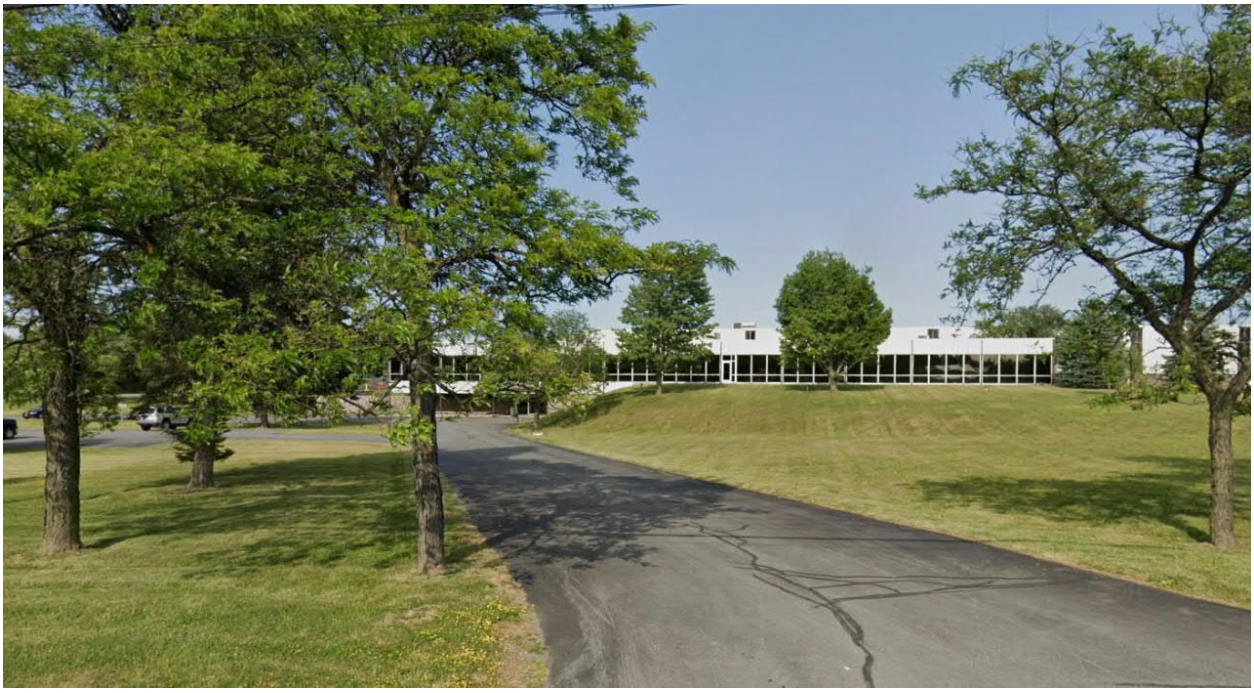
EMERSON ELECTRIC CO.

PERIODIC REVIEW REPORT

FORMER ROLLWAY BEARING CORPORATION FACILITY, ONONDAGA COUNTY, LIVERPOOL, NEW YORK - SITE NO. V00202

JULY 21, 2021



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EMERSON ELECTRIC CO.

PROJECT NO.: 31401545.018
DATE: JULY 21, 2021

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1 EXECUTIVE SUMMARY

WSP USA Inc. (WSP) is submitting this Periodic Review Report (PRR) on behalf of Emerson Electric Co. (Emerson) for the former Rollway Bearing Corporation facility at 7600 Morgan Road in Liverpool, New York (Site). This PRR has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation's (DER's) DER-10 *Technical Guidance for Site Investigation and Remediation*, dated May 2010, the revised Site Management Plan (SMP), dated May 3, 2021, and NYSDEC correspondence to Stephen Clarke of Emerson, dated May 7, 2021. This PRR covers the reporting period from June 21, 2020, through June 21, 2021. The Site is currently enrolled in the New York State Voluntary Cleanup Program (VCP; Site No. V00202). A Deed Restriction was recorded for the property on December 1, 2017, and Emerson received a Release and Covenant Not to Sue from the NYSDEC on March 21, 2018.

1.1 SITE SUMMARY

Investigations performed at the Site from 1995 through 2014 identified the following constituents that required remediation:

- Petroleum-affected soil
- Light non-aqueous phase liquid (LNAPL)

Remediation and monitoring activities completed at the Site under the VCP included the following:

- Quarterly groundwater monitoring to verify that the extent of volatile organic compounds (VOCs) in onsite groundwater was not expanding and that VOC concentrations were not increasing
- Excavation of petroleum-affected soil from the former gasoline underground storage tank area
- Installation and ongoing operation of a vacuum-enhanced LNAPL recovery system in the former heat treat area

In addition to the above activities, a sub-slab depressurization system (SSDS) was voluntarily installed at the Site in August and September 2020, to address the potential for vapor intrusion associated with VOCs present in sub-slab soil vapor under the eastern portion of the facility.

On completion of the activities described above, remaining contamination on the property consisted of the following:

- VOCs in groundwater in isolated areas onsite
- VOCs in sub-slab soil gas
- LNAPL below the former heat treat area

Institutional Controls and Engineering Controls (ICs and ECs) have been incorporated into the remedy for the Site to control exposure to remaining contamination and ensure protection of public health and the environment. A Deed Restriction granted to the NYSDEC, and recorded with the Onondaga County Clerk, requires the property owner to comply with the SMP and all ICs and ECs placed on the Site until the Deed Restriction is extinguished.

1.2 EFFECTIVENESS OF THE REMEDIAL PROGRAM

Active remediation at the Site consists of operating and maintaining a vacuum-enhanced LNAPL recovery system in the former heat treat area and inspecting and replacing absorbents in select wells on a bi-monthly basis to recover LNAPL from the subsurface. During the reporting period, the system operated continuously, and progress was made toward achieving the remedial objective through the removal of approximately 8.1 gallons of LNAPL from Site wells using absorbents. Therefore, the system continues to be effective in removing LNAPL from the subsurface. In addition to removing LNAPL with absorbents, approximately 23 gallons of LNAPL were also removed from select wells in May 2021 by applying a high vacuum to each well using a vacuum truck, air-tight cap, and drop tube.

1.3 COMPLIANCE

No deficiencies were identified with respect to compliance with the SMP for the Site; therefore, no corrective actions are required at this time.

1.4 RECOMMENDATIONS

WSP does not recommend changing the frequency of PRR submittals. In addition, no modifications are recommended to the ICs and ECs, or the operation and maintenance (O&M) plan. WSP is recommending one change to the monitoring plan. As described below in Section 2.4, absorbents will no longer be installed in wells OW-8, SB-7, and SB-10 because these wells have not exhibited measurable LNAPL since 2019 or earlier. New absorbents will be placed in these wells if LNAPL is observed in the future.

2 SITE OVERVIEW

2.1 SITE LOCATION AND DESCRIPTION

The former Rollway Bearing Corporation facility is located at 7600 Morgan Road in Liverpool, Onondaga County, New York, on approximately 78 acres (Figures 1 and 2). The Site consists of a 220,000 square-foot main building that contains office space, equipment repair and fabrication areas, and warehouse space. Asphalt parking and equipment staging areas are north, east, and south of the main building; and lawn areas and asphalt driveways and parking areas are west of the main building. A metal storage shed is east of the main building and an abandoned steel water tank and pump house are to the southeast of the main building. The eastern portion of the property is undeveloped. The Site is zoned commercial and is currently used for commercial and industrial purposes.

The properties adjoining the Site and in the surrounding area consist primarily of commercial properties. The properties directly south of the Site include commercial properties; properties directly north of the Site include commercial and industrial properties; properties directly east of the Site include utility and transportation (railroad) corridors; and the properties on the west side of Morgan Road are used for commercial and residential purposes.

2.2 SUMMARY OF INVESTIGATION AND REMEDIATION ACTIVITIES

2.2.1 SOIL

Investigations performed at the Site in 1995 indicated the presence of VOCs in soil at concentrations above the site-specific soil cleanup objectives (SCOs) in the former gasoline underground storage tank area near the southeast corner of the main building (Figure 1 in Appendix A). In November and December 2001, petroleum-affected soil was excavated from the former gasoline underground storage tank area for offsite disposal (Figure 2 in Appendix A). Verification sample results from the final excavation were below the site-specific SCOs.

2.2.2 GROUNDWATER

Groundwater investigations were performed at the Site from 1995 to 2011. VOCs were detected in groundwater above the ambient water quality standards in the following areas: former monitoring well MW-4R directly east of the former heat treat area; MW-5 in the former hazardous waste storage building; MW-9D inside the main building in the former drum storage area; and in an in-situ groundwater sample collected southeast of the main building (Figure 3 in Appendix A).

From 2001 through August 2003, quarterly groundwater monitoring was performed to verify that the extent of VOCs in onsite groundwater was not expanding, and that VOC concentrations were not increasing. The results of the monitoring program indicated that the extent of VOCs in groundwater was defined, that the plume was not expanding, and that VOC concentrations were decreasing. Furthermore, the majority of the chlorinated VOC mass near the former hazardous waste storage building consisted of cis- and trans-1,2-dichloroethene (DCE) and vinyl chloride, with relatively little parent compound (i.e., trichloroethene [TCE]) present. These data indicated that natural attenuation was occurring at the Site. It was concluded that the objectives of the groundwater monitoring program were achieved and a request to terminate groundwater monitoring at the Site was submitted to the NYSDEC in April 2004. The NYSDEC did not respond to this request.

