

# Annual Mining Report Standard

Montana Department of Environmental Quality

Coal and Uranium Program

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Last Updated: January 2, 2014

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## Annual Report Standard – Revision History

- **Added “Facilities Area” layer to the CAD/GIS Data section – 4/30/2012.** While the Facilities Area layer requirement is listed under the Annual Report Map section, it was mistakenly omitted from the CAD/GIS Data list.
- **Clarified the description of the “Soiled and Seeded/Planted” layer under the Annual Mining Report Map section.** One operator suggested that the wording was confusing and conflicted with the definition of Complete Backfilled and Graded areas given on the Annual Report Form.
  - **Old description:** This polygon should be a subset of the Complete Backfill and Graded polygon, which represents areas newly soiled and seeded/planted during the report year
  - **New description:** This polygon represents areas newly soiled and seeded/planted during the report year.
- **Revisions made January 2, 2014:**
  - CAD/GIS Data (p. 13): Instead of requiring the submittal of a defined list of spatial features, DEQ requests that operators submit a CAD (or GIS) file to accompany each map.
  - Field Map/Annual Mining Report Map (p. 13): A requirement has been added to ensure that spatial data associated with topographic backgrounds include elevation data.
  - Annual Mining Report Map (p. 13): A requirement has been added to ensure that spatial data associated with topographic backgrounds include elevation data.
  - The term “polygon” has been replaced with “closed polyline” to maintain consistency with CAD drawing terminology.

## Reporting Timeframes

**Report Period:** For the purposes of consistency and efficiency of review, the reporting period for the Annual Mining Report shall now coincide with the calendar year for all mines, regardless of the permit anniversary date.

**Due Date:** April 1st

## Outline of Report Contents

Each Annual Report must contain a Table of Contents that outlines the following sections:

- ⦿ Cover Letter
- ⦿ Annual Mining Report Form
- ⦿ Reclamation Methods
- ⦿ Seed Tags/Certifications
- ⦿ Vegetation Monitoring
- ⦿ Cultural Resources
- ⦿ Soil Volume Tables
- ⦿ Expectations, Predictions & Revised Timetable
- ⦿ Additional Reporting Requirements
- ⦿ Prospecting within the SMP
- ⦿ Maps
  - Field Map
  - Annual Mining Report Map
  - Reclamation Map
  - Coal Recovery Map
  - Aerial Photo Map
  - Stipulations/Commitments Map(s)
- ⦿ Appendices

## Annual Mining Report Form

The **Annual Mining Report Form** will be provided to each operator at the end of the year, and will be prepopulated known data from the report year. The operator must fill in the remaining data, verifying that all acreage amounts are accurate.

### Process for Filling out the Annual Mining Report Form

- Step 1      Verify Header & Acreage Information
- Step 2      Input **Report Period Production**  
*Note: use the production amount submitted to the Department of Revenue*
- Step 3      Enter acreage amounts for the report period in the “**Current**” Column (the form will automatically calculate amounts for the “Change” column)
- Step 4      Verify that your **Bond Released** acreage amounts are the same as what the Department prepopulated on the form
- Step 5      Verify a positive **Validity Check** (i.e. does Active Mining + Completed Backfilled/Graded + Facilities = The Disturbed Acres)
- Step 6      Sign & Date

