

Williams Production Company



2008 Reclamation Monitoring Report



December 2008

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**Environmental & Natural Resource Management
Consulting & Construction Services**

**Williams Production Company
2008 Reclamation Monitoring**

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Williams Production Company 2008 Reclamation Monitoring

Overview

This report provides the results of the 2008 reclamation monitoring of gas production sites (well pads) maintained by Williams Production Company. Reclamation monitoring was completed by Habitat Management, Inc. in accordance with Colorado Oil and Gas Conservations Commission (COGCC), Bureau of Land Management (BLM), and Williams Production requirements in July and August of 2008. Qualitative observations and quantitative data were collected, and site photographs were taken. Monitoring methods, reclamation requirements, reports for each site, photographs and summary tables are included. Monitoring data was analyzed to determine whether reclaimed sites met reclamation requirements established by the COGCC and BLM.

Compilation and review of the data found that of the one hundred forty-four well pads visited; forty sites have fulfilled the requirement for interim reclamation according to COGCC regulations. Additionally, seven sites on BLM land were found to fulfill the COGCC requirement, but not all BLM reclamation requirements. A summary of sites where interim reclamation has been completed is included in Table 4. Twenty four sites were not yet reclaimed, and three sites were reclaimed too recently to have any vegetative cover. Six sites were found to have erosion problems. Noxious weeds were identified on 17 sites, of these two sites contained B-list species.

Williams Production Company 2008 Reclamation Monitoring

1. Introduction

This report provides the results of the 2008 reclamation monitoring of gas production sites (well pads) maintained by Williams Production Company. Reclamation monitoring was completed by Habitat Management, Inc. in accordance with Colorado Oil and Gas Conservations Commission (COGCC), Bureau of Land Management (BLM), and Williams Production requirements. Monitoring methods are described below. Monitoring reports for each site and summary tables are attached.

2. Monitoring Methods

Each well pad was visited during July or August of 2008 by Lindsey Brandt and Noel Weisenbacher of Habitat Management, Inc. Reference areas were monitored in October of 2008. At all pads where reclamation had occurred, qualitative and quantitative measurements were made. If the site had no reclamation or the reclamation was only very recently completed, this was noted on the monitoring form and the team moved on to the next well pad. Four photographs were taken on each pad, looking across the pad in each cardinal direction, except on sites where active drilling was taking place. Qualitative and quantitative assessments are summarized below.

Qualitative assessments included the following:

- A plant species list was compiled for each well pad.
- Photographs were taken of each well pad from each cardinal direction.
- Photographs were taken of the ground at each of three sample locations with a 3-foot by 3-foot grid placed on the ground per BLM requirements.
- Categorization of the reclamation area into the BLM's reclamation timetable by percent of area was performed (i.e. "in use, "reclamation in progress", etc.). Visual assessment was used to make this determination.
- Visual assessments of noxious weed infestations were made.
- Vigor of desirable species was assessed according to BLM requirements, including observing the size, and color of plants, and looking for the presence of new growth, flowers or seeds, litter from previous year's foliage, and seedlings.
- A visual assessment of erosion was made including notation of gullying, headcutting or rills. Photos were taken to document erosion problems as necessary.
- Recommendations for additional reclamation activities were made.
- Any readily visible major issue with the well facilities was noted (damage, leaks, etc.).
- Each pad was classified according to its surrounding community type. Community types include; Salt Desert Scrubland- Low elevation, Salt Desert Scrubland-High elevation, Pinon-Juniper Woodland- North Aspect, Pinon-Juniper Woodland- South Aspect, Riparian Woodland, Oak Brush Mountain Shrubland, and Pasture / Agricultural lands.

Quantitative measurements included the following:

- Vegetative cover measurements were taken using the point intercept method along a transect. A five-meter transect was used with 10 point-intercepts measured at each meter along the transect, for a total of 50 points per sample. "First hit" and "ground hit" data were recorded by plant species, litter, rock, or bare ground. "First hit" is the first item

that is intersected; often live vegetation, litter, rock, or bare ground. “Ground hit” is the item which is directly in contact with the ground surface; often litter, rock, bare ground or basal part of a plant. Each intercept or hit represents a cover value of 2%.

- Woody species density was measured at each sample point by counting the number of trees or shrubs within a 2 meter by 5 meter plot. Counts were recorded by species.
- Species frequency was measured by listing each plant species found within the 5 meter by 2 meter plot.
- Three samples were taken at each well pad. Sample locations were chosen at each site in order to capture the varying slopes, aspects, and vegetation conditions of the pad. A GPS point was recorded at each sample origin. This is also the location for the ground photographs.
- The quantitative sampling configuration for each sample is shown in Figure 1, at the end of this document.

Quantitative and qualitative data was compiled for analysis and reporting purposes. Vegetative cover was calculated for each sample to obtain percent cover of acceptable, undesirable, and all species. Non-vegetative cover such as litter and rock are also reported. Totals from first hit cover were averaged to obtain a total percent vegetation cover value for each pad. Species frequency for each pad was calculated, as well as the relative percent cover of grasses, forbs, and shrubs.

Reference Area Monitoring

In addition to reclamation monitoring, six reference areas corresponding to each of six possible vegetation communities were monitored for comparison purposes. Reference areas provide a sense of what a successfully reclaimed area might look like and can be used to set goals for reclamation success. Reference areas were selected by Williams Production and Habitat Management Inc. in areas that both effectively represented the desired vegetation community and were not expected to be disturbed in the near future.

Reference areas include Salt Desert Scrubland - Low and High elevation, Pinon-Juniper Woodland - North and South Aspect, Riparian Woodland, and Oak Brush Mountain Shrubland. A reference area was not designated for Pasture/ Agricultural lands as there is a great deal of variability in the type, condition and use of these lands.

Data collected at each reference area includes:

- Cover measurements were made at each sample point as described above. Per COGCC regulations tree canopy cover was excluded from the data.
- Woody species density measurements were made at each sample point as described above.
- Frequency measurements were made at each sample point as described above.
- Photographs were taken of the ground at five representative sample points within the reference area as described above.
- Fifteen to thirty quantitative samples were collected. The actual number of samples was determined by calculating the number needed to obtain statistical adequacy for cover measurements.
- A plant species list was collected for the entire reference area.

- Photographs were taken of the reference area from each cardinal direction as described above.
- Visual assessment of any noxious weed infestations was made as described above. (Ideally the reference area will be free of noxious weed infestations.)
- The vigor of desirable species was documented as described above.

Plant species observed during monitoring were classified for the purposes of determining acceptable vegetation cover according to the following system:

- Desirable species include all perennial native species
- Acceptable species include all annual native species, and any introduced species that were seeded onto the site.
- Undesirable species include all introduced species not seeded onto the site.
- Noxious species include species designated as noxious weeds by the state of Colorado. Noxious species are designated for eradication priority by an “A”, “B”, or “C” designation, with “A” being the highest priority.

Species designated as “desirable” or “acceptable” were used to calculate total acceptable vegetation cover. In some cases species identification was not possible due to the lack of necessary fruits for flowers, plant senescence, or immaturity. Unknown species were numbered, collected, and photographed to facilitate identification efforts in future monitoring. It was assumed that unknown species constituted acceptable vegetation cover.

3. Reclamation Requirements

Williams is subject to reclamation requirements set forth by the COGCC and BLM.

Requirements for interim reclamation to be considered complete are summarized in Table 1 and described below.

Colorado Oil and Gas Conservation Commission Requirements

According to the COGCC draft final rules (released November 7, 2008), “Interim reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, compacted, covered, paved, or otherwise stabilized in such a way as to minimize erosion to the extent practicable, or a uniform vegetative cover has been established that reflects pre-disturbance or reference area forbs, shrubs, and grasses with total percent plant cover of at least eighty percent (80%) of pre-disturbance levels or reference areas, excluding noxious weeds.” (1003.e.(2)).

The rules also state in section 1004 that “the Director shall consider the total cover of live perennial vegetation of adjacent or nearby undisturbed land, not including overstory or tree canopy cover, having similar soils, slope and aspect of the reclaimed area.” (1004.c.(2)) Section 1004 pertains to final reclamation, but since final reclamation is the ultimate goal, it is sensible to use the following strategy when monitoring interim reclamation. Therefore, tree and canopy cover was excluded from reference area monitoring data.

Finally, in an agreement between Williams and the COGCC pertaining to twenty-acre well spacing, the cover requirement for interim and final reclamation was increased to ninety percent

(90%) “of the desirable plant cover found on the previously identified and approved reference areas.” Therefore when total acceptable vegetation cover is greater than or equal to 90% of the reference area cover, interim reclamation is considered complete.

Bureau of Land Management Requirements

As outlined in the BLM’s Draft Supplemental Environmental Impact Statement (DSEIS, June 1, 1998) the reclamation goal is to “control erosion and establish desirable (seeded and native) vegetation to set the stage for natural processes.” Erosion is considered controlled when there is no gullying, headcutting, or slumping observed; and any rills observed are less than 3 inches deep. Desirable vegetation is considered to be established when the following four criteria apply; no noxious weeds are present, undesirable vegetation comprises less than 5% of the species composition on sites with three or more growing seasons, desirable vegetation appears vigorous and self sustaining, and adequate diverse vegetation is present.

For the purposes of this report we have interpreted “comprises less than 5% of the species composition” to mean that total cover of undesirable species is less than 5% based on quantitative data, and that canopy cover should be equal or greater to a reference area instead of an adjacent area.

The BLM uses a “Reclamation Timetable: to classify the various parts of a reclamation site into four categories:

1. Area in Use: This area includes the road surface, production facilities, and the associated vehicle access areas that are actively used on a regular basis for production.
2. Operator Reclamation in Progress: This category includes areas that have been reclaimed and is broken into two categories:
 - Monitor: Areas where most of the reclamation objectives *are not* being met
 - Acceptable: Areas where most of the reclamation objectives *are* being met
3. Operator Reclamation Complete: Areas where the reclamation objectives have been met for two consecutive years. Periodic monitoring of these areas will continue until they are abandoned.
4. Restored: Site is no longer distinctly different from surrounding area and not affected by oil and gas development. Usually after 20+ years.

During monitoring, sites were classified into these categories based on a visual estimate, which is shown on the monitoring form/report. For summary purposes, the reclaimed portion of the site as a whole was classified into one category to determine which sites had completed reclamation. Sites where all 5 reclamation requirements (erosion controlled plus desirable vegetation established) had been achieved were considered to be complete.

Table 1. Requirements for Interim Reclamation.

COGCC New Draft Rules and 20-Acre Spacing Order	BLM DSEIS
Total acceptable vegetative cover is greater than or equal to 90% of reference area cover.	Total acceptable vegetative cover is greater than or equal to reference area cover.
	Desirable vegetation appears vigorous and self sustaining.
	Undesirable species make up less than 5% of total cover after 3 or more growing seasons.
	No noxious weeds are present.
	Erosion is controlled: No gullyng, headcutting or slumping. No rills greater than 3" deep.

4. Monitoring Data

Attached to this report are individual reports for each well pad and reference area monitored, which includes qualitative and quantitative Data (if applicable) and site photographs. The following pages also contain a variety of summary tables, designed to facilitate management decisions by Williams Production.

One hundred forty-four well pads were monitored in 2008. Of these, 117 pads were reclaimed and quantitative vegetation data was collected, 3 pads were reclaimed only very recently to monitoring and quantitative vegetation data was not collected and 24 pads were not yet reclaimed, or were in various stages of reclamation such as grading or ripping, but had not yet been seeded. Forty sites were found to have fulfilled the requirement for interim reclamation according to COGCC regulations. (Total acceptable vegetative cover was greater than or equal to 90% of reference area cover.) Additionally seven sites on BLM land were found to fulfill the COGCC requirement, but not all BLM reclamation requirements. A summary of sites where interim reclamation has been completed is included in Table 4. Table 2 summarizes types of data collected.

Table 2. Summary of Well Pad Types encountered in 2008.

Number of Pads	Visited	Reclaimed	Qualitative	Quantitative	Photos
117	x	x	x	x	x
3	x	x	x		x
24	x				x
144	Total				

Table 3 summarizes the number of pads in each vegetation community type.

Table 3. Vegetation Types encountered during monitoring.

Community	Number of Pads in Community
Salt Desert Scrubland High Elevation	9
Salt Desert Scrubland Low Elevation	45
Oak Brush Mountain Shrubland	3
Pasture / Agricultural	10
Pinon-Juniper Woodland North Aspect	9
Pinon-Juniper Woodland South Aspect	65
Riparian Woodland	3
Total	144

The remaining tables and figures are provided on the following pages and include:

Figure 1. A diagram of quantitative sampling configuration.

Table 4. A summary of sites where interim reclamation has been completed according to BLM or COGCC regulations.

Table 5. A brief summary of monitoring results and recommendations.

Table 6. An in-depth summary of monitoring results and recommendations.

Table 7. A listing of pads that have not been reclaimed or have only very recently been reclaimed.

Table 8. A listing of pads with erosion problems and descriptions of the problems.

Table 9. A listing of pads that have problems with facilities and descriptions of the problems.

Table 10. A listing of pads that have noxious weeds present.

Table 11. A detailed summary of noxious weed infestations.

Table 12. A species list of all plants encountered during monitoring.

Table 13. Species lists for each community type, based on reclamation monitoring. Please note that species lists for reference areas are included in the individual report for each reference area.

Table 14. A frequency table for all species encountered during monitoring.

Table 15. A list of GPS locations for all reference area sample points. Please note that GPS locations for samples on well pads are included with site photos.

5. Conclusions

Interim reclamation on well pads used by Williams Production is in various states of maturity from no reclamation to very advanced vegetative cover. Vegetative cover is generally combination of perennial grasses and weedy species and in some sites a strong shrub component is present. Forty well pads fulfill COGCC requirements for interim reclamation. Currently no pads on BLM land fulfill BLM requirements for interim reclamation. While mitigation of erosion and noxious weed management are necessary on several sites, many mature sites show good vegetative cover.

Figure 1. Well Pad Quantitative Sampling Arrangement

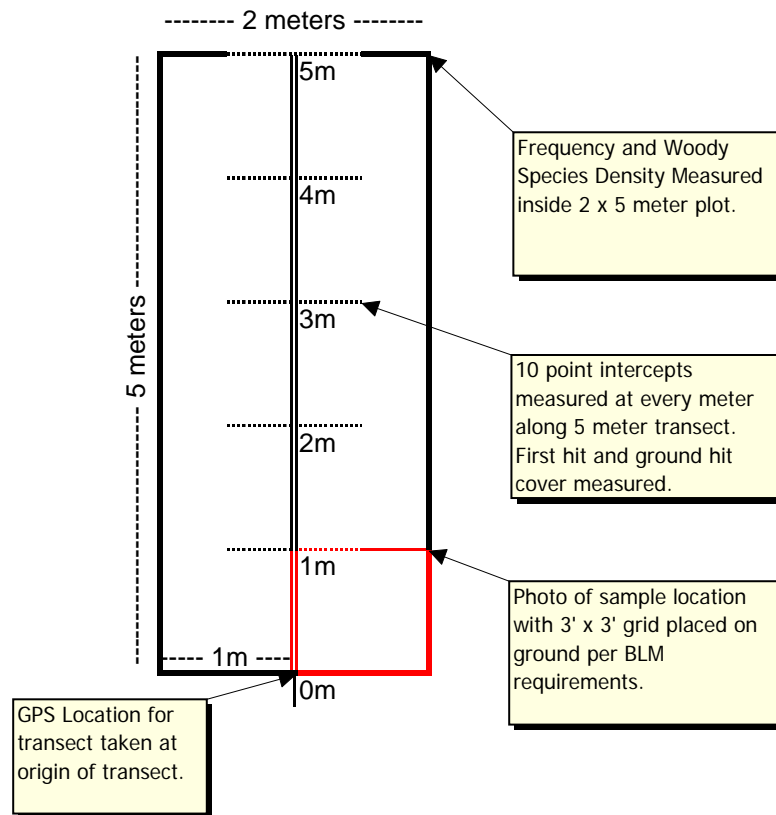


Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Pad Name	
Well Pad	Interim Reclamation Complete?
CLOUGH 21	No
DOE 1-M-25	No-BLM
DOE 1-M-29	No-BLM (Yes-COGCC)
DOE 1-M-31	No-BLM
DOE 1-M-35	No-BLM
DOE 1-W-20	No-BLM (Yes-COGCC)
DOE 1-W-28	No-BLM (Yes-COGCC)
DOE 2-M-36	No-BLM
DOE 2-W-27	No-BLM
DOE 3-W-21	No-BLM (Yes-COGCC)
DOE 3-W-29	No-BLM (Yes-COGCC)
DOE PM2-31	No-BLM
GM 11-12	No
GM 12-32	Yes
GM 202-33	Yes
GM 203-33	Yes
GM 204-29	No
GM 21-12	No
GM 217-33	No
GM 22-1	No
GM 22-12	No
GM 222-33	Yes
GM 223-33	Yes
GM 23-1	No
GM 237-36	Yes
GM 240-1	No
GM 24-1	No
GM 24-12	No
GM 24-33	No-BLM (Yes-COGCC)
GM 24-36	No
GM 251-2	Yes
GM 252-2	Yes
GM 254-2	No
GM 256-2	No
GM 266-3	No
GM 31-17	No
GM 312-28	No
GM 313-12	No
GM 31-34	No
GM 32-2	No
GM 32-29	Yes
GM 323-28	No
GM 34-17	No
GM 34-20	No
GM 34-33	Yes
GM 43-33	No
GM 44-11	No
GM 44-20	No
GR 12-29	No
GR 32-34	No-BLM
GR 44-33V	No
GV 24-36	No
GV 41-34	No
GV 5-33	Yes

Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Pad Name	
Well Pad	Interim Reclamation Complete?
MV 16-9	No-BLM
MV 28-4	No-BLM
MV 34-5	No-BLM
MV 44-11	No
MV 55-29	No
PA 11-34	Yes
PA 13-32	No
PA 13-34	No
PA 14-33	No
PA 21-34	No
PA 22-28	Yes
PA 22-34	Yes
PA 22-35	No
PA 23-26	No-BLM
PA 23-27	No-BLM
PA 23-34	Yes
PA 24-26	Yes
PA 24-28	Yes
PA 24-34	No
PA 311-34	Yes
PA 311-5	No
PA 313-32	Yes
PA 313-33	No
PA 314-32	Yes
PA 322-34	No
PA 32-33	No
PA 323-32	No
PA 323-33	Yes
PA 323-34	No
PA 324-26	No
PA 324-32	No
PA 331-34	Yes
PA 332-33	No
PA 33-28	No-BLM (Yes-COGCC)
PA 333-33	No
PA 33-34	No
PA 334-31	No-BLM
PA 334-32	No
PA 334-34	No
PA 343-32	No
PA 343-34	No
PA 43-33	Yes
PA 43-34	No
PA 44-27	No-BLM
RMV 101-28	No
RMV 102-28	No
RMV 111-33	No
RMV 121-27	No
RMV 138-21	No
RMV 139-21	No
RMV 141-16	Yes
RMV 143-18	Yes
RMV 150-22	No
RMV 152-22	Yes
RMV 153-22	Yes

Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Pad Name	
Well Pad	Interim Reclamation Complete?
RMV 169-18	No-BLM
RMV 204-20	Yes
RMV 209-20	No
RMV 210-20	Yes
RMV 226-27	Yes
RMV 232-28	No
RMV 234-28	No
RMV 235-28	No
RMV 236-28	No
RMV 237-28	No
RMV 241-21	No
RMV 37-33	No
RMV 53-17	No-BLM
RMV 60-17	No-BLM
RMV 65-20	Yes
RMV 67-20	Yes
RMV 89-17	No-BLM
RMV 90-20	Yes
RWF 13-4	No
RWF 14-4	Yes
RWF 21-28	No
RWF 24-4	No
RWF 313-28	Yes
RWF 314-16	No
RWF 314-17	No
RWF 331-21	No
RWF 333-18	No
RWF 334-18	Yes
RWF 334-22	No
RWF 34-14	No
RWF 34-18	Yes
RWF 44-18	No
W 18-27	Yes
W 19-28	Yes
W 29-26	Yes

Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Completion	
Well Pad	Interim Reclamation Complete?
GM 12-32	Yes
GM 202-33	Yes
GM 203-33	Yes
GM 222-33	Yes
GM 223-33	Yes
GM 237-36	Yes
GM 251-2	Yes
GM 252-2	Yes
GM 32-29	Yes
GM 34-33	Yes
GV 5-33	Yes
PA 11-34	Yes
PA 22-28	Yes
PA 22-34	Yes
PA 23-34	Yes
PA 24-26	Yes
PA 24-28	Yes
PA 311-34	Yes
PA 313-32	Yes
PA 314-32	Yes
PA 323-33	Yes
PA 331-34	Yes
PA 43-33	Yes
RMV 141-16	Yes
RMV 143-18	Yes
RMV 152-22	Yes
RMV 153-22	Yes
RMV 204-20	Yes
RMV 210-20	Yes
RMV 226-27	Yes
RMV 65-20	Yes
RMV 67-20	Yes
RMV 90-20	Yes
RWF 14-4	Yes
RWF 313-28	Yes
RWF 334-18	Yes
RWF 34-18	Yes
W 18-27	Yes
W 19-28	Yes
W 29-26	Yes
DOE 1-M-29	No-BLM (Yes-COGCC)
DOE 1-W-20	No-BLM (Yes-COGCC)
DOE 1-W-28	No-BLM (Yes-COGCC)
DOE 3-W-21	No-BLM (Yes-COGCC)
DOE 3-W-29	No-BLM (Yes-COGCC)
GM 24-33	No-BLM (Yes-COGCC)
PA 33-28	No-BLM (Yes-COGCC)
DOE 1-M-25	No-BLM
DOE 1-M-31	No-BLM
DOE 1-M-35	No-BLM
DOE 2-M-36	No-BLM
DOE 2-W-27	No-BLM
DOE PM2-31	No-BLM
GR 32-34	No-BLM
MV 16-9	No-BLM

Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Completion	
Well Pad	Interim Reclamation Complete?
MV 28-4	No-BLM
MV 34-5	No-BLM
PA 23-26	No-BLM
PA 23-27	No-BLM
PA 334-31	No-BLM
PA 44-27	No-BLM
RMV 169-18	No-BLM
RMV 53-17	No-BLM
RMV 60-17	No-BLM
RMV 89-17	No-BLM
CLOUGH 21	No
GM 11-12	No
GM 204-29	No
GM 21-12	No
GM 217-33	No
GM 22-1	No
GM 22-12	No
GM 23-1	No
GM 240-1	No
GM 24-1	No
GM 24-12	No
GM 24-36	No
GM 254-2	No
GM 256-2	No
GM 266-3	No
GM 31-17	No
GM 312-28	No
GM 313-12	No
GM 31-34	No
GM 32-2	No
GM 323-28	No
GM 34-17	No
GM 34-20	No
GM 43-33	No
GM 44-11	No
GM 44-20	No
GR 12-29	No
GR 44-33V	No
GV 24-36	No
GV 41-34	No
MV 44-11	No
MV 55-29	No
PA 13-32	No
PA 13-34	No
PA 14-33	No
PA 21-34	No
PA 22-35	No
PA 24-34	No
PA 311-5	No
PA 313-33	No
PA 322-34	No
PA 32-33	No
PA 323-32	No
PA 323-34	No
PA 324-26	No

Table 4. Summary of Pads Where Interim Reclamation is Complete.

Sorted by Completion	
Well Pad	Interim Reclamation Complete?
PA 324-32	No
PA 332-33	No
PA 333-33	No
PA 33-34	No
PA 334-32	No
PA 334-34	No
PA 343-32	No
PA 343-34	No
PA 43-34	No
RMV 101-28	No
RMV 102-28	No
RMV 111-33	No
RMV 121-27	No
RMV 138-21	No
RMV 139-21	No
RMV 150-22	No
RMV 209-20	No
RMV 232-28	No
RMV 234-28	No
RMV 235-28	No
RMV 236-28	No
RMV 237-28	No
RMV 241-21	No
RMV 37-33	No
RWF 13-4	No
RWF 21-28	No
RWF 24-4	No
RWF 314-16	No
RWF 314-17	No
RWF 331-21	No
RWF 333-18	No
RWF 334-22	No
RWF 34-14	No
RWF 44-18	No

40 sites complete

6 BLM sites complete according to COGCC
standard, not BLM standard

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
PA 33-28	Acceptable-BLM	Yes	3	Cover overall not great, but shrub cover looks very good. Fix redisturbed areas and reclamation on southwest portion where redisturbed and pipes stored.	Yes	5	2003
GM 24-33	Acceptable-BLM	Yes	4	Overseed smaller sparse area.	Yes		
DOE 3-W-29	Acceptable-BLM	Yes	3	Some areas somewhat sparse. Seed small, redisturbed area and watch.	Yes		
DOE 3-W-21	Acceptable-BLM	Yes	4	Shrub regrowth excellent, not in use portion looks very healthy. Workover rig may necessitate additional reclamation.	Yes		
DOE 1-W-20	Acceptable-BLM	Yes	4	Some weed control for cheatgrass or overseed in weedy areas.	Yes		
DOE 1-M-29	Acceptable-BLM	Yes	3	Only 5% of site has been reclaimed. This small portion that has been reclaimed looks good. Rest of site needs reclamation.	Yes		
W 29-26	Complete	Yes	4	For most part site looks healthy and mostly weed-free, some weed control on knapweed a good idea.	No		
W 19-28	Complete	Yes	4	Overall site has a good start. Continue to monitor to ensure success.	No		
W 18-27	Complete	Yes	4	Just a few sparse areas and site is relatively newly reclaimed. Overall, desirable growth is very good and weeds are minimal. Good shrub regrowth.	No		
RWF 34-18	Complete	Yes	3	Overall very healthy-looking reclaimed area with minor weed issues. Unsure if reclaimed area south of pad and road is pad or road. Reclamation looks older than pad reclamation on north side of pad.	No	5	2003
RWF 334-18	Complete	Yes	4	Overall site has good start, west and southwest areas look better and more vigorous than eastern portion; overseeding on east might help.	No	3	2005
RWF 313-28	Complete	Yes	3	This is irrigated alfalfa pasture that was recently hayed. Obviously maintained by the farmer and there is little impact to the field from the well. The access road is a simple 2-track.	No		
RWF 14-4	Complete	Yes	4	Overall desirables very healthy and dense; about 3% of pad site has some noxious weed issues, especially plumeless thistle.	No	4	2004
RMV 90-20	Complete	Yes	2	Area that is reclaimed is beginning to look good, some weeds but shrub regrowth is good as is most of desirable grasses. Some bare patches dominated by halogeton. Pad is in middle of several very active facilities.	No		

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
RMV 67-20	Complete	Yes	2	Some weed control would be beneficial and overseeding of more sparsely vegetated areas.	No		
RMV 65-20	Complete	Yes	3	Area southwest of road and east of battery is mostly cheatgrass and kochia- could be re-seeded.	No		
RMV 226-27	Complete	Yes	3	Site looks very good, watch weeds, but overall no work needed	No	5	2003
RMV 210-20	Complete	Yes	4	Edge of reclamation east of well disturbed. Lots of cheatgrass near edge of pad along road.	No		
RMV 204-20	Complete	Yes	1	Southern boundary sparsely covered and weeds on northern boundary. Overall, shrub regrowth good but sparse grass and forb regrowth.	No		
RMV 153-22	Complete	Yes	3	A 2% patch of erodium in northeast corner of pad site and 2% patch of erodium in NW corner	No	5	2003
RMV 152-22	Complete	Yes	3	While desirables generally look healthy, there are erosion and weed issues that could hamper desirables' success. Site looks newly seeded, weed control recommended and some reseeding.	No	2	2006
RMV 143-18	Complete	Yes	3	Overall, desirables look healthy and are spreading but weedy species are a concern and should be monitored and controlled as needed to ensure desirables' success; there are some sparse areas in northwest edge of pad.	No	2	2006
RMV 141-16	Complete	Yes	3	Growth of desirables is sparse, erosion areas hinder plant growth, soils are silty and crust has formed..	No	4	2004
PA 43-33	Complete	Yes	3	Weed control for large patches and overseeding with desirables.	No		
PA 331-34	Complete	Yes	4	Overall site looks very good, some portions desirables are a little sparse but site is good.	No	5	2003
PA 323-33	Complete	Yes	3	Keep eye on weeds, possible overseeding in some areas.	No	5	2003
PA 314-32	Complete	Yes	4	Continue to monitor, weed cover minimal.	No	4	2004
PA 313-32	Complete	Yes	3	Newly reclaimed. Continue to monitor, overseeding may help to increase cover.	No	6	2002
PA 311-34	Complete	Yes	4	Overall site has good start/good cover. Some minor weed issues and some sparse areas.	No	1	2007
PA 24-28	Complete	Yes	4	Maybe overseed bare/sparse patches.	No	3	2005
PA 24-26	Complete	Yes	3	Site looks very healthy, monitor erosion and cheatgrass. Some bare areas, but overall is coming along well.	No	5	2003

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
PA 23-34	Complete	Yes	2	Site is sparsely populated and weeds are present. Shrub regrowth good. Weed control, reseed, and don't allow grazing until good stand established.	No	1	2007
PA 22-34	Complete	Yes	3	Still some large bare patches and weed issues. Weed control and overseeding may help, site looks a bit dry.	No	6	2002
PA 22-28	Complete	Yes	3	Overseeding to boost grass cover.	No	2	2006
PA 11-34	Complete	Yes	2	Northwest portion looking good but other portions of pad have larger bare or sparse areas. Site more recently reclaimed so watch and maybe weed control.	No	2	2006
GV 5-33	Complete	Yes	3	Some areas need overseeding due to sparse cover and weeds.	No		
GM 34-33	Complete	Yes	3	Overseed sparse/redisturbed area.	No		
GM 32-29	Complete	Yes	3	Possibly overseed sparse areas, otherwise monitor.	No	7	2001
GM 252-2	Complete	Yes	4	Some bare patches and sparse cover, also redisturbance. Overseeding could boost cover.	No	5	2003
GM 251-2	Complete	Yes	3	Overseed to increase desirable cover.	No	5	2003
GM 237-36	Complete	Yes	3	Possible weed control and overseeding to push out weedy species, otherwise monitor.	No	5	2003
GM 223-33	Complete	Yes	3	Overseed desirables in weedy areas, some weed control.	No		
GM 222-33	Complete	Yes	3	Some overseeding in west and southwest portion.	No		
GM 203-33	Complete	Yes	4	Overseed sparser areas, monitor cheatgrass.	No		
GM 202-33	Complete	Yes	2	Weed control and overseed. Flat part not reclaimed?	No		
GM 12-32	Complete	Yes	4	Areas are redisturbed and just kochia growing. Overseed.	No		
RWF 44-18	Monitor	No	2	It appears site was seeded in fall 2007. Desirables have germinated but generally cover is sparse and somewhat stunted. On northern section of pad most of germinated seedlings look stunted.	No		
RWF 34-14	Monitor	No	0	Compacted soils and poor cover overall, ripping and reseeding recommended, pipeline reclamation eastern to northeastern edge of pad containing different reclamation species.	No		?
RWF 334-22	Monitor	No	1	Overall there are very few desirables, weed treatment for entire pad recommended and reseeding following treatment.	No	6	2002
RWF 314-17	Monitor	No	2	Extensive treatment of weed cover and overseeding of desirables.	No	7	2001
RWF 314-16	Monitor	No	1	Repair erosion to south west of condensate tanks.	No	5	2003
RWF 21-28	Monitor	No	3	Site has several noxious weeds, some desirables look good but weeds interspersed and two large patches of rocky bare ground exist.	No	4	2004

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
RWF 13-4	Monitor	No	3	It appears that the site was seeded with alfalfa and sweet clover, lambsquarters is spread extensively over the site. If alfalfa becomes larger next year, most weedy species will probably be shaded out.	No	1	2007
RMV 37-33	Monitor	No	1	Overall, site is dominated by noxious and other weedy species. Desirables are sparsely distributed and many look stunted. Weed control and overseeding advised.	No		
RMV 241-21	Monitor	No	2	Erodium and cheatgrass in northeast and east portion of pad that dominates, not large area and is in location of 3rd sample point.	No	5	2003
RMV 237-28	Monitor	No	0	Site has weed and bare ground issues, desirable distribution ok in portions, but overall not good.	No		unknown
RMV 236-28	Monitor	No	2	Overall site looks good, weed control on cheatgrass and erodium recommended to increase desirable cover	No	5	2003
RMV 235-28	Monitor	No	2	Overall, desirables look healthy and are relatively well dispersed across site. Weed control for erodium and cheatgrass recommended.	No	5	2003
RMV 234-28	Monitor	No	2	Overall looks good, some weed control especially in western area recommended	No	5	2003
RMV 232-28	Monitor	No	2	Weedy erodium areas should be treated.	No	5	2003
RMV 209-20	Monitor	No	2	East of well head and north of road needs re-ripping and seeding. Area was re-disturbed and fence removed / damaged.	No		
RMV 138-21	Monitor	No	2	Overall site looks decent but could use weed control.	No	4	2004
RMV 121-27	Monitor	No	1	Site dominated almost entirely by weeds. Weed control needed and overseeding also.	No	5	2003
RMV 111-33	Monitor	No	2	Weed control needed and overseeding in areas where there is heavy infestation.	No		
RMV 102-28	Monitor	No	2	Overall site looks good, some patches of cheatgrass and erodium should be treated.	No		
RMV 101-28	Monitor	No	1	Site is mostly noxious and other weeds, very few desirables and most are stunted and not distributed across site.	No		
PA 43-34	Monitor	No	3	Desirable seed seems to be taking well, keep eye on minor patches of weeds and should be fine.	No		
PA 343-32	Monitor	No	2	Possibly treat erodium and cheatgrass.	No	5	2003
PA 33-34	Monitor	No	2	Site has excellent shrub regrowth. Some grasses are doing well in scattered areas but cheatgrass and erodium dominate- they are distributed across the site.	No	5	2003