In August 2018, WSP voluntarily collected groundwater samples for analysis of VOCs from five wells (MW-2R, RW-1, OW-8, MW-6, and MW-10) that comprise the long-term groundwater monitoring network in the approved SMP (Figure 3 in Appendix A). The objective of the sampling event was to evaluate the current groundwater quality in these wells. The results indicated non-detectable levels of VOCs in MW-2R, MW-6, and RW-1. TCE was detected in OW-8 and MW-10 at

concentrations slightly above the ambient water quality standard of 5 µg/l. In addition, cis-1,2-DCE (36.2 µg/l) was detected in OW-8 above the ambient water quality standard of 5 µg/l. The absence of VOCs above the reporting limits in RW-1 and only a trace level of TCE in OW-8 indicates that the residual LNAPL in this area is not a significant source of VOCs to groundwater. In addition, the sample collected from OW-8 had low concentrations of chlorinated VOCs (less than 50 µg/l) with daughter products indicative of sequential reduction and electron donor concentrations to support continued natural attenuation.

2.2.3 LNAPL

During the Phase II site investigation in 1995, LNAPL was identified in the upper portion of the weathered shale bedrock below a portion of the former heat treat area and in an isolated area adjacent to the east wall of the facility. From September 2001 through February 2003, LNAPL recovery pilot test activities were performed to evaluate the effectiveness of gravity skimming and vacuum-enhanced gravity skimming in removing LNAPL from the weathered shale below the former heat treat area. The pilot tests demonstrated that vacuum-enhanced skimming was a potentially effective technology for the Site, although the effective radius of influence was small (i.e., approximately 1.5 feet) and the product-containing fractures within the weathered shale were not laterally extensive.

In May 2008, a vacuum-enhanced LNAPL recovery system was installed as an interim remedial measure to remove measurable LNAPL (i.e., greater than 0.01 foot) within the weathered shale under a portion of the former heat treat area of the facility (Figure 3). The main components of the system are a 30-gallon vapor-liquid separator (VLS), a skid-mounted 2-horsepower vacuum blower, a 10-micron air filter, a dilution valve with 10-micron air filter, inlet and outlet vacuum gauges, exhaust stack pressure gauge, and an exhaust stack temperature gauge. The equipment skid is housed within an enclosure inside the former heat treat area. Subsurface vacuum conveyance piping extends from the treatment system equipment to recovery wells OW-2, RW-1, OW-3, and OW-8 (Figure 3).

In March 2011, a focused application of pneumatic fracturing was performed in two areas within the former heat treat area to increase the density and connectivity of fractures within the weathered shale bedrock and overburden materials. Three of the open soil borings used to implement the pneumatic fracturing were subsequently converted to 4-inch inside-diameter polyvinyl chloride wells in 2016 (i.e., OW-9/FB-2, OW-10/FB-1, and OW-11/FB-4; Figure 3). The remaining soil boring was abandoned.

In November 2019, WSP redeveloped LNAPL recovery wells OW-2, OW-3, OW-8, and RW-1 to remove sediment and ensure effective communication between the well screens and the surrounding formation. The redevelopment activities consisted of surging and brushing the screened interval and bottom of the well casings to loosen any fine-grained sediment in the filter pack and adjacent aquifer material. Groundwater and sediment were then removed from the wells by pumping and subsequently disposed of offsite in accordance with state and federal requirements.

In December 2019, the system was turned off to conduct a voluntary high-vacuum removal event using a vacuum truck to remove residual LNAPL from wells OW-1, OW-2, OW-3, OW-5, OW-9/FB-2, OW-10/FB-1, and SB-5 and the surrounding formation. These wells were selected based on the presence of measurable LNAPL on consecutive occasions in 2018 and 2019. The LNAPL removal activities consisted of applying a high vacuum to each well for a period of 30 to 50 minutes using an air tight well cap equipped with a drop tube. Liquids removed from the wells were contained and disposed of offsite. The vacuum blower remained off following the high-vacuum LNAPL removal event to evaluate LNAPL recovery in these wells under ambient conditions. The system was re-started on January 23, 2020, after obtaining LNAPL thickness measurements from the wells.

2.2.4 SUB-SLAB SOIL GAS AND INDOOR AIR

Vapor intrusion assessment activities were performed within the main building from 2006 through 2012 (Figures 4 and 5 in Appendix A). Concurrent indoor air and sub-slab soil gas sampling performed in the former manufacturing area of the main building indicated that mitigation was recommended with respect to TCE. Additional sub-slab soil gas samples were collected to delineate the extent of VOCs, primarily TCE, in sub-slab soil gas. The extent of TCE in sub-slab samples was defined to the north, east, and south by the perimeter building foundation; however, the western extent of TCE in soil gas was not defined. Because products containing TCE were used in the facility, the New York State Department of Health (NYSDOH) indicated that exposure to TCE was regulated by the U.S. Occupational Safety and Health Administration and that no further sampling or vapor mitigation was warranted in the former manufacturing area.

From June 2010 through February 2012, concurrent indoor air and sub-slab soil gas samples were collected on five occasions from the office area in the northwest corner of the main building. The results from the initial sampling event indicated the presence of tetrachloroethene (PCE) at levels slightly above the criteria for vapor mitigation. However, four subsequent sampling events performed during the heating season indicated that no further action was recommended. Because the use of PCE-containing materials was documented on the plant floor, no actions to address potential exposure were pursued at that time. The SMP requires that the potential for exposure via the soil vapor intrusion pathway be evaluated if there is a change in the use of PCE-containing materials within the building (provided the potential for vapor intrusion has not been previously addressed to the department's satisfaction).

In March 2019, WSP collected sub-slab soil gas samples at 13 locations within the former manufacturing building in accordance with an approved work plan, dated February 25, 2019 (Figure 4 in Appendix A). The objective of the sampling activities was to evaluate current sub-slab soil vapor conditions at select locations that were sampled in 2006 and 2007, and to further delineate the extent of VOCs in sub-slab soil vapor. On October 28, 2019, WSP submitted a report to the NYSDEC summarizing the results of the sub-slab soil vapor sampling. The March 2019 sub-slab sample results indicated that concentrations of TCE have decreased from 58 percent to greater than 99 percent since 2006 and 2007. In addition, the sampling activities were effective in delineating the extent of VOCs in sub-slab soil vapor.

In February 2020, WSP submitted a Sub-Slab Depressurization System (SSDS) Installation Work Plan for the installation of a proposed SSDS in the eastern portion of the former Rollway Bearing facility building to limit the potential for vapor intrusion to indoor air. NYSDEC approved the SSDS Installation Work Plan in correspondence to Emerson, dated April 9, 2020. From August to September 2020, WSP installed the SSDS. The system consists of a network of 23 SSD extraction points, organized into 19 distinct legs, each with a dedicated extraction fan and exhaust stack (Figure 4). SSDS start-up was completed in September 2020. The SSDS Completion Report was submitted to, and approved by, the NYSDEC in March 2021.

2.3 REMEDIAL OBJECTIVES

The remedial objective for the vacuum-enhanced LNAPL recovery system is the absence of measurable LNAPL (greater than 0.01 foot) in the heat treat area wells for a period of 12 consecutive months. Once LNAPL remediation is complete, the SMP requires that eight consecutive quarters of groundwater results from select wells meet the ambient water quality standards.

2.4 CHANGES TO THE SELECTED REMEDY

Beginning in 2008, monthly site visits were performed to maintain the vacuum-enhanced LNAPL recovery system, obtain LNAPL thickness and water-level measurements, and remove LNAPL that accumulated in the wells using a vacuum truck. In 2014, WSP obtained approval from the NYSDEC to reduce the site visit frequency to bi-monthly and to recover LNAPL using absorbents suspended in the wells.

Absorbents were removed from wells SB-7 and SB-10 in February 2020 and from well OW-8 in June 2020 and were not reinstalled because no measurable product was observed in these wells since 2019, or earlier. New absorbents will be placed in these wells if LNAPL is observed in the future.

An SSDS was voluntarily installed at the Site in August and September 2020, to address the potential for vapor intrusion associated with VOCs present in sub-slab soil vapor under the eastern portion of the facility. The active SSDS will not be discontinued unless prior written approval is granted by the NYSDEC and NYSDOH. If monitoring data indicates that the SSDS may no longer be required, a proposal to discontinue operation of the SSDS will be submitted by the remedial party to the NYSDEC and NYSDOH.

3 EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

Active remediation at the Site consists of operating and maintaining a vacuum-enhanced LNAPL recovery system in the former heat treat area and inspecting and replacing absorbents in select wells on a bi-monthly basis to recover LNAPL from the subsurface. Progress was made toward achieving the remedial objective as demonstrated by the following:

- A total of approximately 31 gallons of LNAPL were removed from site wells during the reporting period. This volume is based on the weight of spent absorbents removed from select wells (8.1 gallons of LNAPL removed) and approximately 23 gallons of LNAPL removed during a high-vacuum removal event performed in May 2021, as described in Section 4.1.2.
- LNAPL was either not measurable, or did not exceed the remedial objective of 0.01 foot, in three wells (i.e., SB-7, SB-10, and OW-8) during the reporting period.
- Based on a statistical trend analysis as described in Section 5.2.3, the LNAPL thickness in wells OW-2 and OW-5 show a downward trend from May 2008 (when the system became operational) to the present. The LNAPL thickness in wells OW-9/FB-2 and OW-10/FB-1 show a downward trend from March 2011 (when the soil borings were first installed to implement pneumatic fracturing[1]) to the present. The LNAPL thickness in wells OW-3 and SB-5 showed no significant trend.

[1] Soil borings FB-1 and FB-2 were installed in March 2011 to implement pneumatic fracturing to enhance LNAPL recovery. The open boreholes were monitored for the presence of LNAPL until May 2016 when the borings were converted to 4-inch inside-diameter observation wells.