**ANNUAL MINING REPORT STANDARD**

*Example: Annual Mining Report Form*

<b>- ANNUAL MINING REPORT -</b>																														
STATE OF MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY INDUSTRIAL & ENERGY MINERALS BUREAU		MSUMRA																												
		PO BOX 200901 HELENA MT 59620-0901 PHONE (406) 444-4970																												
<b>Permittee Name:</b> _____																														
<b>Mine Name:</b> _____																														
<b>Address:</b> _____																														
<b>Current Permit # :</b> _____																														
<b>Report Period</b> (date - date): _____																														
<b>Anniversary Date:</b> _____																														
<b>Report Period</b> <b>Production (tons):</b> _____																														
<b>Bond Amount for</b> <b>Reporting Year:</b> _____																														
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%;"></td> <td style="width: 20%; text-align: center;"><b>Coal</b></td> <td style="width: 20%; text-align: center;"><b>Surface</b></td> <td style="width: 20%;"></td> </tr> <tr> <td rowspan="5" style="vertical-align: middle; text-align: center;">Permitted Acres</td> <td rowspan="5" style="font-size: 3em; vertical-align: middle;">}</td> <td><b>Federal:</b></td> <td>_____</td> <td>_____</td> <td></td> </tr> <tr> <td><b>Indian:</b></td> <td>_____</td> <td>_____</td> <td></td> </tr> <tr> <td><b>State:</b></td> <td>_____</td> <td>_____</td> <td></td> </tr> <tr> <td><b>Private:</b></td> <td>_____</td> <td>_____</td> <td></td> </tr> <tr> <td><b>Total:</b></td> <td align="center">0.0</td> <td align="center">0.0</td> <td></td> </tr> </table>						<b>Coal</b>	<b>Surface</b>		Permitted Acres	}	<b>Federal:</b>	_____	_____		<b>Indian:</b>	_____	_____		<b>State:</b>	_____	_____		<b>Private:</b>	_____	_____		<b>Total:</b>	0.0	0.0	
		<b>Coal</b>	<b>Surface</b>																											
Permitted Acres	}	<b>Federal:</b>	_____	_____																										
		<b>Indian:</b>	_____	_____																										
		<b>State:</b>	_____	_____																										
		<b>Private:</b>	_____	_____																										
		<b>Total:</b>	0.0	0.0																										
<b>CATEGORY</b>																														
	<b>Current (1)</b> (acres)	<b>Previous (1)</b> (acres)	<b>Change (2)</b> (acres)																											
<b>Disturbed</b>	(3)		0.0																											
<b>Facilities</b>	(4)		0.0																											
<b>Active Mining Areas: Pits, and areas in advance of the pits stripped of topsoil, and areas not yet backfilled and graded</b>	(5)		0.0																											
<b>Complete Backfilled &amp; Graded</b>	(7)		0.0																											
<b>Phase I Bond Released</b>	(8)		0.0																											
<b>Soiled and Seeded/Planted</b>	(9)		0.0																											
<b>Phase II Bond Released</b>	)		0.0																											
<b>Final Seeded/Planted for 10 Years</b>	)		0.0																											
<b>Phase III Bond Released</b>	)		0.0																											
<b>Reclaimed Discrete Drainage Basins</b>	)		0.0																											
<b>Phase IV Bond Released</b>	)		0.0																											
<b>*See attached footnotes 1 - 14</b>																														
<b>CERTIFICATION</b>																														
Signature _____		Date _____																												
Title _____																														
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;"> <b>Validity Check:</b>                  Does Active Mining + Complete Backfilled/Regrade +                  Facilities = Disturbed Area ?             </td> <td style="padding: 5px; text-align: center; width: 100px;"><b>yes</b></td> </tr> </table>				<b>Validity Check:</b> Does Active Mining + Complete Backfilled/Regrade + Facilities = Disturbed Area ?	<b>yes</b>																									
<b>Validity Check:</b> Does Active Mining + Complete Backfilled/Regrade + Facilities = Disturbed Area ?	<b>yes</b>																													

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## Reclamation Methods

All reclamation-related information pursuant to ARM 17.24.1129(2)(d) must be submitted on the **Reclamation Methods Data Sheet**. The Department has developed a spreadsheet for the purposes of recording and tracking reclamation data, and can provide a copy upon request. For an example of the form, see [Appendix A](#).

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## Seed Tags/Certifications

A representative copy of all unique seed tags utilized must be included in the annual report in order to substantiate the mixtures and amounts seeded, pursuant to 17.24.1129(2)(d).

## Vegetation Monitoring

Vegetation monitoring must be conducted on every revegetated field using the Periodic Revegetation Monitoring Form. Each field must be monitored every year after initial seeding or planting until Phase II bond release has been achieved, and at a minimum every third year after Phase II bond release. The initial monitoring assessment must occur either the same calendar year the field was initially seeded or the following calendar year. The form must be completed by a qualified professional.

**IMPORTANT NOTE:** Periodic vegetation monitoring is meant to serve as a qualitative assessment of how each reclamation field is performing. Do not include data collected for the purposes of Phase III Bond Release.