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
PA 333-33	Monitor	No	1	Some portions of reclamation have good start, but others are sparse and some portions of reclamation were redistributed.	No		
PA 332-33	Monitor	No	1	Weedy species dominate, some weed control and overseeding.	No	4	2004
PA 324-32	Monitor	No	2	Weedy species dominate, control weeds and/or overseed to increase desirable cover.	No		
PA 324-26	Monitor	No	1	Site is basically covered in cheatgrass, Russian thistle, and tumble mustard.	No	2	2006
PA 323-34	Monitor	No	1	Weed control, overseeding especially in bare patches.	No	2	2006
PA 323-32	Monitor	No	3	Maybe overseed more sparse areas.	No	4	2004
PA 32-33	Monitor	No	1	Has been seeded but very little desirable has germinated. Monitor and possibly overseed.	No	1	2007
PA 322-34	Monitor	No	2	Weed control recommended and possibly some overseeding. Bare areas across site. Desirables look healthy but sparse.	No	2	2006
PA 313-33	Monitor	No	3	Some weed treatment for erodium and cheatgrass could be beneficial, keep eye on desirables.	No	6	2002
PA 311-5	Monitor	No	1	Does not appear that site was seeded. Seed site.	No		
PA 24-34	Monitor	No	1	Weed control and overseeding and ripping prior to overseeding, appears pad was not ripped.	No		
PA 22-35	Monitor	No	1	Overall site dominated by kochia and bare ground.	No	2	2006
PA 21-34	Monitor	No	1	Weed control and seeding. Pad appears not to have been seeded and consists mostly of weed species.	No	2	2006
PA 14-33	Monitor	No	3	Overseeding.	No	2	2006
PA 13-34	Monitor	No	1	Weed control on most of pad and reseeding with desirables, caution around shrub regrowth.	No	2	2006
PA 13-32	Monitor	No	2	Some weed control and overseeding of weedy and bare patches may help, continue to monitor.	No	3	2005
MV 55-29	Monitor	No	2	Overseed sparse areas and weedy patches.	No		
MV 44-11	Monitor	No	1	Overseed desirables and weed control.	No		
GV 41-34	Monitor	No	2	Quite a few bare patches, weed control and overseeding recommended, various areas redistributed and look to need seeding.	No		
GR 44-33V	Monitor	No	3	monitor weeds, possibly overseed to boost desirable cover.	No		
GM 44-20	Monitor	n/a	2	Overseed with desirables to limit weeds. Area being grazed during monitoring- restrict grazing.	No	4	2004
GM 44-11	Monitor	No	0	Recently seeded. Monitor to ensure desirable success.	No	0	2008
GM 43-33	Monitor	No	2	Overseed with desirables.	No		

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
GM 34-20	Monitor	n/a	2	Overseed with desirables.	No	4	2004
GM 34-17	Monitor	n/a	3	Area being grazed during monitoring. Overseed with desirables and restrict grazing until established.	No	1	2007
GM 323-28	Monitor	No	2	Some weed control and overseeding in weedy and sparse areas.	No		
GM 32-2	Monitor	No	1	Treat kochia so desirables more successfully establish in areas where kochia dominates cover.	No	1	2007
GM 31-34	Monitor	No	3	Overseed with desirables. Weed control for bindweed, cheatgrass, Russian thistle.	No	6	2002
GM 312-28	Monitor	n/a	1	Weed control and overseed with desirables.	No	4	2004
GM 266-3	Monitor	No	1	Site weedy and overgrazed, reseed with desirables.	No	1	2007
GM 256-2	Monitor	n/a	1	Site completely choked by weedy species. Weed control and seed with desirables.	No	6	2002
GM 254-2	Monitor	n/a	1	Seed with desirables and keep cattle off. Much of vegetation cover turned to litter due to heavy grazing.	No	6	2002
GM 24-12	Monitor	No	4	Monitor to ensure establishment of desirables.	No		
GM 24-1	Monitor	No	1	Overseed pad with desirables, weed control.	No	3	2005
GM 23-1	Monitor	No	2	Weed control on Russian Thistle on north. Overseeding could help and possible weed control on erodium and cheatgrass.	No	4	2004
GM 22-12	Monitor	n/a	2	Weed control and overseed with desirables. Don't graze until desirables are established.	No	5	2003
GM 217-33	Monitor	No	1	Overseed with desirables.	No	4	2004
GM 21-12	Monitor		1	Weed control and overseed with desirables.	No	5	2003
GM 204-29	Monitor	No	2	Overseed sparse areas.	No	5	2003
GM 11-12	Monitor	n/a	1	Weed control and overseed with desirables. Much of are paved-release from reclamation obligation?	No	6	2002
RMV 89-17	Monitor-BLM	No	1	Site would benefit from ripping and overseeding.	Yes		Never?
RMV 60-17	Monitor-BLM	No	1	Desirables cover is sparse, some cheatgrass present in northeast corner. Erosion is somewhat severe and should be further mitigated.	Yes	4	2004
PA 23-27	Monitor-BLM	No	1	Site obviously just reclaimed and seeded, watch erosion, berming road should help.	Yes	0	2008
MV 34-5	Monitor-BLM	No	1	Weeds dominate, monitor for appearance of desirables.	Yes		
GR 32-34	Monitor-BLM	No	2	Overseed with desirables.	Yes		
DOE 2-W-27	Monitor-BLM	No	2	Overall site looks good. Watch erosion issues.	Yes		
DOE 2-M-36	Monitor-BLM	No	2	No plants to be seen- continue to monitor. Seeded late spring 2008.	Yes		

Table 5. Monitoring Results and Recommendations.

Well Pad	Reclamation Complete?	Vegetation cover 90% of Reference?	BLM Reclamation Objectives Met (5)	Additional work recommended	BLM	Approx. # of Growing Seasons	Approx. Seed Date
DOE 1-W-28	Monitor-BLM	Yes	2	Cover in surrounding undisturbed area looks equally sparse, not sure if anything needs to be done other than monitoring. Weeds are not too much of a problem.	Yes		

Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
DOE 1-M-29	12.66	10.2	Yes	None	Yes	C	> 5%	Yes	Yes	No	3	Only 5% of site has been reclaimed. This small portion that has been reclaimed looks good. Rest of site needs reclamation.	Yes	PJS			No-BLM
DOE 1-W-20	21.33	10.2	Yes	None	Yes	C	< 5%	Yes	Yes	No	4	Some weed control for cheatgrass or overseed in weedy areas.	Yes	PJS			No-BLM
DOE 1-W-28	21.99	10.2	Yes	Rills >3"	Yes	C	> 5%	Yes	Yes	No	2	Cover in surrounding undisturbed area looks equally sparse, not sure if anything needs to be done other than monitoring. Weeds are not too much of a problem.	Yes	PJS			No-BLM
DOE 2-M-36	0	10.2	No	None	No		n/a	No	No	No	2	No plants to be seen- continue to monitor. Seeded late spring 2008.	Yes	PJS			No-BLM
DOE 2-W-27	7.34	10.2	No	Gullying	Yes	C	< 5%	Yes	No	No	2	Overall site looks good. Watch erosion issues.	Yes	PJS			No-BLM
DOE 3-W-21	40.67	10.2	Yes	None	Yes	C	< 5%	Yes	Yes	No	4	Shrub regrowth excellent, not in use portion looks very healthy. Workover rig may necessitate additional reclamation.	Yes	PJS			No-BLM
DOE 3-W-29	38.01	10.2	Yes	Minor	Yes	B	< 5%	Yes	Yes	No	3	Some areas somewhat sparse. Seed small, redisturbed area and watch.	Yes	PJS			No-BLM
GM 11-12	6.67	n/a		None	Yes	B	> 5%	No	No	No	1	Weed control and overseed with desirables. Much of are paved- release from reclamation obligation?	No	P	6	2002	No
GM 12-32	16	10.2	Yes	None	No		> 5%	Yes	Yes	No	4	Areas are redisturbed and just kochia growing. Overseed.	No	PJS			Yes
GM 202-33	12	10.2	Yes	Rills >3"	Yes	B	> 5%	Yes	Yes	No	2	Weed control and overseed. Flat part not reclaimed?	No	PJS			Yes
GM 203-33	36.66	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Overseed sparser areas, monitor cheatgrass.	No	PJS			Yes
GM 204-29	21.34	31.2	No	Rills >3"	Yes	B	< 5%	Yes	No	No	2	Overseed sparse areas.	No	OB	5	2003	No
GM 21-12	2.67	n/a		None	Yes	aB	> 5%	No	No	No	1	Weed control and overseed with desirables.	No	P	5	2003	No
GM 217-33	17.33	25.8	No	None	Yes	C	> 5%	No	No	No	1	Overseed with desirables.	No	DSL	4	2004	No
GM 22-12	9.33	n/a		None	Yes	aB	< 5%	No	No	No	2	Weed control and overseed with desirables. Don't graze until desirables are established.	No	P	5	2003	No
GM 222-33	28	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Some overseeding in west and southwest portion.	No	PJS			Yes
GM 223-33	40.67	25.8	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Overseed desirables in weedy areas, some weed control.	No	DSL			Yes
GM 23-1	2.67	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Weed control on Russian Thistle on north. Overseeding could help and possible weed control on erodium and cheatgrass.	No	DSL	4	2004	No
GM 237-36	17.34	10.2	Yes	None	Yes	C	> 5%	Yes	Yes	No	3	Possible weed control and overseeding to push out weedy species, otherwise monitor.	No	PJS	5	2003	Yes
GM 24-1	1.34	25.8	No	None	Yes	B	> 5%	No	No	No	1	Overseed pad with desirables, weed control.	No	DSL	3	2005	No
GM 24-12	12.67	25.8	No	None	No		< 5%	Yes	No	No	4	Monitor to ensure establishment of desirables.	No	DSL			No
GM 24-33	24.66	10.2	Yes	None	Yes	C	< 5%	Yes	Yes	No	4	Overseed smaller sparse area.	Yes	PJS			No-BLM
GM 251-2	14.67	10.2	Yes	None	Yes	C	> 5%	Yes	Yes	No	3	Overseed to increase desirable cover.	No	PJS	5	2003	Yes
GM 252-2	11.33	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Some bare patches and sparse cover, also redisturbance. Overseeding could boost cover.	No	PJS	5	2003	Yes

"aB" indicates B-list species for which the state is placing priority in the region.

Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
GM 254-2	0.67	n/a		None	Yes	C	n/a	No	No	No	1	Seed with desirables and keep cattle off. Much of vegetation cover turned to litter due to heavy grazing.	No	P	6	2002	No
GM 256-2	7.34	n/a		None	Yes	C	> 5%	No	No	No	1	Site completely choked by weedy species. Weed control and seed with desirables.	No	P	6	2002	No
GM 266-3	0	25.8	No	None	Yes	C	> 5%	No	No	No	1	Site weedy and overgrazed, reseed with desirables.	No	DSL	1	2007	No
GM 312-28	6.67	n/a		None	Yes	B	> 5%	No	No	No	1	Weed control and overseed with desirables.	No	P	4	2004	No
GM 31-34	18.66	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Overseed with desirables. Weed control for bindweed, cheatgrass, Russian thistle.	No	DSL	6	2002	No
GM 32-2	3.34	25.8	No	Minor	Yes	C	> 5%	Yes	No	No	1	Treat kochia so desirables more successfully establish in areas where kochia dominates cover.	No	DSL	1	2007	No
GM 32-29	22.67	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Possibly overseed sparse areas, otherwise monitor.	No	PJS	7	2001	Yes
GM 323-28	13.34	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Some weed control and overseeding in weedy and sparse areas.	No	DSL			No
GM 34-17	10.01	n/a		None	Yes	B	< 5%	Yes	No	No	3	Area being grazed during monitoring. Overseed with desirables and restrict grazing until established.	No	P	1	2007	No
GM 34-20	12	n/a		None	Yes	C	> 5%	Yes	No	No	2	Overseed with desirables.	No	P	4	2004	No
GM 34-33	30.66	10.2	Yes	Rills >3"	Yes	C	< 5%	Yes	Yes	No	3	Overseed sparse/redisturbed area.	No	PJS			Yes
GM 43-33	18.67	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Overseed with desirables.	No	DSL			No
GM 44-11	0.67	10.2	No	Rills >3"	Yes	C	> 5%	No	No	No	0	Recently seeded. Monitor to ensure desirable success.	No	PJS	0	2008	No
GM 44-20	20.67	n/a		None	Yes	B	> 5%	Yes	No	No	2	Overseed with desirables to limit weeds. Area being grazed during monitoring- restrict grazing.	No	P	4	2004	No
GR 32-34	2.67	25.8	No	None	Yes	C	< 5%	No	No	No	2	Overseed with desirables.	Yes	DSL			No-BLM
GR 44-33V	22	28.26	No	None	Yes	C	< 5%	Yes	No	No	3	monitor weeds, possibly overseed to boost desirable cover.	No	PJN			No
GV 41-34	3.33	25.8	No	None	Yes	C	> 5%	Yes	No	No	2	Quite a few bare patches, weed control and overseeding recommended, various areas redisturbed and look to need seeding.	No	DSL			No
GV 5-33	18.01	10.2	Yes	Rills >3"	Yes	C	< 5%	Yes	Yes	No	3	Some areas need overseeding due to sparse cover and weeds.	No	PJS			Yes
MV 34-5	3.33	10.2	No	Gullying	Yes	C	< 5%	No	No	No	1	Weeds dominate, monitor for appearance of desirables.	Yes	PJS			No-BLM
MV 44-11	0	10.2	No	Minor	Yes	C	< 5%	No	No	No	1	Overseed desirables and weed control.	No	PJS			No
MV 55-29	19.34	28.26	No	None	Yes	C	> 5%	Yes	No	No	2	Overseed sparse areas and weedy patches.	No	PJN			No
PA 11-34	10	10.2	Yes	None	Yes	B	> 5%	Yes	No	No	2	Northwest portion looking good but other portions of pad have larger bare or sparse areas. Site more recently reclaimed so watch and maybe weed control.	No	PJS	2	2006	Yes
PA 13-32	10	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Some weed control and overseeding of weedy and bare patches may help, continue to monitor.	No	DSL	3	2005	No
PA 13-34	2.67	25.8	No	None	Yes	B	> 5%	No	No	No	1	Weed control on most of pad and reseeding with desirables, caution around shrub regrowth.	No	DSL	2	2006	No

"aB" indicates B-list species for which the state is placing priority in the region.

Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
PA 14-33	16	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Overseeding.	No	DSL	2	2006	No
PA 21-34	0	10.2	No	None	Yes	B	> 5%	No	No	No	1	Weed control and seeding. Pad appears not to have been seeded and consists mostly of weed species.	No	PJS	2	2006	No
PA 22-28	10.67	10.2	Yes	Minor	Yes	C	< 5%	Yes	Yes	No	3	Overseeding to boost grass cover.	No	PJS	2	2006	Yes
PA 22-34	24	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Still some large bare patches and weed issues. Weed control and overseeding may help, site looks a bit dry.	No	PJS	6	2002	Yes
PA 22-35	13.34	25.8	No	None	Yes	C	> 5%	No	No	No	1	Overall site dominated by kochia and bare ground.	No	DSL	2	2006	No
PA 23-27	3.33	10.2	No	Gullying	Yes	C	< 5%	No	No	No	1	Site obviously just reclaimed and seeded, watch erosion, beaming road should help.	Yes	PJS	0	2008	No-BLM
PA 23-34	14	10.2	Yes	gullying	Yes	B	< 5%	No	Yes	No	2	Site is sparsely populated and weeds are present. Shrub regrowth good. Weed control, reseed, and don't allow grazing until good stand established.	No	PJS	1	2007	Yes
PA 24-26	18.67	10.2	Yes	Rills >3"	Yes	C	< 5%	Yes	Yes	No	3	Site looks very healthy, monitor erosion and cheatgrass. Some bare areas, but overall is coming along well.	No	PJS	5	2003	Yes
PA 24-28	13.33	10.2	Yes	None	Yes	C	< 5%	Yes	Yes	No	4	Maybe overseed bare/sparse patches.	No	PJS	3	2005	Yes
PA 24-34	2	25.8	No	None	Yes	C	> 5%	No	No	No	1	Weed control and overseeding and ripping prior to overseeding, appears pad was not ripped.	No	DSL			No
PA 311-34	26.67	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Overall site has good start/good cover. Some minor weed issues and some sparse areas.	No	PJS	1	2007	Yes
PA 311-5	0	25.8	No	None	Yes	B	> 5%	No	No	No	1	Does not appear that site was seeded. Seed site.	No	DSL			No
PA 313-32	25.33	25.8	Yes	None	Yes	B	< 5%	Yes	No	No	3	Newly reclaimed. Continue to monitor, overseeding may help to increase cover.	No	DSL	6	2002	Yes
PA 313-33	11.34	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Some weed treatment for erodium and cheatgrass could be beneficial, keep eye on desirables.	No	DSL	6	2002	No
PA 314-32	30.67	25.8	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Continue to monitor, weed cover minimal.	No	DSL	4	2004	Yes
PA 322-34	6.66	10.2	No	None	Yes	B	> 5%	Yes	No	No	2	Weed control recommended and possibly some overseeding. Bare areas across site. Desirables look healthy but sparse.	No	PJS	2	2006	No
PA 32-33	1.33	10.2	No	None	Yes	B	> 5%	No	No	No	1	Has been seeded but very little desirable has germinated. Monitor and possibly overseed.	No	PJS	1	2007	No
PA 323-32	19.33	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Maybe overseed more sparse areas.	No	DSL	4	2004	No
PA 323-33	28	25.8	Yes	Gullying	Yes	B	< 5%	Yes	Yes	No	3	Keep eye on weeds, possible overseeding in some areas.	No	DSL	5	2003	Yes
PA 323-34	8	25.8	No	None	Yes	C	> 5%	No	No	No	1	Weed control, overseeding especially in bare patches.	No	DSL	2	2006	No
PA 324-26	2.01	10.2	No	None	Yes	B	> 5%	No	No	No	1	Site is basically covered in cheatgrass, Russian thistle, and tumble mustard.	No	PJS	2	2006	No
PA 324-32	14	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Weedy species dominate, control weeds and/or overseed to increase desirable cover.	No	DSL			No
PA 331-34	42	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Overall site looks very good, some portions desirables are a little sparse but site is good.	No	PJS	5	2003	Yes

