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Unicorn Management Consultants, LLC

July 30, 2010
Refer to: OP-2568

Paul J. Olivo
United States Environmental Protection Agency, Region 2
Emergency and Remedial Response Division
290 Broadway, 20th Floor
New York, New York 10007-1866

Subject: Addendum 3, Remedial Investigation/Feasibility Study Work Plan
Lehigh Valley Railroad Derailment Superfund Site, Leroy, NY

Dear Mr. Olivo:

Unicorn Management Consultants, LLC (UMC) prepared the attached Addendum 3 to the Remedial Investigation/Feasibility Study (RI/FS) Work Plan addressing modifications to monitoring well installation procedures at the Lehigh Valley Railroad Derailment Superfund Site, Leroy, NY (Site).

UMC proposed modifications of Site monitoring well installation procedures in a letter dated July 22, 2010 and sent via e-mail and first class mail to Environmental Protection Agency (EPA) representatives Diana Cutt and Paul Olivo and New York State Department of Environmental Conservation (NYSDEC) representative Jim Moras. Based on a July 28, 2010 teleconference with the above representatives and subsequent discussions with UMCs' drilling contractor, UMC understands that EPA and NYSDEC are in agreement with all of UMCs' proposed modifications to Site monitoring well installation procedures as outlined in the attached Addendum 3.

Thank you for your attention to this matter. Please call me at 203-205-9000, ext. 11 with any questions or concerns.

Sincerely,

UNICORN MANAGEMENT CONSULTANTS, LLC

Francisco Trejo
Project Coordinator
Lehigh Valley Rail Road Derailment Superfund Site

Attachments

cc: D. Cutt (EPA) w/attach
J. Moras (NYSDEC) w/attach
E. Schwetz (HDR) w/attach

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ADDENDUM 3
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN

Lehigh Valley Railroad Derailment Superfund Site
LeRoy, New York
Index Number CERCLA-02-2006-2006

LEHIGH VALLEY RAILROAD COMPANY
CINCINNATI, OHIO 45202

Prepared By:

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July 28, 2010

DOCUMENT AUTHORIZATION FORM

ADDENDUM 3
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN

Lehigh Valley Railroad Derailment Superfund Site

LeRoy, New York

Index Number CERCLA-02-2006-2006

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7/28/2010
Date

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1 INTRODUCTION

This document, "Addendum 3 Remedial Investigation/Feasibility Study Work Plan", was prepared by Unicorn Management Consultants, LLC (UMC) on behalf of the Lehigh Valley Railroad Company (LVRR). LVRR is the respondent of the Settlement Agreement and Order on Consent for Pre-Remedial Design Investigations, Remedial Design, and Remedial Investigation/Feasibility Study, Index Number CERCLA-02-2006-2006 (hereinafter, "SA") for the Lehigh Valley Railroad Derailment Superfund Site located in Genesee, Monroe and Livingston Counties, near the Town of LeRoy, New York (hereinafter, the "Site"), which was issued by the United States Environmental Protection Agency (hereinafter, "EPA"), effective date October 6, 2006. The SA requires LVRR to conduct a Remedial Investigation/Feasibility Study (RI/FS) in accordance with the RI/FS Work Plan[1] dated February 13, 2002 and addendum dated September 11, 2006, attached thereto as Appendix C. UMC prepared Addendum 2[2] to the RI/FS Work Plan dated October 30, 2009 which was approved by EPA and amends the RI/FS Work Plan.

This document outlines modifications to Site monitoring well installation procedures based on drilling conditions observed during June and July 2010 Site work and discussed in more detail below. UMC proposed the modifications in a letter dated July 22, 2010 and sent via e-mail and first class mail to EPA representatives Diana Cutt and Paul Olivo and New York State Department of Environmental Conservation (NYSDEC) representative Jim Moras. Based on a July 28, 2010 teleconference with those representatives and subsequent discussion with UMCs' drilling contractor, the EPA and NYSDEC have approved all of UMCs' proposed modifications to Site monitoring well installation procedures. This document formalizes these modifications and is hereby submitted to the EPA and NYSDEC as Addendum 3 to the RI/FS Work Plan.

2 STATUS OF MONITORING WELL INSTALLATIONS

The attached Table 1summarizes the status of Site monitoring well installations as of July 16, 2010. As indicated on Table 1, borings LVRR-18, LVRR-20, LVRR-21, LVRR-26, LVRR-27, LVRR-28, LVRR-29, LVRR-30, LVRR-32, LVRR-33, LVRR-34, LVRR-35 and LVRR-36 were advanced to or about proposed depths in competent bedrock and blank Flute liners were installed in the borings. However, karstic conditions resulting in formation collapse at several of these locations necessitated multiple attempts to achieve stable bore-hole conditions. Multiple drilling attempts were required at location LVRR-26 (designated as LVRR-26A and B on Table 1), LVRR-27 (designated as LVRR-27A and B on Table 1), LVRR-29 (designated as LVRR-29A, B and C on Table 1) and

[1] Final Work Plan For Remedial Investigation/Feasibility Study, Lehigh Valley Superfund Site, Town of Leroy, Genesee County, New York, Foster Wheeler Environmental Corporation. February 2002.

