June 13, 2016

REMEDIAL INVESTIGATION / FEASIBILITY STUDY

PROGRESS REPORT #3

MAY 2016

Prepared for

COLUMBIA FALLS ALUMINUM COMPANY, LLC
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Flathead County, Montana

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1.0 INTRODUCTION

This Progress Report (Report) presents a summary of activities completed during the period of May 2016, on behalf of Columbia Falls Aluminum Company, LLC (CFAC), for the Remedial Investigation / Feasibility Study (RI/FS) being performed at the Anaconda Aluminum Co. Columbia Falls Reduction Plant (a/k/a Columbia Falls Aluminum Plant) generally located near Columbia Falls in Flathead County, Montana ("Site"). The RI/FS is being conducted pursuant to the Administrative Settlement Agreement and Order on Consent (AOC) dated November 30, 2015 between CFAC and the United States Environmental Protection Agency (USEPA) (CERCLA Docket No. 08-2016-0002).

This Report provides a description of the actions that have been taken to comply with the AOC during the reporting period and describes work planned for the upcoming reporting period, including an updated project schedule as Appendix A. This report also provides updates regarding the availability of any new, validated sampling data received by CFAC during the reporting period. Lastly, this Report provides an update on any scope revisions and/or project delays encountered and solutions implemented to address any changes.

2.0 WORK COMPLETED

This Section provides a summary of activities completed or ongoing in May 2016.

2.1 Screening Level Ecological Risk Assessment (SLERA) Field Reconnaissance Activities

Field reconnaissance activities associated with the SLERA, as described in the RI/FS Work Plan, were implemented in May 2016. A habitat and biological survey was conducted by Roux Associates between May 2 and May 6, 2016, which included visiting areas of the Site to determine varying habitats and potential biota present for SLERA evaluation. The SLERA field reconnaissance activities also included the identification of surface water and sediment sampling locations. Different ecological habitats were visually inspected and mapped, and a summary will be included in the SLERA Summary Report, which will be submitted concurrently with the Phase I Site Characterization Report.

2.2 Pre-Drilling Activities

This section describes activities that were completed in May prior to the start of drilling.

2.2.1 Clearing and Grading for Drill Rig Access

Cascade Drilling (Drilling Subcontractor) arrived onsite on May 10, 2016 in advance of the start of drilling activities to complete Site preparation. The Site preparation included set-up of the investigation-derived waste staging area in the warehouse building and staging of drilling equipment and materials. The Site preparation work also included clearing of vegetation and grading of land to allow for access of drill rigs in selected drilling locations observed during Site reconnaissance.

Additional clearing of vegetation and grading of land is still required for drill-rig access in the southern portions of the Site, specifically for access to the South Percolation Ponds. These areas are designated as wetlands as defined in the National Wetlands Database and the Montana Natural Heritage Program therefore Roux Associates submitted a permit application to the United States Army Corps of Engineers (USACE) requesting authorization to perform the work in these areas. The permit application was submitted on May 13, 2016 to the USACE branch in Helena, Montana. The additional clearing and grading is planned to be completed in late summer upon receipt of the response to the permit application.

2.2.2 Utility-Markouts

Shari A. Johnson Engineering & Associates (GPR Subcontractor) was onsite from May 9 through May 13, 2016 in advance of the start of drilling activities to perform utility mark-outs in selected areas where drilling will be completed. The locations requiring utility mark-outs were those suspected of being in the vicinity of potential utilities or other subsurface structures as determined based on Site reconnaissance observations and discussions with CFAC personnel. The locations requiring utility mark-outs were generally those around the Main Plant Area, the Rod Mill area, and the background area. Any modifications to proposed drilling locations based on the GPR work were marked with the GPS. Updated drilling location maps will be provided with the Sampling and Analysis Plan (SAP) Addendum, which will be submitted in June 2016.

2.3 Investigation Derived Waste Management Plan

As described in the RI/FS Work Plan, Roux Associates submitted a Draft Investigation-Derived Waste (IDW) Management Plan to the USEPA dated February 2, 2016. The USEPA and CDM Smith provided written comments on the draft plan in a letter correspondence dated February 25, 2016. Roux Associates provided a response to the USEPA comments via letter correspondence dated April 19, 2016. The MDEQ also provided written comments on the draft plan via email correspondence dated May 2, 2016. Roux Associates submitted a Revised IDW Management Plan and response to comment letter dated May 9, 2016. The USEPA provided a conditional approval of the revised plan via email correspondence dated May 17, 2016.

