.

UP&L-DEER CREEK
Rock Slide Berm
1988 Reveg Area
Acreage: .5 deg
Slope: 53+ deg
Exposure:

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	Mean	SDev	Freq
SHRUBS							
FORBS							
Aster chilensis	5.00	0.00	0.00	0.00	1.25	2.17	
GRASSES							
Agropyron smithii	20.00	25.00	0.00	5.00	12.50	10.31	
Agropyron cristatum	0.00	5.00	10.00	10.00	6.25	4.15	
COVER							
Total Living Cover	25.00	30.00	10.00	15.00	20.00	7.91	
Litter	20.00	5.00	5.00	10.00	10.00	6.12	
Bareground	20.00	55.00	75.00	60.00	52.50	20.16	
Rock	35.00	10.00	10.00	15.00	17.50	10.31	
% COMPOSITION							
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00	
Forbs	20.00	0.00	0.00	0.00	5.00	8.66	
Grasses	80.00	100.00	100.00	100.00	95.00	8.66	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Water Plant Slope

AREA: Deer Creek (1988 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 38 deg.

EXPOSURE: NE, 320

AREA:

ANIMAL USE/DISTURBANCE: None observed

EROSION: Slight, not a problem, slope continues to hold well.

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia tridentata
Chrysothamnus nauseosus
Eriogonum corybosum

Aster chilensis
Machaeranthera canescens
Melilotus officianalis

Agropyron cristatum
Agropyron dasystachyum
Agropyron spicatum
Elymus hymenoides
Sitanion hystrix
Stipa hymenoides

NOTES:

1) A lot of gravel on slopes
2) Methods: For cover we placed meter sq. quadrats at regular intervals over the area.
3) This area is larger on 1993 maps when compared to previous years'. Apparently the area has been combined with another area.

UP&L-DEER CREEK
Water Plant Slope
1988 Reveg Area
Acreage:
Slope: 38 deg
Exposure: NE (320 deg)

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS										
Melilotus officinalis	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aster chilensis	20.00	25.00	5.00	15.00	35.00	10.00	5.00	0.00	5.00	10.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
GRASSES										
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	5.00	5.00	50.00	0.00	0.00
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
Agropyron spicatum	0.00	10.00	0.00	5.00	0.00	5.00	25.00	0.00	30.00	0.00
Agropyron dasystachyum	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	20.00
Agropyron smithii	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
COVER										
Total Living Cover	25.00	35.00	15.00	30.00	35.00	40.00	40.00	50.00	45.00	40.00
Litter	5.00	5.00	5.00	5.00	10.00	10.00	25.00	25.00	25.00	25.00
Bareground	20.00	10.00	65.00	5.00	5.00	5.00	15.00	5.00	5.00	5.00
Rock	50.00	50.00	15.00	60.00	50.00	45.00	20.00	20.00	25.00	30.00
% COMPOSITION										
Shrubs	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	80.00	71.43	100.00	50.00	100.00	25.00	12.50	0.00	22.22	25.00
Grasses	20.00	28.57	0.00	16.67	0.00	75.00	87.50	100.00	77.78	75.00

UP&L-DEER CREEK
Water Plant Slope
1998 Reveg Area
Acreage:
Slope: 38 deg
Exposure: NE (320 deg)
Sample Date: 16 Sept 1993

Mean	SDev	Freq	
			SHRUBS
1.00	3.00		Chrysothamnus nauseosus
			FORBS
1.00	3.00		Melilotus officinalis
13.00	10.30		Aster chilensis
0.50	1.50		Machaeranthera canescens
			GRASSES
6.00	14.80		Elymus cinereus
1.00	3.00		Oryzopsis hymenoides
7.50	10.55		Agropyron spicatum
0.50	1.50		Agropyron dasystachyum
4.00	8.00		Oryzopsis hymenoides
1.00	2.00		Agropyron smithii
			COVER
35.50	9.60		Total Living Cover
14.00	9.17		Litter
14.00	17.72		Bareground
36.50	15.34		Rock
			% COMPOSITION
3.33	10.00		Shrubs
48.62	35.03		Forbs
48.05	36.55		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Pipeline

AREA: Deer Creek (1986 Reveg. Area)

DATE: 9/7/93

WORKERS: P. Collins

SLOPE: 5 - 30 deg.