*Example: Vegetation Monitoring Form*

**Annual Mining Report: Periodic Revegetation Monitoring Form**

Field ID: \_\_\_\_\_ Report Year: \_\_\_\_\_

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**FIELD INFORMATION**

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**Acres:**  
**Initial Seeding/Planting Date:** *(Date used to determine period of responsibility)*  
**Other Seeding/Planting Dates:** *(Normal husbandry interseeding or planting)*  
**Target Post-Mine Land Use:**

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**VEGETATION ASSESSMENT**

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Comments are required on Fair and Poor condition ratings and are optional on Good or Excellent condition ratings. Recommended corrective actions must be included for Fair and Poor ratings.

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**First or Second Year after Seeding**  
 Germination and Survival of Seeded Species: *(If collected, please include seedling density results here.)*

Excellent	Good	Fair	Poor
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Comment: \_\_\_\_\_

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**Subsequent Years**  
 Establishment and Propagation of Desirable Perennial Species:

Excellent	Good	Fair	Poor
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Comment: \_\_\_\_\_

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## Monitoring Schedule (included in the RMDS)

**Information to Include:**

- Date last monitored
- Date scheduled to be monitored again

*Example: Vegetation Monitoring Table*

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Vegetation Monitoring Schedule		
Field ID	Date Last Monitored	Next Scheduled Monitoring Date
C100201	6/20/2009	7/1/2011
C100202	7/12/2010	7/1/2011
D100201	7/12/2010	7/1/2011
E091006	7/13/2010	none planned

**IMPORTANT NOTE:** Add newly created reclamation fields to the current year monitoring rotation so they are monitored in the first or second growing season

## Cultural Resources (included in the RMDS)

“An updated **Cultural Resource Management Table**, including a list of sites mitigated and disturbed in the preceding year and sites to be mitigated and disturbed in the upcoming year” [ARM 17.24.1129(2)(i)] must be included in the Annual Mining Report. The table must be updated each year, and the complete table included in the annual report.

List all sites identified in the permit, and include the following information:

- Site ID
- National Register of Historic Places (NRHP) Eligible - (Yes or No)
- Additional Investigation Required - (Yes or No)
- Mitigation Required - (Yes or No)
- Planned Date of Mitigation
- Date of Mitigation
- Brief Description of Mitigation Efforts
- Planned Date of Disturbance
- Date of Disturbance

*Example: Cultural Resource Management Table*

Cultural Resource Management Table								
Site ID	NRHP Eligible?	Additional Investigation Required?	Mitigation Required?	Planned Date of Mitigation	Date of Mitigation	Brief Description of Mitigation Efforts	Planned Date of Disturbance	Date of Disturbance
C03-10	No	No	No					
C04-10	No	No	No					
C05-11	Yes	No	Yes	7/1/2010	6/12/2010	Historic structure relocated to reclamation	11/1/2010	11/21/2010
C08-12	Yes	No	Yes	6/1/2011			9/1/2011	

**ANNUAL MINING REPORT STANDARD**

**Soil Volume Tables**

In order to verify soil volumes available for redistribution pursuant to the soil salvage and redistribution plan under 17.24.313(g), the following table must be included in the Annual Report.

*Example: Soil Volume Tables*

(Year) Annual Report  
Soil Volume Tables  
(Mine Name & Permit)

Lift 1 Soils						
Stockpile #	Location	Soil Type	Volume (cy)	Change in Volume (cy)	Reason for Change	Date Seeded
65 A	45.11196, -106.88167	Topsoil	6500	1000	Applied to field #123	5/15/2011
Total Lift 1 Soil Volume:						

Lift 2 Soils						
Stockpile #	Location	Soil Type	Volume (cy)	Change in Volume (cy)	Reason for Change	Date Seeded
Total Lift 2 Soil Volume:						

Specialty Soils (e.g. tree soils)						
Stockpile #	Location	Soil Type	Volume (cy)	Change in Volume (cy)	Reason for Change	Date Seeded
Total Specialty Soil Volume:						

## Expectations, Predictions, and Revised Timetable

In order to track the progress of mining and reclamation activities, and in an effort to ensure that mining and reclamation activities are progressing in a timely manner, the operator must submit “a revised schedule or timetable of operations and reclamation and an estimate of the number of acres to be affected during the next 1-year period” [MCA 82-4-237(1)(c)], and show the “*extent to which expectations and commitments made in the original application have been fulfilled and any deviation therefrom...*” [MCA 82-4-237(1)(b)].

