

# **Appendix C**

## **Schedule**

Partial Remedy Implementation Work Plan  
For the Butte Priority Soils Operable Unit/Butte Site

EPA June 2011



**Exhibit C-1**  
**BRES SCHEDULE**

ID	Task Name	Duration	Start	Finish	Predecessors	1, 201	Qtr 2, 201	Qtr 3, 201	Qtr 4, 201	Qtr 1, 201	Qtr 2, 201	Qtr 3, 201	Qtr 4, 201	Qtr 1, 201	Qtr 2, 201					
						e Mar	Apr	a Jun	Jul	u e	Oct	o e	Jan	e Mar	Apr	a Jun	Jul	u e	Oct	o e
1	<b>BRES Technical Evaluation Recommendation Report</b>	<b>31 days</b>	<b>Tue 3/1/11</b>	<b>Tue 4/12/11</b>																
2	BSB submit the 2007 thru 2010 Draft BRES Technical Evaluation Recommendation Report	0 days	Tue 3/1/11	Tue 3/1/11																
3	Agency review of the 2007 thru 2010 Draft BRES Technical Evaluation Recommendation Report	10 days	Tue 3/1/11	Mon 3/14/11	2															
4	BSB revises the draft 2007 thru 2010 Draft BRES Technical Evaluation Recommendation Report	10 days	Tue 3/15/11	Mon 3/28/11	3															
5	Agency review of the Final 2007 thru 2010 BRES Technical Evaluation Recommendation Report	5 days	Tue 3/29/11	Mon 4/4/11	4															
6	Management Group reviews Technical Evaluation Recommendation Report and incorporates in modifying criteria	1 day	Tue 4/5/11	Tue 4/5/11	5															
7	EPA prepares technical memorandum with BRES management directives for O&M work	5 days	Wed 4/6/11	Tue 4/12/11	6															
8																				
9	<b>Sampling and Analysis Plan Addendum</b>	<b>55 days</b>	<b>Tue 3/1/11</b>	<b>Mon 5/16/11</b>																
10	PRP Management review of EPA's technical memorandum of BRES directives for O&M work	1 day	Wed 4/13/11	Wed 4/13/11	7															
11	BSB prepares the Draft Sampling and Analysis Plan Addendum for the 2007 to 2010 BRES Sites	40 days	Tue 3/1/11	Mon 4/25/11	2															
12	BSB submits the Draft Sampling and Analysis Plan Addendum	0 days	Mon 4/25/11	Mon 4/25/11	11															
13	Agency review of the Draft Sampling and Analysis Plan Addendum	5 days	Tue 4/26/11	Mon 5/2/11	12															
14	BSB revises the Draft Sampling and Analysis Plan Addendum	5 days	Tue 5/3/11	Mon 5/9/11	13															
15	Agency review of the Final Sampling and Analysis Plan Addendum	5 days	Tue 5/10/11	Mon 5/16/11	14															
16																				
17	<b>Field Work (for the 2007 and 2008 sites with BRES trigger items)</b>	<b>27 days</b>	<b>Tue 5/17/11</b>	<b>Wed 6/22/11</b>																
18	Site visit and detailed site investigation at the 2007 and 2008 BRES site with identified trigger items	12 days	Tue 5/17/11	Wed 6/1/11	15															
19	BSB prepare the BRES Data Summary Report for the 2007 and 2008 BRES site with identified trigger items	10 days	Thu 6/2/11	Wed 6/15/11	18															
20	EPA review of the BRES Data Summary Report for the 2007 and 2008 BRES site with identified trigger items	5 days	Thu 6/16/11	Wed 6/22/11	19															
21																				
22	<b>O&amp;M Plan and Site Specific Corrective Action Plan Report (for the 2007 and 2008 sites with BRES trigger items)</b>	<b>30 days</b>	<b>Thu 6/16/11</b>	<b>Wed 7/27/11</b>																
23	BSB prepares O&M Plan and Site Specific Corrective Action Plan Report for the 2007 and 2008 BRES site with identified trigger items	20 days	Thu 6/16/11	Wed 7/13/11	19															
24	EPA reviews O&M Plan and Site Specific Corrective Action Plan Report for the 2007 and 2008 BRES site with identified trigger items	10 days	Thu 7/14/11	Wed 7/27/11	23															
25																				
26	<b>Corrective Action (for the 2007 and 2008 sites with BRES trigger items)</b>	<b>95 days</b>	<b>Thu 7/28/11</b>	<b>Wed 12/7/11</b>																
27	BSB implements corrective action at the 2007 and 2008 BRES site with identified trigger items	55 days	Thu 7/28/11	Wed 10/12/11	24															
28	BSB prepares Annual O&M Completion Report for the 2007 and 2008 BRES site with identified trigger items	30 days	Thu 10/13/11	Wed 11/23/11	27															
29	EPA reviews Annual O&M Completion Report for the 2007 and 2008 BRES site with identified trigger items	10 days	Thu 11/24/11	Wed 12/7/11	28															
30																				
31	<b>Field Work (for 2009 and 2010 sites with BRES trigger items)</b>	<b>150 days</b>	<b>Thu 6/2/11</b>	<b>Wed 12/28/11</b>																
32	Site visit and detailed site investigation for the 2009 and 2010 BRES site with identified trigger items	100 days	Thu 6/2/11	Wed 10/19/11	18															
33	BSB prepare the BRES Data Summary Report for the 2009 and 2010 BRES site with identified trigger items	30 days	Thu 10/20/11	Wed 11/30/11	32															
34	EPA review of the BRES Data Summary Report for the 2009 and 2010 BRES site with identified trigger items	20 days	Thu 12/1/11	Wed 12/28/11	33															
35																				
36	<b>O&amp;M Plan and Site Specific Corrective Action Plan Report (for 2009 and 2010 sites with BRES trigger items)</b>	<b>75 days</b>	<b>Thu 12/29/11</b>	<b>Wed 4/11/12</b>																
37	BSB prepares O&M Plan and Site Specific Corrective Action Plan Report for 2009 and 2010 BRES site with identified trigger items	60 days	Thu 12/29/11	Wed 3/21/12	34															
38	EPA reviews O&M Plan and Site Specific Corrective Action Plan Report for 2009 and 2010 BRES site with identified trigger items	15 days	Thu 3/22/12	Wed 4/11/12	37															
39																				
40	<b>Corrective Action (for the 2009 and 2010 sites with BRES trigger items)</b>	<b>275 days</b>	<b>Thu 3/22/12</b>	<b>Wed 4/10/13</b>																
41	BSB implements corrective action at the 2009 and 2010 BRES site with identified trigger items	145 days	Thu 3/22/12	Wed 10/10/12	37															
42	BSB prepares Annual O&M Completion Report for the 2009 and 2010 BRES site with identified trigger items	90 days	Thu 10/11/12	Wed 2/13/13	41															
43	EPA reviews Annual O&M Completion Report for the 2009 and 2010 BRES site with identified trigger items	40 days	Thu 2/14/13	Wed 4/10/13	42															