4 IC/EC PLAN COMPLIANCE REPORT

4.1 REQUIREMENTS AND COMPLIANCE

4.1.1 INSTITUTIONAL CONTROLS

The following ICs are included in the SMP for the Site:

- The property may be used for commercial or industrial use;
- All ECs must be operated and maintained as specified in the SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Onondaga County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the NYSDEC;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in the SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Deed Restriction;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 2, or if the use of PCE-containing materials within the existing building changes (provided the potential for vapor intrusion has not been previously addressed to the department's satisfaction). Any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the Site are prohibited.

A site-wide inspection was performed on June 17, 2021, to evaluate compliance with the ICs, including site use, to document the general site conditions at the time of the inspection; and to evaluate compliance with requirements of the SMP and the Deed Restriction. The results of the annual inspection are documented on the Annual Site-Wide Inspection Form (Appendix B).

Based on the results of the site inspection, the property continues to be used for commercial purposes, and no new buildings have been constructed on the property. No groundwater is being used onsite and no vegetable gardening or farming has occurred at the Site. No evidence of excavation activities was observed within the areas of remaining contamination.

The site-wide inspection also included an evaluation of whether PCE-containing materials continue to be used onsite. During the site inspection, WSP observed a product that contained PCE being used within the building (i.e., Brakleen Brake Parts Cleaner).

Based on the results of the site inspection, the ICs are in place and have been complied with, including compliance with the Deed Restriction and the SMP. No deficiencies were identified with respect to the ICs, and no changes to the ICs are recommended at this time.

4.1.2 ENGINEERING CONTROLS

The ECs included in the revised SMP (May 3, 2021) for the Site consist of a cover system, a vacuum-enhanced LNAPL recovery system, and a SSDS.

COVER SYSTEM

The cover system is comprised of the existing concrete floor slab within the former manufacturing area of the main building, which prevents exposure to remaining contamination below the building. Specifically, the cover system prevents exposure to VOCs in sub-slab soil vapor and groundwater and to LNAPL below a portion of the heat treat area. The location of the cover system is shown in Figure 5. The cover system is inspected annually and is considered to be protective to human health and the environment if there are no breeches in the concrete slab.

An annual site inspection was performed on June 17, 2021, to evaluate the continued effectiveness of the cover system, and the results of the annual inspection are documented on the Annual Site-Wide Inspection Form (Appendix B). During the inspection, the concrete slab comprising the cover system appeared in good condition, and no breeches or significant cracks were observed. In addition, no excavation activities were performed within the cover system area during the reporting period. However, during the installation of the SSDS in August and September 2020, the floor slab was cored at 22 locations within the eastern portion of the building. The floor slab was promptly restored in accordance with the approved work plan.

The cover system continues to perform as designed and remain effective in protecting human health and the environment. No deficiencies were identified with respect to the cover system, and no changes to the cover system are recommended at this time.

LNAPL RECOVERY SYSTEM

During the reporting period, O&M site visits were performed on June 24, July 30, September 24, and November 11, 2020, and January 21, March 12, April 21, and June 10, 2021, to monitor and maintain the LNAPL recovery system and ensure that the system was operating as designed. During each site visit, an O&M checklist was completed to document operating parameters within the system enclosure and at the recovery wells (Table 1; Appendix C). During the reporting period, system operating parameters were generally within typical operating ranges with the following exceptions:

- On several occasions, the vacuum reading for OW-2 was below the typical operating readings (i.e., vacuum readings as low as -1.13 inches of water column [“WC] compared to typical readings of -40 to -54 “WC). The tubing used for the vacuum measurement for OW-2 was replaced on September 24, 2020, and the flow to the recovery wells was rebalanced on June 10, 2021. These actions did not resolve this issue. WSP will continue to monitor the vacuum readings for OW-2 to determine a potential cause of the low readings.
- RW-1, which had an elevated vacuum reading on April 21, 2021 (i.e., -27.28 “WC compared to typical readings of -5 to -11 “WC). On June 10, 2021, the air flow from the recovery wells was rebalanced, which brought the vacuum for RW-1 into the appropriate range (i.e., -8.22 “WC).

The LNAPL recovery system was operational during the reporting period except when it was turned off to perform maintenance and before the high-vacuum removal event in May 2021.

On May 11, 2021, the system was turned off to conduct a voluntary high-vacuum removal event using a vacuum truck to remove residual LNAPL from wells OW-1, OW-2, OW-3, OW-5, OW-9/FB-2, OW-10/FB-1, RW-2, and SB-5 and the surrounding formation (Figure 3). These wells were generally selected based on the presence of measurable LNAPL during the previous 12-month period (Figure 6). The LNAPL removal activities consisted of applying a high vacuum to each well for a period of 30 to 330 minutes over 3 days, using an air tight well cap equipped with a drop tube. The time that vacuum was applied to each well was based on field observations regarding the volume of recovered LNAPL. Liquids removed from the wells were transferred to a vacuum truck. The system was re-started on May 13, 2021.

A total of approximately 960 gallons of liquid were pumped from the selected wells into the vacuum truck. After settling overnight, approximately 110 gallons of LNAPL/water mixture were transferred from the truck to two labeled DOT-authorized 55-gallon steel drums, which were staged onsite pending characterization and offsite disposal. The remaining 850 gallons of liquid in the vacuum truck were transported offsite for disposal at the permitted Lewiston Water Pollution Control Center in Lewistown, New York.

An annual site inspection was performed on June 17, 2021, to evaluate the continued effectiveness of the LNAPL Recovery system, and the results of the annual inspection are documented on the Annual Site-Wide Inspection Form (Appendix B).

SUB-SLAB DEPRESSURIZATION SYSTEM

The SSDS was operational starting in September 2020. On January 21, February 21, April 21, and June 10, 2021, WSP inspected the SSDS to ensure its proper operation and obtained vacuum readings from SSDS extraction points. On April 21 and May 11, 2021, WSP collected vacuum measurements from the sub-slab vacuum monitoring points. The completed SSDS inspection forms, including vacuum measurements, are provided in Appendix D. During the reporting period, system operating parameters were within normal operating ranges.

An annual site inspection was performed on June 17, 2021, to evaluate the continued effectiveness of the SSDS, and the results of the annual inspection are documented on the Annual Site-Wide Inspection Form (Appendix B).

4.2 IC/EC CERTIFICATION

The IC/EC Certification Form is provided in Appendix E.

5 MONITORING PLAN COMPLIANCE REPORT

5.1 MONITORING PLAN COMPONENTS

Monitoring activities were completed during the reporting period in accordance with the SMP, with any exceptions discussed under Section 5.2. A summary of the monitoring program is presented below:

Monitoring Program	Frequency	Monitored
Site-wide Inspection	Annually	Overall Site Conditions, IC and EC Compliance, and Use of PCE-Containing Materials Within the Building
Absorbent Inspection/Replacement	Bi-monthly	OW-1, OW-2, OW-3, OW-4, OW-5, OW-8, OW-9, OW-10, OW-11, RW-1, RW-2, SB-5, SB-7, SB-8, SB-10
LNAPL Thickness Measurements	Semi-annually; 30 days after removal of absorbents	OW-1, OW-2, OW-3, OW-4, OW-5, OW-8, OW-9, OW-10, OW-11, RW-1, RW-2, SB-5, SB-7, SB-8, SB-10
SSDS Inspection and Vacuum Measurements on Extraction Points	Bi-monthly	SSDS extraction points SSD-01 through SSD-23; inspection of SSD Risers, Piping Network, and Discharge Fans
Vacuum Measurements on Sub-slab Vacuum Monitoring Points	Semi-annually	SS-1, SS-3, SS-10, SS-11, SS-12, SS-14, SS-15, SS-16, SS-17, MP-3, MP-10, MP-15, MP-19, MP-23, MP-30, MP-31

5.2 MONITORING COMPLETED DURING REPORTING PERIOD

5.2.1 SITE-WIDE INSPECTION

As discussed under the IC/EC Compliance Report (Section 4 of this PRR), a site-wide inspection was performed on June 17, 2021, to verify compliance with the ICs and to evaluate the continued effectiveness of the ECs. The results of the annual inspection are described under Section 4.1 of this PRR and are documented on the Annual Site-Wide Inspection Form (Appendix B).

5.2.2 ABSORBENT INSPECTION AND REPLACEMENT

Site visits were performed on June 24, September 24, and November 11, 2020, and January 21, April 21, and June 10, 2021 to inspect and, if applicable, replace absorbents suspended in wells OW-1, OW-2, OW-3, OW-4, OW-5, OW-9/FB-02, OW-10/FB-1, OW-11/FB-4, RW-1, RW-2, SB-5, and SB-8 (Appendix F). During each site visit, the absorbent socks exhibiting staining were weighed and placed in a 55-gallon steel drum for subsequent characterization and offsite disposal. New absorbent socks were installed in wells with evidence of LNAPL. In general, absorbent socks exhibiting no noticeable evidence of staining were returned to their respective well.

During the reporting period, no absorbents were placed in wells OW-8, SB-7, and SB-10 because no product has been observed in these wells since at least December 2019. New absorbents will be placed in these wells if LNAPL is observed in the future. No absorbents were placed in any of the wells from June 24 to July 30, 2020, and from January 21 to February 22, 2021, or March 12, 2021 (depending on well accessibility), to allow LNAPL to accumulate for approximately 30 days before collecting LNAPL thickness measurements. In addition, from May 11 to 13, 2021, absorbents were removed from wells OW-1, OW-2, OW-3, OW-5, OW-9/FB-2, OW-10/FB-1, RW-2, and SB-5, and a high vacuum was applied to each of these wells with a vacuum truck to remove residual LNAPL.