- ⦿ Show the *Projected Disturbance* from the previous report year on the Annual Report Map
- ⦿ Show the *Projected Disturbance* for the next report year on the Field Map
- ⦿ Indicate whether predictions for the upcoming year depart significantly enough from commitments in the permit to warrant permit revision
- ⦿ Indicate plans for submitting revisions

## Additional Reporting Requirements

### *Stipulations, Commitments & Special Conditions*

Stipulations, Commitments and any Special Conditions unique to your permit must be reported in this section.

- ⦿ List each stipulation, commitment or special condition, and describe what, where, when & how it was satisfied
- ⦿ Where required to satisfy commitments, accompanying Maps may also be included with the report

## Prospecting under a SMP

Annual Reports for prospecting operations are required under ARM 17.24.1002(3), and must be submitted with the Annual Mining Report only for operations that are conducting prospecting under their Surface Mine Permit.

Annual and monthly prospecting reports must be completed on Department forms. An example of the prospecting report form can be seen in Appendix B. Additionally, the form can be downloaded from the Department’s website at the following address: <http://deq.mt.gov/CoalUranium/guidelines.mcpX>.

## Maps

Maps must adhere to the Department standards. Refer to the Submittal Guidelines for a complete list of requirements.

### CAD/GIS Data

- Please submit one CAD file for each of the maps included in the Annual Mining Report. The contents of each CAD file must match the contents of the corresponding map with identical linetypes, linetype scales, lineweights, fonts, hatch patterns, legends, title blocks, dates and so on. CAD drawing file names must match the corresponding PDF file names (e.g., Field Map.pdf would be Field Map.dwg). GIS data may be substituted for CAD data with prior Department approval.

### Field Map

The operator must submit “an inspection map depicting all approved surface features” [ARM17.24.1129(2)(g)].

**Background:** As-built Topo (minimum 10’ Contours with labels). The accompanying CAD topography must include elevation data.

#### Scale

- No set scale – produced at a scale reasonable for field use
- Map elements and annotation should be scaled accordingly (i.e. legible at the scale use)

**Layers:** The following list contains examples of features to be included on the Field Map. Not every feature listed below will apply to your operation, nor is the list comprehensive; nevertheless, all approved surface features must be depicted on the map, pursuant to 17.24.1129(2)(g)

### Field Map Layers

- Adjacent Permits
- Air Pollution Control Facilities
- Air Quality Monitoring Stations
- Alluvial Valley Floors
- Alternate Sediment Control
- Bridges
- Buildings & Facilities
- Cemeteries
- Cleaning & Loading Areas
- Coal Processing Facilities
- Coal Storage Areas
- Conveyors
- Culverts
- Domestic Water Supplies
- Drainage & Irrigation Ditches, Diversions, & Structures
- Excess Spoil Disposal Sites/Fill Locations
- Existing Disturbance Areas
- Explosives Storage Facilities
- Garbage Dump
- Groundwater Monitoring Wells
- Impoundments
  - Lakes, Ponds, Dams, Traps, etc.
- Landfarm
- Lands Designated Unsuited
- LOM Disturbance Area
- Mine Plan
- National Historic Sites
- National Trails
- Occupied Dwellings
- Oil & Gas Wells
- Permit Boundary
- Pipelines
- Projected Disturbance

## ANNUAL MINING REPORT STANDARD

- Public Parks
- Rail Loop
- Ramps and Haul Roads
- Reclamation Fields – Bond Release
  - Color-coded by last phase of Bond Release approved
- Roads
  - Access Roads
  - Haul Roads
  - Public Roads
- Sealed Bore Holes, Sealed Mine Openings, Sealed Wells, and Other Sealed Openings
- Soil & Spoil Stockpiles
- Springs
- Stipulations, Commitments
- Streams
- Subsidence Areas
- Subsidence Monitoring Point
- Surface Water Discharge Locations (MPDES)
- Surface Water Intakes
- Surface Water Monitoring Stations
- Township, Range, Section
- Underground Mine Plan/Workings (including pillar locations, entries, and areas of full extraction)
- Utility Lines and Corridors
- Waste Disposal Area
- Waste Disposal Structures
- Water Quality Treatment Facilities
- Water Supply Locations
- Water Tanks
- Weed Infestations
- Weed Control
- Wild & Scenic Rivers

## Annual Mining Report Map

The Annual Mining Report Map is counterpart to the acreage amounts reported on the Annual Mining Report Form. All acreage amounts in the map must match corresponding Annual Mining Report Form acreage amounts.