Project: BRES Schedule for 2011 to 2013

Task Progress Summary External Tasks Deadline

Split Milestone Project Summary External Milestone

**1 BRES Technical Evaluation Recommendation Report**

The Evaluation Recommendations Report will document and summarize the results of the annual BRES evaluations. Specifically the document will identify trigger items that were observed during the present years upland and engineered BRES evaluations. This report will provide recommendations and justifications for conducting sampling and further data collection. This report will be a precursor to the sampling and analysis plan addendum and will be submitted to the agencies for review and comment.

**9 Sampling and Analysis Plan Addendum**

A Site-Wide BRES Sampling and Analysis Plan (SAP) will be prepared prior to conducting the initial BRES evaluation. The Site-Wide SAP will specify BRES-specific sampling protocols and standard operating procedures (SOPs). An addendum to the Site-Wide SAP will be prepared annually to provide justification for sampling and/or other data collection based on the results of the annual BRES evaluation. The addendum will include:

- Type of samples to be collected (i.e., soil nutrients, soil composition, waste material)
- Number of samples to be collected
- Location of the sample to be collected
- Number of test pits and type of data collected from test pits, and
- Any nontraditional data collection that is not specified in the site-wide BRES SAP

**18 Site visit and detailed site investigation at the 2007 and 2008 BRES site with identified trigger items**

Sites with problem areas identified by trigger items during the BRES evaluation will require additional data collection. Data will be used to determine the appropriate level of site improvements required (e.g., vegetation improvement [VI] or reclamation improvements [RI]). Data collection may include chemical and physical soil characterization and/or coversoil profile descriptions.

**19 BSB prepare the BRES Data Summary Report for the 2007 and 2008 BRES site with identified trigger items**

The BRES Summary Report (also known as summary report) will include recommendations that will be presented to Agency and stakeholder management based upon the results from the historic and recent BRES evaluations and BRES sampling events. The summary report will include items such as;

- Aerial photographs with site and polygon delineation
- Trigger items identified
- Analytical results from samples collected at problem areas
- Results from testing coversoil thickness
- Historic BRES evaluation summaries and recent trend analysis
- Recommendations of either vegetation improvement, reclamation improvement, or BRES evaluation in 4-years
- Deviations from the sampling and analysis plan

**32 Site visit and detailed site investigation for the 2009 and 2010 BRES site with identified trigger items**

Sites with problem areas identified by trigger items during the BRES evaluation will require additional data collection. Data will be used to determine the appropriate level of site improvements required (e.g., vegetation improvement [VI] or reclamation improvements [RI]). Data collection may include chemical and physical soil characterization and/or coversoil profile descriptions.