To estimate the amount of LNAPL removed during the reporting period, the weight of each absorbent sock was recorded before installation and again when it is removed from the well for disposal. The weight of the new and spent absorbent socks are used to estimate the mass of LNAPL removed, which is then converted to volume using an assumed density for the LNAPL. In addition, the calculation assumes 20 percent of the increase in absorbent weight is water. Based on the weight of spent absorbents, approximately 8.1 gallons of LNAPL were removed from Site wells using absorbents during the reporting period from the absorbents. Field forms documenting the removal and replacement of absorbents are provided in Appendix F. In addition, to removing LNAPL with absorbents, approximately 23 gallons of LNAPL were also removed from select wells in May 2021 by applying a high vacuum to each well using a vacuum truck, air-tight cap, and drop tube.

5.2.3 LNAPL THICKNESS MONITORING

LNAPL thickness measurements were collected from all wells on July 30, 2020. In July 2020, measurable LNAPL greater than the remedial objective (i.e., 0.01 foot) was detected in 9 of the 15 wells at thicknesses ranging from 0.03 foot in OW-5 and SB-8 to 0.82 foot in SB-5 (Figure 6; Tables 2 and 3). The occurrence of the maximum LNAPL thickness in well SB-5 is consistent with historical data.

On September 24, 2020, LNAPL thickness measurements were collected from wells RW-2, OW-4, OW-8, OW-9/FB-2, SB-7, and SB-10, which are wells that had no measurable product during the July site visit. Measurable LNAPL (i.e., greater than 0.01 foot) was detected in 2 wells at thicknesses of 0.03 foot in OW-4 and 0.19 foot in RW-2 (Figure 6; Tables 2 and 3). No measurement could be collected from OW-9/FB-2 because it was dry.

LNAPL thickness measurements were collected from all wells on February 22, 2021 or March 12, 2021, depending on well accessibility. In February through March 2021, measurable LNAPL greater than the remedial objective (i.e., 0.01 foot) was detected in 8 of the 15 wells at thicknesses ranging from 0.02 foot in SB-5 and RW-2 to 0.53 foot in OW-3 (Figure 6; Tables 2 and 3). The occurrence of the maximum LNAPL thickness in well OW-3 was not consistent with recent historical data.

Graphs of LNAPL thickness versus time for select wells that have historically contained measurable LNAPL over consecutive occasions are provided in Appendix G. The graphs for OW-1, OW-2, OW-3, OW-5, and SB-5 start in May 2008 when the vacuum-enhanced LNAPL recovery system began operating. The graphs for OW-9/FB-2 and OW-10/FB-1 start in March 2011 when the soil borings were installed to implement pneumatic fracturing and were later converted to observation wells in May 2016.

A Mann-Kendall analysis was conducted to evaluate the trend of LNAPL measurements collected in these select wells using the U.S. Environmental Protection Agency's *Statistical Software ProUCL 5.1.00 for Environmental Applications for Data Sets with and without Nondetect Observations* (October 2015). The Mann-Kendall analysis is a non-parametric (rank-based) procedure that tests for simple monotonic (i.e., single direction – increasing or decreasing) trends. The results of the Mann-Kendall analysis are provided in Appendix H and summarized below.

Well	Time Period	Trend of LNAPL Thickness
OW-1	May 2008 – February 2021	Increasing Trend
OW-2	May 2008 – February 2021	Decreasing Trend
OW-3	May 2008 – February 2021	No Trend
OW-5	May 2008 – February 2021	Decreasing Trend
OW-9/FB-2	March 2011 – February 2021	Decreasing Trend
OW-10/FB-1	March 2011 – February 2021	Decreasing Trend
SB-5	May 2008 – February 2021	No Trend

Based on the results of the Mann-Kendall trend analysis, the LNAPL thickness has decreased in four of the seven wells. The trend analysis of OW-1 indicates an increase in the LNAPL thickness since May 2008, and the trend analysis for OW-3 and SB-5 indicate no trend in LNAPL thickness since May 2008. The downward trend in the LNAPL thickness over time in most wells indicates that the current system is effective in removing LNAPL from the subsurface.

5.3 COMPARISONS WITH REMEDIAL OBJECTIVES

The remedial objective for the vacuum-enhanced LNAPL recovery system is the absence of measurable LNAPL (greater than 0.01 foot) in the heat treat area wells for a period of 12 consecutive months. During the reporting period, measurable product exceeding the remedial objective of 0.01 foot was present during at least one event in 12 of 15 wells at thicknesses ranging from 0.02 foot in RW-2 and SB-5 to 0.82 foot in SB-5. Only three wells (i.e., OW-8, SB-7, and SB-10) had no measurable product during the entire reporting period.

5.4 MONITORING DEFICIENCIES

No monitoring deficiencies were identified during the reporting period.

5.5 CONCLUSIONS AND RECOMMENDATIONS FOR CHANGES

Based on the monitoring completed during the reporting period, the absorbent inspection and replacement activities continue to be effective in removing LNAPL from the subsurface, and most wells continue to show a reduction in LNAPL thickness over time. The collection of LNAPL thickness measurements on a semi-annual basis is an appropriate frequency given that 12 wells continue to exhibit measurable LNAPL. Therefore, no changes are recommended to the monitoring plan. As noted in Section 2.4, absorbents will no longer be installed in wells OW-8, SB-7, and SB-10 because no product has been observed in these wells during the reporting period. New absorbents will be placed in these wells if LNAPL is observed in the future.

6 O&M PLAN COMPLIANCE REPORT

6.1 O&M PLAN COMPONENTS

6.1.1 LNAPL RECOVERY SYSTEM

The treatment system consists of a 30-gallon VLS, a vacuum blower, a 10-micron air filter, a dilution valve with 10-micron air filter, inlet and outlet vacuum gauges, and exhaust stack temperature and pressure gauges. O&M activities consist of the following:

Location	Monitor	Activity	Frequency
Before VLS	Vacuum	-	Bi-Monthly
Before Air Filter	Vacuum	-	Bi-monthly
Before Blower Inlet	Vacuum	-	Bi-monthly
Discharge Stack	Pressure	-	Bi-monthly
Discharge Stack	Temperature	-	Bi-monthly
RW-1	Vacuum, Flow	-	Bi-monthly
OW-2	Vacuum, Flow	-	Bi-monthly
OW-3	Vacuum, Flow	-	Bi-monthly
OW-8	Vacuum, Flow	-	Bi-monthly
Dilution Air Filter	-	Replace Filter	As needed
In-line Air Filter	-	Replace Filter	As needed
VLS	-	Remove Condensate	As needed
High-High Level Alarm	-	Test/Clean Switch	Annually, or more frequently if water is entrained
Equipment/Enclosure	-	Cleaning	Semi-annually
Blower Motor	-	Replace Bearings	25,000 hours, or when unusual vibrations are observed

6.1.2 SUB-SLAB DEPRESSURIZATION SYSTEM

The SSDS consists of a network of 23 SSD extraction points, organized into 19 distinct legs, each with a dedicated extraction fan and exhaust stack. In addition, there are 18 vacuum monitoring locations consisting of permanent vapor pins. O&M activities consist of the following:

Component	Monitor	Activity	Frequency
SSD Risers, Piping Network, Discharge Fans	Inspect	-	Bi-monthly
Extraction Points	Vacuum	-	Bi-monthly
Sub-slab Vacuum Monitoring Points	Vacuum	-	Semi-annually
Digital Vacuum Gauges on Extraction Points	-	Replace 9V battery	Every 1.5 years
Combined Extraction Point Flow Balancing	-	Adjust butterfly valve positions to balance flow and measure resulting vacuum at the extraction points	Semi-annually

Component	Monitor	Activity	Frequency
SSDS Fans	-	Replace Fans	As needed when observed to be inoperable
SSDS Vacuum Gauges	-	Replace Vacuum Gauges	As needed when observed to be inoperable
SSDS Piping, Fittings, Valves	-	Repair Piping, Fittings, and/or Valves	As needed when observed to be damaged
Bollards, Pallet Guards	-	Repair Bollards and/or Pallet Guards	As needed when observed to be damaged

6.2 O&M COMPLETED DURING REPORTING PERIOD

6.2.1 LNAPL RECOVERY SYSTEM

O&M visits were performed during the reporting period on June 24, July 30, September 24, and November 11, 2020, and January 21, March 12, April 21, and June 10, 2021, to ensure proper operation of the LNAPL recovery system. The LNAPL recovery system was operational during the reporting period except when it was turned off to perform maintenance and during the high-vacuum removal event in May 2021. During each O&M visit, operating parameters associated with the treatment system equipment and recovery wells were recorded on an O&M checklist (Appendix C) and are summarized in Table 1.

System maintenance required during the reporting period included replacing the inline and dilution air filters, replacing the tubing for the vacuum measurements for OW-2, and rebalancing air flow from the LNAPL recovery wells.

6.2.2 SUB-SLAB DEPRESSURIZATION SYSTEM

O&M visits were performed during the reporting period on January 21, February 22, April 21, May 11, and June 10, 2021, to ensure proper operation of the SSDS. The completed SSDS inspection forms, including vacuum measurements, are provided in Appendix D.

6.3 EVALUATION OF REMEDIAL SYSTEMS

6.3.1 LNAPL RECOVERY SYSTEM

The vacuum-enhanced LNAPL recovery system was operational on arrival for each site visit (except during the high-vacuum removal event). The operating parameters for the treatment system equipment and recovery wells were generally consistent with the optimal operating conditions specified in the O&M manual. Overall, the LNAPL recovery system operated as designed and continues to be effective.