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Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
PA 332-33	8	10.2	No	Minor	Yes	B	> 5%	Yes	No	No	1	Weedy species dominate, some weed control and overseeding.	No	PJS	4	2004	No
PA 33-28	12	10.2	Yes	None	Yes	C	> 5%	Yes	Yes	No	3	Cover overall not great, but shrub cover looks very good. Fix redisturbed areas and reclamation on southwest portion where redisturbed and pipes stored.	Yes	PJS	5	2003	No-BLM
PA 333-33	18.01	25.8	No	Minor	Yes	B	> 5%	Yes	No	No	1	Some portions of reclamation have good start, but others are sparse and some portions of reclamation were redisturbed.	No	DSL			No
PA 33-34	8.66	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Site has excellent shrub regrowth. Some grasses are doing well in scattered areas but cheatgrass and erodium dominate- they are distributed across the site.	No	DSL	5	2003	No
PA 343-32	16.01	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Possibly treat erodium and cheatgrass.	No	DSL	5	2003	No
PA 43-33	16.01	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Weed control for large patches and overseeding with desirables.	No	PJS			Yes
PA 43-34	8.67	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Desirable seed seems to be taking well, keep eye on minor patches of weeds and should be fine.	No	DSL			No
RMV 101-28	11.34	28.26	No	None	Yes	B	> 5%	No	No	No	1	Site is mostly noxious and other weeds, very few desirables and most are stunted and not distributed across site.	No	PJN			No
RMV 102-28	20.66	29.8	No	None	Yes	aB	> 5%	Yes	No	No	2	Overall site looks good, some patches of cheatgrass and erodium should be treated.	No	DSH			No
RMV 111-33	18.67	28.26	No	None	Yes	B	> 5%	Yes	No	No	2	Weed control needed and overseeding in areas where there is heavy infestation.	No	PJN			No
RMV 121-27	0	25.8	No	None	Yes	aB	> 5%	No	No	No	1	Site dominated almost entirely by weeds. Weed control needed and overseeding also.	No	DSL	5	2003	No
RMV 138-21	17.34	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Overall site looks decent but could use weed control.	No	DSL	4	2004	No
RMV 141-16	16	10.2	Yes	Gullying	Yes	B	< 5%	Yes	Yes	No	3	Growth of desirables is sparse, erosion areas hinder plant growth, soils are silty and crust has formed..	No	PJS	4	2004	Yes
RMV 143-18	22.01	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Overall, desirables look healthy and are spreading but weedy species are a concern and should be monitored and controlled as needed to ensure desirables' success; there are some sparse areas in northwest edge of pad.	No	PJS	2	2006	Yes
RMV 152-22	16.67	10.2	Yes	Rills >3"	Yes	B	< 5%	Yes	Yes	No	3	While desirables generally look healthy, there are erosion and weed issues that could hamper desirables' success. Site looks newly seeded, weed control recommended and some reseeding.	No	PJS	2	2006	Yes
RMV 153-22	29.33	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	A 2% patch of erodium in northeast corner of pad site and 2% patch of erodium in NW corner	No	PJS	5	2003	Yes

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Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
RMV 204-20	10.67	10.2	Yes	Minor	Yes	B	> 5%	No	Yes	No	1	Southern boundary sparsely covered and weeds on northern boundary. Overall, shrub regrowth good but sparse grass and forb regrowth.	No	PJS			Yes
RMV 209-20	17.33	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	East of well head and north of road needs re-ripping and seeding. Area was re-disturbed and fence removed / damaged.	No	DSL			No
RMV 210-20	39.33	25.8	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Edge of reclamation east of well disturbed. Lots of cheatgrass near edge of pad along road.	No	DSL			Yes
RMV 226-27	40.01	18.67	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Site looks very good, watch weeds, but overall no work needed	No	R	5	2003	Yes
RMV 232-28	16	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Weedy erodium areas should be treated.	No	DSL	5	2003	No
RMV 234-28	21.34	29.8	No	None	Yes	B	> 5%	Yes	No	No	2	Overall looks good, some weed control especially in western area recommended	No	DSH	5	2003	No
RMV 235-28	20	29.8	No	None	Yes	aB	> 5%	Yes	No	No	2	Overall, desirables look healthy and are relatively well dispersed across site. Weed control for erodium and cheatgrass recommended.	No	DSH	5	2003	No
RMV 236-28	12.67	29.8	No	None	Yes	B	> 5%	Yes	No	No	2	Overall site looks good, weed control on cheatgrass and erodium recommended to increase desirable cover	No	DSH	5	2003	No
RMV 237-28	2.67	29.8	No	Rills >3"	Yes	C	> 5%	No	No	No	0	Site has weed and bare ground issues, desirable distribution ok in portions, but overall not good.	No	DSH		unknown	No
RMV 241-21	19.34	25.8	No	None	Yes	B	> 5%	Yes	No	No	2	Erodium and cheatgrass in northeast and east portion of pad that dominates, not large area and is in location of 3rd sample point.	No	DSL	5	2003	No
RMV 37-33	4.68	28.26	No	None	Yes	B	> 5%	No	No	No	1	Overall, site is dominated by noxious and other weedy species. Desirables are sparsely distributed and many look stunted. Weed control and overseeding advised.	No	PJN			No
RMV 60-17	5.33	10.2	No	Gullying	Yes	C	< 5%	No	No	No	1	Desirables cover is sparse, some cheatgrass present in northeast corner. Erosion is somewhat severe and should be further mitigated.	Yes	PJS	4	2004	No-BLM
RMV 65-20	32	25.8	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Area southwest of road and east of battery is mostly cheatgrass and kochia- could be re-seeded.	No	DSL			Yes
RMV 67-20	23.32	25.8	Yes	None	Yes	B	> 5%	Yes	No	No	2	Some weed control would be beneficial and overseeding of more sparsely vegetated areas.	No	DSL			Yes
RMV 89-17	0	29.8	No	Minor	Yes	C	< 5%	No	No	No	1	Site would benefit from ripping and overseeding.	Yes	DSH		Never?	No-BLM
RMV 90-20	23.33	25.8	Yes	None	Yes	B	> 5%	Yes	No	No	2	Area that is reclaimed is beginning to look good, some weeds but shrub regrowth is good as is most of desirable grasses. Some bare patches dominated by halogeton. Pad is in middle of several very active facilities.	No	DSL			Yes

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Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
RWF 13-4	25.34	28.26	No	None	Yes	aB	< 5%	Yes	No	No	3	It appears that the site was seeded with alfalfa and sweet clover, lambsquarters is spread extensively over the site. If alfalfa becomes larger next year, most weedy species will probably be shaded out.	No	PJN	1	2007	No
RWF 14-4	45.35	28.26	Yes	None	Yes	aB	< 5%	Yes	Yes	No	4	Overall desirables very healthy and dense; about 3% of pad site has some noxious weed issues, especially plumeless thistle.	No	PJN	4	2004	Yes
RWF 21-28	22.66	25.8	No	None	Yes	B	< 5%	Yes	No	No	3	Site has several noxious weeds, some desirables look good but weeds interspersed and two large patches of rocky bare ground exist.	No	DSL	4	2004	No
RWF 313-28	26.67	28.26	Yes	None	Yes	C	< 5%	Yes	No	No	3	This is irrigated alfalfa pasture that was recently hayed. Obviously maintained by the farmer and there is little impact to the field from the well. The access road is a simple 2-track.	No	PJN			Yes
RWF 314-16	23.33	29.8	No	Minor	Yes	B	> 5%	Yes	No	No	1	Repair erosion to south west of condensate tanks.	No	DSH	5	2003	No
RWF 314-17	6.67	10.2	No	None	Yes	B	> 5%	Yes	No	No	2	Extensive treatment of weed cover and overseeding of desirables.	No	PJS	7	2001	No
RWF 334-18	17.33	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Overall site has good start, west and southwest areas look better and more vigorous than eastern portion; overseeding on east might help.	No	PJS	3	2005	Yes
RWF 334-22	6.67	18.67	No	None	Yes	B	> 5%	No	No	No	1	Overall there are very few desirables, weed treatment for entire pad recommended and reseeding following treatment.	No	R	6	2002	No
RWF 34-14	12.01	25.8	No	Minor	Yes	B	> 5%	No	No	No	0	Compacted soils and poor cover overall, ripping and reseeding recommended, pipeline reclamation eastern to northeastern edge of pad containing different reclamation species.	No	DSL		?	No
RWF 34-18	38	10.2	Yes	None	Yes	B	> 5%	Yes	Yes	No	3	Overall very healthy-looking reclaimed area with minor weed issues. Unsure if reclaimed area south of pad and road is pad or road. Reclamation looks older than pad reclamation on north side of pad.	No	PJS	5	2003	Yes
RWF 44-18	2.67	10.2	No	None	Yes	C	< 5%	No	No	No	2	It appears site was seeded in fall 2007. Desirables have germinated but generally cover is sparse and somewhat stunted. On northern section of pad most of germinated seedlings look stunted.	No	PJS			No
W 18-27	29.32	10.2	Yes	None	Yes	C	< 5%	Yes	Yes	No	4	Just a few sparse areas and site is relatively newly reclaimed. Overall, desirable growth is very good and weeds are minimal. Good shrub regrowth.	No	PJS			Yes
W 19-28	38.66	29.8	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	Overall site has a good start. Continue to monitor to ensure success.	No	DSH			Yes

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Table 6. Detailed Monitoring Results and Recommendations

Well Pad	Vegetation % Cover	Reference % Cover	90% of Standard?	Erosion Issues	Noxious Weeds Present	Colorado Weed Rank (Site)	Undesirable Species <5% of Cover	Desirable vegetation appears vigorous and self sustaining?	Adequate Vegetation Present?	Desirable Vegetation Established	BLM Reclamation Objectives Met (5)	Additional work needed to obtain 90% cover	BLM	Vegetation Community	Approx. # of Growing Seasons	Approx. Seed Date	Interim Reclamation Complete (Discontinue Monitoring)
W 29-26	24	10.2	Yes	None	Yes	B	< 5%	Yes	Yes	No	4	For most part site looks healthy and mostly weed-free, some weed control on knapweed a good idea.	No	PJS			Yes

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Table 7. Unreclaimed or Recently Reclaimed Well Pads.

Well Pad	Reclamation Status July 2008	Reclamation Comments	Recommended Action	BLM
DOE 1-M-25	Recently Reclaimed	Seeded in late spring 2008- no growth yet.	Future Monitoring	Yes
DOE 1-M-35	Recently Reclaimed	Seeded late spring 2008.	Future Monitoring	Yes
RMV 139-21	Recently Reclaimed	Area recently seeded, mulched, and crimped.	Future Monitoring	No
PA 23-26	Not reclaimed		Reclaim when practicable	Yes
DOE 1-M-31	Not reclaimed	Drill rig on site.	Reclaim when practicable	Yes
DOE PM2-31	Not reclaimed	Drill rig on site.	Reclaim when practicable	Yes
GM 22-1	Not reclaimed	Graded and ripped.	Reclaim when practicable	No
GM 240-1	Not reclaimed	Partially graded and ripped.	Reclaim when practicable	No
GM 24-36	Not reclaimed		Reclaim when practicable	No
GM 31-17	Not reclaimed		Reclaim when practicable	No
GM 313-12	Not reclaimed	Graded.	Reclaim when practicable	No
GR 12-29	Not reclaimed	Major subsidence problems.	Reclaim when practicable	No
GV 24-36	Not reclaimed	Pad ripped and graded.	Reclaim when practicable	No
CLOUGH 21	Not reclaimed	Area not yet seeded, currently graded and tracked.	Reclaim when practicable	No
MV 28-4	Not reclaimed		Reclaim when practicable	Yes
RWF 333-18	Not reclaimed	Pad not reclaimed or graded.	Reclaim when practicable	No
PA 334-31	Not reclaimed		Reclaim when practicable	Yes
PA 334-32	Not reclaimed		Reclaim when practicable	No
PA 334-34	Not reclaimed		Reclaim when practicable	No
PA 343-34	Not reclaimed		Reclaim when practicable	No
PA 44-27	Not reclaimed		Reclaim when practicable	Yes
RMV 150-22	Not reclaimed		Reclaim when practicable	No
RMV 169-18	Not reclaimed	Pad not reclaimed. Dirt work complete.	Reclaim when practicable	Yes
RMV 53-17	Not reclaimed	Pad not reclaimed, construction actively on pad.	Reclaim when practicable	Yes
RWF 24-4	Not reclaimed	Pad not reclaimed, graded.	Reclaim when practicable	No
RWF 331-21	Not reclaimed	Pad not reclaimed. Graded?- but pit still open.	Reclaim when practicable	No
MV 16-9	Not reclaimed		Reclaim when practicable	Yes

Table 8. Well Pads with Erosion Features

Well Pad	Erosion Issues	Erosion Comment	BLM
PA 23-34	Gullying	Erosion photo 1: on north, northeast, and east portion of pad looking southeast Erosion photo 2: same feature as #1	No
DOE 2-W-27	Gullying	Erosion photo 1: on north portion of pad looking south (gullying) Erosion photo 2: on east /northeast portion looking southwest (gullying) Erosion photo 3: on east /northeast portion looking southwest (gullying) Erosion photo 4: on south portion of pad looking southwest	Yes
MV 34-5	Gullying	Erosion photo 1: on north / northeast portion of gullying looking north.	Yes
PA 23-27	Gullying	Erosion photo 1: gullying on west portion of pad looking southwest	Yes
PA 323-33	Gullying	Erosion photo 1: on northwest edge looking south, deepish gully Erosion photo 2: on south portion of pad looking S, starts on in use portion	No
RMV 141-16	Gullying	Rills > 3" also present. Erosion photo 1: northwest corner; Erosion photo 2: southwest edge; Erosion photo 3: southeast edge; Erosion photo 4: northeast boundary along access road; Erosion photo 5: joins and runs perpendicular to erosion 4; Erosion photo 6: minor rilling along SE edge and adjacent to fence.	No
RMV 60-17	Gullying	Gullying in E and SE portion of pad; appears check dams installed in SE portion of gully. Erosion photo 1: gullying looking NE. Erosion photo 2: gullying looking SE. Erosion photo 3: showing check dams in gully in SE corner looking SE. Erosion photo 4: gully in access road (looking E).	Yes
PA 22-28	Minor	On north-northeast portion	No
RWF 314-16	Minor	Some rilling on slope directly behind and southwest of smaller/lower condensate tanks.	No
MV 44-11	Minor	Looks to be intentional constructed channel.	No
RWF 34-14	Minor	Small channel with some rilling along edges at south boundary (erosion photo 1) (GPS point unavailable). What appears to be intentionally constructed channel located along eastern portion (erosion photo 2, eastern edge channel) of pad, some minor rilling and gullying on slope directly northeast of condensate tank (erosion photo 3).	No
PA 333-33	Minor	Minor erosion on north portion, but not serious	No
RMV 204-20	Minor	Some gullying at southeast corner of pad.	No
RMV 89-17	Minor	Erosion photo 1: southwest part of pad looking west. Erosion photo 2: southwest part of pad looking E.	Yes
RMV 237-28	Rills >3"	Erosion photo 1: rill on south portion of pad looking south.	No
DOE 1-W-28	Rills >3"	Erosion features consistent with surrounding undisturbed are but are noted. Erosion photo 1: rilling consistent w/ surrounding undisturbed. Erosion photo 2: same. Erosion photo 3: same.	Yes
RMV 152-22	Rills >3"	Erosion photo 1: rilling on southeast portion of pad looking southeast. Erosion photo 2: rilling on southeast portion of pad looking southeast. Erosion photo 3: rilling on east portion of pad looking southeast. Erosion photo 4: rilling on north portion of pad looking southeast.	No
PA 24-26	Rills >3"	Erosion photo 1: minor rilling (should be watched) northeast portion of pad looking southwest Erosion photo 2: minor rilling (should be watched) northeast portion of pad looking southwest larger channel/gully on northwest edge of in use portion looks to intentionally created	No
GV 5-33	Rills >3"	Erosion photo 1: on southwest portion looking southwest.	No
GM 44-11	Rills >3"	Erosion photo 1: rilling on west /southwest portion, rilling all along southwest portion of pad.	No

Table 8. Well Pads with Erosion Features

Well Pad	Erosion Issues	Erosion Comment	BLM
GM 34-33	Rills >3"	Erosion photo 1: on west /northwest side.	No
GM 204-29	Rills >3"	Erosion photo 1: large rill on east /northeast side looking east	No
		Erosion photo 2: rill on east portion looking east	
		Erosion photo 3: rills on east portion looking northeast	
		Erosion photo 4: rills on south /southwest portion looking southeast	
		Erosion photo 5: gully on west portion looking east	
GM 202-33	Rills >3"	Erosion photo 1: rill on southwest side looking northeast Erosion photo 2: same	No

Table 9. Minor Issues Noted with Facilities

Well Pad	Major Facilities Issue
GV 41-34	Fence is down.
PA 22-35	Small condensate tank rusty.
RMV 209-20	Fence around reclamation needs repair.
RMV 210-20	Fence around reclamation damaged.
RMV 65-20	Fence around reclamation damaged.

