

**FIRST FIVE-YEAR REVIEW REPORT
ADDENDUM**

FOR THE

**DELATTE METALS SUPERFUND SITE
PONCHATOULA, TANGIPAHOA PARISH, LOUISIANA**

July 2009



PREPARED BY:

**United States Environmental Protection Agency
Region 6
Dallas, Texas**

FIRST FIVE-YEAR REVIEW REPORT
ADDENDUM
Delatte Metals Superfund Site
EPA ID No. LAD052510344
Ponchatoula, Tangipahoa Parish, Louisiana

This Addendum documents the United States Environmental Protection Agency's (EPA) revised protectiveness determination of the Delatte Metals Superfund Site (Site) five-year review under Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 United States Code Section 9621(c).

EPA (Region 6) recognizes the need for additional data related to the protectiveness of the site remedy. Based on recent remedy and data review, the EPA has concluded that there are insufficient data to determine whether the remedy remains protective. The EPA is issuing this addendum to the First Five Year Review acknowledging the need for additional data, before a determination regarding the protectiveness related to the migration of metals in the ground water can be made. The addendum describes additional steps EPA needs to take to assure that the remedy remains protective. In addition, a schedule of these activities is provided in Attachment 1.

BACKGROUND SUMMARY

The Record of Decision was signed on September 26, 2000. The Site remedy included solidification/stabilization and off-site disposal of principal threat wastes within the soil, a reduction or elimination of the direct contact threats associated with the soil, the installation of a permeable reactive barrier (PRB) to neutralize the acidity of the shallow ground water and limit migration of dissolved metals, the placement of institutional controls (in the form of conveyance notices) to inform the public of Site conditions, and ground water monitoring to ensure the effectiveness of the selected remedy.

The remedial action construction was initiated on November 19, 2002, and completed on September 22, 2003. Since this time, ground water sampling and operation and maintenance (O&M) activities have been conducted quarterly.

The activities completed in support of the five-year review for the Site included a review of site documents and site-specific requirements; a site inspection which was performed on June 6, 2007; interviews with local officials, members of the community, and personnel from the Louisiana Department of Environmental Quality (LDEQ); and a review of data collected at the Site during the five-year review period. The first five year review was completed on November 19, 2007.

ACTIONS RECOMMENDED

The recommendations and follow-up actions described below are necessary to evaluate the protectiveness of the remedy and assess future remedy protectiveness.

Site Maintenance

Recommendations

1. Trees and bushes in the vicinity of the PRB should be removed.
2. The area around the PRB should be mowed routinely to facilitate inspection of the PRB, eliminate the growth of woody vegetation, and provide access to the piezometers around the PRB.
3. Fill material should be placed in areas of subsidence.
4. Sampling and well construction materials should be removed from the Site.
5. Monitoring wells should be marked on the outside of the well protective enclosure.
6. Wasp nests within the well protective enclosures should be eliminated.

7. Polyvinyl chloride well caps should be placed back on wells after sampling.
8. Monitoring well protective bumpers need to be straightened vertically.
9. Repair perimeter fence where damaged.
10. Post signs along perimeter fence that describe site conditions.

Follow-up Actions

The Louisiana Department of Environmental Quality (LDEQ) has worked to complete all actions listed above. These activities will be conducted as necessary into the future.

The LDEQ began procurement procedures in mid-2008 and finalized a contract for the site maintenance a few months later. As reported through email communications on December 17 and 18, 2008, the removal of trees and bushes in the vicinity of the permeable reactive barrier (PRB), the maintenance of the areas around the sampling wells, and the mowing of the area around the PRB to facilitate inspection of the PRB, eliminate woody vegetation, and access to the piezometers around the PRB began on December 8 and ended on December 10, 2008. Fence and gate repair, began on December 1 and ended on December 3, 2008. Monitoring well repairs were completed in June and July 2008. The PRB was inspected and minor subsidence was observed in some areas upgradient and downgradient of the PRB. At this time, additional fill material is not required. Signs were posted on the perimeter fence June 23, 2009.

Ground Water

Recommendations

1. Continue ground water monitoring as outlined in the O&M Manual.
2. Monitor ground water using low-flow sampling and low-level reporting limits.
3. Review the need for institutional controls restricting ground water use of the third water-bearing zone.
4. The ground water monitoring programs should be reviewed to ensure adequate data are collected which may include altering sampling frequency, altering sampling parameters, and plugging and/or installing wells.