**33 BSB prepare the BRES Data Summary Report for the 2009 and 2010 BRES site with identified trigger items**

The BRES Summary Report (also known as summary report) will include recommendations that will be presented to Agency and stakeholder management based upon the results from the historic and recent BRES evaluations and BRES sampling events. The summary report will include items such as;

- Aerial photographs with site and polygon delineation
- Trigger items identified
- Analytical results from samples collected at problem areas
- Results from testing coversoil thickness
- Historic BRES evaluation summaries and recent trend analysis
- Recommendations of either vegetation improvement, reclamation improvement, or BRES evaluation in 4-years
- Deviations from the sampling and analysis plan

## SCHEDULE C-2

Part of Exhibit C to the July 2011 Unilateral Administrative Order  
for the Butte Priority Soils Operable Unit/Butte Site

ACTION	SCHEDULED DATE	NOTE
Residential Metals Abatement Plan (RMAP) – yearly goals for residential assessment	Yearly goals for residential assessments as stated on Page 11 of the final RMAP (April 2010) apply yearly	
RMAP residential cleanups	Yearly goals for residential cleanup actions as stated on Page 11 of the final RMAP (April 2010) apply yearly	
RMAP Yearly Reporting	Due December 31, 2011 and yearly thereafter	
RMAP Assessment Completion for Butte Site	December 31, 2019	
RMAP Cleanup Completion	December 31, 2029	
RMAP Database Upkeep	Ongoing and Continuous	
RMAP Medical Monitoring Program Remedial Design Work Plan	Draft due July 30, 2010	Final due within thirty days of comments, and no later than November 30, 2012
BRES work	See attached schedule C-1	Note the requirements for daily BRES construction activity reports, and the need to ensure that the BRES database is fully updated by December 31, 2011 and is maintained thereafter on a continual basis
MSD Area Operation of Systems	Continuous in full compliance with all plans and directions	
MSD Area Operation and Maintenance	Continuous and in full compliance with all plans and directions	
Wetland Demonstration Area Contingency Overflow Work Plan	Draft due July 31, 2011	Final due within thirty days of receipt of comments. Final must be approved and work must begin in 2011. Work must be complete in 2012.
Cease Irrigation of baseball fields over the Parrott	Immediately upon Effective Date of Order	

Tailings Area		
Cease Use of unpaved County Shop Property Area for pile snow	Immediately upon Effective Date of Order	
Study on Irrigation of Baseball Fields over the Parrott Tailings Area	Optional – submit draft when done for agency comments and/or approval	
Localized Groundwater Study Work Plan for area between MSD and Butte Reduction Works Ground Water Collection	Draft due on October 20, 2011	Final due thirty days after receipt of comments. Assessment completed by December 31, 2012.
Ground Water Flow Monitoring Flume Installation	Upon Effective Date of Order and with Specific EPA Approval	
Load Monitoring Work Plan	As part of MSD Subdrain Interim O and M Plan (see below)	
Annual Load Monitoring Report	Annually, as provided in O and M plan	
Tasks and punchlist items for MSD/BRW Remedial Action Work Plan completion	As described in approved Work Plan – completed by December 31, 2011	
Task described in BRW East End Grading Plan	As described in approved Work Plan – completed by December 31, 2011	
Culvert Removal	Draft work plan due January 31, 2012	Final within thirty days of receipt of comments – work must be done by December 31, 2012
Continued BRW area ground water and surface water monitoring	Ongoing – data must be reported as collected	
Further actions after evaluation of BRW area monitoring data	Upon notice by EPA after fall 2011 meeting on data.	Work must be completed by December 31, 2012
Report on Abandoned Aquaduct	September 30, 2011	
Actions to address Abandoned Aquaduct	Upon EPA notice in 2011 or 2012.	Work must be completed by December 31, 2012
MSD Subdrain Ground Water Management Report	Draft report due October 15, 2011	Final due thirty days after receipt of comments
Catch Basins Operation and Maintenance	Ongoing and continuous – maximum effectiveness	