Table 10. Well Pads with Noxious Weeds Present

Well Pads with Noxious Weeds Present	Highest Weed Rank on Pad
GM 21-12	aB
GM 22-12	aB
RMV 102-28	aB
RMV 121-27	aB
RMV 235-28	aB
RWF 13-4	aB
RWF 14-4	aB
DOE 3-W-29	B
GM 11-12	B
GM 202-33	B
GM 203-33	B
GM 204-29	B
GM 222-33	B
GM 223-33	B
GM 23-1	B
GM 24-1	B
GM 252-2	B
GM 312-28	B
GM 31-34	B
GM 32-29	B
GM 323-28	B
GM 34-17	B
GM 43-33	B
GM 44-20	B
GR 12-29	B
GV 24-36	B
PA 11-34	B
PA 13-32	B
PA 13-34	B
PA 14-33	B
PA 21-34	B
PA 22-34	B
PA 23-34	B
PA 311-34	B
PA 311-5	B
PA 313-32	B
PA 313-33	B
PA 314-32	B
PA 322-34	B
PA 32-33	B
PA 323-32	B
PA 323-33	B
PA 324-26	B
PA 324-32	B
PA 331-34	B
PA 332-33	B
PA 333-33	B
PA 33-34	B
PA 343-32	B
PA 343-34	B
PA 43-33	B

Well Pads with Noxious Weeds Present	Highest Weed Rank on Pad
PA 43-34	B
RMV 101-28	B
RMV 111-33	B
RMV 138-21	B
RMV 141-16	B
RMV 143-18	B
RMV 150-22	B
RMV 152-22	B
RMV 153-22	B
RMV 169-18	B
RMV 204-20	B
RMV 209-20	B
RMV 210-20	B
RMV 226-27	B
RMV 232-28	B
RMV 234-28	B
RMV 236-28	B
RMV 241-21	B
RMV 37-33	B
RMV 65-20	B
RMV 67-20	B
RMV 90-20	B
RWF 21-28	B
RWF 314-16	B
RWF 314-17	B
RWF 334-18	B
RWF 334-22	B
RWF 34-14	B
RWF 34-18	B
W 19-28	B
W 29-26	B
DOE 1-M-29	C
DOE 1-W-20	C
DOE 1-W-28	C
DOE 2-W-27	C
DOE 3-W-21	C
GM 217-33	C
GM 237-36	C
GM 240-1	C
GM 24-33	C
GM 24-36	C
GM 251-2	C
GM 254-2	C
GM 256-2	C
GM 266-3	C
GM 31-17	C
GM 32-2	C
GM 34-20	C
GM 34-33	C
GM 44-11	C
GR 32-34	C

Well Pads with Noxious Weeds Present	Highest Weed Rank on Pad
GR 44-33V	C
GV 41-34	C
GV 5-33	C
MV 28-4	C
MV 34-5	C
MV 44-11	C
MV 55-29	C
PA 22-28	C
PA 22-35	C
PA 23-26	C
PA 23-27	C
PA 24-26	C
PA 24-28	C
PA 24-34	C
PA 323-34	C
PA 33-28	C
PA 44-27	C
RMV 139-21	C
RMV 237-28	C
RMV 60-17	C
RMV 89-17	C
RWF 24-4	C
RWF 313-28	C
RWF 331-21	C
RWF 44-18	C
W 18-27	C

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
DOE 1-M-29	AECY	Aegilops cylindrica	jointed goatgrass	C	C	Jointed goat grass on portions of reclaimed area. Cheatgrass interspersed among desirables on reclamation area. Halogeton present.
	HAGL	Halogeton glomeratus	saltlover		C	
	BRTE	Bromus tectorum	cheatgrass		C	
DOE 1-W-20	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed somewhat heavily among desirables.
DOE 1-W-28	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass, halogeton, and bindweed but very minimal. Cheatgrass on north and northwest portion more heavy but patch is relatively small.
	HAGL	Halogeton glomeratus	saltlover		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
DOE 2-W-27	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass.
	HAGL	Halogeton glomeratus	saltlover		C	
DOE 3-W-21	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed but is minor.
DOE 3-W-29	BRTE	Bromus tectorum	cheatgrass	B	C	Some cheatgrass, but very little. Erodium and halogeton.
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
GM 11-12	CIIN	Cichorium intybus	chicory	B	C	Cheatgrass and chicory interspersed across site. Kochia, tamarisk and bindweed present.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	TARA	Tamarix ramosissima	tamarisk, salt cedar		B	
GM 202-33	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass interspersed throughout site. Kochia and erodium present.
	BRTE	Bromus tectorum	cheatgrass		C	
GM 203-33	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass interspersed, mostly on west portion.
GM 204-29	HAGL	Halogeton glomeratus	saltlover	B	C	Cheatgrass interspersed. Erodium Present.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
GM 21-12	CEDI3	Centaurea diffusa	diffuse knapweed	aB	aB	Cheatgrass, knapweed, tamarisk and kochia interspersed.
	CIIN	Cichorium intybus	chicory		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	TARA	Tamarix ramosissima	tamarisk, salt cedar		B	
GM 217-33	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass, unknown grass 1, and kochia dominate site.
GM 22-12	COAR4	Convolvulus arvensis	field bindweed	aB	C	Jointed goat grass on northeast portion, diffuse knapweed scattered, bindweed and cheatgrass interspersed.
	CEDI3	Centaurea diffusa	diffuse knapweed		aB	
	AECY	Aegilops cylindrica	jointed goatgrass		C	
	BRTE	Bromus tectorum	cheatgrass		C	
GM 222-33	CIIN	Cichorium intybus	chicory	C	C	Cheatgrass interspersed among desirables. Chicory and erodium present
	BRTE	Bromus tectorum	cheatgrass		C	
GM 223-33	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	C	B	Cheatgrass patches in west and southwest portion, large patch kochia in northeast portion.
	BRTE	Bromus tectorum	cheatgrass		C	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
GM 23-1	BRTE	Bromus tectorum	cheatgrass	B	C	Erodium and Cheatgrass interspersed across most of site. Bindweed present. Russian thistle interspersed on north portion of pad.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	COAR4	Convolvulus arvensis	field bindweed		C	
GM 237-36	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed among cover, halogeton present, some Russian thistle.
	HAGL	Halogeton glomeratus	saltlover		C	
GM 240-1	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton. Kochia present
GM 24-1	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Bindweed, cheatgrass, and erodium dominate site. Chicory present. Kochia and plantago present.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	CIIN	Cichorium intybus	chicory		C	
GM 24-33	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass and Kochia present.
GM 24-36	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton present. Kochia, Russian thistle present.
GM 251-2	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed across site. Halogeton present
	HAGL	Halogeton glomeratus	saltlover		C	
GM 252-2	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass interspersed among desirables- patch on south portion, also some Erodium on northwest portion
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
GM 254-2	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass, bindweed, chicory.
	COAR4	Convolvulus arvensis	field bindweed		C	
	CIIN	Cichorium intybus	chicory		C	
GM 256-2	COAR4	Convolvulus arvensis	field bindweed	C	C	Chicory, bindweed, cheatgrass, etc. Kochia present.
	CIIN	Cichorium intybus	chicory		C	
	BRTE	Bromus tectorum	cheatgrass		C	
GM 266-3	COAR4	Convolvulus arvensis	field bindweed	C	C	Cheatgrass, bindweed present across site.
	BRTE	Bromus tectorum	cheatgrass		C	
GM 31-17	COAR4	Convolvulus arvensis	field bindweed	C	C	Bindweed. Kochia and Russian thistle present.
GM 312-28	AECY	Aegilops cylindrica	jointed goatgrass	B	C	Bindweed, cheatgrass- entire site is weedy. Predominantly cheatgrass and annual wheatgrass; jointed goat grass and erodium also present. Kochia, present.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
GM 31-34	COAR4	Convolvulus arvensis	field bindweed	B	C	Cheatgrass interspersed, larger patch on southeast portion. Some bindweed, halogeton, erodium, and Russian thistle also present.
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
GM 32-2	COAR4	Convolvulus arvensis	field bindweed	C	C	Some bindweed and cheatgrass interspersed, kochia in patches.
	BRTE	Bromus tectorum	cheatgrass		C	
GM 32-29	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Cheatgrass interspersed, some bindweed and kochia in in-use area. Tamarisk present.
	BRTE	Bromus tectorum	cheatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
GM 323-28	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium interspersed, some Russian thistle and kochia. Large patch of cheatgrass and erodium on north and northwest portion of pad.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
GM 34-17	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Erodium, chicory, cheatgrass, bindweed interspersed among desirables. Some tamarisk plants (5-6) on east portion.
	CIIN	Cichorium intybus	chicory		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
	TARA	Tamarix ramosissima	tamarisk, salt cedar		B	
GM 34-20	CIIN	Cichorium intybus	chicory	C	C	Bindweed, chicory and kochia interspersed among desirables across site.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
GM 34-33	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass, kochia.
GM 43-33	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Cheatgrass, kochia interspersed among desirables and dominate site.
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
GM 44-11	HAGL	Halogeton glomeratus	saltlover	C	C	Kochia on some portions.
GM 44-20	HAGL	Halogeton glomeratus	saltlover	B	C	Bindweed, erodium, kochia interspersed among desirables.
	BRTE	Bromus tectorum	cheatgrass		C	
	CIIN	Cichorium intybus	chicory		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
GR 12-29	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Tamarisk near compressors. Kochia, present.
GR 32-34	HAGL	Halogeton glomeratus	saltlover	C	C	Cheatgrass interspersed and kochia.
	BRTE	Bromus tectorum	cheatgrass		C	
GR 44-33V	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed on some portions. Some Russian thistle, kochia.
GV 24-36	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Tamarisk in drainage.
GV 41-34	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed. South and southeast portion of pad looks to have been redisturbed and is very weedy.
	HAGL	Halogeton glomeratus	saltlover		C	
GV 5-33	HAGL	Halogeton glomeratus	saltlover	C	C	Cheatgrass, kochia interspersed across site.
	BRTE	Bromus tectorum	cheatgrass		C	
MV 28-4	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton, kochia present.
MV 34-5	COAR4	Convolvulus arvensis	field bindweed	C	C	Bindweed. Kochia, Russian thistle present.
MV 44-11	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass. Russian thistle interspersed, kochia also.
	HAGL	Halogeton glomeratus	saltlover		C	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
MV 55-29	CIIN	Cichorium intybus	chicory	C	C	Chicory, cheatgrass interspersed in some areas. Kochia present.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 11-34	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass. Russian thistle present.
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 13-32	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass and erodium interspersed across site.
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 13-34	BRTE	Bromus tectorum	cheatgrass	B	C	Most of reclaimed area is cheatgrass with Russian thistle, erodium also interspersed.
	CIIN	Cichorium intybus	chicory		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 14-33	HAGL	Halogeton glomeratus	saltlover	B	C	Cheatgrass, and erodium scattered on pad. Russian thistle present.
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 21-34	CENTA	Centaurea sp.	Unknown Knapweed	B	B	Lots of cheatgrass, some erodium, site is mostly weeds. Appears as if pad is not seeded. Lost of Russian Thistle.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 22-28	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed.
PA 22-34	ACRE3	Acroptilon repens	Russian Knapweed	B	B	Cheatgrass, and erodium interspersed. Russian thistle present.
	CENTA	Centaurea sp.	Unknown Knapweed		B	
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 23-26	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton. Russian thistle, kochia present.
PA 22-35	HAGL	Halogeton glomeratus	saltlover	C	C	Some cheatgrass interspersed.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 23-27	HAGL	Halogeton glomeratus	saltlover	C	C	Cheatgrass.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 23-34	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass, erodium interspersed. Russian thistle present.
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
PA 24-26	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass and Russian thistle, but is minor.
	HAGL	Halogeton glomeratus	saltlover		C	
PA 24-28	BRTE	Bromus tectorum	cheatgrass	C	C	Minor weed cover, scattered and relatively minimal. Cheatgrass
	HAGL	Halogeton glomeratus	saltlover		C	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
PA 24-34	HAGL	Halogeton glomeratus	saltlover	C	C	Cheatgrass interspersed across site
	BRTE	Bromus tectorum	cheatgrass		C	
PA 311-34	BRTE	Bromus tectorum	cheatgrass	B	C	Some cheatgrass and Russian thistle but minor.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 311-5	HAGL	Halogeton glomeratus	saltlover	B	C	Site consists mostly of kochia and Russian thistle.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 313-32	HAGL	Halogeton glomeratus	saltlover	B	C	Cheatgrass and erodium interspersed sparsely across site but very little.
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 313-33	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass, erodium present, larger patches of erodium and cheatgrass on north portion of pad.
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 314-32	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Some cheatgrass, erodium interspersed sparsely. Russian thistle around in-use area.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 322-34	ACRE3	Acroptilon repens	Russian Knapweed	B	B	Cheatgrass interspersed. Russian thistle across site.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 32-33	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and Russian thistle make up most of cover.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 323-32	HAGL	Halogeton glomeratus	saltlover	B	C	Some cheatgrass and erodium interspersed, but not across entire site.
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 323-33	BRTE	Bromus tectorum	cheatgrass	B	C	Some cheatgrass, erodium, and Russian thistle.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	HAGL	Halogeton glomeratus	saltlover		C	
PA 323-34	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed, kochia also on much of pad.
	HAGL	Halogeton glomeratus	saltlover		C	
PA 324-26	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass, erodium also present. Lots of tumble mustard and Russian thistle.
	BRTE	Bromus tectorum	cheatgrass		C	
PA 324-32	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass, erodium interspersed across site. Russian thistle also present.
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
PA 331-34	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass and knapweed sited (minor).
	ACRE3	Acroptilon repens	Russian Knapweed		B	
PA 332-33	COAR4	Convolvulus arvensis	field bindweed	B	C	Cheatgrass, bindweed, erodium and Russian thistle all interspersed across site.
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
PA 33-28	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass interspersed among desirables.
	HAGL	Halogeton glomeratus	saltlover		C	
PA 333-33	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass, erodium, and Russian thistle interspersed but not across site.
	HAGL	Halogeton glomeratus	saltlover		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 33-34	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium heavily interspersed among desirables.
	HAGL	Halogeton glomeratus	saltlover		C	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 343-32	HAGL	Halogeton glomeratus	saltlover	B	C	Erodium interspersed across pad and some cheatgrass interspersed.
	BRTE	Bromus tectorum	cheatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
PA 343-34	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Erodium. Kochia, Russian thistle, present.
PA 43-33	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass interspersed heavily across site. Erodium also interspersed. East and northeast portion almost entirely cheatgrass and erodium.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 43-34	HAGL	Halogeton glomeratus	saltlover	B	C	Cheatgrass and erodium present on north and east sides of pad.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
PA 44-27	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton. Kochia present.
RMV 101-28	ONAC	Onopordum acanthium	scotch thistle	B	B	Scotch (?) thistle, cheatgrass, and erodium dominate, also Russian thistle.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
RMV 102-28	CAAC	Carduus acanthoides	plumeless thistle	aB	aB	Plumeless thistle, bindweed, cheatgrass, erodium.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 111-33	COAR4	Convolvulus arvensis	field bindweed	B	C	Cheatgrass and erodium interspersed, heavy infestation of erodium in northwest corner. Knapweed on east side of access road, patch of erodium also east of access road, some Russian thistle interspersed.
	ACRE3	Acroptilon repens	Russian Knapweed		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RMV 121-27	BRTE	Bromus tectorum	cheatgrass	aB	C	Erodium and cheatgrass and bindweed dominate site. Plumeless and musk thistle also present, also knapweed present.
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	ACRE3	Acroptilon repens	Russian Knapweed		B	
	CAAC	Carduus acanthoides	plumeless thistle		aB	
	CANU4	Carduus nutans	Musk thistle		B	