Follow-up Actions

Since September 2003, the ground water has been monitored quarterly for the metals arsenic, lead, manganese, nickel, and thallium as described in the O&M Manual. In addition, the EPA Office of Research and Development (ORD) has sampled ground water upgradient, within, and downgradient of the PRB annually. The metals analyzed by EPA ORD include arsenic, lead, nickel, zinc, and cadmium.

The EPA and LDEQ began working with the Long-term Monitoring Optimization LTMO team in September 2008 to review and evaluate the ground water monitoring network. The team will use Monitoring and Remediation Optimization Software (MAROS) which provides a quantitative evaluation based on statistical, mathematical, modeling, and empirical evidence. This process will include an evaluation of well locations and screened intervals within the context of the hydrogeologic regime to determine if the site is well characterized, an evaluation of the overall plume stability through trend and moment analysis, and an evaluation of individual well concentration trends over time for target contaminants of concern (COCs). This process will develop sampling location recommendations based on an analysis of spatial uncertainty and ground water monitoring objectives and develop sampling frequency recommendations based on qualitative and quantitative statistical analysis results. The draft optimization report was completed in March 2009 and is currently in review.

EPA and LDEQ will continue to

1. work with ORD to obtain updated ground water data collected within the vicinity of the PRB to understand the environment through which the ground water flows, the chemical processes occurring within the PRB, and the potential presence of residual contamination downgradient of the PRB as a result of historical operations.
2. collect ground water samples from the monitoring wells quarterly in accordance with the O&M Manual.
3. collect ground water samples within the vicinity of the PRB annually.
4. coordinate with the laboratory so that consistently low reporting limits can be attained for all parameters of interest.
5. work with LDEQ to review the need for institutional controls regarding ground water.
6. work with the LTMO team to complete the optimization report by September 2009.

Surface Water Monitoring

Recommendation

1. Evaluate the ground water to surface water migration pathway through the collection of surface water samples to ensure satisfaction of the remedial action objective.

Follow-up Actions

Using the ECO Update/Ground Water Forum Issue Paper (OSWER, 9285.6-17, EPA-540-E-06-072) released in July 2008, EPA and LDEQ will use a tiered approach to evaluate the site. The Surface Water Sampling Synoptic Work Plan describing activities to be conducted for the first phase of site work was finalized on January 9, 2009.

These activities will include surface water sampling from the two drainages onsite, surface water sampling from the creek, and an in-stream hydrological characterization of ground water and surface water interaction (GSI) followed by an evaluation of potential risk for both human health and ecological receptors. The surface-water-quality data and GSI data collected during this first phase of field efforts will be used to meet the following objectives and determine the need for a second phase:

1. Determine the concentrations of metals within Selsers Creek above and below the area of influence of surface water from the Site each season of the year (winter, spring, summer, and fall).
2. Determine the concentrations of metals within the tributaries and channels that discharge to Selsers Creek and along the Selsers Creek reach adjacent to the Site (winter, spring, summer, and fall).
3. Determine if the concentration(s) of metals detected in the surface-water bodies exceed human health and ecological risk criteria.
4. Determine the potential for discharge of metals from shallow ground water to the surface water.

The first round of surface water sampling was completed the week of March 30, 2009, and the second round of surface water/GSI sampling was completed during the week of May 19, 2009. The third round of sampling is scheduled for the week of August 24, 2009. The EPA and LDEQ expect to have all field work associated with the Surface Water Sampling Synoptic Work Plan completed by the end of December 2009.

EPA and LDEQ will continue to

1. collect surface water samples through December 2009.
2. collect GSI samples through December 2009.

3. evaluate data and complete a summary report by September 2010.

EXPECTED OUTCOMES

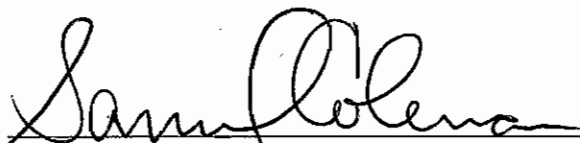
The EPA and LDEQ will evaluate and use the data and site information obtained through these activities to address the protectiveness issues and identify appropriate actions that may be necessary to improve the performance of the remedy and/or any other action determined to be appropriate and necessary. The EPA and LDEQ expect to publish the results in September 2010, as well as make a protectiveness determination for the site remedy.