EXPOSURE: variable

AREA: 3.5 acre

ANIMAL USE/DISTURBANCE: Moderate

EROSION: Slight
COVER: (see quantitative data)
DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Artemisia tridentata
Aster foliaceus
Eriogonum corymbosum
Juniperus osteosperma
Pinus edulis
Populus angustifolia
Rhus trilobata

Aster chilensis
Castilleja sp.
Halogeton glomeratus
Kochia scoparia
Machaeranthera canescens
Malcomia africana
Medicago sativa
Melilotus officinalis
Salsola iberica

Agropyron dasystachyum
Agropyron spicatum
Agropyron cristatum
Agropyron intermedium
Bromus tectorum
Elymus cinereus
Stipa hymenoides

NOTES: 1) Area looked good with less than 20% weed spp.
2) Methods: For cover we placed meter sq. quadrats at regular intervals over the entire length of the pipeline (every 500 ft.). We avoided area that were disturbed by constant use.

UP&L-DEER CREEK
Pipeline
1986 Reveg Site
Acreage: 3.5 acres
Slope: 5-30 deg
Exposure: variable

Sample Date: 7 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Chrysothamnus nauseosus	50.00	40.00	40.00	0.00	35.00	20.00	40.00	0.00	5.00	0.00	15.00
Gutierrezia sarothrae	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS											
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Aster chilensis	0.00	0.00	0.00	20.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
Melilotus officinalis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Castilleja sp.	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salsola iberica	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogeton glomeratus	0.00	0.00	0.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00
Malcomia africana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicago sativa	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
GRASSES											
Elymus cinereus	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Agropyron spicatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
Agropyron intermedium	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00
Oryzopsis hymenoides	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron cristatum	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bromus tectorum	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agropyron dasystachyum	0.00	0.00	10.00	15.00	0.00	0.00	0.00	25.00	40.00	20.00	0.00
COVER											
Total Living Cover	50.00	65.00	65.00	60.00	50.00	25.00	65.00	45.00	50.00	40.00	30.00
Litter	10.00	5.00	5.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Bareground	20.00	20.00	20.00	10.00	25.00	5.00	10.00	10.00	10.00	5.00	60.00
Rock	20.00	10.00	10.00	20.00	20.00	65.00	20.00	40.00	35.00	50.00	5.00
% COMPOSITION											
Shrubs	100.00	61.54	61.54	0.00	80.00	80.00	61.54	0.00	10.00	0.00	50.00
Forbs	0.00	23.08	0.00	41.67	20.00	20.00	23.08	0.00	10.00	12.50	50.00
Grasses	0.00	15.38	38.46	58.33	0.00	0.00	15.38	100.00	80.00	87.50	0.00

UP&L-DEER CREEK
Pipeline
1986 Reveg Site
Acreage: 3.5 acres
Slope: 5-30 deg
Exposure: variable
Sample Date: 7 Sept 1993

12.00	13.00	Mean	SDev	Freq	
					SHRUBS
5.00	0.00	19.23	18.38		Chrysothamnus nauseosus
0.00	0.00	0.38	1.33		Gutierrezia sarothrae
					FORBS
0.00	15.00	1.15	4.00		Machaeranthera canescens
0.00	0.00	0.38	1.33		Kochia scoparia
15.00	0.00	5.00	7.60		Aster chilensis
0.00	0.00	0.38	1.33		Melilotus officinalis
0.00	0.00	1.15	4.00		Castilleja sp.
5.00	0.00	0.38	1.33		Salsola iberica
0.00	0.00	0.77	1.80		Halogeton glomeratus
5.00	0.00	0.38	1.33		Malcomia africana
0.00	0.00	0.77	1.80		Medicago sativa
					GRASSES
0.00	0.00	1.54	4.11		Elymus cinereus
0.00	0.00	1.54	5.33		Agropyron spicatum
0.00	0.00	1.54	3.61		Agropyron intermedium
0.00	35.00	3.46	9.48		Oryzopsis hymenoides
0.00	0.00	0.77	2.66		Agropyron cristatum
0.00	0.00	0.77	2.66		Bromus tectorum
0.00	0.00	8.46	12.46		Agropyron dasystachyum
					COVER
30.00	50.00	48.08	13.23		Total Living Cover
5.00	10.00	6.15	2.11		Litter
60.00	35.00	22.31	18.04		Bareground
5.00	5.00	23.46	18.12		Rock
					% COMPOSITION
16.67	0.00	40.10	35.23		Shrubs
83.33	30.00	24.13	22.59		Forbs
0.00	70.00	35.77	36.87		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Deer Canyon

AREA: Deer Creek (1986 Reveg. Area)

DATE: 9/16/93

WORKERS: P. Collins, D. Collins

SLOPE: 15-20 deg.