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Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
RMV 139-21	HAGL	Halogeton glomeratus	saltlover	C	C	Halogeton and Russian thistle on northeast side.
RMV 138-21	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium interspersed among desirables over most of pad site; some Russian thistle and kochia noted.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 141-16	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Jointed goat grass, cheatgrass, and minimal kochia. Tamarisk on northeast corner of plot.
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
	AECY	Aegilops cylindrica	jointed goatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
RMV 143-18	AECY	Aegilops cylindrica	jointed goatgrass	B	C	Musk thistle across pad site; cheatgrass also interspersed. Jointed goat grass interspersed in northeast corner and on edge of pad. Russian thistle interspersed.
	HAGL	Halogeton glomeratus	saltlover		C	
	CANU4	Carduus nutans	Musk thistle		B	
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 150-22	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Russian knapweed- large patch on north side of pit. Tamarisk adjacent to pad. Russian thistle, kochia present.
	ACRE3	Acroptilon repens	Russian Knapweed	B		
RMV 152-22	HAGL	Halogeton glomeratus	saltlover	B	C	Erodium, cheatgrass, and Russian thistle interspersed across site. Dense patch of Russian thistle on east edge of pad.
	BRTE	Bromus tectorum	cheatgrass		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	CANU4	Carduus nutans	Musk thistle		B	
RMV 153-22	BRTE	Bromus tectorum	cheatgrass	B	C	Some cheatgrass interspersed among desirables; small patch of erodium.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RMV 169-18	TARA	Tamarix ramosissima	tamarisk, salt cedar	B	B	Musk thistle, tamarisk near, but not on, pad. Russian thistle present.
	CANU4	Carduus nutans	Musk thistle	B		
RMV 204-20	BRTE	Bromus tectorum	cheatgrass	B	C	Erodium and cheatgrass interspersed across pad. North boundary of pad with heavy cheatgrass and erodium infestation. Russian thistle present.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	HAGL	Halogeton glomeratus	saltlover		C	
RMV 209-20	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass, erodium, moderate to high cover, not apparently affecting desirables. 1-2 individuals of musk thistle. . (Cheatgrass & Erodium more than 5% cover.) Some Russian thistle and kochia- not much
	HAGL	Halogeton glomeratus	saltlover		C	
	CANU4	Carduus nutans	Musk thistle		B	
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 210-20	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass- low overall but some dense patches. Erodium present, and canada thistle- small patch near road turnaround.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 226-27	CIVU	Cirsium vulgare		B	B	Cheatgrass interspersed in some areas.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 232-28	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Erodium and cheatgrass. Large patch of erodium on northwest portion of pad, patch of erodium on east portion.
	BRTE	Bromus tectorum	cheatgrass		C	

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RMV 234-28	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass and erodium interspersed, some solid patches. Some scotch thistle invading in west portion of pad, large patch of cheatgrass in west corner.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	ONAC	Onopordum acanthium	scotch thistle		B	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RMV 235-28	CEDI3	Centaurea diffusa	diffuse knapweed	aB	aB	Erodium and cheatgrass interspersed among desirables, large patch of erodium and cheatgrass in southwest portion of pad, some Russian
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 236-28	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium interspersed among desirables.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 237-28	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass and Russian thistle dominates cover.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RMV 241-21	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Erodium and cheatgrass interspersed, some white top (?) spotted directly on other side of N to NW pad fence.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 37-33	COAR4	Convolvulus arvensis	field bindweed	aB	C	Mostly erodium and cheatgrass, heavily interspersed among desirables, but plumeless thistle, and field bindweed also present. Russian thistle present.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	CAAC	Carduus acanthoides	plumeless thistle		aB	
RMV 60-17	HAGL	Halogeton glomeratus	saltlover	C	C	Cheatgrass in northeast corner.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 65-20	BRTE	Bromus tectorum	cheatgrass	B	C	Erodium and cheatgrass only.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RMV 67-20	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Erodium and cheatgrass interspersed, some Russian thistle.
	BRTE	Bromus tectorum	cheatgrass		C	
RMV 89-17	HAGL	Halogeton glomeratus	saltlover	C	C	
RMV 90-20	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass scattered, erodium scattered and in northeast corner and south corner. Scattered kochia.
	HAGL	Halogeton glomeratus	saltlover		C	
	BRTE	Bromus tectorum	cheatgrass		C	
RWF 13-4	CANU4	Carduus nutans	Musk thistle	aB	B	Musk thistle, plumeless thistle and cheatgrass.
	CAAC	Carduus acanthoides	plumeless thistle		aB	
	BRTE	Bromus tectorum	cheatgrass		C	
RWF 14-4	CAAC	Carduus acanthoides	plumeless thistle	aB	aB	Some plumeless thistle and cheatgrass and bindweed.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
RWF 21-28	ONAC	Onopordum acanthium	scotch thistle	B	B	Scotch thistle, cheatgrass, and erodium. Russian thistle present.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	HAGL	Halogeton glomeratus	saltlover		C	
	CIAR4	Cirsium arvense	Canada thistle		B	

"aB" indicates B-list species for which the state is placing priority in the region.

Table 11. Noxious Weed Infestations

Well Pad	Code	Scientific Name	Common Name	Highest Weed Rank on Pad	CO weed rank (species)	Noxious Weeds Comment
RWF 24-4	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass. Thistle by gate may be native. Cirsium calcareom?
RWF 313-28	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass around wellhead.
	COAR4	Convolvulus arvensis	field bindweed		C	
RWF 314-16	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium interspersed among desirables. One area on east portion mostly erodium and cheatgrass. Some Bindweed and Russian thistle.
	COAR4	Convolvulus arvensis	field bindweed		C	
	BRTE	Bromus tectorum	cheatgrass		C	
RWF 314-17	HAGL	Halogeton glomeratus	saltlover	B	C	Erodium and cheatgrass dominate south section of pad. Cheatgrass also interspersed and desirables' density very minimal; also some jointed goat grass on northeast boundary of pad.
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	AECY	Aegilops cylindrica	jointed goatgrass		C	
RWF 331-21	BRTE	Bromus tectorum	cheatgrass	C	C	Erodium, cheatgrass. Russian thistle present.
RWF 334-18	BRTE	Bromus tectorum	cheatgrass	B	C	Some erodium and cheatgrass interspersed, some Russian thistle.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RWF 334-22	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Russian knapweed of particular concern. Cheatgrass and erodium also interspersed.
	ACRE3	Acroptilon repens	Russian Knapweed		B	
	BRTE	Bromus tectorum	cheatgrass		C	
	CANU4	Carduus nutans	Musk thistle		B	
RWF 34-14	ERCI6	Erodium cicutarium	redstem filaree/stork's bill	B	B	Cheatgrass and erodium interspersed.
	HAGL	Halogeton glomeratus	saltlover		C	
	BRTE	Bromus tectorum	cheatgrass		C	
RWF 34-18	BRTE	Bromus tectorum	cheatgrass	B	C	Cheatgrass, erodium, Russian thistle, interspersed, however is very minor. Small patch of erodium on north edge of pad.
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
RWF 44-18	BRTE	Bromus tectorum	cheatgrass	C	C	Cheatgrass, Russian thistle.
W 18-27	BRTE	Bromus tectorum	cheatgrass	C	C	Some cheatgrass and Russian thistle but sparsely scattered.
	HAGL	Halogeton glomeratus	saltlover		C	
W 19-28	CIIN	Cichorium intybus	chicory	B	C	Some cheatgrass interspersed, heavier infestation on east portion of pad. Chicory on southeastern portion but mostly limited to small patches.
	BRTE	Bromus tectorum	cheatgrass		C	
	COAR4	Convolvulus arvensis	field bindweed		C	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	
W 29-26	HAGL	Halogeton glomeratus	saltlover	B	C	Russian knapweed present on south and southeast portion of pad, some cheatgrass and erodium present.
	BRTE	Bromus tectorum	cheatgrass		C	
	ACRE3	Acroptilon repens	Russian Knapweed		B	
	ERCI6	Erodium cicutarium	redstem filaree/stork's bill		B	

"aB" indicates B-list species for which the state is placing priority in the region.

Table 12. Species Observed During 2008 Monitoring

Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
ACMI2	<i>Achillea millefolium</i>		common yarrow	P	F	N		desirable	Asteraceae
ACHY	<i>Achnatherum hymenoides</i>		Indian ricegrass	P	G	N		desirable	Poaceae
ACRE3	<i>Acroptilon repens</i>		Russian Knapweed	P	F	I	B	noxious	Asteraceae
AECY	<i>Aegilops cylindrica</i>		jointed goatgrass	A	G	I	C	noxious	Poaceae
AGCR	<i>Agropyron cristatum</i>		crested wheatgrass	P	G	I		desirable	Poaceae
ALTE	<i>Allium textile</i>			P	F	N		desirable	Liliaceae
ALDE	<i>Alyssum desertorum</i>		desert madwort	A	F	I		undesirable	Brassicaceae
AMRE	<i>Amaranthus retroflexus</i>		redroot pigweed	A	F	N		acceptable	Amaranthaceae
AMAR2	<i>Ambrosia artemisiifolia</i>		common / annual ragweed	A	F	N		acceptable	Asteraceae
AMUT	<i>Amelanchier utahensis</i>		Utah serviceberry	P	T	N		desirable	Rosaceae
ARTR2	<i>Artemisia tridentata</i>		big sagebrush	P	S	N		desirable	Asteraceae
ASSP	<i>Asclepias speciosa</i>		showy milkweed	P	F	N		desirable	Asclepiadaceae
ASSU2	<i>Asclepias subverticillata</i>		horsetail milkweed	P	F	N		desirable	Asclepiadaceae
ASCI4	<i>Astragalus cicer</i>		cicer milkvetch / chickpea milkvetch	P	F	I		acceptable	Fabaceae
ASTRA	<i>Astragalus</i> sp.		Unknown astragalus		F			desirable	Fabaceae
ATCA2	<i>Atriplex canescens</i>		four wing saltbush	P	S	N		desirable	Chenopodiaceae
ATCO	<i>Atriplex confertifolia</i>		shadscale saltbush	P	S	N		desirable	Chenopodiaceae
Bare	Bare							Bare	
BASC5	<i>Bassia scoparia</i>	<i>Kochia scoparia</i>	Kochia	A	F	I		undesirable	Chenopodiaceae
BRAR5	<i>Bromus arvensis</i>	<i>Bromus japonicus</i>	field brome (Japanese brome)	A	G	I		acceptable	Poaceae
BRIN2	<i>Bromus inermis</i>		smooth brome	P	G	N I		acceptable	Poaceae
BRR17	<i>Bromus riparius</i>		meadow brome	P	G	?		acceptable	Poaceae
BRTE	<i>Bromus tectorum</i>		cheatgrass	A	G	I	C	noxious	Poaceae
CAGU	<i>Calochortus gunnisonii</i>		Gunnison's mariposa lily	P	F	N		desirable	Liliaceae
CARU15	<i>Camelina rumelica</i>		graceful false flax	A	F	I		undesirable	Brassicaceae
CAAC	<i>Carduus acanthoides</i>		plumeless thistle	P	F	I	aB	noxious	Asteraceae
CANU4	<i>Carduus nutans</i>		Musk thistle	P	F	I	B	noxious	Asteraceae
CEDI3	<i>Centaurea diffusa</i>		diffuse knapweed	Both	F	I	aB	noxious	Asteraceae

Growth Habit: P=Perennial, B=Biennial, A=Annual Life Form: G=Grass, F=Forb, S= Shrub, T=Tree Nativity: N=Native, I=Introduced

Table 12. Species Observed During 2008 Monitoring

Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
CENTA	Centaurea sp.		Unknown Knapweed	P	F	I	B	noxious	Asteraceae
CHAL7	Chenopodium album		lambsquarters	A	F	N I		acceptable	Chenopodiaceae
CHMU2	Chenopodium murale		nettleleaf goosefoot	A	F	I		undesirable	Chenopodiaceae
CHVI8	Chrysothamnus viscidiflorus		green rabbitbrush	P	S	N		desirable	Asteraceae
CIIN	Cichorium intybus		chicory	P	F	I	C	noxious	Asteraceae
CIAR4	Cirsium arvense		Canada thistle	P	F	I	B	noxious	Asteraceae
CICA10	Cirsium calcareum		Cainville thistle	P	F	N		desirable	Asteraceae
CINE	Cirsium neomexicanum		New Mexico thistle	P	F	N		desirable	Asteraceae
CIVU	Cirsium vulgare			B	F	I	B	noxious	Asteraceae
COAR4	Convolvulus arvensis		field bindweed	P	F	I	C	noxious	Convolvulaceae
COCA5	Conyza canadensis		Canadian horseweed	A	F	N		acceptable	Asteraceae
DAGL	Dactylis glomerata		orchardgrass	P	G	I		acceptable	Poaceae
DESO2	Descurainia sophia		Flixweed	A	F	I		undesirable	Brassicaceae
DISP	Distichlis spicata		inland saltgrass	P	G	N		desirable	Poaceae
ELEL5	Elymus elymoides		squirreltail	P	G	N		desirable	Poaceae
ELLA3	Elymus lanceolatus		thickspike wheatgrass	P	G	N		desirable	Poaceae
ELLALA	Elymus lanceolatus ssp. Lanceolatus		streambank wheatgrass	P	G	N		desirable	Poaceae
ELRE4	Elymus repens	Elytrigia repens	quackgrass	P	G	I	B	noxious	Poaceae
ELTR7	Elymus trachycaulus		slender wheatgrass	P	G	N		desirable	Poaceae
EQUIS	Equisetum		horsetail	P	F	N		desirable	Equisetaceae
ERTR13	Eremopyrum triticeum		annual wheatgrass	A	G	I		undesirable	Poaceae
ERNA10	Ericameria nauseosa		gray (rubber) rabbitbrush	P	S	N		desirable	Asteraceae
EREN	Erigeron engelmannii		Engelmann's fleabane	P	F	N		desirable	Asteraceae
ERCI6	Erodium cicutarium		redstem filaree/redstem stork's bill	A	F	I	B	noxious	Geraniaceae
GAURA	Gaura sp.		butterfly bush		F	N		desirable	Onagraceae
GLLE3	Glycyrrhiza lepidota		American licorice	P	F	N		desirable	Fabaceae
GRSQ	Grindelia squarrosa		curlycup gumweed	Both	F	N		desirable	Asteraceae
GUSA2	Gutierrezia sarothrae		broom snakeweed	P	S	N		desirable	Asteraceae
HAGL	Halogeton glomeratus		saltlover	A	F	I	C	noxious	Chenopodiaceae
HEBO	Hedysarum boreale		Utah sweetvetch	P	F	N		desirable	Fabaceae
HEAN3	Helianthus annuus		Common sunflower	A	F	N		undesirable	Asteraceae

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Table 12. Species Observed During 2008 Monitoring

Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
HENU	<i>Helianthus nuttallii</i>		Nuttall's sunflower	A	F	N		acceptable	Asteraceae
HEV14	<i>Heterotheca villosa</i>		hairy false goldenaster	P	F	F		acceptable	Asteraceae
HOJU	<i>Hordeum jubatum</i>		foxtail barely	P	G	N		desirable	Poaceae
JUOS	<i>Juniperus osteosperma</i>		Utah juniper	P	T	N		desirable	Cupressaceae
JUSC2	<i>Juniperus scopulorum</i>		Rocky Mountain juniper	P	T	N		desirable	Cupressaceae
KRLA2	<i>Krascheninnikovia lanata</i>		winterfat	P	SS	N		desirable	Chenopodiaceae
LASE	<i>Lactuca serriola</i>		prickly lettuce	A	F	I		undesirable	Asteraceae
LEPE2	<i>Lepidium perfoliatum</i>		clasping pepperweed	A	F	I		undesirable	Brassicaceae
LECI4	<i>Leymus cinereus</i>	<i>Elymus cinereus</i>	great basin wildrye	P	G	N		desirable	Poaceae
LILE3	<i>Linum lewisii</i>		blue flax	P	F	N		desirable	Linaceae
Litter	Litter							Litter	
LOPE	<i>Lolium perenne</i>		perennial ryegrass	P	G	I		acceptable	Poaceae
MACA2	<i>Machaeranthera canescens</i>		hoary tansyaster	Both	F	N		desirable	Asteraceae
MAGR2	<i>Machaeranthera grindelioides</i>		rayless tansyaster	P	F	N		desirable	Asteraceae
MARE11	<i>Mahonia repens</i>		Oregon grape	P	S	N		desirable	Berberidaceae
MANE	<i>Malva neglecta</i>		common mallow/ cheeseweed	Both	F	I		undesirable	Malvaceae
MAVU	<i>Marrubium vulgare</i>		horehound	P	F	I		acceptable	Lamiaceae
MESA	<i>Medicago sativa</i>		alfalfa	Both	F	I		acceptable	Fabaceae
MEOF	<i>Melilotus officinalis</i>		yellow sweetclover	A	F	I		acceptable	Fabaceae
MOSS	Moss		Moss					desirable	
ONVI	<i>Onobrychis viciifolia</i>		sainfoin	P	F	I		acceptable	Fabaceae
ONAC	<i>Onopordum acanthium</i>		scotch thistle	B	F	I	B	noxious	Asteraceae
OPUNT	<i>Opuntia</i> sp.		unknown pricklypear	P	S	N		desirable	Cactaceae
OXYTR	<i>Oxytropis</i> sp.			P	F	N		desirable	Fabaceae
PACKE	<i>Packera</i> sp.		Groundsel	P	F	N		desirable	Asteraceae
PAV12	<i>Panicum virgatum</i>		switchgrass	P	G	N		desirable	Poaceae
PASM	<i>Pascopyrum smithii</i>		western wheatgrass	P	G	N		desirable	Poaceae
PEPA8	<i>Penstemon palmeri</i>		Palmer's penstemon	P	F	N		desirable	Scrophulariaceae
PENST	<i>Penstemon</i> sp		Unknown penstemon		F			desirable	Scrophulariaceae