These activities are expected to address

- the continued effectiveness of the remedy and potential effects of residual contamination.
- the potential bypassing of the PRB by shallow ground water.
- the possible uncontrolled migration of metals and potential discharge to surface water.
- the ground water/surface water interface.
- the metals concentrations in the surface water and ground water.
- the potential impact on human health and the environment.

Revised Protectiveness Determination

A protectiveness determination of the remedy at the Delatte Metals Superfund Site cannot be made at this time until further information is obtained. Further information will be obtained by addressing the recommendations and completing the follow-up actions described in this Addendum. It is expected that these actions will take approximately one year to 1.5 years to complete, at which time EPA and LDEQ will publish the results in a summary report and make a protectiveness determination. Details regarding the site schedule are provided in Attachment 1.



Samuel Coleman, P.E.

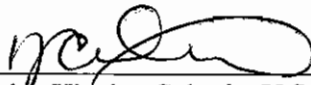
Director

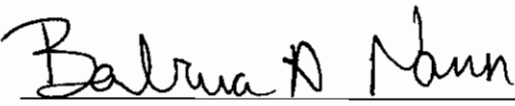
Superfund Division

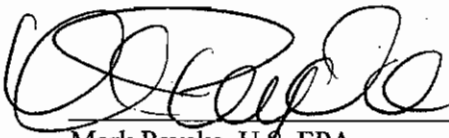
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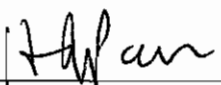
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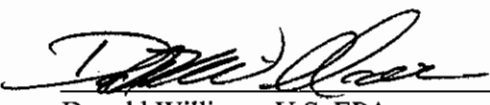
CONCURRENCE
FIRST FIVE-YEAR REVIEW REPORT
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EPA ID No. LAD052510344

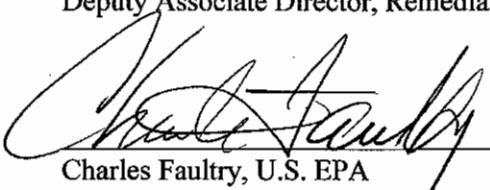

Date: 7/1/09
Katrina Higgins-Coltrain, U.S. EPA
Remedial Project Manager

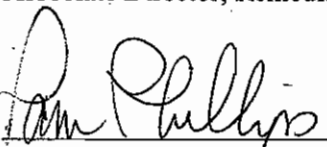

Date: 7/8/09
Barbara Nann, U.S. EPA
Assistant Regional Counsel, Office of Regional Counsel


Date: 07/13/09
Mark Peycke, U.S. EPA
Chief, Superfund Branch, Office of Regional Counsel


Date: 07/01/2009
Buddy Parr, U.S. EPA
Section Chief, Louisiana/New Mexico/Louisiana Team


Date: 7/14/09
Donald Williams, U.S. EPA
Deputy Associate Director, Remedial Branch


Date: 7/14/09
Charles Faultry, U.S. EPA
Associate Director, Remedial Branch


Date: 7/14/09
Pamela Phillips, U.S. EPA
Deputy Director, Superfund Division

Attachment 1
Schedule of Site Activities

Attachment 1: Delatte Metals Superfund Site Schedule (1)