The revised IDW Management Plan describes the approach to manage the various types of waste anticipated to be generated during project activities in order to comply with regulatory requirements and ensure protection of human health and the environment. All personnel (including all subcontractors) who handle, transport, store, and/or dispose of IDWs will be trained to comply with requirements set forth in the IDW Management Plan.

2.4 SAP Addendum

Roux Associates continued preparation of the SAP Addendum throughout May 2016. The purpose of the SAP Addendum is to present the results of Site reconnaissance activities completed in April and early May 2016 and to provide a summary of the proposed modifications to the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) provided in the Phase I Site

Characterization Sampling and Analysis Plan (SAP). The SAP Addendum will be submitted to the USEPA in June 2016.

2.5 Phase I Site Characterization Drilling Scope of Work

Drilling of soil borings, installation of monitoring wells, and soil sampling activities associated with the Phase I Site Characterization scope of work began on May 18, 2016. The remainder of this section summarizes the drilling and sampling work completed between May 18, 2016 and May 31, 2016.

2.5.1 Monitoring Well Installation

Five (5) monitoring wells were installed by Cascade Drilling during May 2016. The table below summarizes the monitoring wells completed.

Well Type	Well ID	Closest Site Feature	Date Started	Date Completed	Boring Depth (ft)	Well Depth (ft)	Well Screen Top (ft-bls)	Well Screen Bottom (ft-bls)
Water Table Monitoring Well	CFMW-010	Drum Storage Area	5/18/2016	5/20/2016	86	86	76	86
Deep Monitoring Well	CFMW-012a	Wet Scrubber Sludge Pond	5/20/2016	5/24/2016	254	210	200	210
Water Table Monitoring Well	CFMW-018	East Landfill	5/19/2016	5/28/2016	125	122	112	122
Deep Monitoring Well	CFMW-019a	Wet Scrubber Sludge Pond	5/25/2016	5/27/2016	300	220	210	220
Water Table Monitoring Well	CFMW-029	North-East Percolation Pond	5/18/2016	5/19/2016	76	76	66	76

Each monitoring well was installed utilizing rotosonic drilling methods to advance casing and collect core samples for geologic logging and laboratory analysis. In the process of sonic coring, the holes were temporarily cased with a 6-inch nominal, inner diameter casing. In deep monitoring well locations, where unique geological layers that could serve as potential confining units were encountered beneath the water table during drilling, double-casing was used to hydraulically isolate monitoring wells screened within different layers, thereby minimizing any potential for cross contamination. The double casing was completed by utilizing a temporary 7-inch diameter conductor casing, sealing off any potential contamination in an upper water bearing zone from that of a lower confined aquifer.

Monitoring well riser and screen were placed down the open hole and a sand filter pack was placed around the screen. The annulus above the filter pack was sealed with a bentonite seal. Monitoring wells casings were constructed of 2-inch diameter Schedule 40 polyvinyl chloride (PVC). Monitoring well screens were constructed of 2-inch diameter, machine slot schedule 40 PVC, with screen slot size of 0.020 and were flush-threaded onto the casings. Surface completion of each well consisted of a protective stick-up enclosure, a locking J-plug and an exterior lockable metal cover. Final boring logs for each monitoring well will be included in the Phase I Site Characterization Summary Report.

2.5.2 Soil Borings

Cascade Drilling completed 63 soil borings to approximately 15 feet below land surface in May 2016. All soil borings were completed utilizing the geoprobe drilling technique. Final boring logs for each soil boring will be included in the Phase I Site Characterization Summary Report. A list of the borings completed and sampling associated with the completion of each boring is provided in Table 1.

2.5.3 Soil Sampling

In May 2016, 204 soil samples were collected by Roux Associates field personnel from soil boring and monitoring well drilling locations. Sample intervals and selected analyses were in accordance with the RI/FS Work Plan, Phase I Sampling and Analysis Plan, and the Phase I Sampling and Analysis Plan Addendum. Table 1 provides a summary of the samples collected.

3.0 WORK PLANNED FOR NEXT REPORTING PERIOD

This section summarizes the work planned for June 2016.