6.3.2 SUB-SLAB DEPRESSURIZATION SYSTEM

The SSDS was operational on arrival for each site visit. The operating parameters for the SSDS were generally consistent with the optimal operating conditions specified in the O&M manual. Overall, the SSDS operated as designed.

6.4 O&M DEFICIENCIES

Minor deficiencies with respect to the O&M plan were documented during the reporting period; however, these deficiencies did not affect the overall performance of the systems.

6.5 CONCLUSIONS AND RECOMMENDATIONS FOR IMPROVEMENTS

During the reporting period, the LNAPL recovery system and SSDS operated as designed and continues to be effective. No recommendations for improvements are suggested at this time.

7 OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

7.1 COMPLIANCE WITH SMP

Based on the results of the annual site inspection and other data gathered during the reporting period, the requirements of the IC/EC, monitoring, and O&M plans were met.

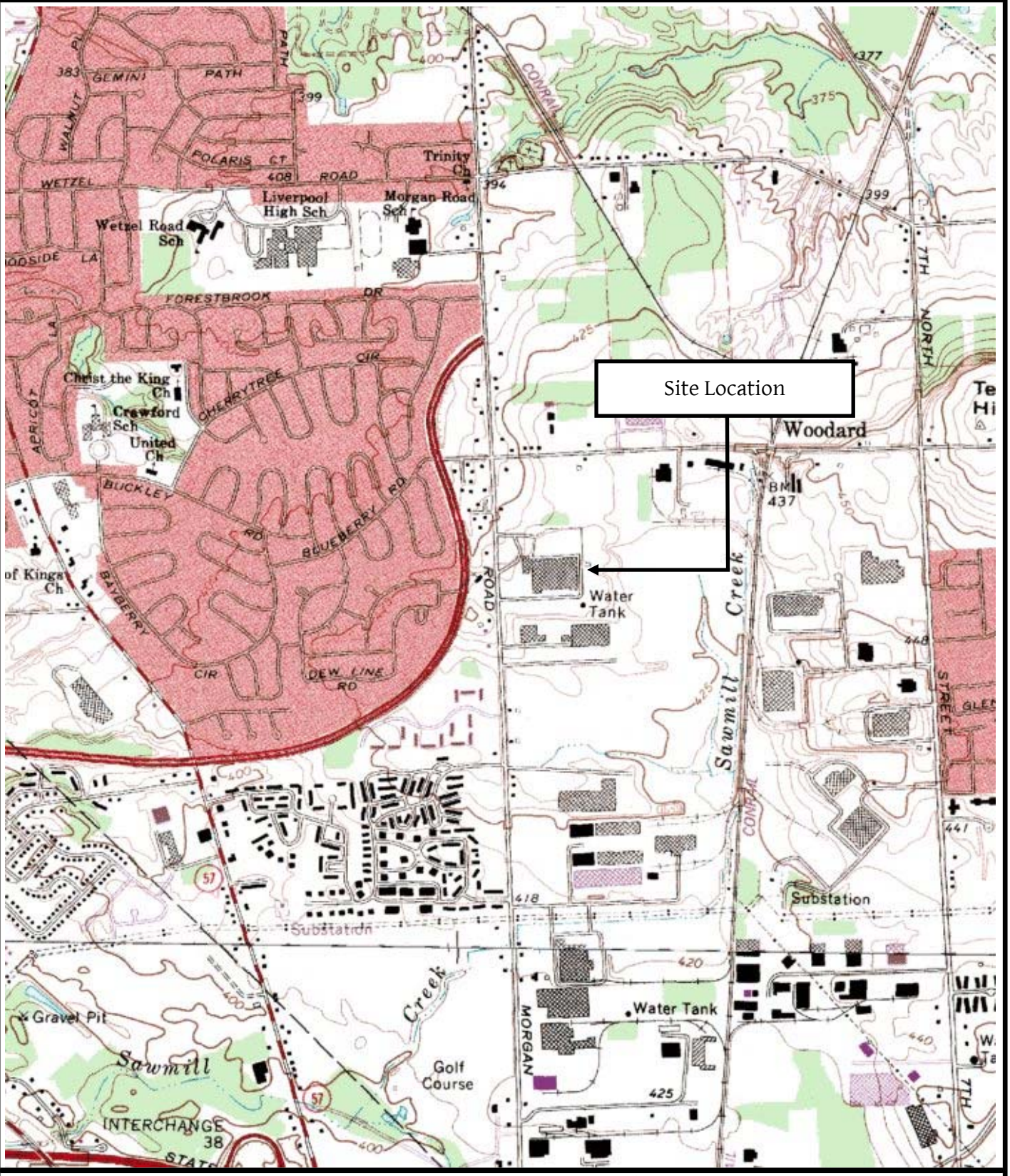
7.2 PERFORMANCE AND EFFECTIVENESS OF REMEDY

Based on an evaluation of the information gathered during implementation of the SMP, the LNAPL recovery system and SSDS are performing as designed.

7.3 FUTURE PRR SUBMITTALS

The next PRR will be submitted in July 2022. No changes to the PRR reporting schedule are recommended at this time.

FIGURES



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BREWERTON, NEW YORK
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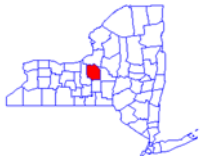

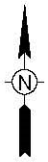

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SCALE, FEET

DWG Name: 3140435.03
Checked: EMH 6/5/2012
Approved: ACS 6/5/2012
Drawn By: RLO 8/10/2017
A

WSP USA
5 Sullivan Street
Cazenovia, New York 13035
(315) 655-3900

FIGURE 1

SITE LOCATION MAP

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

NOTES:

1. GOOGLE EARTH AERIAL PHOTOGRAPH, DATED 04/13/2017.
2. AERIAL PHOTOGRAPHS USED FOR THIS ILLUSTRATION CONTAIN INHERENT DISTORTIONS RESULTING FROM THE PHOTOGRAPHIC PROCESS THAT MAY RESULT IN SLIGHT MISALIGNMENTS WITH THE SURVEYED SITE FEATURES.

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LEGEND

- MW-04 ⊕ MONITORING WELL
- PROPERTY LINE AND INSTITUTIONAL CONTROL BOUNDARY
- RAILROAD
- EXISTING SANITARY SEWER

N

0 250 500

SCALE IN FEET

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK

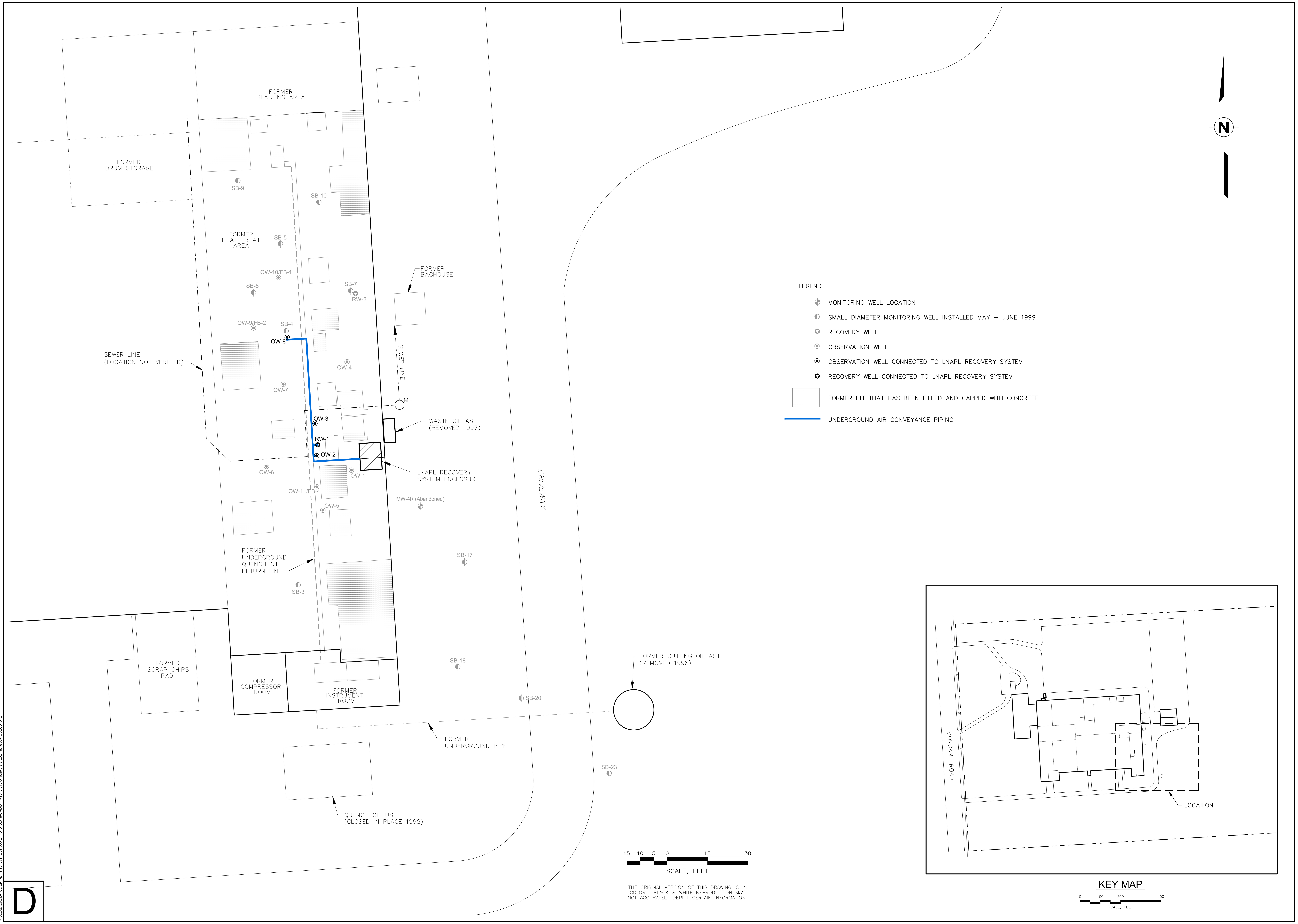
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