July 2009

ID	Task Name	Duration	Start	Finish	06	1H07	2H07	1H08	2H08	1H09	2H09	1H10	2H10	1H11	2H11	1H12	2	
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
1	First Five Year Review	1 day	Mon 11/19/07	Mon 11/19/07		100%												
2	O&M	1306 days	Mon 11/19/07	Mon 11/19/12														32%
3	site maintenance, as needed	1306 days	Mon 11/19/07	Mon 11/19/12														
4	ground water monitoring, quarterly	1306 days	Mon 11/19/07	Mon 11/19/12														
5	Site Maintenance	321 days	Tue 4/1/08	Tue 6/23/09						100%								
6	Contracts	154 days	Tue 4/1/08	Fri 10/31/08														
7	clear and grub	3 days	Mon 12/8/08	Wed 12/10/08														
8	fence	3 days	Mon 12/1/08	Wed 12/3/08														
9	well repair	44 days	Mon 6/2/08	Thu 7/31/08														
10	signs (includes contracting)	147 days	Mon 12/1/08	Tue 6/23/09														
11	Surface water Sampling (2)	255 days	Fri 1/9/09	Thu 12/31/09														16%
12	Final Work Plan	1 day	Fri 1/9/09	Fri 1/9/09														
13	March/April 2009	4 days	Mon 3/30/09	Thu 4/2/09														
14	May 2009	4 days	Tue 5/19/09	Fri 5/22/09														
15	August 2009	5 days	Mon 8/24/09	Fri 8/28/09														
16	November 2009	5 days	Mon 11/2/09	Fri 11/6/09														
17	final lab reports	39 days	Mon 11/9/09	Thu 12/31/09														
18	Site Data Report	195 days	Fri 1/1/10	Thu 9/30/10														0%
19	data evaluation	41 days	Fri 1/1/10	Fri 2/26/10														
20	report draft	30 days	Mon 3/1/10	Fri 4/9/10														
21	report review	30 days	Mon 4/12/10	Fri 5/21/10														
22	revise report	33 days	Wed 5/26/10	Fri 7/9/10														
23	review revised report	20 days	Mon 7/12/10	Fri 8/6/10														
24	decision point and final report	39 days	Mon 8/9/10	Thu 9/30/10														
25	Ground Water Optimization	283 days	Mon 9/1/08	Wed 9/30/09														85%
26	draft report	151 days	Mon 9/1/08	Mon 3/30/09														
27	report review	22 days	Wed 4/1/09	Thu 4/30/09														
28	revise report	66 days	Fri 5/1/09	Fri 7/31/09														
29	review revised report	20 days	Tue 8/4/09	Mon 8/31/09														
30	final report	9 days	Tue 9/1/09	Fri 9/11/09														

Task  Progress  Milestone  Summary 

- Note:
- Schedule is subject to change depending on hurricane season or other Force Majeure incidents.
 - Sampling dates subject to change depending on weather.
 - PRB schedule dependent on ORD and is subject to change.

Attachment 1: Delatte Metals Superfund Site Schedule (1)

July 2009

ID	Task Name	Duration	Start	Finish	06	1H07		2H07		1H08		2H08		1H09		2H09		1H10		2H10		1H11		2H11		1H12		2
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
31	decision point	13 days	Mon 9/14/09	Wed 9/30/09																								
32	PRB Data (3)	870 days	Mon 6/1/09	Fri 9/28/12																								
33	June 2009 Sampling	22 days	Mon 6/1/09	Tue 6/30/09																								
34	June 2010 Sampling	22 days	Tue 6/1/10	Wed 6/30/10																								
35	June 2011 Sampling	22 days	Wed 6/1/11	Thu 6/30/11																								
36	June 2012 Sampling	21 days	Fri 6/1/12	Fri 6/29/12																								
37	ORD Data Evaluation	22 days	Mon 7/2/12	Tue 7/31/12																								
38	ORD Report/Memorandum	43 days	Wed 8/1/12	Fri 9/28/12																								
39	Five year Review	356 days	Mon 7/11/11	Mon 11/19/12																								
40	Contracts	81 days	Mon 7/11/11	Mon 10/31/11																								
41	start	1 day	Tue 11/1/11	Tue 11/1/11																								
42	Document review	68 days	Mon 10/31/11	Wed 2/1/12																								
43	inspection/interviews	1 day	Mon 2/13/12	Mon 2/13/12																								
44	draft report	152 days	Mon 1/2/12	Tue 7/31/12																								
45	review	23 days	Wed 8/1/12	Fri 8/31/12																								
46	Revise Report	13 days	Wed 9/5/12	Fri 9/21/12																								
47	review revised report	15 days	Mon 9/24/12	Fri 10/12/12																								
48	final report	26 days	Mon 10/15/12	Mon 11/19/12																								

Task  Progress  Milestone  Summary 

- Note:
- Schedule is subject to change depending on hurricane season or other Force Majeure incidents.
 - Sampling dates subject to change depending on weather.
 - PRB schedule dependent on ORD and is subject to change.