3.1 Ongoing Phase I Site Characterization Drilling and Soil Sampling Scope of Work

Drilling of soil borings, installation of monitoring wells, and soil sampling activities associated with the Phase I Site Characterization scope of work will continue in June 2016. The drilling and sampling work will continue in accordance with procedures described in the RI/FS Work Plan, Phase I SAP, and the Phase I SAP Addendum. The drilling work will continue to be completed by Cascade Drilling with the support of Roux Associates field personnel. Future progress reports will discuss progress of the drilling scope of work, including a review of locations completed, a summary of samples collected, schedule, and any deviations from the Phase I SAP and the SAP Addendum.

3.2 Surface Water Sampling

During Site reconnaissance in April and May 2016, Roux Associates field personnel noted that certain Site features were observed to have water present, likely as a result of the spring / wet season conditions, but may not have water in late summer / early fall during drier flow conditions. These locations include the South Percolation Ponds, the Cedar Creek Overflow Drainage Ditch, and an area of the Site immediately south of the Industrial Landfill. During the project meeting held at the Site on May 25, 2016, Roux Associates, CFAC, USEPA, MDEQ, and CDM Smith discussed potentially collecting surface water samples from these locations during the wet season, because these locations may not have water when the first Site-wide surface water sampling event is scheduled to occur in early fall.

In early June 2016, Roux Associates field personnel will inspect the Site features mentioned above to verify that surface water is still present in each. Surface water samples will be collected in locations where water is present and analyzed in accordance with the RI/FS Work Plan, Phase I SAP, and the SAP Addendum.

3.3 Completion of Soil Gas Screening Activities

In April 2016, Roux Associates field personnel completed soil gas screening activities described in accordance with the Scope of Work described in the RI/FS Work Plan and SAP. As indicated

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in email correspondence to the USEPA dated May 2, 2016 and May 6, 2016, soil gas screening was not completed at locations proposed in the West, Industrial and Sanitary landfills. These locations were not screened in April due to Roux Associates' field personnel being unable to manually install a soil gas probe due to probe refusal as a result of subsurface conditions at approximately 1 to 2 feet below land surface. Observations by the field personnel suggest that the soils in this interval consist of compacted coarse gravel, cobbles, or boulders which consistently prevent the soil gas probe from being advanced any deeper.

During the project meeting held at the Site on May 25, 2016, CFAC, Roux Associates, USEPA, MDEQ, and CDM Smith discussed the use of the Geoprobe rig to support the soil gas screening activities at locations proposed in the West, Industrial and Sanitary landfills. CFAC and USEPA agreed to try to use the Geoprobe to advance the soil gas screening holes in the landfills to 5 feet prior to screening. This work will be conducted in June 2016 and will be summarized in the SAP Addendum and the June 2016 progress report.

4.0 DATABASE UPDATES

Analytical data from sampling of drainage structures during Site Reconnaissance were received from the laboratory (TestAmerica) on April 26, 2016. Results were sent to Laboratory Data Consultants (LDC) for third-party data validation at the end of April 2016. Roux Associates received validated data on May 27, 2016. Final data was loaded into the project database and is available for review and download.

On January 26, 2016, Roux Associates submitted a request via email correspondence to the USEPA regarding obtaining a copy of the laboratory Electronic Data Deliverables (EDDs) from the USEPA Site Reassessment Report submitted by Weston Solutions on behalf of the USEPA in 2014. The data in EDD format was provided to Roux Associates via email correspondence in April 2016. Data was loaded into the project database in May 2016.

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5.0 SCOPE/SCHEDULE REVISIONS

No changes to the overall schedule are expected at this time as a result of the activities completed in May 2016. The current Phase I Site Characterization schedule is attached to this Progress Report.

On behalf of CFAC, Roux Associates will continue to pursue the overall objectives described in the AOC and the RI/FS Work Plan. Roux Associates will continue to inform the USEPA of completed and upcoming activities pursuant to the requirements of the AOC in future progress reports.

Respectfully submitted,

ROUX ASSOCIATES, INC.