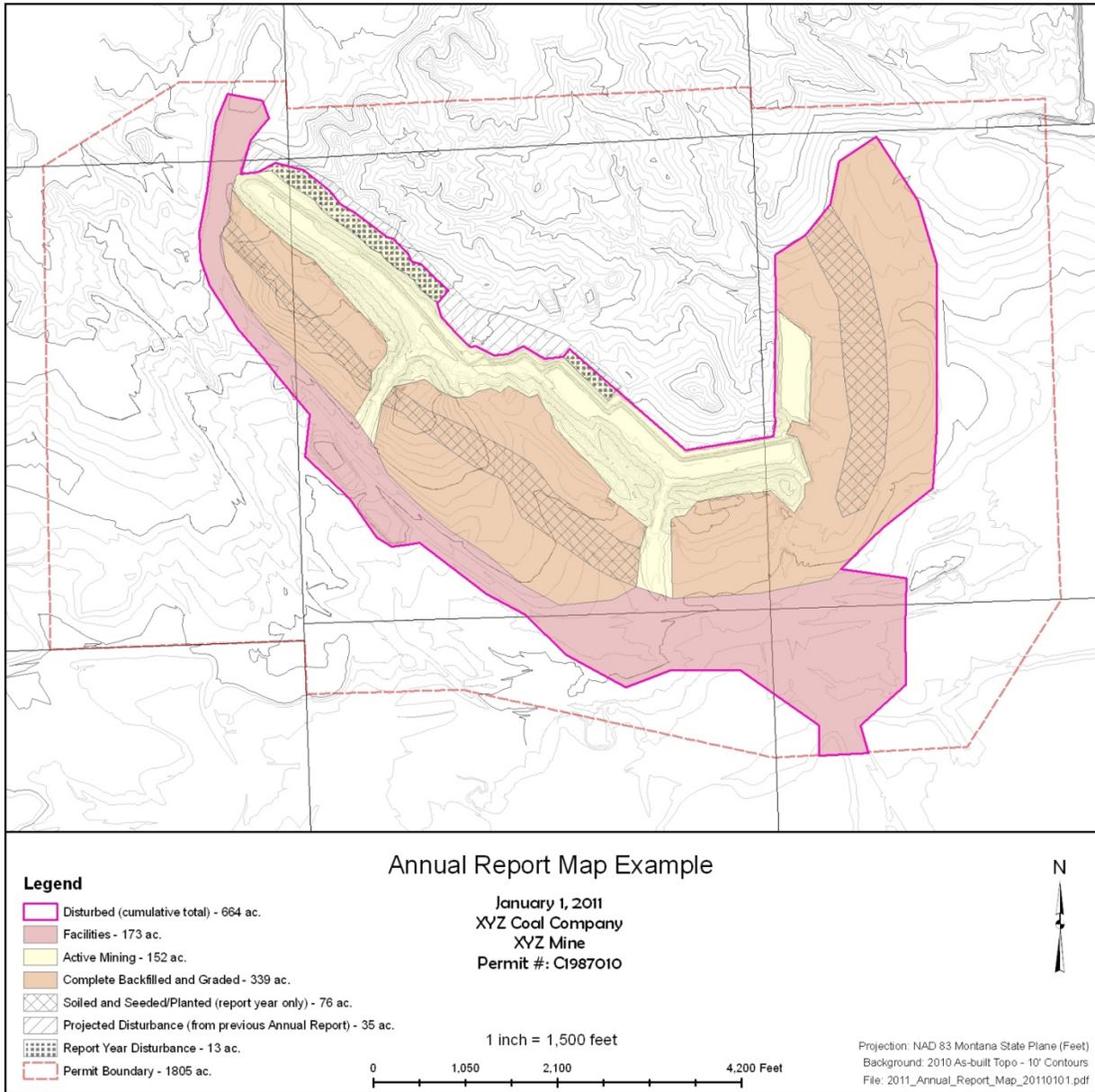
**Background:** As-built Topo (minimum 10' Contours with labels). The accompanying CAD topography must include elevation data.