EXPOSURE: E

AREA: .1 acre

ANIMAL USE/DISTURBANCE: Heavy

EROSION: None

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED:

Chrysothamnus nauseosus
Chrysothamnus viscidiflorus

Aster chilensis
Medicago sativa
Melilotus officinalis
Penstemon palmeri

Agropyron spicatum
Agropyron dasystachyum
Elymus cinereus
Oryzopsis hymenoides

NOTES: 1) The cut slopes have some erosion.
2) Fill slopes look good.
3) As 1992 the area has less than 10% weeds.

UP&L-DEER CREEK
Deer Canyon
1986 Reveg Area
Acreage: .1
Slope: 15-20 deg
Exposure: E

Sample Date: 16 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	Mean	SDev	Freq
SHRUBS									
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	10.00	1.67	3.73	
Eriogonum corymbosum	5.00	0.00	0.00	0.00	0.00	0.00	0.83	1.86	
FORBS									
Aster chilensis	0.00	5.00	0.00	10.00	10.00	10.00	5.83	4.49	
Melilotus officinalis	0.00	5.00	10.00	5.00	0.00	0.00	3.33	3.73	
Circium sp.	0.00	0.00	0.00	5.00	0.00	0.00	0.83	1.86	
GRASSES									
Elymus cinereus	5.00	5.00	10.00	0.00	15.00	0.00	5.83	5.34	
Agropyron spicatum	0.00	0.00	5.00	0.00	0.00	0.00	0.83	1.86	
Agropyron smithii	35.00	25.00	15.00	35.00	10.00	10.00	21.67	10.67	
Agropyron dasystachyum	0.00	5.00	0.00	0.00	0.00	5.00	1.67	2.36	
Oryzopsis hymenoides	0.00	0.00	0.00	0.00	0.00	20.00	3.33	7.45	
Bromus carinatus	0.00	5.00	5.00	0.00	10.00	0.00	3.33	3.73	
COVER									
Total Living Cover	45.00	50.00	45.00	55.00	45.00	55.00	49.17	4.49	
Litter	15.00	25.00	25.00	25.00	30.00	10.00	21.67	6.87	
Bareground	10.00	10.00	10.00	5.00	5.00	5.00	7.50	2.50	
Rock	30.00	15.00	20.00	15.00	20.00	30.00	21.67	6.24	
% COMPOSITION									
Shrubs	11.11	0.00	0.00	0.00	0.00	18.18	4.88	7.20	
Forbs	0.00	20.00	22.22	36.36	22.22	18.18	19.83	10.65	
Grasses	88.89	80.00	77.78	63.64	77.78	63.64	75.29	9.05	

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Access Road Slopes

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

DATE: 9/7/93

WORKERS: P. Collins

SLOPE: 20 - 25 deg.

EXPOSURE: variable

AREA: Part of 5 acres

ANIMAL USE/DISTURBANCE: Slight

EROSION: There is some new erosional rill beginning, but probably not enough to warrant them being filled yet. As noted the past two years, erosion continues here but some of the gullies have been filled and controlled. This control continues to work well.

COVER: (see qualitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also qualitative data)
Atriplex cuneata
Ceratoides lanata
Chrysothamnus nauseosus
Sarcobatus vermiculatus
Halogeton glomeratus
Kochia scoparia
Machaeranthera canescens
Melilotus officinalis
Penstemon palmeri
Salsola iberica
Agropyron riparian
Agropyron dasystachum
Elymus cinereus
Sitanion hystrix
Stipa hymenoides

NOTES:
1) Method: Regularly sampled at 100' intervals alternating from cut to fill slopes (raw data sheets indicate which are cut and which area fill slopes).
2) Greater than 50% weeds by cover.
3) The fill slopes looked much better than the cut slopes (from a vegetation stand point). Or, the fill slopes looked "good", whereas, the cut slope looked "poor".