Michael Ritorto
Senior Hydrogeologist /
RI Project Manager

Andrew Baris
Vice President / Principal Hydrogeologist
RI/FS Project Manager

Table 1. Soil Samples Collected During May 2016
Phase I Site Characterization, Columbia Falls Aluminum Company, Montana

Location ID	Date Collected	Surface (0-0.5 ft bls)	Shallow (0.5-2 ft bls)	Vadose (10-12 ft bls)	Below Water Table (Interval Varies)	Surface (0-0.5 Sieved For Fine Fraction Lead)	Notes
CFMW-003a	5/31/2016	X	X	X			
CFMW-010	5/18/2016	X	X	X		X	
CFMW-012a	5/20/2016	X	X	X	X	X	
CFMW-018	5/19/2016	X	X	X			
CFMW-019a	5/25/2016	X	X	X			Below water table sample not collected due to no recovery in sample interval
CFMW-029	5/18/2016	X	X	X			
CFMW-034	5/31/2016	X	X	X			
CFSB-001	5/25/2016	X	X	X			
CFSB-002	5/25/2016	X	X	X			
CFSB-003	5/25/2016	X	X	X			
CFSB-004	5/25/2016	X	X	X			
CFSB-005	5/25/2016	X	X	X			
CFSB-006	5/23/2016	X	X	X			
CFSB-007	5/25/2016	X	X	X			
CFSB-008	5/23/2016	X	X	X			
CFSB-009	5/23/2016	X	X	X			
CFSB-010	5/21/2016		X	X			No surface sample collected -asphalt surface from 0-0.5 ft bls
CFSB-011	5/19/2016	X	X	X			
CFSB-012	5/28/2016		X	X			No surface sample collected -asphalt surface from 0-0.5 ft bls
CFSB-013	5/19/2016	X	X	X			
CFSB-021	5/23/2016	X	X	X			
CFSB-022	5/23/2016	X	X	X			
CFSB-029	5/23/2016	X	X	X			
CFSB-033	5/23/2016	X	X	X			
CFSB-034	5/31/2016	X	X	X			
CFSB-035	5/31/2016	X	X	X			
CFSB-036	5/31/2016	X	X	X			
CFSB-037	5/31/2016	X	X	X			
CFSB-038	5/21/2016	X	X	X			
CFSB-040	5/20/2016	X	X	X			
CFSB-042	5/20/2016	X	X	X			
CFSB-044	5/20/2016	X	X	X			
CFSB-045	5/21/2016	X	X	X			
CFSB-046	5/20/2016	X	X	X			
CFSB-048	5/20/2016	X	X	X			
CFSB-049	5/28/2016		X	X			No surface sample collected -asphalt surface from 0-0.5 ft bls
CFSB-050	5/21/2016	X	X	X			

Table 1. Soil Samples Collected During May 2016
Phase I Site Characterization, Columbia Falls Aluminum Company, Montana