### Layers:

- Disturbance
  - 1 closed polyline for New (Report Year) Disturbance
    - This should be a subset of the Cumulative Disturbance layer
  - 1 closed polyline for Cumulative Disturbance
- Active Mining: Pits, Peaks, & Soil Stripping
- Mined Out Area (closed polyline)
- Complete Backfilled and Graded
- Facilities Area
- Soiled & Seeded/Planted
  - This closed polyline represents areas newly soiled and seeded/planted during the report year.
- Previously Projected Disturbance (from last year)
  - This closed polyline should be the same as the Projected Disturbance reported in the previous annual report
- Permit Boundary
- Township, Range, Section

# ANNUAL MINING REPORT STANDARD

## Example: Annual Report Map



## Reclamation Map

**Background:** As-built Topography (minimum 10'Contours with labels)

**Layers:**

- Reclamation Fields
  - Unique Field ID (includes date seeded/planted [e.g. month/season, year])
  - Color-coded by Type of Planting or Seeding (e.g. seed mix)
- Soil Depth Sample Sites
  - Sample Site ID
  - Include a table on the map with depths
- Wildlife Enhancement Features
- Alternative Reclamation
- Approved & Constructed Postmine Travel System
- Constructed Replacement Water Features
- Fences
- Permit Boundary
- Township, Range, Section

## Coal Recovery Map

**Background:** As-built Topography (minimum 10'Contours with labels)

**Layers:**

- Coal Recovery
  - Closed polylines for each year
  - Closed polylines for the report year should be shaded or otherwise highlighted
- Permit Boundary
- Township, Range, Section

## Aerial Photo Map (if available)

**Background:** Current Aerial Photo (include date of photo)

**Layers:**

- Permit Boundary
- Township, Range and Section

**Spatial Reference:** Image file must be accompanied by a spatial reference file (e.g. .TFW TIFF World File)

## Stipulations/Commitments Map(s)

**Background:** As required

**Layers:**

- As Required

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## Appendices

Appendix A – Reclamation Methods Data Sheet (RMDS)

Reclamation Methods Data Sheet																																													
<b>Special Instructions:</b> Use only one row for each reclamation field List all reclamation fields <b>Describe Field ID format:</b> (Example: "C" [Area] - "09" [year seeded] - "4" [month seeded] - "006" [field number]) <b>Describe Soil Material Codes:</b> (Example: Direct Haul [DH], Stockpile [SP], Tree Soil [TS]) <b>Describe Seed Mix/Plant Codes:</b> (Example: rmj=Rocky Mountain Juniper, pp=Ponderosa Pine, sk=Skunkbush sumac, ss=Silver Sagebrush, bs=Big Sagebrush)																																													
																							Field Information				Soiling				Seeding & Planting				Treatment			Bond Release Summary (Application #s)				Vegetation Monitoring Schedule			
																							Field ID	Previous Field ID	Description of Field ID Modification	Acres	TSL #	Soiling Date	Material	Target Depth	Seed/Plant Date	Bed Preparation	Method	Depth	Seed Mix or Plant Species	Rate	Type	Description	Date	Phase I	Phase II	Phase III	Phase IV	Date Last Monitored	Next Scheduled Monitoring Date
																							C10-4-001A	C10-4-001	Field C10-4-001 was split to accommodate new facility	25.3	TSL12-09-01	11/28/2009	SP	12"	4/15/2010	Disked	Drill	1/2"	Pasture	9				97				6/20/2009	7/1/2011
C10-4-001B	C10-4-001	Field C10-4-001 was split to accommodate new facility	26.9	TSL12-09-01	11/28/2009	SP	12"	4/15/2010	Disked	Drill	1/2"	Pasture	9				97				6/20/2009	7/1/2011																							
C11-4-002			58.2	TSL12-10-01	10/3/2010	SP	18"	4/17/2011	Chisel Plow	Hydro		Upland	12				97	99			7/12/2010	7/1/2011																							
D11-4-001			61.4	TSL12-10-01	10/28/2010	SP	18"	4/16/2011	Chisel Plow	Hydro		Upland	12				97	102			7/12/2010	7/1/2011																							
E08-10-006			119.7	TSL12-08-01	8/11/2008	DH	12"	10/13/2008	Chisel Plow	Broadcast		Conifer	9.5	Herbicide	Roundup	6/5/2009	99	99	110		7/13/2010	none planned																							