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Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
PEST2	Penstemon strictus		Rocky Mountain penstemon	P	F	N		desirable	Scrophulariaceae
PHAR3	Phalaris arundinacea		reed canarygrass	P	G	N		desirable	Poaceae
PHPR3	Phleum pratense		timothy	P	G	I		acceptable	Poaceae
PHAU7	Phragmites australis		common reed	P	G	N		desirable	Poaceae
PIED	Pinus edulis		twoneedle pinyon	P	T	N		desirable	Pinaceae
PLLA	Plantago lanceolata		narrowleaf plantain	Both	F	I		undesirable	Plantaginaceae
PLMA2	Plantago major		common plantain	P	F	I		undesirable	Plantaginaceae
PLINO	Platyschkuhria integrifolia var. oblongifolia		oblongleaf basindaisy	P	F	N		desirable	Asteraceae
POPR	Poa pratensis		Kentucky bluegrass	P	G	N / I		acceptable	Poaceae
POA	Poa sp.				G			acceptable	Poaceae
POAV	Polygonum aviculare		prostrate knotweed	Both	F	I		undesirable	Polygonaceae
POER2	Polygonum erectum		erect knotweed	Both	F	I		undesirable	Polygonaceae
POAN3	Populus angustifolia		narrowleaf cottonwood	P	T	N		desirable	Salicaceae
PODE3	Populus deltoides		eastern cottonwood	P	T	N		desirable	Salicaceae
POOL	Portulaca oleracea		common purslane	A	F	I		undesirable	Portulacaceae
PRVI	Prunus virginiana		chokecherry	P	T	N		desirable	Rosaceae
PSJU3	Psathyrostachys juncea		Russian wildrye	P	G	I		acceptable	Poaceae
PSSP6	Pseudoroegneria spicata		bluebunch wheatgrass	P	G	N		desirable	Poaceae
QUGA	Quercus gambelii		Gambel oak	P	T	N		desirable	Fagaceae
RACO3	Ratibida columnifera		upright prairie coneflower / Mexican hat	P	F	N		desirable	Asteraceae
RHTR	Rhus trilobata		Three leaf sumac	P	S	N		desirable	Anacardiaceae
Rock	Rock							Rock	
ROSA5	Rosa sp.		unknown Rose	P	S			desirable	Rosaceae
ROWO	Rosa woodsii		Woods' rose	P	S	N		desirable	Rosaceae
RUCR	Rumex crispus		curly dock	P	F	I		undesirable	Polygonaceae
SAAM2	Salix amygdaloides		peachleaf willow	P	T	N		desirable	Salicaceae
SAEX	Salix exigua		narrowleaf willow	p	t	n		desirable	Salicaceae
SAKA	Salsola kali		Russian thistle	A	F	I		undesirable	Chenopodiaceae

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Table 12. Species Observed During 2008 Monitoring

Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
SAMI3	Sanguisorba minor		small burnet	P	F	I		undesirable	Fabaceae
SAVE4	Sarcobatus vermiculatus		greasewood	P	S	N		desirable	Chenopodiaceae
SEDUM	Sedum sp		stonecrop		F			desirable	Crassulaceae
SIAL2	Sisymbrium altissimum		Tall Tumblemustard	A	F	I		undesirable	Brassicaceae
SOCA6	Solidago canadensis		Canada goldenrod	P	F	N		desirable	Asteraceae
SPCO	Sphaeralcea coccinea		scarlet globemallow	P	F	N		desirable	Malvaceae
SPCOCO	Sphaeralcea coccinea ssp. coccinea		scarlet globemallow	P	F	N		desirable	Malvaceae
SPGR2	Sphaeralcea grossulariifolia		gooseberryleaf globemallow	P	F	N		desirable	Malvaceae
SPPA2	Sphaeralcea parvifolia		smallflower globemallow	P	F	N		desirable	Malvaceae
SPAI	Sporobolus airoides		alkali sacaton / sand dropseed	P	G	N		desirable	Poaceae
Standing Litter	Standing Litter							Standing Litter	
STPI	Stanleya pinnata		desert princesplume	P	F	B		desirable	Brassicaceae
SYOR2	Symphoricarpos oreophilus		mountain snowberry	P	S	N		desirable	Caprifoliaceae
TARA	Tamarix ramosissima		tamarisk, salt cedar	P	T	I	B	noxious	Tamaricaceae
TAOF	Taraxacum officinale		dandelion	A	F	I		undesirable	Asteraceae
THIN6	Thinopyrum intermedium		intermediate / pubescent wheatgrass	P	G	I		acceptable	Poaceae
THPO7	Thinopyrum ponticum		tall wheatgrass	P	G	I		acceptable	Poaceae
THAR5	Thlaspi arvense		field pennycress	A	F	I		undesirable	Brassicaceae
TRDU	Tragopogon dubius		yellow salsify	A	F	I		undesirable	Asteraceae
TRHY	Trifolium hybridum		alsike clover	Both	F	I		acceptable	Fabaceae
ULMUS	Ulmus sp.		unknown elm	P	T			acceptable	Ulmaceae
Unk ID Grass	Unidentifiable grass				G			acceptable	Poaceae
Unk Aster 1	Unknown Aster 1				F			acceptable	Asteraceae
Unk Aster 5	Unknown Aster 5				F			acceptable	Asteraceae
Unk Aster 7	Unknown Aster 7				F			acceptable	Asteraceae
Unk Aster 8	Unknown Aster 8				F			acceptable	Asteraceae

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Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
Unk Aster 9	Unknown Aster 9				F			acceptable	Asteraceae
Unk Atriplex 1	Unknown Atriplex 1				S			acceptable	Chenopodiaceae
Unk Atriplex 2	Unknown Atriplex 2				S			acceptable	Chenopodiaceae
Unk Chenopod 2	Unknown Chenopod 2				F			acceptable	Chenopodiaceae
Unk Fabaceae 1	Unknown Fabaceae 1				F			acceptable	Fabaceae
Unk Fabaceae 3	Unknown Fabaceae 3				F			acceptable	Fabaceae
Unk Fabaceae 4	Unknown Fabaceae 4				F			acceptable	Fabaceae
Unk Fabaceae 8	Unknown Fabaceae 8				F			acceptable	Fabaceae
Unk Forb	Unknown Forb				F			acceptable	
Unk Forb 10	Unknown Forb 10				F			acceptable	
Unk Forb 11	Unknown Forb 11				F			acceptable	
Unk Forb 12	Unknown Forb 12				F			acceptable	
Unk Forb 13	Unknown Forb 13				F			acceptable	
Unk Forb 14	Unknown Forb 14				F			acceptable	
Unk Forb 2	Unknown Forb 2				F			acceptable	
Unk Forb 4	Unknown Forb 4				F			acceptable	
Unk Forb 6	Unknown Forb 6				F			acceptable	
Unk Forb 7	Unknown Forb 7				F			acceptable	
Unk Forb 8	Unknown Forb 8				F			acceptable	
Unk Grass 2	Unknown Grass 2				G			acceptable	Poaceae
Unk Grass 3	Unknown Grass 3				G			acceptable	Poaceae
Unk Grass 4	Unknown Grass 4				G			acceptable	Poaceae
Unk Mustard 5	Unknown Mustard 5				F			acceptable	Brassicaceae
Unk Mustard 6	Unknown Mustard 6				F			acceptable	Brassicaceae
Unk Mustard 7	Unknown Mustard 7				F			acceptable	Brassicaceae

Growth Habit: P=Perennial, B=Biennial, A=Annual Life Form: G=Grass, F=Forb, S= Shrub, T=Tree Nativity: N=Native, I=Introduced

Table 12. Species Observed During 2008 Monitoring

Code	Scientific Name	Synonym	Common Name	Growth Habit	Life Form	Nativity	CO Weed Rank	Type	Family
Unk Panicum 1	Unknown Panicum 1				G			acceptable	Poaceae
Unk Panicum 2	Unknown Panicum 2				G			acceptable	Poaceae
Unk Shrub 1	Unknown Shrub 1				SS			acceptable	
Unk Shrub 1.5	Unknown Shrub 1.5				SS			acceptable	
Unk Shrub 2	Unknown Shrub 2				S			acceptable	
Unk Shrub 3	Unknown Shrub 3				S			acceptable	
Unk Shrub 6	Unknown Shrub 6				S			acceptable	
Unk Shrub 7	Unknown Shrub 7				S			acceptable	
Unk Thistle 1	Unknown Thistle 1				F			acceptable	Asteraceae
Unk Thistle 2	Unknown Thistle 2				F			acceptable	Asteraceae
Unk Thistle 4	Unknown Thistle 4				F			acceptable	Asteraceae
Unk Mustard 3	UnknownMustard 3				F			acceptable	Brassicaceae
VETH	Verbascum thapsus		common mullein	B	F	I	C	noxious	Scrophulariaceae
VEBR	Verbena bracteata		bigbract/ prostrate verben	All	F	N		desirable	Lamiaceae
TRRI8-1	xTriticosecale rimpai 1		triticale	A	G	I		acceptable	Poaceae
TRRI8-2	xTriticosecale rimpai 2		triticale	A	G	I		acceptable	Poaceae
YUHA	Yucca harrimaniae		Spanish bayonet	P	S	N		desirable	Agavaceae
ZUBR	Zuckia brandegeei		siltbush	P	S	N		desirable	Chenopodiaceae

Growth Habit: P=Perennial, B=Biennial, A=Annual Life Form: G=Grass, F=Forb, S= Shrub, T=Tree Nativity: N=Native, I=Introduced

Table 13. Species Observed in Each Community

Species	Pinon-Juniper Woodland South Aspect	Pinon-Juniper Woodland North Aspect	Salt Desert Scrubland Low Elevation	Salt Desert Scrubland High Elevation	Riparian Woodland	Oak Brush Mountain Shrubland
<i>Achillea millefolium</i>	x					
<i>Achnatherum hymenoides</i>	x	x	x	x		x
<i>Acroptilon repens</i>	x	x	x		x	
<i>Aegilops cylindrica</i>	x					
<i>Agropyron cristatum</i>	x	x	x	x	x	x
<i>Allium textile</i>	x					
<i>Alyssum desertorum</i>	x	x	x			
<i>Ambrosia artemisiifolia</i>	x		x			
<i>Artemisia tridentata</i>	x	x	x	x		
<i>Asclepias speciosa</i>			x	x	x	
<i>Asclepias subverticillata</i>			x	x		
<i>Astragalus cicer</i>	x	x	x	x	x	
<i>Atriplex canescens</i>	x	x	x	x	x	x
<i>Atriplex confertifolia</i>	x	x	x	x	x	x
<i>Bassia scoparia</i>	x	x	x	x	x	x
<i>Bromus arvensis</i>	x	x	x	x	x	x
<i>Bromus inermis</i>	x	x	x	x	x	x
<i>Bromus tectorum</i>	x	x	x	x	x	x
<i>Calochortus gunnisonii</i>	x		x			
<i>Camelina rumelica</i>	x	x				
<i>Carduus acanthoides</i>		x	x	x		
<i>Carduus nutans</i>	x	x	x		x	
<i>Centaurea sp.</i>	x					
<i>Centaurea diffusa</i>				x		
<i>Chenopodium album</i>	x	x	x		x	
<i>Chenopodium murale</i>	x				x	
<i>Chrysothamnus viscidiflorus</i>	x	x	x	x	x	x
<i>Cichorium intybus</i>	x	x	x	x		
<i>Cirsium arvense</i>			x			
<i>Cirsium vulgare</i>					x	
<i>Convolvulus arvensis</i>	x	x	x	x		
<i>Dactylis glomerata</i>	x		x			
<i>Descurainia sophia</i>					x	
<i>Distichlis spicata</i>				x	x	
<i>Elymus elymoides</i>	x					
<i>Elymus lanceolatus</i>	x	x	x			x
<i>Elymus trachycaulus</i>	x	x	x	x		
<i>Eremopyrum triticeum</i>	x	x	x	x	x	x
<i>Ericameria nauseosa</i>	x	x	x	x		x
<i>Erigeron engelmannii</i>	x	x	x	x		
<i>Erodium cicutarium</i>	x	x	x	x	x	x
<i>Gaura sp.</i>	x					
<i>Grindelia squarrosa</i>	x	x	x	x		
<i>Gutierrezia sarothrae</i>	x	x	x	x		
<i>Glycyrrhiza lepidota</i>					x	
<i>Halogeton glomeratus</i>	x		x	x		x
<i>Hedysarum boreale</i>	x					
<i>Helianthus annuus</i>	x	x	x			
<i>Helianthus nuttallii</i>	x					
<i>Heterotheca villosa</i>			x			
<i>Hordeum jubatum</i>	x	x	x	x	x	
<i>Juniperus osteosperma</i>	x		x			
<i>Krascheninnikovia lanata</i>		x				
<i>Lactuca serriola</i>	x	x	x	x	x	x
<i>Lepidium perfoliatum</i>	x	x	x	x	x	x

Table 13. Species Observed in Each Community

Species	Pinon-Juniper Woodland South Aspect	Pinon-Juniper Woodland North Aspect	Salt Desert Scrubland Low Elevation	Salt Desert Scrubland High Elevation	Riparian Woodland	Oak Brush Mountain Shrubland
Leymus cinereus	x	x	x	x	x	x
Linum lewisii	x					
Machaeranthera canescens	x					
Machaeranthera grindelioides	x	x				
Malva neglecta		x				
Marrubium vulgare	x		x			
Medicago sativa	x	x	x	x		x
Melilotus officinalis	x	x	x	x		
Onobrychis viciifolia	x		x			
Onopordum acanthium		x	x	x		
Opuntia sp.			x			
Oxytropis sp.	x					
Packera sp.	x					
Panicum virgatum	x					
Pascopyrum smithii	x	x	x	x	x	x
Penstemon palmeri	x		x	x		
Penstemon sp				x		
Phalaris arundinacea				x	x	
Phragmites australis					x	
Plantago major		x	x			
Platyschukria integrifolia var. oblongifolia	x					
Poa pratensis	x	x	x			
Poa sp.	x	x	x	x		
Polygonum aviculare	x	x	x			
Polygonum erectum	x		x			
Psathyrostachys juncea	x	x	x	x		
Pseudoroegneria spicata	x		x			
Quercus gambelii		x				
Ratibida columnifera	x	x	x	x		
Rumex crispus		x	x			
Salsola kali	x	x	x	x	x	
Sanguisorba minor		x				
Sarcobatus vermiculatus	x	x	x	x	x	x
Sedum sp	x					
Sisymbrium altissimum	x	x	x	x	x	
			x			
Sphaeralcea coccinea	x	x	x	x		
Sphaeralcea coccinea ssp. coccinea	x		x	x		
Sphaeralcea grossulariifolia	x					
Sphaeralcea parvifolia	x		x	x		
Sporobolus airoides	x		x			
Stanleya pinnata	x		x			
Tamarix ramosissima	x		x			
Taraxacum officinale	x	x	x			
Thinopyrum intermedium	x	x	x	x	x	x
Thlaspi arvense		x				
Thinopyrum ponticum	x		x	x		
Tragopogon dubius	x	x	x	x		x
Unknown Aster 1	x	x	x			
Unknown Aster 5	x		x			
Unknown Aster 7	x					
Unknown Aster 8	x					

Table 13. Species Observed in Each Community

Species	Pinon-Juniper Woodland South Aspect	Pinon-Juniper Woodland North Aspect	Salt Desert Scrubland Low Elevation	Salt Desert Scrubland High Elevation	Riparian Woodland	Oak Brush Mountain Shrubland
Unknown Aster 9	x					
Unknown Atriplex 1	x					
Unknown Atriplex 2						x
Unknown Chenopod 2	x		x			
Unknown Fabaceae 1	x					
Unknown Fabaceae 3	x		x			x
Unknown Fabaceae 4	x					
Unknown Fabaceae 8	x	x				x
Unknown Forb 2				x		
Unknown Forb 4		x				
Unknown Forb 7					x	
Unknown Forb 8					x	
Unknown Forb 10	x					
Unknown Forb 12	x		x			
Unknown Forb 6	x					
Unknown Grass 2	x					
Unknown Grass 3	x					
Unknown Mustard 3		x				
Unknown Mustard 5	x	x	x			
Unknown Panicum 1	x		x			
Unknown Panicum 2	x		x			
Unknown Shrub 1	x		x			
Unknown Shrub 2	x					
Unknown Shrub 3	x					
Unknown Shrub 6			x			
Unknown Shrub 7	x					
Unknown Thistle 1	x		x			
Unknown Thistle 2	x					
Verbena bracteata	x	x	x	x		
xTriticosecale rimpai 1	x	x	x	x		
xTriticosecale rimpai 2	x		x	x		
Yucca harrimaniae	x					
Zuckia brandegeei	x		x			

