Pinellas Environmental Restoration Project

Northeast Site
Non-Aqueous Phase Liquids
Interim Measure Progress Report
July Through September 2004

October 2004
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Work Performed by S.M. Stoller Corporation under DOE Contract No. DE–AC01–02GJ79491
for the U.S. Department of Energy Office of Legacy Management, Grand Junction, Colorado
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1.0 Introduction

This quarterly report for the in-situ thermal remediation of non-aqueous phase liquids (NAPL) at the Northeast Site covers the period of July through September 2004. Previous reports provided background information for the site, a description of the remediation process, an overview of construction and operation activities for NAPL Area A, a description of the final activities for the Area A remediation system, including demobilization, confirmatory sampling, and the final report. Additionally, recent quarterly reports contained a description of planning activities for the construction of a similar treatment system at NAPL Area B.

The subcontract for Area B NAPL remediation was awarded to the team of WRS Infrastructure and Environment, Inc., McMillan-McGee Corporation, and PPM Consultants, Inc. in late February 2004. The subcontractor completed the final conceptual design for Area B NAPL remediation in early April, and this was submitted to Florida Department of Environmental Protection (FDEP) in mid-April 2004 as the Addendum to the Interim Measures Work Plan for Remediation of Non-Aqueous Phase Liquids at the Northeast Site (Area B Conceptual Design) (DOE 2004). FDEP approval of this document was received in June 2004. Final design drawings were submitted to FDEP at the end of June 2004.

Activities during this current quarter included the start of construction activities for NAPL Area B in early July. These initial activities included mobilization of the subcontractor to the site, surveying, site grading, installation of the vapor skirt and asphalt cap, installation of the drainage swale, and the start of drilling activities for extraction well and electrode installation.

2.0 Summary of Activities

The WRS Team began mobilization to the site on July 6, 2004. Initial activities included site surveying and staking, utility locates, and placement of two office trailers and installation of associated utilities. The initial major task, installation of the vapor cap, occurred in July and August and consisted of grading, placement and compaction of fill, installation of the vertical vapor skirt, and placement of the asphalt that forms the cap. The drainage swale from the cap to the East Pond was completed in August. The concrete pad for the surface treatment system also was installed in August. Installation of extraction wells, electrodes, and temperature and pressure monitors (Figure 1, Photo 1, and Photo 2) began in August and should be completed by the end of November. Additionally, the subcontractor began fabrication of wellheads and above-ground piping; these components will be brought to the site at a later date and installed beginning in January 2005. Construction progress review meetings were held in August and September.

NAPL remediation at Area B must be conducted up to and slightly under Building 1400, located adjacent to the south edge of the Northeast Site. This remediation will be conducted at the same time as the NAPL remediation at the remainder of Area B, but the design is located in a separate document from the main system design. The final Building 1400 design was submitted to FDEP at the end of September.

Work concerning the various permitting aspects of the NAPL Area B remediation continued during this quarter. The application for a non-Title V Air Emissions Permit was submitted to FDEP in early June. The application provides information concerning the suspension of the
existing air permit at the Northeast Site and construction and operation of a new air emissions system required for the treatment of liquid and vapor phases associated with NAPL Area B remediation.

In addition to the work for NAPL Area B, six new monitoring wells were installed in the interior of the former NAPL Area A in May and June 2004 (Figure 2). These wells were installed to allow monitoring inside the former NAPL remediation area for potential future remediation, if necessary. Additionally, these wells allow monitoring for potential rebound in contaminant concentrations more than a year after completion of NAPL remediation in this area. These wells were installed as three pairs (deep and shallow) at each location. These six wells were sampled for the first time during the July quarterly sampling event. The results (Table 1) show that the concentrations of the former NAPL compounds are well below the NAPL remediation goals, and are generally near or below MCLs, with a few exceptions.

3.0 Deviations

Heavy rains in July and a series of hurricanes in August and September caused some delays to the schedule of planned work. Due to the long time frame for construction, these delays will have minimal impact to the project.

4.0 Problems

There were no problems encountered during this quarter.

5.0 Upcoming Activities

Activities for the next quarter, October through December 2004, consist of the following. Installation of all extraction wells, electrodes, and temperature and pressure monitors, including those near and under Building 1400, will be completed. Off-site fabrication of wellheads and above-ground piping will be completed.

Construction of the above ground treatment system is scheduled for the first half of calendar year 2005. The start of system operations is scheduled for August 2005, with operations continuing until March 2006.

6.0 References

Photo 1. Installation of Electrodes and Extraction Wells Through the Vapor Cap, View Looking Northeast

Photo 2. Installation of Electrodes and Extraction Wells Through the Vapor Cap, View Looking Southwest
Figure 1. Location of New Infrastructure and NAPL Area B Remediation System Layout
Figure 2. Location of New Monitoring Wells at Former NAPL Area A
Table 1. Results From the July 2004 Sampling of New Monitoring Wells in Former NAPL Area A  
(units are µg/L)

<table>
<thead>
<tr>
<th>Well</th>
<th>Screened Interval (ft bls)</th>
<th>TCE</th>
<th>cis-DCE</th>
<th>methylene chloride</th>
<th>toluene</th>
<th>petroleum hydrocarbons+</th>
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<tr>
<td>0573</td>
<td>5−15</td>
<td>2.5 U</td>
<td>63.3</td>
<td>5 U</td>
<td>2.5 U</td>
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<td>0574</td>
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<td>351</td>
<td>5 U</td>
<td>2.5 U</td>
<td>640</td>
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<tr>
<td>0575</td>
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<td>1 U</td>
<td>4.5</td>
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<tr>
<td>0576</td>
<td>20−30</td>
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<td>3</td>
<td>1 U</td>
<td>0.6 J</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>11,000</td>
<td>50,000</td>
<td>20,000</td>
<td>5,500</td>
<td>50,000</td>
</tr>
</tbody>
</table>

MCL:

+ = As measured by the Florida Petroleum Range Organics method.
U = Not detected above the associated value.
J = Estimated value between the method detection limit and the reporting limit.