Drawn By: LS 8/7/2017
Checked:
Approved:
DWG Name: 314M0435-002

FIGURE 2
SITE LAYOUT

WSP USA Inc.
5 SULLIVAN STREET
CAZENOVIA, NY 13035
TEL: +1 315.655.3900

R:\Acad\CADD_CLIENTS\EMERSON\LIVERPOOL, NY LIPE ROLLWAY FACILITY\314040435\CADD\314M0435-002.dwg 8/7/2017 12:58 PM USLS01166


FORMER BLASTING AREA
FORMER DRUM STORAGE
SB-9
SB-10
FORMER HEAT TREAT AREA
SB-5
OW-10/FB-1
SB-8
SB-7
RW-2
FORMER BAGHOUSE
OW-9/FB-2
SB-4
OW-8
SEWER LINE (LOCATION NOT VERIFIED)
OW-4
SEWER LINE
OW-7
MH
OW-3
WASTE OIL AST (REMOVED 1997)
RW-1
OW-2
OW-6
OW-1
LNAPL RECOVERY SYSTEM ENCLOSURE
OW-11/FB-4
MW-4R (Abandoned)
OW-5
DRIVEWAY
FORMER UNDERGROUND QUENCH OIL RETURN LINE
SB-17
SB-3
FORMER SCRAP CHIPS PAD
SB-18
FORMER CUTTING OIL AST (REMOVED 1998)
FORMER COMPRESSOR ROOM
FORMER INSTRUMENT ROOM
SB-20
FORMER UNDERGROUND PIPE
SB-23
QUENCH OIL UST (CLOSED IN PLACE 1998)
N
LEGEND
MONITORING WELL LOCATION
SMALL DIAMETER MONITORING WELL INSTALLED MAY – JUNE 1999
RECOVERY WELL
OBSERVATION WELL
OBSERVATION WELL CONNECTED TO LNAPL RECOVERY SYSTEM
RECOVERY WELL CONNECTED TO LNAPL RECOVERY SYSTEM
FORMER PIT THAT HAS BEEN FILLED AND CAPPED WITH CONCRETE
UNDERGROUND AIR CONVEYANCE PIPING
15 10 5 0 15 30
SCALE, FEET
THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.
MORGAN ROAD
LOCATION
KEY MAP
0 100 200 400
SCALE, FEET
D

REVISIONS

REV	DESCRIPTION

DRAWN BY EGC
CHECKED NW/AMR 8/4/2017
APPROVED

SEAL

DATE

LNAPL RECOVERY SYSTEM LAYOUT FORMER HEAT TREAT DEPARTMENT

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP USA Inc.
7000 E. GENESEE ST. BLDG D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

FIGURE 3

Drawing Number
314V1545.018-016


LEGEND
MW-4 MONITORING WELL
SS-17 SUB-SLAB VAPOR SAMPLE (MARCH 2019)
SS-4 SUB-SLAB VAPOR MONITORING POINT
OW-3 OBSERVATION WELL CONNECTED TO LNAPL RECOVERY SYSTEM
RW-1 RECOVERY WELL CONNECTED TO LNAPL RECOVERY SYSTEM
MP-17 TEMPORARY 5/8" VAPOR MONITORING POINT
MP-10 PERMANENT VACUUM MONITORING POINT
EX-2 PILOT TEST EXTRACTION POINT
SSD-15 SSD SYSTEM EXTRACTION POINT
SSD SYSTEM DISCHARGE FAN
COLUMN
FORMER PIT FILLED AND CAPPED WITH CONCRETE
FORMER PIT TRENCH
LOCATION OF OVERHEAD CRANE
LNAPL RECOVERY SYSTEM AIR CONVEYANCE PIPING
ABOVEGROUND SSD SYSTEM PIPING
N
SCALE, FEET
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D

REVISIONS

REV	DESCRIPTION

DRAWN BY RAE 03172021
CHECKED AMR 04232021
APPROVED

SEAL

DATE

SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

FORMER ROLLWAY BEARING FACILITY
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP USA Inc.
7000 E. GENESEE ST. BLDG D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

FIGURE 4

Drawing Number
314P1545.018–D17

NOTES:

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2. AERIAL PHOTOGRAPHS USED FOR THIS ILLUSTRATION CONTAIN INHERENT DISTORTIONS RESULTING FROM THE PHOTOGRAPHIC PROCESS THAT MAY RESULT IN SLIGHT MISALIGNMENTS WITH THE SURVEYED SITE FEATURES.

LEGEND

- PROPERTY LINE AND INSTITUTIONAL CONTROL BOUNDARY
- RAILROAD
- EXISTING SANITARY SEWER
- COVER SYSTEM

N

0 250 500

SCALE IN FEET

B

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Drawn By: LS 8/7/2017
Checked:
Approved:
DWG Name: 314M0435-006

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK

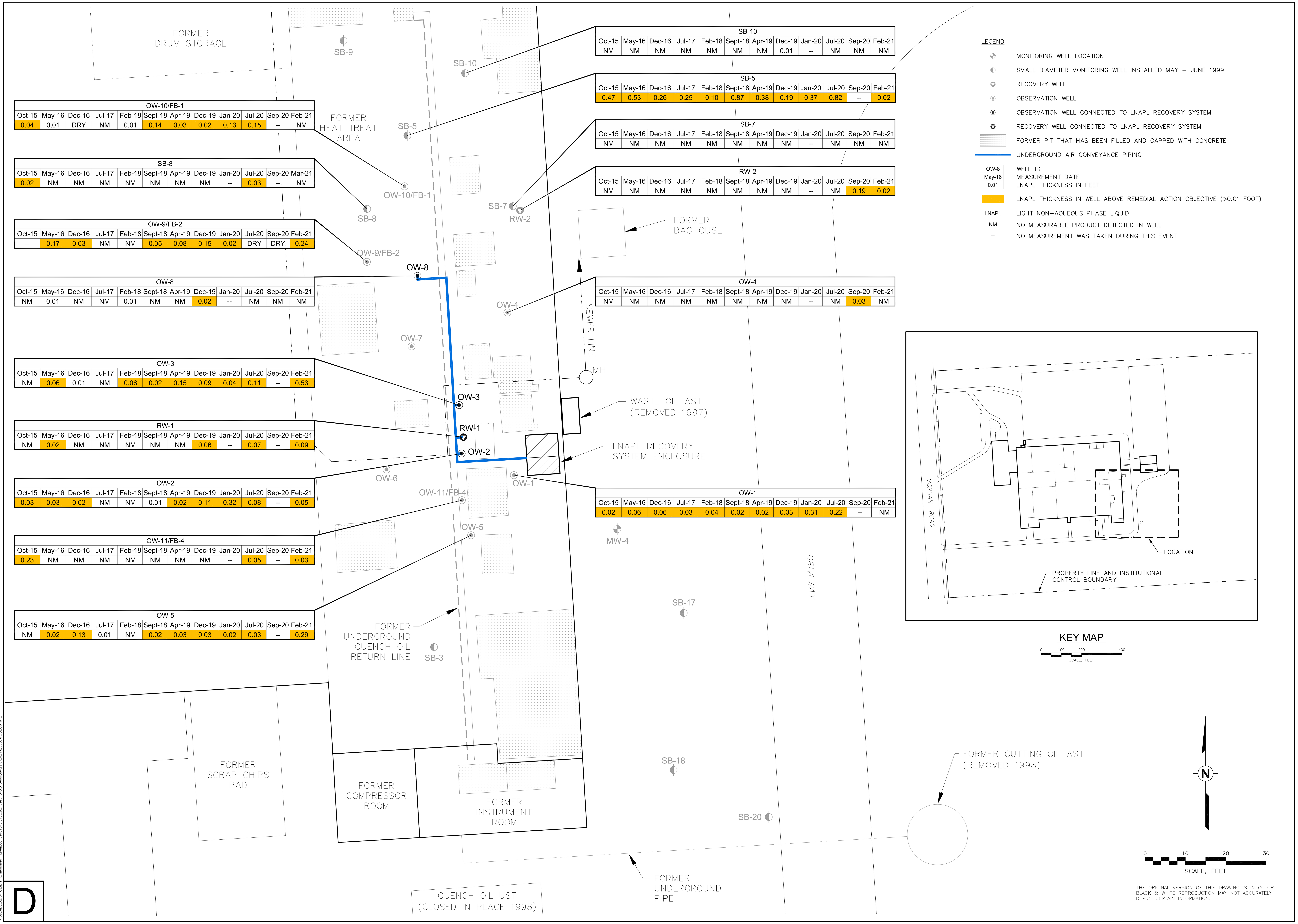
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 5

COVER SYSTEM LOCATION

WSP USA Inc.
7000 E. GENESEE STREET
BUILDING D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

Z:\Acad\CADD_CLIENTS\EMERSON\NY-LIVERPOOL LIPE ROLLWAY FACILITY\314004351CADD\314M0435-006.dwg 7/7/2021 8:09 AM USEC01012



OW-10/FB-1

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
0.04	0.01	DRY	NM	0.01	0.14	0.03	0.02	0.13	0.15	--	NM