[2] Addendum 2 Remedial Investigation/Feasibility Study Work Plan, Lehigh Valley Railroad Derailment Superfund Site, LeRoy, New York, Unicorn Management Consultants, LLC, October 2009.

LVRR-34 (designated as LVRR-34A and B on Table 1). The casing at LVRR-34A was cut to grade and the boring was backfilled with drill cuttings. Blank Flute Liners were installed in both LVRR-29A and C. Borings LVRR-26A, LVRR-27A and LVRR-29B were abandoned by sealing with grout consistent with NYSDEC Monitoring Well Decommissioning Policy (CP-43, November 3, 2009).

Unstable borehole conditions and the lack of competent bedrock to depths of interest at the proposed borings located in the eastern portion of the Site in the vicinity of Oatka Creek and Spring Creek has necessitated a re-evaluation of drilling techniques and the use of the Flute system at these locations. Conditions observed at these locations are summarized below.

LVRR-22:
Boring LVRR-22 was advanced to approximately 39 feet below grade (fbg) without encountering competent bedrock. The proposed maximum depth of the boring is 30 feet. The borehole stayed open when the drill string was withdrawn. A 2-inch PVC well with 10 feet of screen was installed in the borehole. The screened zone is between approximately 29 and 39 fbg.

LVRR-23:
Boring LVRR-23 was advanced to approximately 15 fbg through running sand and gravel alluvial material without encountering rock. The proposed maximum depth of the boring is 30 fbg. The borehole collapsed when the drill string was withdrawn. The location was abandoned pending approval of alternative drilling/well construction procedures with EPA.

LVRR-25:
Competent rock was not encountered at boring location LVRR-25 until approximately 19 fbg resulting in the surface casing being set at approximately 21 fbg. The boring was advanced to approximately 25 fbg where unstable conditions were encountered. Air circulation was lost at approximately 38 fbg resulting in a diminished return of drill cuttings. Despite several attempts, the boring could not be advanced beyond 38 fbg. The boring was left in place and secured with a locking protective cap pending approval of alternative drilling/well construction procedures with EPA.

LVRR-24:
No drilling was attempted at proposed drilling location LVRR-24 because UMC expects drilling conditions to be similar to LVRR-22, LVRR-23 and LVRR-25 and wanted to discuss alternative drilling/well construction procedures with EPA prior to mobilizing to this location.

LVRR-31:
No drilling was conducted at this location because UMC is still trying to obtain access from the property owner, the Genesee and Wyoming Rail Road (G&WRR). UMC met with G&WRR track personnel at the proposed well location and discussed logistics and

safety. The G&WRR field inspectors did not see a problem with conducting the proposed work. UMC submitted all requested information to G&WRR and is awaiting issuance of an access license from G&WRR.

3 REVISED MONITORING WELL INSTALLATION PROCEDURERS

As discussed above, based on a July 28, 2010 teleconference with EPA representatives Diana Cutt and Paul Olivo and NYSDEC representative Jim Moras and subsequent discussion with UMCs' drilling contractor, the EPA and NYSDEC have approved all of UMCs' proposed modifications to Site monitoring well installation procedures. These modifications are discussed in more detail below.

LVRR-22:
Addendum 2 to the RI/FS Workplan called for a well installed 30 fbg with at least 2 sample ports. The equivalent location in the RI/FS Workplan (FW-22) called for two wells; one screened from 5 to 25 fbg and the other from 25 to 45 fbg in the upper and lower Camillus, respectively. UMC installed a 2-inch diameter PVC well screened from approximately 29 to 39 fbg. The bedrock over the entire 39-foot interval was not competent. The length of the bore-hole appears to comprise a single hydrogeological unit. Therefore UMC will not install an additional, shallower, well.

LVRR-23:
Addendum 2 called for a well installed 30 fbg with at least 1 sample port. There was no equivalent location in the RI/FS Workplan. The boring was advanced to approximately 15 fbg encountering alluvium and without encountering bedrock. UMC will complete the boring using the hollow-stem auger drilling method until either 30 fbg or refusal and install a 2-inch diameter PVC well with a 10-foot screened interval at its bottom.

LVRR-24:

Addendum 2 called for a well installed 60 fbg with at least 3 sample ports. There was no equivalent location in the RI/FS Workplan but location LVRR-24 is closest and most equivalent in expected geology to FW-23 which called for two wells; one screened from 5 to 25 fbg and the other at 25 to 45 fbg in the upper and lower Camillus, respectively. UMC will attempt to conduct a bedrock test boring at location LVRR-24 using air rotary drilling techniques and install a FLUTe liner in the boring consistent with Addendum 2 to the RI/FS Work Plan. Failing this attempt, UMC proposes to complete three borings. The borings will be completed to 20 fbg, 40 fbg and 60 fbg with a drilling method to be determined by conditions encountered. A 2" diameter PVC well with a 10 foot screened interval will be installed in each boring at its bottom.