	must be achieved	
Silver Bow Creek and Blacktail Creek Bank and Near Stream Removal and Associated Reclamation	Per Existing Approved Work Plans - ongoing	
Feasibility and Effectiveness Evaluation of Sediment Removal for In-Stream Sediments	Draft due October 15, 2012	Final due within thirty days of receipt of EPA comments
Actions Resulting from Feasibility and Effectiveness Evaluation of Sediment Removal for In-Stream Sediments	Upon Direction by EPA in accordance with Schedule Directed by EPA	
Stormwater Control BMPS – First and Second Upfront BMP Actions	Ongoing per prior Scopes of Work and approved plans	
Cleanout of sediments in BSB Stormwater System (Third Cycle Upfront BMP Action)	Ongoing per “Removal Plan for BSB Municipal Stormwater System within the BPSOU” for 2011, 2012, and beyond	
Illicit Connection Actions (Third Cycle Upfront BMP Action)	Ongoing per plan	
Curb and Gutter Construction (Third Cycle Upfront BMP Action)	Ongoing per “Curb and Gutter Priority Plan for the BSB Municipal Stormwater System within BPSOU (May 2010) for 2011, 2012 and beyond	
Buffalo Gulch Catch Basin Construction	Draft plan due September 30, 2011	Final plan due within thirty days of receipt of comments. Construction to follow per schedule in approved plan. Operation for maximum effectiveness to continue after construction.
Construction of Hydrodynamic Devices Described in PRI Work Plan	Upon Direction by EPA – work to be completed by December 31, 2012	
Street Maintenance and Snow Management Plan	Draft due September 30, 2011	Final due thirty days after receipt of comments. Final plan must be approved by November 30, 2011.
New and Mahoney Street Construction Oversight and	Construction and oversight ongoing. CCR due 3 months	

Construction Completion Report	after completion of work.	
800 North Main Reclamation/Capping Plan and Construction Completion Report	Draft work plan due by October 30, 2011.	Final plan due within thirty days of comments. Work Plan must be approved by December 31, 2011. Activities completed no later than December 31, 2012. CCR due within 3 months of action completion.
17 Group 1 Additional Source Control Sites Plan(s), Reclamation/Capping/Other Measures, and Construction Completion Report	Plans must be submitted as soon as possible.	Work to commence upon approval of plan(s). Work must begin by December 31, 2011 and be completed by December 31, 2012. CCR(s) due within 3 months after work is completed.
3 Group 2 Additional Source Control Sites Plan, Reclamation/Capping/Other Measures, and Construction Completion Report(s)	Plans can be submitted as part of Railroad Interim O and M plan (see below) or separately as soon as possible.	Work to commence upon approval of plan(s). Work must begin by December 31, 2011 and be completed by December 31, 2012. CCR(s) due within 3 months after work is completed.
Other Source Control Plans, Reclamation/Capping/Other Measures, and Construction Completion Report(s)	Plans to be submitted upon discovery. Work to be done and completed according to schedule contained in plan(s).	
Continued Operation of Butte Treatment Lagoon System, West Camp System, and HCC	Ongoing to achieve maximum effectiveness	
Phase I Butte Treatment Lagoons and related facilities Upgrades	Per Final May 12, 2011 approved plans and related plans	
Phase II Butte Treatment Lagoons and related facilities Work Plan	Drafts due on October 30, 2011	Final within thirty days of receipt of comments or longer is approved by EPA. Final must be done and approved by March 30, 2012
Surface Water Monitoring	Ongoing per the interim surface water monitoring plan described in the PRI Work Plan	
Butte Mine Waste Repository Operation	Ongoing per June 2009 Operation and Maintenance	



	plan	
Work Plan for construction of 2nd Mine Waste Repository	Draft due by March 31, 2012	Final due within thirty days of receipt of comments. Construction per schedule contained in approved work plan. Operation and Maintenance ongoing.
Granite Mountain Memorial Interpretive Area (GMIA) Construction and Construction Completion Plan	Work is ongoing per approved plan. Construction Completion Report due thereafter as described in approved plan	
GMIA and Syndicate Pit O and M	Per approved O and M plans	
Implementation of Revised Interim Ground Water Monitoring Plan including new well construction	Immediately Effective and schedule is contained in the plan. Monitoring and reporting ongoing.	
Ground Water Ordinance funding, enforcement and monitoring	Ongoing	
Butte Silver Bow County Stormwater Ordinance funding, enforcement and monitoring	Ongoing	
Final Group 1 Institutional Control Plan	Within 30 days of receipt of comments	
Public Comment Draft Group 2 Institutional Control Plan	Within 30 days of receipt of comments	Final plan due after informal public comment, and receipt of comments as a result – within thirty days of receipt of comments
Operation and Maintenance	As directed by EPA or in accordance with all approved short term O and M plans	
Interim Railroad O and M Plan	Draft due within 30 days of the Effective Date	Final due within 30 days of receipt of comments
BTL, West Camp, and MSD Interim Operation and Maintenance Plan	Draft(s) due by December 31, 2012	Final due within thirty days of receipt of EPA comments
Stormwater Ponds and Storm Water Engineering Interim Operation and Maintenance Plan(s)	Draft(s) due by December 15, 2011	Final within 30 days of receipt of comments

Nothing in this schedule (or in schedule C-1) alters any work plan requirements or directions or alters the Unilateral Administrative Order Docket No. CERCLA-08-2011-0011 (UAO). Any omission of actions described in any work plan is inadvertent.

The UAO requires other activities not described here. See the UAO for requirements and schedules.