DEER CREEK-WASTE ROCK SITE
Access Road Slope
1989 Interim Reveg Area
Acreage: part of 5 acres
Slope: 20-25 deg
Exposure: variable

Sample Date: 7 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
SHRUBS										
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Ceratoides lanata	0.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	10.00
Artemisia tridentata	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex gardneri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	5.00
Atriplex confertifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS										
Medicago sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Kochia scoparia	0.00	45.00	0.00	40.00	5.00	15.00	15.00	5.00	10.00	0.00
Salsola iberica	20.00	0.00	0.00	0.00	0.00	5.00	10.00	0.00	10.00	10.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
GRASSES										
Agropyron dasystachyum	0.00	0.00	5.00	0.00	0.00	15.00	0.00	5.00	0.00	15.00
Elymus cinereus	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Sitanion hystrix	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poa pratensis	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER										
Total Living Cover	20.00	45.00	30.00	45.00	5.00	35.00	25.00	30.00	25.00	45.00
Litter	2.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	10.00
Bareground	75.00	45.00	55.00	45.00	85.00	35.00	65.00	15.00	65.00	20.00
Rock	3.00	5.00	10.00	5.00	5.00	25.00	5.00	50.00	5.00	25.00
% COMPOSITION										
Shrubs	0.00	0.00	33.33	0.00	0.00	0.00	0.00	33.33	20.00	44.44
Forbs	100.00	100.00	0.00	88.89	100.00	57.14	100.00	50.00	80.00	22.22
Grasses	0.00	0.00	66.67	11.11	0.00	42.86	0.00	16.67	0.00	33.33

DEER CREEK-WASTE ROCK SITE
Access Road Slope
1989 Interim Reveg Area
Acreage: part of 5 acres
Slope: 20-25 deg
Exposure: variable
Sample Date: 7 Sept 1993

11.00	12.00	Mean	SDev	Freq	
					SHRUBS
0.00	0.00	0.42	1.38		Chrysothamnus nauseosus
0.00	10.00	2.50	3.82		Ceratoides lanata
0.00	0.00	0.42	1.38		Artemisia tridentata
0.00	0.00	1.25	2.17		Atriplex gardneri
0.00	10.00	0.83	2.76		Atriplex confertifolia
					FORBS
0.00	0.00	0.42	1.38		Medicago sativa
10.00	0.00	12.08	14.64		Kochia scoparia
10.00	0.00	5.42	6.28		Salsola iberica
0.00	0.00	0.42	1.38		Machaeranthera canescens
					GRASSES
0.00	15.00	4.58	6.28		Agropyron dasystachyum
0.00	0.00	0.42	1.38		Elymus cinereus
0.00	0.00	0.42	1.38		Sitanion hystrix
0.00	0.00	0.83	2.76		Poa pratensis
					COVER
20.00	35.00	30.00	11.55		Total Living Cover
5.00	5.00	5.17	1.67		Litter
70.00	35.00	50.83	21.10		Bareground
5.00	25.00	14.00	13.79		Rock
					% COMPOSITION
0.00	57.14	15.69	20.23		Shrubs
100.00	0.00	66.52	38.14		Forbs
0.00	42.86	17.79	22.05		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Phase I Berm

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

DATE: 9/7/93

WORKERS: P. Collins

SLOPE: 0 - 20 deg.

EXPOSURE: variable

AREA: 4 acres

ANIMAL USE/DISTURBANCE: None observed

EROSION: Slightly, beginning around berm

COVER: (see quantitative data)

DOMINANT PLANT SPECIES OBSERVED: (see also quantitative data)

Agropyron canescens
Atriplex gardneri
Ceratoides lanata

Medicago sativa
Salsola iberica
Halogeton glomeratus

Agropyron cristatum
Elymus cinereus
Sitanion hystrix

NOTES:
1) In 1992, the top of seeded berm had been driven on by vehicles.
2) Methods: Sampled requlary every 100'. Sampled on top, inside and outside of berm about 5 times each.
3) Weeds dominated the site again this year but it seems like a few more desirable species exist when compared to 1992.