LVRR-25:
Addendum 2 called for a well installed 90 fbg with at least 3 sample ports. The equivalent location in the RI/FS Workplan (FW-25) called for three wells screened from 20 to 40 fbg, 50 to 70 fbg and 80 to 100 fbg in the upper Falkirk and the upper and lower Camillus, respectively. The current boring has a surface casing extending to 21 fbg and is

open to a depth of approximately 38 fbg. UMC will install a 2-inch diameter PVC monitoring well in the existing borehole screened from 28 to 38 fbg. UMC will also install 2 additional monitoring wells at this location completed to 70 fbg and 100 fbg with drilling method to be determined by conditions encountered. A 2-inch diameter PVC monitoring well will be installed in each boring with a 10-foot screened interval at the bottom of each.

LVRR-31:
UMC will continue efforts to obtain access from the property owner. Once access is obtained, UMC will advance the boring and install a Flute liner as planned. Based on past experience, it may take more than one attempt to obtain a stable borehole for installation of the Flute liner. Any attempted borings will be sealed with grout consistent with NYSDEC Monitoring Well Decommissioning Policy (CP-43, November 3, 2009).

TABLES

Table 1

Unicorn Management Consultants, LLC

Lehigh Valley Railroad Derailment Superfund Site
Status of Monitoring Well Installations
July 2010

Well ID	Proposed Maximum Depth (fbg)	Top of Casing (fbg)	Depth Drilled (fbg)	Depth To Bottom (TOC)	Depth To Bottom (fbg)	Collapse Depth (fbg)	Depth To Water (TOC)	Depth To Water (fbg)	Status
LVRR-18	170	-1.8	171.4	173.18	171.43	NA	31.09	29.34	Blank Flute Liner Installed
LVRR-19	160	Proposed location of aquifer test well to be installed at a later date							
LVRR-20	130	-2.0	137.4	140.25	138.25	NA	32.32	30.32	Blank Flute Liner Installed
LVRR-21	125	-1.1	124.7	125.86	124.74	NA	44.89	43.77	Blank Flute Liner Installed
LVRR-22	30	NA	39.0	NA	39.00	NA	Not Gauged	6.00	2" PVC Well Constructed screened 28 to 38 fbg
LVRR-23	30	NA	15.0	NA	NA	0	NA	NA	Bedrock not encountered - abandoned
LVRR-24	60	Not yet attempted							
LVRR-25	90	-2.0	38.0	40.00	38.00	38	Not Gauged	Not Gauged	Surface casing to 21 fbg. Open boring 21-38 fbg
LVRR-26A	195	-2.0	182.0	62.00	60.00	58	48.91	46.90	Boring abandoned - backfilled with grout
LVRR-26B	195	-1.6	195.0	196.09	194.45	NA	45.89	44.25	Blank Flute Liner Installed
LVRR-27A	220	-1.4	185.0	150.85	149.41	149	80.66	79.22	Boring abandoned - backfilled with grout
LVRR-27B	220	-1.7	223.0	225.08	223.36	NA	85.97	84.25	Blank Flute Liner Installed
LVRR-28	165	-1.0	162.0	163.34	162.39	NA	46.78	45.83	Blank Flute Liner Installed
LVRR-29A	160	-1.8	160.0	102.46	100.67	103	48.78	46.99	Blank Flute Liner Installed
LVRR-29B	160	-2.0	162.0	89.00	87.00	89	Not Gauged	Not Gauged	Boring abandoned - backfilled with grout
LVRR-29C	160	-1.4	160.0	146.34	144.99	145	51.80	50.45	Blank Flute Liner Installed
LVRR-30	190	-1.2	184.0	185.07	183.87	NA	78.00	76.80	Blank Flute Liner Installed
LVRR-31	176	Not yet attempted							Pending access aggreement with property owner
LVRR-32	160	-1.4	160.0	161.20	159.85	NA	51.60	50.25	Blank Flute Liner Installed
LVRR-33	170	-1.5	175.0	174.20	172.74	NA	65.70	64.24	Blank Flute Liner Installed
LVRR-34A	150	NA	30.0	NA	NA	30	Not Gauged	Not Gauged	Boring abandoned - backfilled with cuttings
LVRR-34B	150	-0.5	153.0	153.94	153.44	NA	34.00	33.50	Blank Flute Liner Installed
LVRR-35	200	-1.3	164.8	164.75	163.45	NA	38.03	36.73	Blank Flute Liner Installed
LVRR-36	65	-2.0	67.6	67.60	65.60	NA	40.92	38.92	Blank Flute Liner Installed

fbg= feet below grade
TOC = Top of casing
NA = Not Applicable
Depth to water measurement taken in open bore-holes.
Measurements referenced to TOC and ground surface are preliminary pending surveying.

FIGURES