Table 14. Frequency of Species Observations across Well Pads and All Samples

Scientific Name	Number of Observations (Out of 144 Pads)
Bromus tectorum	111
Bassia scoparia	96
Pascopyrum smithii	95
Agropyron cristatum	85
Lactuca serriola	82
Chrysothamnus viscidiflorus	79
Bromus inermis	69
Lepidium perfoliatum	69
Erodium cicutarium	65
Eremopyrum triticeum	63
Tragopogon dubius	62
Atriplex canescens	61
Atriplex confertifolia	59
Salsola kali	59
Sarcobatus vermiculatus	59
Medicago sativa	58
Melilotus officinalis	51
Sisymbrium altissimum	51
Halogeton glomeratus	49
Bromus arvensis	44
Thinopyrum intermedium	42
Psathyrostachys juncea	41
Elymus trachycaulus	39
Artemisia tridentata	38
Hordeum jubatum	38
Gutierrezia sarothrae	37
Chenopodium album	36
Convolvulus arvensis	35
Leymus cinereus	33
Elymus lanceolatus	32
Achnatherum hymenoides	29
Thinopyrum ponticum	29
Grindelia squarrosa	27
Ratibida columnifera	22
Astragalus cicer	21
Polygonum aviculare	21
xTriticosecale rimpai 1	20
Poa sp.	19
Penstemon palmeri	17
Alyssum desertorum	16
Ericameria nauseosa	16
Helianthus annuus	16
Dactylis glomerata	13
Sphaeralcea coccinea ssp. coccinea	13
Cichorium intybus	12
Unknown Aster 1	12
Verbena bracteata	12
Unknown Panicum 1	10
Ambrosia artemisiifolia	9
Pseudoroegneria spicata	9
Sphaeralcea coccinea	9
Taraxacum officinale	9
xTriticosecale rimpai 2	9
Unknown Fabaceae 8	8

Scientific Name	Number of Observations (Out of 351 Samples)
Pascopyrum smithii	179
Bromus tectorum	178
Agropyron cristatum	118
Standing Litter	111
Bassia scoparia	101
Bromus inermis	83
Eremopyrum triticeum	60
Erodium cicutarium	59
Psathyrostachys juncea	54
Atriplex canescens	53
Sisymbrium altissimum	49
Thinopyrum intermedium	45
Thinopyrum ponticum	44
Lepidium perfoliatum	43
Medicago sativa	41
Salsola kali	40
Atriplex confertifolia	37
Chrysothamnus viscidiflorus	32
Lactuca serriola	31
Elymus trachycaulus	28
Bromus arvensis	27
Convolvulus arvensis	26
Halogeton glomeratus	24
Melilotus officinalis	23
xTriticosecale rimpai 2	19
Tragopogon dubius	18
Hordeum jubatum	17
Chenopodium album	16
Poa sp.	16
xTriticosecale rimpai 1	16
Achnatherum hymenoides	15
Leymus cinereus	15
Sarcobatus vermiculatus	15
Gutierrezia sarothrae	14
Grindelia squarrosa	10
Cichorium intybus	8
Elymus lanceolatus	8
Ambrosia artemisiifolia	7
Astragalus cicer	7
Polygonum aviculare	7
Poa pratensis	6
Pseudoroegneria spicata	6
Verbena bracteata	6
Artemisia tridentata	5
Helianthus annuus	5
Onobrychis viciifolia	5
Polygonum erectum	5
Sphaeralcea coccinea	5
Unknown Fabaceae 3	5
Unknown Forb	5
Unknown Grass 3	5
Descurainia sophia	4
Ratibida columnifera	4
Sanguisorba minor	4

Table 14. Frequency of Species Observations across Well Pads and All Samples

Scientific Name	Number of Observations (Out of 144 Pads)
Unknown Thistle 1	8
Acroptilon repens	7
Aegilops cylindrica	6
Carduus nutans	6
Marrubium vulgare	6
Poa pratensis	6
Rumex crispus	6
Tamarix ramosissima	6
Unknown Chenopod 2	6
Unknown Fabaceae 3	6
Carduus acanthoides	5
Camelina rumelica	5
Plantago major	5
Zuckia brandegeei	5
Asclepias speciosa	4
Calochortus gunnisonii	4
Erigeron engelmannii	4
Packera sp.	4
Polygonum erectum	4
Sphaeralcea parvifolia	4
Unknown Aster 5	4
Unknown Forb	4
Unknown Panicum 2	4
Unknown Shrub 1	4
Asclepias subverticillata	3
Centaurea diffusa	3
Chenopodium murale	3
Descurainia sophia	3
Distichlis spicata	3
Machaeranthera grindelioides	3
Onopordum acanthium	3
Onobrychis viciifolia	3
Plantago lanceolata	3
Sporobolus airoides	3
Stanleya pinnata	3
Unknown Fabaceae 1	3
Unidentifiable grass	3
Unknown Mustard 5	3
Unknown Shrub 2	3
Allium textile	2
Centaurea sp.	2
Elymus elymoides	2
Juniperus osteosperma	2
Machaeranthera canescens	2
Opuntia sp.	2
Panicum virgatum	2
Phalaris arundinacea	2
Sanguisorba minor	2
Unknown Atriplex 1	2
Unknown Grass 3	2
Unknown Thistle 2	2
Achillea millefolium	1
Amaranthus retroflexus	1

Scientific Name	Number of Observations (Out of 351 Samples)
Sphaeralcea coccinea ssp. coccinea	4
Zuckia brandegeei	4
Alyssum desertorum	3
Camelina rumelica	3
Plantago major	3
Sporobolus airoides	3
Taraxacum officinale	3
Unknown Aster 5	3
Unknown Fabaceae 8	3
Unknown Grass 2	3
Unknown Mustard 6	3
Acroptilon repens	2
Dactylis glomerata	2
Distichlis spicata	2
Elymus elymoides	2
Ericameria nauseosa	2
Marrubium vulgare	2
Sphaeralcea parvifolia	2
Thlaspi arvense	2
Unknown Grass 4	2
Unknown Panicum 1	2
Unknown Shrub 1	2
Unknown Shrub 2	2
Aegilops cylindrica	1
Asclepias speciosa	1
Carduus nutans	1
Centaurea diffusa	1
Centaurea sp.	1
Chenopodium murale	1
Glycyrrhiza lepidota	1
Hedysarum boreale	1
Krascheninnikovia lanata	1
Linum lewisii	1
Opuntia sp.	1
Oxytropis sp.	1
Panicum virgatum	1
Penstemon palmeri	1
Phragmites australis	1
Plantago lanceolata	1
Platyschkuhria integrifolia var. oblongifolia	1
Unidentifiable grass	1
Unknown Aster 1	1
Unknown Aster 8	1
Unknown Atriplex 1	1
Unknown Atriplex 2	1
Unknown Chenopod 2	1
Unknown Fabaceae 1	1
Unknown Forb 7	1
Unknown Mustard 5	1
Unknown Mustard 7	1
Unknown Panicum 2	1
Unknown Shrub 3	1
Unknown Thistle 1	1

Table 14. Frequency of Species Observations across Well Pads and All Samples

Scientific Name	Number of Observations (Out of 144 Pads)
Cirsium arvense	1
Cirsium vulgare	1
Gaura sp.	1
Glycyrrhiza lepidota	1
Hedysarum boreale	1
Helianthus nuttallii	1
Heterotheca villosa	1
Krascheninnikovia lanata	1
Linum lewisii	1
Malva neglecta	1
Oxytropis sp.	1
Penstemon sp	1
Phragmites australis	1
Platyschkuhria integrifolia var. oblongifolia	1
Portulaca oleracea	1
Quercus gambelii	1
Rosa sp.	1
Salix amygdaloides	1
Sedum sp	1
Solidago canadensis	1
Sphaeralcea grossulariifolia	1
Thlaspi arvense	1
Ulmus sp.	1
Unknown Aster 7	1
Unknown Aster 8	1
Unknown Aster 9	1
Unknown Atriplex 2	1
Unknown Fabaceae 4	1
Unknown Forb 10	1
Unknown Forb 11	1
Unknown Forb 12	1
Unknown Forb 2	1
Unknown Forb 4	1
Unknown Forb 6	1
Unknown Forb 7	1
Unknown Forb 8	1
Unknown Grass 2	1
Unknown Grass 4	1
UnknownMustard 3	1
Unknown Mustard 6	1
Unknown Mustard 7	1
Unknown Shrub 3	1
Unknown Shrub 6	1
Unknown Shrub 7	1
Yucca harrimaniae	1

[illegible]

Table 15. GPS Coordinates, Slope, Aspect, and Bearing of Reference Area Sample Points

Comment	AZM	Slope	Aspect	X	Y
Oak Brush Mountain Shrubland					
Sample 01	235	5	E	2256682.46395	2256682.46395
Sample 02	293	15	E	2256975.15457	2256975.15457
Sample 03	214	15	E	2256907.57584	2256907.57584
Sample 04	298	20	NE	2256641.44502	2256641.44502
Sample 05	43	15	E	2256828.76122	2256828.76122
Sample 06	182	15	S	2256702.98976	2256702.98976
Sample 07	5	35	E	2256746.09651	2256746.09651
Sample 08	132	35	S	2256644.38000	2256644.38000
Sample 09	118	15	SE	2256641.59236	2256641.59236
Sample 10	317	15	SE	2256708.86191	2256708.86191
Sample 11	97	50	E	2256573.27589	2256573.27589
Sample 12	177	10	E	2256773.74605	2256773.74605
Sample 13	61	10	E	2256677.70504	2256677.70504
Sample 14	136	10	E	2256786.18577	2256786.18577
Sample 15	338	5	NE	2256639.56920	2256639.56920
Pinon Juniper Woodland North Aspect					
Sample 01	125	5	NW	2311011.32517	2311011.32517
Sample 02	234	5	NW	2311110.20049	2311110.20049
Sample 03	152	10	SW	2310916.49790	2310916.49790
Sample 04	280			2311235.36279	2311235.36279
Sample 05	36	15	NW	2311104.46857	2311104.46857
Sample 06	269	10	W	2311118.39779	2311118.39779
Sample 07	276	0	(NW)	2311379.66031	2311379.66031
Sample 08	200	10	W	2311000.39404	2311000.39404
Sample 09	205	0	(W)	2311209.97868	2311209.97868
Sample 10	163	0	(NW)	2311091.74262	2311091.74262
Sample 11	221	0	(NW)	2311445.38074	2311445.38074
Sample 12	330	0	(NW)	2311301.91850	2311301.91850
Sample 13	88	5	NW	2311193.21868	2311193.21868
Sample 14	277	5	NW	2310824.54760	2310824.54760
Sample 15	304	5	W	2311136.60852	2311136.60852
Pinon Juniper Woodland South Aspect					
Sample 01	9	15	SE	2304141.27222	2304141.27222
Sample 02	111	15	S	2304000.30165	2304000.30165
Sample 03	102	25	S	2303896.82923	2303896.82923
Sample 04	215	30	SE	2303780.37880	2303780.37880
Sample 05	192	15	N	2303724.09934	2303724.09934
Sample 06	139	0	(SE)	2303942.46964	2303942.46964
Sample 07	310	20	S	2304128.84427	2304128.84427
Sample 08	333	30	SE	2303970.35519	2303970.35519
Sample 09	4	10	S	2303878.60255	2303878.60255
Sample 10	245	10	SW	2304079.33034	2304079.33034
Sample 11	210	0	(SW)	2303722.89421	2303722.89421
Sample 12	231	0	(SW)	2303779.45366	2303779.45366
Sample 13	353	20	S	2304011.90977	2304011.90977
Sample 14	263	25	SE	2304056.27393	2304056.27393
Sample 15	347	25	S	2303848.91140	2303848.91140
Sample 16	100	40	S	2303968.72302	2303968.72302
Sample 17	192	0	(SW)	2303832.63809	2303832.63809
Sample 18	77	25	NW	2303908.56967	2303908.56967
Sample 19	140	20	N/NE	2303826.84531	2303826.84531
Sample 20	133	25	W	2303666.00654	2303666.00654
Sample 21	360	20	NW	2303776.84143	2303776.84143
Sample 22	124	40	SE	2303995.71035	2303995.71035
Sample 23	56	10	SW	2303705.69446	2303705.69446
Sample 24	62	25	N	2303836.58957	2303836.58957

Coordinates are in NAD83 State Plane Colorado Central 0502

Table 15. GPS Coordinates, Slope, Aspect, and Bearing of Reference Area Sample Points

Comment	AZM	Slope	Aspect	X	Y
Sample 25	86	10	S	2303809.48064	2303809.48064
Sample 26	268	30	S	2303905.90478	2303905.90478
Sample 27	334	10	SW	2303653.28931	2303653.28931
Sample 28	215	10	SW	2303724.26253	2303724.26253
Sample 29	270	20	N	2304068.42716	2304068.42716
Sample 30	54			2303693.87435	2303693.87435
Riparian Woodland					
Sample 01	10	0	(N)	2329891.97650	2329891.97650
Sample 02	73	0	(N)	2329936.72809	2329936.72809
Sample 03	333	0	(N)	2330019.70200	2330019.70200
Sample 04	333	0	(N)	2329960.65619	2329960.65619
Sample 05	258	0	(N)	2330200.52538	2330200.52538
Sample 06	317	0	(N)	2330155.09112	2330155.09112
Sample 07	152	0	(N)	2329924.75633	2329924.75633
Sample 08	320	0	(N)	2329995.77252	2329995.77252
Sample 09	175	0	(N)	2330089.96750	2330089.96750
Sample 10	63	0	(N)	2329890.49841	2329890.49841
Sample 11	238	0	(N)	2329925.16553	2329925.16553
Sample 12	281	0	NW	2330116.17822	2330116.17822
Sample 13	181	0	(N)	2329965.58578	2329965.58578
Sample 14	107	0	(N)	2329873.87214	2329873.87214
Sample 15	121	0	(N)	2329938.01366	2329938.01366
Sample 16	119	0	(N)	2329954.41254	2329954.41254
Sample 17	131	0	(N)	2329865.97674	2329865.97674
Sample 18	66	0	NE	2330212.38142	2330212.38142
Sample 19	16	0	(N)	2329921.86114	2329921.86114
Sample 20	185	0	W	2330119.93783	2330119.93783
Sample 21	158	0	(N)	2329967.90157	2329967.90157
Sample 22	300	0	(N)	2330001.29755	2330001.29755
Sample 23	50	0	W	2330120.69558	2330120.69558
Sample 24	34	0	(N)	2330036.90352	2330036.90352
Sample 25	13	0	(N)	2330164.86661	2330164.86661
Sample 26	13	0	(N)	2329933.89758	2329933.89758
Sample 27	105	0	NW	2329942.31019	2329942.31019
Sample 28	203	0	(N)	2330015.16681	2330015.16681
Sample 29	40	0	(N)	2330055.44727	2330055.44727
Sample 30	222	0	NE	2330088.02853	2330088.02853
Salt Desert Scrubland High Elevation					
Sample 01	0	4	N	2329717.04436	2329717.04436
Sample 02	31	8	E/NE	2330006.81113	2330006.81113
Sample 03	243	5	N/NE	2329768.81397	2329768.81397
Sample 04	0	8	NE	2329848.47645	2329848.47645
Sample 05	145	8	E	2329862.79081	2329862.79081
Sample 06	89	8	E	2329990.48833	2329990.48833
Sample 07	82	8	NE	2330109.12921	2330109.12921
Sample 08	307	8	NE	2329776.94354	2329776.94354
Sample 09	102	8	NE	2330128.48049	2330128.48049
Sample 10	46	12	NE	2330020.02707	2330020.02707
Sample 11	148	8	NE	2330157.09826	2330157.09826
Sample 12	30	8	NE	2329971.49981	2329971.49981
Sample 13	7	5	SE	2330114.80447	2330114.80447
Sample 14	207	5	N	2330031.25519	2330031.25519
Sample 15	192	5	NE	2329694.22761	2329694.22761
Salt Desert Scrubland Low Elevation					
Sample 01	254	2	N	2287340.85341	2287340.85341
Sample 02	175	2	SA	2287116.82521	2287116.82521
Sample 03	2	1	SE	2287172.90684	2287172.90684

Coordinates are in NAD83 State Plane Colorado Central 0502

Table 15. GPS Coordinates, Slope, Aspect, and Bearing of Reference Area Sample Points

Comment	AZM	Slope	Aspect	X	Y
Sample 04	24	5	SA	2287356.93598	1607554.30289
Sample 05	43	4	E	2287302.82347	2287302.82347
Sample 06	5	1	S	2287518.30630	2287518.30630
Sample 07	189	0	(E)	2287192.32845	2287192.32845
Sample 08	4	1	SE	2287406.43761	2287406.43761
Sample 09	250	1	NE	2287249.40447	2287249.40447
Sample 10	50	3	E	2287156.50177	2287156.50177
Sample 11	3	1	SE	2287035.10987	2287035.10987
Sample 12	321	5	SE	2287190.90155	2287190.90155
Sample 13	8	5	SE	2287237.33350	2287237.33350
Sample 14	153	2	S	2287393.38585	2287393.38585
Sample 15	121	1	(NE)	2287102.77875	2287102.77875
Sample 16	232	2	N	2287245.02136	2287245.02136
Sample 17	307	3	SE	2287452.50446	2287452.50446
Sample 18	6	5	E	2287274.31792	2287274.31792
Sample 19	123	2	SE	2287075.18386	2287075.18386
Sample 20	261	15	S	2287146.01250	2287146.01250
Sample 21	283	5	SE	2287010.40180	2287010.40180
Sample 22	325	8	NE	2287116.39966	2287116.39966
Sample 23	13	1	S	2287425.07550	2287425.07550
Sample 24	347	0	E/NE	2287352.94199	2287352.94199
Sample 25	234	0	SE	2287417.73367	2287417.73367
Sample 26	22	15	N	2287051.43374	2287051.43374
Sample 27	33	4	NE	2287450.77996	2287450.77996
Sample 28	44	1	SE	2287528.31234	2287528.31234
Sample 29	159	1	SE	2287237.47069	2287237.47069
Sample 30	284	1	SE	2287372.73775	2287372.73775