SB-8

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Mar-21
0.02	NM	NM	NM	NM	NM	NM	NM	--	0.03	--	NM

OW-9/FB-2

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
--	0.17	0.03	NM	NM	0.05	0.08	0.15	0.02	DRY	DRY	0.24

OW-8

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	0.01	NM	NM	0.01	NM	NM	0.02	--	NM	NM	NM

OW-3

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	0.06	0.01	NM	0.06	0.02	0.15	0.09	0.04	0.11	--	0.53

RW-1

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	0.02	NM	NM	NM	NM	NM	0.06	--	0.07	--	0.09

OW-2

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
0.03	0.03	0.02	NM	NM	0.01	0.02	0.11	0.32	0.08	--	0.05

OW-11/FB-4

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
0.23	NM	NM	NM	NM	NM	NM	NM	--	0.05	--	0.03

OW-5

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	0.02	0.13	0.01	NM	0.02	0.03	0.03	0.02	0.03	--	0.29

SB-10

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	NM	NM	NM	NM	NM	NM	0.01	--	NM	NM	NM

SB-5

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
0.47	0.53	0.26	0.25	0.10	0.87	0.38	0.19	0.37	0.82	--	0.02

SB-7

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	NM	NM	NM	NM	NM	NM	NM	--	NM	NM	NM

RW-2

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	NM	NM	NM	NM	NM	NM	NM	--	NM	0.19	0.02

OW-4

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
NM	NM	NM	NM	NM	NM	NM	NM	--	NM	0.03	NM

OW-1

Oct-15	May-16	Dec-16	Jul-17	Feb-18	Sept-18	Apr-19	Dec-19	Jan-20	Jul-20	Sep-20	Feb-21
0.02	0.06	0.06	0.03	0.04	0.02	0.02	0.03	0.31	0.22	--	NM

LEGEND

- MONITORING WELL LOCATION
- SMALL DIAMETER MONITORING WELL INSTALLED MAY – JUNE 1999
- RECOVERY WELL
- OBSERVATION WELL
- OBSERVATION WELL CONNECTED TO LNAPL RECOVERY SYSTEM
- RECOVERY WELL CONNECTED TO LNAPL RECOVERY SYSTEM
- FORMER PIT THAT HAS BEEN FILLED AND CAPPED WITH CONCRETE
- UNDERGROUND AIR CONVEYANCE PIPING
- OW-8 / May-16 / 0.01: WELL ID / MEASUREMENT DATE / LNAPL THICKNESS IN FEET
- LNAPL THICKNESS IN WELL ABOVE REMEDIAL ACTION OBJECTIVE (>0.01 FOOT)
- LNAPL: LIGHT NON–AQUEOUS PHASE LIQUID
- NM: NO MEASURABLE PRODUCT DETECTED IN WELL
- --: NO MEASUREMENT WAS TAKEN DURING THIS EVENT

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REVISIONS

REV | DESCRIPTION

DRAWN BY ECG
CHECKED
APPROVED

LNAPL THICKNESS MEASUREMENTS
FORMER HEAT TREAT DEPARTMENT

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP USA Inc.
7000 E. GENESEE ST. BLDG D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

FIGURE 6

Drawing Number
314V1545.018–009

TABLES

Table 1

LNAPL Recovery System Maintenance and Monitoring Summary
Former Rollway Bearing Corporation Facility
Liverpool, New York (a)

Date	Arrival Time	Departure Time	Inspector	Weather		LNAPL Recovery System Skid						LNAPL Recovery Wells								Notable Observations	System Maintenance	
												Vacuum ("WC)				Flow (scfm)						
				Temp (°F)	Conditions	Vacuum Before Vapor-Liquid Separator ("WC)	Vacuum Before Air Filter ("WC)	Vacuum Before Blower Inlet ("WC)	Discharge Stack Pressure ("WC)	Discharge Stack Temperature (°F)	Kilowatt Hour Meter (kWh)	OW-2	RW-1	OW-3	OW-8	OW-2	RW-1	OW-3	OW-8		Description of Maintenance Needed	Date completed
Typical Reading:						*-58 to -62*	*-66 to -68*	*-86*	*2*	*120 to 138*	*-*	*-40 to -54*	*-5 to -11*	*-6 to -10*	*-8 to -10*	*3 to 7*	*5.5 to 7*	*2 to 3*	*4 to 11*			
06/24/20	11:00	14:00	Nathaniel Winston	78	sunny	-70	-78	-94	2	148	156,216	-47	-6	-8	-8	4.5	6.0	3	12	None	Replace inline and dilution air filters	7/30/2020 and 8/2020
07/30/20	9:40	12:30	Nathaniel Winston	77	rainy	-70	-78	-90	2	145	*	**	**	**	**	5.5	6.0	3.5	7.0	* inadvertently not recorded **not conducted because portable gauge was broken	N/A	N/A
09/24/20	9:00	14:15	Nathaniel Winston	55	sunny	-38	-47	-74	3.5	110	159,327	-11	-6.5	-15.5	-7.5	8	10	7	5	Vacuum reading on OW-2 low compared to typical readings	Replace tubing for vacuum measurement for OW-2	11/11/2021
11/11/20	10:30	15:00	Nathaniel Winston	62	rain	-35	-44	-39	3	110	160,770	-45	-6	-9	-8	5	6	3	7	Vacuum readings and discharge stack temperature low compared to typical readings, which are likely attributed to replacing the inline and dilution filters	N/A	N/A
01/21/21	9:30	12:40	Nathaniel Winston	26	cloudy	-40	-50	-46	2.5	102	162,985	-10.5	-6	-15.5	-7.5	8	9	8	5	Vacuum readings and discharge stack temperature low compared to typical readings, which are likely attributed to replacing the inline and dilution filters; vacuum reading on OW-2 low compared to typical readings	N/A	N/A
03/12/21	10:00	11:00	Nathaniel Winston	39	sunny	-52	-60	-56	2	120	164,646	-29.9	-8.11	-8.69	-7.66	8	4.5	7.5	5.5	Vacuum reading on OW-2 low compared to typical readings	N/A	N/A
04/21/21	10:00	Not Recorded	Nathaniel Winston	31	snow	-54	-64	-58	3	120	166,031	-7.00	-27.28	-4.45	-3.18	9.0	4.0	7.0	5.0	Vacuum reading on OW-2 low compared to typical readings. Vacuum reading on RW-1 high compared to typical readings.	Rebalance air flow from LNAPL recovery wells	6/10/2021
06/10/21	9:45	Not Recorded	Nathaniel Winston	73	sunny	-54	-62	-58	2	120	167,695	-1.13	-8.22	-0.88	-2.77	6.0	5.5	5.5	5.5	Air flow from the recovery wells was rebalanced, which brought vacuum of RW-1 into appropriate range. Vacuum reading on OW-2 low compared to typical readings.	N/A	N/A

a/ LNAPL = light non-aqueous phase liquid; °F = degrees Fahrenheit; "WC = inches of water column; kWh = kilowatt hour; scfm = standard cubic feet per minute; OW = observation well; RW = recovery well; N/A = not applicable.

Table 2
Summary of LNAPL Thickness Measurements - Recovery Wells and Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