UP&L-DEER CREEK
Phase I Berm
Waste Rock Site
1989 Final Reveg
Acreage: 4 acres
Slope: 0-20 deg
Exposure: variable

Sample Date: 7 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Atriplex canescens	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex gardneri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FORBS											
Bassia hyssopifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Salsola iberica	0.00	5.00	5.00	0.00	35.00	0.00	0.00	5.00	5.00	0.00	15.00
Halogeton glomeratus	35.00	30.00	20.00	20.00	0.00	20.00	25.00	10.00	20.00	40.00	20.00
Kochia scoparia	0.00	5.00	0.00	5.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Machaeranthera canescens	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
Sitanion hystrix	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
Agropyron intermedium	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00	0.00	0.00
COVER											
Total Living Cover	35.00	40.00	30.00	35.00	35.00	30.00	25.00	35.00	35.00	40.00	35.00
Litter	5.00	5.00	10.00	5.00	5.00	5.00	1.00	5.00	5.00	5.00	5.00
Bareground	55.00	50.00	55.00	50.00	55.00	60.00	70.00	55.00	35.00	50.00	50.00
Rock	5.00	5.00	5.00	10.00	5.00	5.00	4.00	5.00	25.00	5.00	10.00
% COMPOSITION											
Shrubs	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	14.29	0.00	0.00
Forbs	100.00	100.00	100.00	71.43	100.00	66.67	100.00	100.00	71.43	100.00	100.00
Grasses	0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00	14.29	0.00	0.00

UP&L-DEER CREEK
Phase I Berm
Waste Rock Site
1989 Final Reveg
Acreage: 4 acres
Slope: 0-20 deg
Exposure: variable
Sample Date: 7 Sept 1993

12.00	13.00	14.00	15.00	Mean	SDev	Freq	
							SHRUBS
0.00	0.00	0.00	0.00	0.67	2.49		Atriplex canescens
0.00	0.00	20.00	0.00	1.67	5.06		Atriplex gardneri
0.00	5.00	0.00	0.00	0.33	1.25		Atriplex canescens
							FORBS
0.00	0.00	0.00	0.00	0.67	2.49		Bassia hyssopifolia
0.00	0.00	5.00	0.00	5.00	8.94		Salsola iberica
40.00	25.00	0.00	40.00	23.00	12.49		Halogeton glomeratus
0.00	10.00	0.00	0.00	2.00	3.56		Kochia scoparia
0.00	0.00	0.00	0.00	0.33	1.25		Machaeranthera canescens
							GRASSES
0.00	0.00	0.00	0.00	0.33	1.25		Sitanion hystrix
0.00	0.00	0.00	0.00	0.67	1.70		Agropyron intermedium
							COVER
40.00	40.00	25.00	40.00	34.67	4.99		Total Living Cover
5.00	5.00	10.00	4.00	5.33	2.09		Litter
50.00	45.00	60.00	55.00	53.00	7.48		Bareground
5.00	10.00	5.00	1.00	7.00	5.37		Rock
							% COMPOSITION
0.00	12.50	80.00	0.00	9.02	20.58		Shrubs
100.00	87.50	20.00	100.00	87.80	21.71		Forbs
0.00	0.00	0.00	0.00	3.17	8.81		Grasses

PACIFICORP ELECTRIC
QUALITATIVE SAMPLING DATA SHEET AND
QUANTITATIVE/QUALITATIVE NOTES
1993

SITE NAME: Phase I Diversion

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

DATE: 9/7/93

WORKERS: P. Collins

SLOPE: 5 deg.

EXPOSURE: variable

AREA: Part of 5 acres

ANIMAL USE/DISTURBANCE: Slight

EROSION: Slight

COVER: (see qualitative data)

DOMINANT PLANT SPECIES OBSERVED: (see quantitative data)

DENSITY	1992	1993
Atriplex gardneri	816.75	665.50
Atriplex canescens	1023.66	480.80
Atriplex corrugata	239.58	
Atriplex confertifolia	130.68	36.30
Artemisia tridentata	239.58	84.70
Chrysothamnus nauseosus	21.78	96.80
Chrysothamnus viscidiflorus		24.20
Sarcobatus vermiculatus	10.89	36.30
Total	2482.92	1524.60

NOTES: 1) Methods: Cover - Regular placement every 30' (n=20)
Density - used 6' X 25' belt transects (n=24).

