

TRC  
131 E. Lincoln Avenue  
Suite 200  
Fort Collins, CO 80524

Main 970.484.3263  
Fax 970.484.3250

## Memorandum

**To:** Travis Erny and Moriah Bucy  
**From:** Ann Colpitts  
**Subject:** Monthly Remedial Action Progress Report KRY Site – October 2015  
**Date:** November 4, 2015  
**CC:** Mark Engdahl, Doug Brannan, Jay Dablow  
**Project No.:** 231386

### Summary of Activities for the Month:

- LTU and Dioxin/Furan Soil Repository:** Work in October consisted of evaluating bids for LTU soil removal work and preparing for the soil removal work which started on October 22. Winterization of the LTU irrigation system was completed in conjunction with the soil removal work. A monthly conference call was held on October 6 and meeting notes distributed after the call. An updated project schedule was sent to MDEQ on October 27. Additional activities are summarized below.

  - October 19 – Email to MDEQ presenting schedule for LTU soil removal
  - October 20 – MDEQ email requesting cap placement start during week of November 2
  - October 23 – TRC requested clarification on MDEQ's data validation comments on the July-August LTU soil submittal

The status of sample submittals and approvals are provided in the following table:

Sample Location	Submittal to MDEQ Date	MDEQ Response Date
Comingled LTU Overflow Area Soil	5/12/15	Under Review
Retention Pond Water Samples	6/12/15	Under Review
LTU Grid Samples	9/30/15	10/13/15

This remedy component is approximately 85% complete for 2015.

- Long-term Groundwater Monitoring:** The June groundwater sampling report was submitted to MDEQ on October 8. Well development occurred between September 27 and October 2. Residential and site wells were sampled from October 5 to 19. This remedy component is approximately 80% complete for 2015.
- Chemical Oxidation of Groundwater:** A Work Plan for Chemical Oxidation groundwater treatment was revised in October 2015. This remedy component is approximately 80% complete for 2015.

4. **Free-Product Recovery (Western and Eastern KRY):** Absorbent socks are tracked monthly in the following wells: AMW-8, KRY111A, KRY114A, AMW-8, OMW-4A, MW-4, MW-5, SB-3-14 and MW-42. The total amount of LNAPL recovered from absorbent socks since the start of use is approximately 7.11 gallons, approximately 0.26 gallons in October. An absorbent sock was replaced in Well MW-23. LNAPL removed from MW-23 in October totaled 0.08 gallons for a total-to-date of 14.36 gallons.

On October 13, TRC requested that recently gauged LNAPL in MW-12 be sampled and a baildown test be conducted. MDEQ responded on October 13 requesting additional information which TRC provided on October 23.

TRC submitted MW-23 Area LNAPL Soil Removal Work Plan Revision 2 to MDEQ on October 22 and the engineering cost estimate was posted to Project Direct on October 30. On October 20, MDEQ submitted comments on BNSF's Less Viscous LNAPL Recovery Work Plan Revision 2 (dated September 30). A conference call was held on October 27 to discuss MDEQ's October 20 comment letter.

This remedy component is approximately 85% complete for 2015.

5. **Sawdust:** Methane was sampled in monitoring points and in the large Glacier Stone building on October 12. The remedy component is approximately 75% complete for 2015.
6. **All Remedy Components:** There were no site-wide activities in October.

**Problems Encountered and Solutions:**

No problems were encountered in October.

**Communication with KRY Project Stakeholders:**

On October 19, Jeff Hammit verbally expressed concern to KJC field personnel over finished grade on his property. KJC suggested that he contact Doug Brannan with details, but he has not yet contacted Doug.

**Budget Status:**

This section summarizes costs by BNSF's contractors attributed to each remedy component for the period from August 2009 through October 2015. Note that the costs cover more work than described in the current progress report. The costs do not include MDEQ oversight costs.

<b>ROD Remedy Component</b>	<b>Amount Invoiced in October for September Work</b>	<b>Total Amount Invoiced-to-Date</b>
Free-Product Recovery	\$ 756.09	\$ 329,781.69
Sawdust Sampling	\$ -	\$ 191,623.90
Excavation, Ex-Situ Treatment, and Backfill	\$ 118,850.27	\$ 7,579,071.57
Sludge Removal	\$ -	\$ 3,574,542.56
Lead Soils Removal	\$ -	\$ 570,880.93
Free-product Removal by Excavation	\$ -	\$ 2,976,913.36
Chemical Oxidation	\$ 2,400.93	\$ 5,502,658.10
Dioxin/Furan Soils Repository	\$ 25,000.00	\$ 3,901,215.52
MNA and Site-Wide Elements	\$ (12,030.44)	\$ 482,572.10
<b>TOTAL</b>	<b>\$ 134,976.85</b>	<b>\$ 25,109,259.72</b>

**Anticipated Activities, Milestones and Deadlines for November 2015:**

1. **LTUs/ Dioxin Repository:** LTU soil removal and dioxin repository cap placement will be finalized and soil transfer to the dioxin repository will be completed, including repository cap placement.
2. **Long-term Monitoring:** Activities will include data validation of October sampling data and report preparation.
3. **Chemical Oxidation:** A Work Plan for ISCO injections will be updated and submitted to MDEQ in November.
4. **Free Product Recovery (Western and Eastern KRY):** Western KRY - continue to monitor absorbent socks in site wells and remove/replace when saturated. Total fluids will be extracted in MW-23 or LNAPL recovered with absorbent socks. LNAPL will be removed from total fluids using absorbent pads, and fluids placed on the noncomingled retention LTU.  
  
The MW-23 Area Light Non-Aqueous Phase Liquid Soil Removal Plan Revision 2 will be revised and resubmitted to MDEQ.
5. **Sawdust:** Analysis of methane sampling results will occur in November.
6. **All Remedy Components:** No activities are planned for this remedy component.

**Summary of Recently Submitted Reports to MDEQ by BNSF Awaiting MDEQ Response**

Date	Report Title
6/28/12	Phase 1 In Situ Chemical Oxidation Report (ERM)
10/16/14	Construction Completion Report (AECOM)
12/5/14	Eastern LNAPL Investigation Report (AECOM)
2/13/15	2014 Annual Dioxin/Furan Repository Report (AECOM)
9/30/15	Less Viscous Non-Aqueous Phase Liquid Recovery Work Plan Revision 2 (TRC)
10/8/15	KRY Semi-Annual Sampling Report – June 2015 Groundwater Monitoring Results
10/22/15	MW-23 Area Light Non-Aqueous Phase Liquid Removal Work Plan-Revision 2

Import Material Sample Tracking Table								
BNSF KRY Site								
Revised: October 5, 2015								
Material Description	Sample Date	Submitted By	Pit Location	Approved Volume (CY)	Volume Imported (CY)	Remaining Volume (CY)	Imported By	Import Date
Low Permeability - Repository Cap	11/13/2014	Sandry	Stillwater Pit	4,000	1,400	2,600	Sandry	2014
					340	2,260		Sandry
Crushed Gravel - Repository Cap	11/13/2014	Sandry	Stillwater Pit	3,000	500	2,500	Sandry	2014
					115	2,385		Sandry

Notes:  
 Low Permeability - Repository Cap Material Density = 1.37 from Envirocon submittal #29/31  
 Crushed Gravel - Repository Cap Material Density = 1.8 per Doug Brannan.  
 July 2015 Import Volumes from Surveyed In-Place Volume at Repository