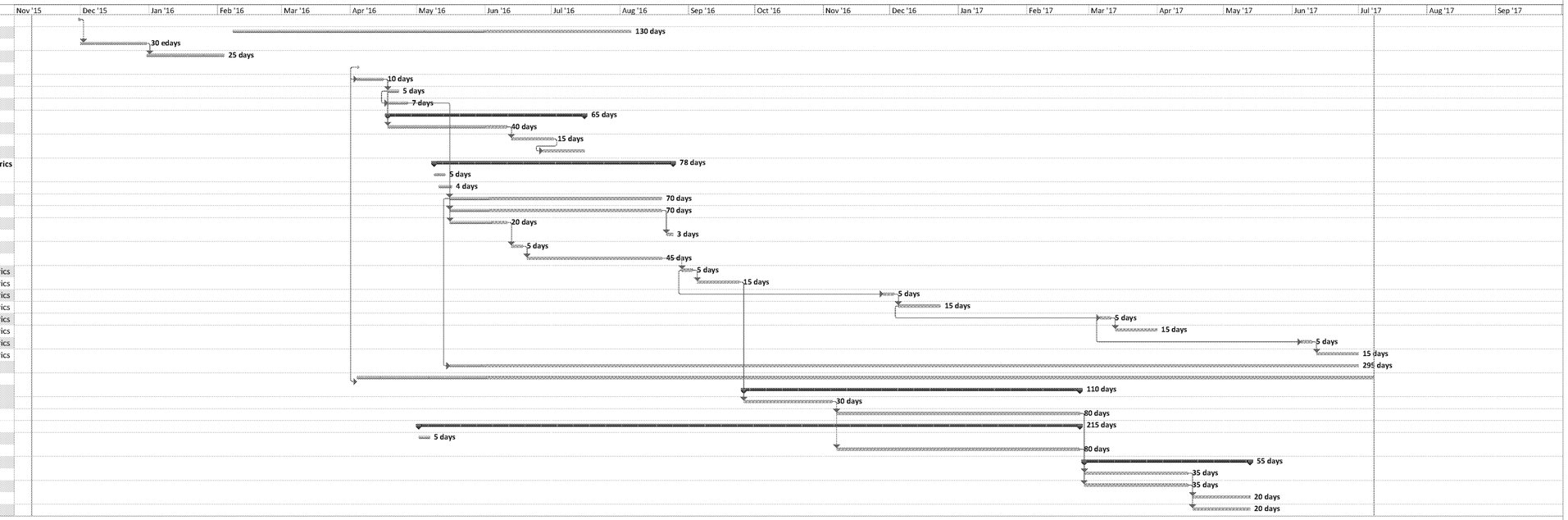
Location ID	Date Collected	Surface (0-0.5 ft bls)	Shallow (0.5-2 ft bls)	Vadose (10-12 ft bls)	Below Water Table (Interval Varies)	Surface (0-0.5 Sieved For Fine Fraction Lead)	Notes
CFSB-051	5/21/2016	X	X	X			
CFSB-052	5/20/2016		X	X			No surface sample collected -concrete surface from 0-0.5 ft bls
CFSB-053	5/31/2016		X	X			No surface sample collected -asphalt surface from 0-0.5 ft bls
CFSB-054	5/28/2016	X	X	X			
CFSB-055	5/28/2016	X	X	X			
CFSB-057	5/28/2016	X	X	X			
CFSB-059	5/28/2016	X	X	X			
CFSB-060	5/27/2016	X	X	X			
CFSB-066	5/27/2016	X	X	X			
CFSB-068	5/27/2016		X	X			No surface sample collected -asphalt surface from 0-0.5 ft bls
CFSB-071	5/27/2016	X	X	X			
CFSB-084	5/27/2016	X	X	X			
CFSB-086	5/26/2016	X	X	X			
CFSB-087	5/26/2016	X	X	X			
CFSB-088	5/26/2016	X	X	X			
CFSB-092	5/26/2016	X	X	X			
CFSB-094	5/24/2016	X	X	X			
CFSB-095	5/24/2016	X	X	X			
CFSB-097	5/24/2016	X	X	X			
CFSB-098	5/24/2016	X	X	X			
CFSB-099	5/24/2016	X	X	X			
CFSB-100	5/24/2016	X	X	X			
CFSB-120	5/18/2016	X	X	X			
CFSB-121	5/18/2016	X	X	X			
CFSB-122	5/19/2016	X	X	X			
CFSB-123	5/19/2016	X	X	X			
CFSB-124	5/19/2016	X	X	X			
CFSB-125	5/18/2016	X	X	X			
CFSB-126	5/18/2016	X	X	X			
CFSB-127	5/18/2016	X	X	X			
CFSB-128	5/24/2016	X	X	X			
CFSB-129	5/24/2016	X	X	X			