UP&L-DEER CREEK
Phase I Diversion
Waste Rock Site
1989 Final Reveg
Acreage: Part of 5 acres
Slope: 3 deg
Exposure: variable

Sample Date: 7 Sept 1993	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
SHRUBS											
Atriplex canescens	5.00	0.00	0.00	0.00	0.00	35.00	0.00	0.00	0.00	5.00	15.00
Atriplex confertifolia	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex gardneri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	25.00
Ceratoides lanata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
FORBS											
Salsola iberica	20.00	5.00	20.00	10.00	35.00	5.00	35.00	35.00	5.00	20.00	0.00
Halogeton glomeratus	15.00	10.00	5.00	15.00	0.00	5.00	5.00	5.00	0.00	20.00	0.00
Malcomia africana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cassia hyssopifolia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Penstemon palmeri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES											
Agropyron dasystachyum	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Muhlenbergia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Elymus cinereus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVER											
Total Living Cover	40.00	20.00	30.00	25.00	35.00	45.00	40.00	40.00	40.00	50.00	45.00
Litter	10.00	5.00	5.00	5.00	4.00	4.00	3.00	3.00	5.00	5.00	5.00
Bareground	40.00	70.00	60.00	55.00	60.00	50.00	55.00	55.00	50.00	35.00	35.00
Rock	10.00	5.00	5.00	15.00	1.00	1.00	2.00	2.00	5.00	10.00	15.00
% COMPOSITION											
Shrubs	12.50	0.00	16.67	0.00	0.00	77.78	0.00	0.00	75.00	20.00	88.89
Forbs	87.50	75.00	83.33	100.00	100.00	22.22	100.00	100.00	25.00	80.00	0.00
Grasses	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11

12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
0.00	0.00	5.00	0.00	5.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	5.00	35.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	15.00	0.00	0.00	10.00	40.00	5.00	35.00	15.00
40.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	30.00	0.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
40.00	35.00	40.00	45.00	45.00	50.00	50.00	35.00	35.00
5.00	5.00	5.00	2.00	2.00	4.00	5.00	5.00	5.00
50.00	55.00	50.00	50.00	50.00	45.00	40.00	55.00	55.00
5.00	5.00	5.00	3.00	3.00	1.00	5.00	5.00	5.00
0.00	0.00	12.50	0.00	11.11	20.00	70.00	0.00	0.00
100.00	100.00	62.50	0.00	88.89	80.00	30.00	100.00	100.00
0.00	0.00	25.00	100.00	0.00	0.00	0.00	0.00	0.00

UP&L-DEER CREEK
Phase I Diversion
Waste Rock Site
1989 Final Reveg
Acreage: Part of 5 acres
Slope: 3 deg
Exposure: variable
Sample Date: 7 Sept 1993

Mean	SDev	Freq	
			SHRUBS
3.75	8.04		Atriplex canescens
0.25	1.09		Atriplex confertifolia
4.75	10.78		Atriplex gardneri
0.25	1.09		Ceratoides lanata
			FORBS
15.50	13.50		Salsola iberica
7.75	10.18		Halogeton glomeratus
0.25	1.09		Malcomia africana
1.25	5.45		Kochia scoparia
2.00	6.78		Bassia hyssopifolia
0.25	1.09		Penstemon palmeri
			GRASSES
2.25	8.73		Agropyron dasystachyum
0.75	2.38		Muhlenbergia sp.
0.25	1.09		Elymus cinereus
			COVER
39.25	7.79		Total Living Cover
4.60	1.59		Litter
50.75	8.41		Bareground
5.40	4.00		Rock
			% COMPOSITION
20.22	29.84		Shrubs
71.72	34.62		Forbs
8.06	22.45		Grasses

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Deer Creek - Riparian Area - North

Deer Creek - Riparian Area - South

Deer Creek - Sediment Pond Dam

Deer Creek - Temp. Sediment Basin (1)

Deer Creek - Temp. Sediment Basin (2)

Deer Creek - Roadside Area

Deer Creek - Gate Area Slope

Deer Creek - Fan Road Slope (1)

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING SITES FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Deer Creek - Fan Road Slope (2)

Deer Creek - Refuse Pile and Berm

Deer Creek - Rockslide and Berm

Deer Creek - Water Plant Slope (1)

Deer Creek - Water Plant Slope (2)

Deer Creek - Pipeline

Deer Creek - Deer Canyon

Deer Creek - Waste Rock Site
Access Road Slopes (1)

COLOR PHOTOGRAPHS OF THE REVEGETATION MONITORING FOR PACIFICORP ELECTRIC OPERATIONS (SEPT. 1993)

Deer Creek - Waste Rock Site
Access Road Slope (2)

Deer Creek - Waste Rock Site
Phase I Berm

Deer Creek - Waste Rock Site
Phase I Diversion (1)

Deer Creek - Waste Rock Site
Phase I Diversion (2)