APPENDIX A

Project Schedule

Project Schedule Updated June 1, 2016

ID	Deliverable	Task Name	Duration	Start	Finish	Company
1		AOC is executed by all parties	1 day	Mon 11/30/15	Mon 11/30/15	EPA/CFAC
2		Historical Records Review	130 days	Mon 2/8/16	Fri 8/5/16	Roux
3	X	Draft Health and Safety Plan (HASP)	30 edays	Mon 11/30/15	Wed 12/30/15	Roux
4	X	Final Health and Safety Plan (HASP)	25 days	Thu 12/31/15	Wed 2/3/16	Roux
5		Site is clear of Snow / Field Work Begins	1 day	Mon 4/4/16	Mon 4/4/16	
6		Pre-Intrusive Task 1 - Site Reconnaisance	10 days	Mon 4/4/16	Fri 4/15/16	Roux
7		Pre-Intrusive Task 2 - Geophysical Survey	5 days	Mon 4/18/16	Fri 4/22/16	Roux
8		Pre-Intrusive Task 3 - Soil Gas Survey	7 days	Mon 4/18/16	Tue 4/26/16	Roux
9		**SAP Addendum**	**65 days**	**Mon 4/18/16**	**Fri 7/15/16**	**Roux**
10	X	Draft SAP Addendum	40 days	Mon 4/18/16	Fri 6/10/16	Roux
11		EPA Review of Draft SAP Addendum	15 days	Mon 6/13/16	Fri 7/1/16	EPA
12	X	Final SAP Addendum	15 days	Mon 6/27/16	Fri 7/15/16	Roux
13		**Source Area Investigation**	**78 days**	**Mon 5/9/16**	**Wed 8/24/16**	**Roux/Hydrometrics**
14		GPR Utility Mark-Outs	5 days	Mon 5/9/16	Fri 5/13/16	Roux
15		Clearing / Grading for Drill Rig Access	4 days	Wed 5/11/16	Mon 5/16/16	Roux
16		Sonic Rig 1	70 days	Mon 5/16/16	Fri 8/19/16	Roux
17		Sonic Rig 2	70 days	Mon 5/16/16	Fri 8/19/16	Roux
18		Geoprobe	20 days	Mon 5/16/16	Fri 6/10/16	Hydrometrics
19		Test Pitting	3 days	Mon 8/22/16	Wed 8/24/16	Roux
20		Background Area Investigation	5 days	Mon 6/13/16	Fri 6/17/16	Hydrometrics
21		Operational Grid Area Investigation	45 days	Mon 6/20/16	Fri 8/19/16	Hydrometrics
22		Site-Wide Surface Water Sampling - Event 1	5 days	Mon 8/29/16	Fri 9/2/16	Roux/Hydrometrics
23		Site-Wide Groundwater Sampling - Event 1	15 days	Mon 9/5/16	Fri 9/23/16	Roux/Hydrometrics
24		Site-Wide Surface Water Sampling - Event 2	5 days	Mon 11/28/16	Fri 12/2/16	Roux/Hydrometrics
25		Site-Wide Groundwater Sampling - Event 2	15 days	Mon 12/5/16	Fri 12/23/16	Roux/Hydrometrics
26		Site-Wide Surface Water Sampling - Event 3	5 days	Mon 3/6/17	Fri 3/10/17	Roux/Hydrometrics
27		Site-Wide Groundwater Sampling - Event 3	15 days	Mon 3/13/17	Fri 3/31/17	Roux/Hydrometrics
28		Site-Wide Surface Water Sampling - Event 4	5 days	Mon 6/5/17	Fri 6/9/17	Roux/Hydrometrics
29		Site-Wide Groundwater Sampling - Event 4	15 days	Mon 6/12/17	Fri 6/30/17	Roux/Hydrometrics
30		Background Hydrology Studies	295 days	Mon 5/16/16	Fri 6/30/17	Roux
31		Investigation Derived Waste Management/Disposal	330 days	Mon 4/4/16	Fri 7/7/17	Roux
32		**Draft Phase 1 Data Summary Report**	**110 days**	**Mon 9/26/16**	**Fri 2/24/17**	**Roux**
33		Data Validation Completion	30 days	Mon 9/26/16	Fri 11/4/16	Data Validator
34	X	Draft Phase I Site Characterization Summary Report	80 days	Mon 11/7/16	Fri 2/24/17	Roux
35		**SLERA**	**215 days**	**Mon 5/2/16**	**Fri 2/24/17**	**Roux**
36		Completion of SLERA Field Work	5 days	Mon 5/2/16	Fri 5/6/16	Roux
37	X	Draft SLERA Report	80 days	Mon 11/7/16	Fri 2/24/17	Roux
38		**Final Phase 1 Data Summary Report and SLERA Report**	**55 days**	**Mon 2/27/17**	**Fri 5/12/17**	**Roux**
39		EPA review of Draft Phase I Data Summary Report	35 days	Mon 2/27/17	Fri 4/14/17	EPA
40		EPA review of Draft SLERA Report	35 days	Mon 2/27/17	Fri 4/14/17	EPA
41	X	Final Phase I Summary Report	20 days	Mon 4/17/17	Fri 5/12/17	Roux
42	X	Final SLERA Report	20 days	Mon 4/17/17	Fri 5/12/17	Roux



Scheduled Task | Task Progress Complete | Summary