Well ID	OW-2					RW-1					OW-3					OW-8					SB-1				
Casing Diameter (in)	2					4					2					4					1				
TOC Elevation (ft amsl)	445.88					446.13					445.91					446.01					446.15				
Modified TOC Elevation (ft amsl)	445.12					444.90					445.18					444.91					-				
Measurement Dates	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (c)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (c)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (c)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (c)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)
		Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected		
09/19/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.84	12.35	11.89	434.26	**0.51**
03/04/03	15.84	16.05	15.86	430.02	**0.21**	12.74	14.14	12.88	433.25	**1.40**	12.41	12.91	12.46	433.45	**0.50**	-	-	-	-	-	12.69	12.73	12.69	433.46	**0.04**
09/04/03	NM	16.29	16.29	429.59	0.0	15.64	15.69	15.65	430.48	**0.05**	15.61	16.53	15.70	430.21	**0.92**	-	-	-	-	-	13.64	13.69	13.65	432.50	**0.05**
01/09/04	15.71	15.80	15.72	430.16	**0.09**	12.80	13.45	12.87	433.26	**0.65**	12.58	13.5	12.67	433.24	**0.92**	-	-	-	-	-	-	-	-	-	-
01/15/04	15.71	15.83	15.72	430.16	**0.12**	12.85	13.45	12.91	433.22	**0.60**	12.68	12.96	12.71	433.20	**0.28**	-	-	-	-	-	12.79	12.86	12.80	433.35	**0.07**
01/22/04	15.72	15.93	15.74	430.14	**0.21**	13.00	13.64	13.07	433.06	**0.64**	12.81	13.42	12.87	433.04	**0.61**	-	-	-	-	-	12.29	13.14	12.38	433.77	**0.85**
02/04/04	15.70	15.95	15.73	430.15	**0.25**	13.07	13.68	13.13	433.00	**0.61**	12.88	13.32	12.93	432.98	**0.44**	-	-	-	-	-	13.00	13.18	13.02	433.13	**0.18**
02/12/04	15.84	16.00	15.86	430.02	**0.16**	12.90	13.41	12.95	433.18	**0.51**	12.69	13.31	12.75	433.16	**0.62**	-	-	-	-	-	12.61	12.91	12.64	433.51	**0.30**
02/25/04	13.83	14.50	13.90	431.98	**0.67**	12.82	13.30	12.87	433.26	**0.48**	12.61	12.98	12.65	433.26	**0.37**	-	-	-	-	-	12.43	12.86	12.47	433.68	**0.43**
11/07/07	15.75	16.31	15.81	430.07	**0.56**	12.47	13.09	12.53	433.60	**0.62**	12.40	12.93	12.45	433.46	**0.53**	NM	12.69	12.69	433.32	0.0	11.98	12.68	12.05	434.10	**0.70**
05/20/08	15.02	15.19	15.04	430.08	**0.17**	11.32	11.98	12.62	432.28	**0.66**	11.61	12.51	12.43	432.75	**0.90**	12.32	12.66	13.45	431.46	**0.34**	11.98	12.69	12.05	434.10	**0.71**
05/21/08	Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup				
05/21/08	15.01	15.25	15.03	430.09	**0.24**	11.02	12.29	12.38	432.52	**1.27**	11.60	13.45	12.52	432.66	**1.85**	12.18	12.69	13.33	431.58	**0.51**	12.05	12.62	12.11	434.04	**0.57**
05/30/08	14.45	15.39	14.55	430.57	**0.94**	11.49	12.09	12.78	432.12	**0.60**	11.98	12.62	12.78	432.40	**0.64**	12.17	12.70	13.32	431.59	**0.53**	12.26	12.65	12.30	433.85	**0.39**
06/06/08	14.50	15.08	14.56	430.56	**0.58**	11.69	12.09	12.96	431.94	**0.40**	12.01	12.71	12.81	432.37	**0.70**	12.47	12.78	13.60	431.31	**0.31**	12.29	12.71	12.33	433.82	**0.42**
06/20/08	14.51	15.19	14.58	430.54	**0.68**	11.78	12.00	13.03	431.87	**0.22**	12.08	12.85	12.89	432.29	**0.77**	12.78	12.79	13.88	431.03	0.01	12.34	12.71	12.38	433.77	**0.37**
06/27/08	14.80	15.22	14.84	430.28	**0.42**	11.76	11.91	13.01	431.89	**0.15**	12.04	12.72	12.84	432.34	**0.68**	12.80	12.83	13.90	431.01	**0.03**	12.08	12.40	12.11	434.04	**0.32**
07/31/08	13.60	14.82	13.73	431.39	**1.22**	10.81	11.05	12.06	432.84	**0.24**	NM	10.38	10.38	434.80	0.0	11.55	12.75	12.77	432.14	**1.20**	11.80	11.89	11.81	434.34	**0.09**
09/03/08	14.07	15.06	14.17	430.95	**0.99**	10.77	10.95	12.02	432.88	**0.18**	NM	10.42	10.42	434.76	0.0	10.95	11.80	12.14	432.77	**0.85**	11.54	11.80	11.57	434.58	**0.26**
10/03/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/10/08	14.29	15.00	14.36	430.76	**0.71**	11.42	11.45	12.65	432.25	**0.03**	10.38	10.44	11.12	434.06	**0.06**	-	-	-	-	-	11.44	11.78	11.47	434.68	**0.34**
11/21/08	14.38	14.40	14.38	430.74	**0.02**	11.24	11.27	12.47	432.43	**0.03**	10.46	10.47	11.19	433.99	0.01	10.63	10.81	11.75	433.16	**0.18**	-	-	-	-	-
01/09/09	14.38	14.60	14.40	430.72	**0.22**	11.38	11.46	12.62	432.28	**0.08**	10.42	10.45	11.15	434.03	**0.03**	10.68	11.13	11.83	433.08	**0.45**	11.44	11.62	11.46	434.69	**0.18**
02/12/09	14.40	14.44	14.40	430.72	**0.04**	11.31	11.38	12.55	432.35	**0.07**	10.80	10.84	11.53	433.65	**0.04**	10.62	10.88	11.75	433.16	**0.26**	11.34	11.59	11.37	434.78	**0.25**
03/20/09	14.51	14.55	14.51	430.61	**0.04**	11.24	11.28	12.47	432.43	**0.04**	10.87	10.94	11.61	433.57	**0.07**	10.71	10.83	11.82	433.09	**0.12**	11.47	11.49	11.47	434.68	**0.02**
05/06/09	14.54	14.61	14.55	430.57	**0.07**	11.48	11.50	12.71	432.19	**0.02**	11.36	11.38	12.09	433.09	**0.02**	10.88	10.91	11.98	432.93	**0.03**	11.70	11.85	11.72	434.43	**0.15**
06/12/09	14.40	15.08	14.47	430.65	**0.68**	11.72	12.08	12.99	431.91	**0.36**	11.81	11.84	12.54	432.64	**0.03**	10.62	10.66	11.72	433.19	**0.04**	11.90	12.09	11.92	434.23	**0.19**
07/15/09	14.30	14.37	14.31	430.81	**0.07**	11.73	11.84	12.97	431.93	**0.11**	12.10	12.28	12.85	432.33	**0.18**	10.59	10.63	11.69	433.22	**0.04**	12.09	12.11	12.09	434.06	**0.02**
08/31/09	-	-	-	-	-	11.59	11.65	12.83	432.07	**0.06**	11.90	12.20	12.66	432.52	**0.30**	11.03	11.14	12.14	432.77	**0.11**	11.82	11.93	11.83	434.32	**0.11**
09/30/09	13.41	14.52	13.52	431.60	**1.11**	11.74	11.76	12.97	431.93	**0.02**	12.08	12.48	12.85	432.33	**0.40**	11.41	11.98	12.57	432.34	**0.57**	11.92	11.98	11.93	434.22	**0.06**
11/09/09	12.95	14.25	13.08	432.04	**1.30**	11.48	11.51	12.71	432.19	**0.03**	11.90	11.99	12.64	432.54	**0.09**	11.18	11.34	12.30	432.61	**0.16**	11.78	11.95	11.80	434.35	**0.17**
12/08/09	13.50	14.62	13.62	431.50	**1.12**	11.44	11.46	12.67	432.23	**0.02**	11.90	12.77	12.72	432.46	**0.87**	11.03	11.75	12.20	432.71	**0.72**	11.90	12.21	11.93	434.22	**0.31**
01/07/10	13.55	14.95	13.69	431.43	**1.40**	11.19	11.23	12.42	432.48	**0.04**	10.65	10.70	11.39	433.79	**0.05**	11.21	11.41	12.33	432.58	**0.20**	11.48	11.55	11.49	434.66	**0.07**
02/16/10	13.30	14.45	13.42	431.70	**1.15**	11.24	11.26	12.47	432.43	**0.02**	11.68	11.75	12.42	432.76	**0.07**	11.54	11.83	12.67	432.24	**0.29**	11.78	11.81	11.78	434.37	**0.03**
03/22/10	13.49	13.76	13.52	431.60	**0.27**	11.31	11.35	12.54	432.36	**0.04**	11.20	11.25	11.94	433.24	**0.05**	11.54	11.55	12.64	432.27	0.01	11.49	11.51	11.49	434.66	**0.02**
04/28/10	13.69	15.02	13.83	431.29	**1.33**	11.63	11.69	12.87	432.03	**0.06**	11.88	12.09	12.63	432.55	**0.21**	11.71	11.81	12.82	432.09	**0.10**	11.95	11.99	11.95	434.20	**0.04**
05/28/10	13.85	15.19	13.99	431.13	**1.34**	11.61	11.62	12.84	432.06	0.01	11.94	11.98	12.67	432.51	**0.04**	11.78	11.81	12.88	432.03	**0.03**	11.87	11.90	11.87	434.28	**0.03**
06/28/10	13.13	14.62	13.28	431.84	**1.49**	11.40	11.50	12.64	432.26	**0.10**	11.55	11.61	12.29	432.89	**0.06**	11.60	11.68	12.71	432.20	**0.08**	11.63	11.85	11.65	434.50	**0.22**
08/03/10	13.50	14.40	13.59	431.53	**0.90**	11.41	11.44	12.64	432.26	**0.03**	11.74	11.98	12.49	432.69	**0.24**	11.62	12.48	12.81	432.10	**0.86**	11.68	11.69	11.68	434.47	0.01
09/01/10	13.60	14.71	13.71	431.41	**1.11**	11.18	11.20	12.41	432.49	**0.02**	11.80	11.86	12.54	432.64	**0.06**	11.58	12.24	12.75	432.16	**0.66**	11.57	11.64	11.58	434.57	**0.07**
10/28/10	13.28	14.49	13.40	431.72	**1.21**	11.15	11.16	12.38	432.52	0.01	11.68	12.05	12.45	432.73	**0.37**	11.42	12.51	12.63	432.28	**1.09**	11.71	11.80	11.72	434.43	**0.09**
12/03/10	13.80	14.21	13.84	431.28	**0.41**	11.11	11.13	12.34	432.56	**0.02**	11.65	12.89	12.51	432.67	**1.24**	11.63	12.40	12.81	432.10	**0.77**	11.50	11.55	11.51	434.64	**0.05**
01/10/11	13.87	15.02	13.99	431.13	**1.15**	11.41	11.42	12.64	432.26	0.01	11.88	12.05	12.63	432.55	**0.17**	11.50	12.15	12.67	432.24	**0.65**	11.62	11.65	11.62	434.53	**0.03**
02/15/11	13.05	14.49	13.20	431.92	**1.44**	11.40	11.41	12.63	432.27	0.01	11.81	12.01	12.56	432.62	**0.20**	11.68	12.11	12.82	432.09	**0.43**	11.45	11.46	11.45	434.70	0.01
03/07/11	12.98	14.41	13.13	431.99	**1.43**	11.15	11.16	12.38	432.52	0.01	10.80	10.82	11.53	433.65	**0.02**	11.52	11.54	12.62	432.29	**0.02**	11.19	11.20	11.19	434.96	0.01
03/08-03/09/11	Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed				
03/16/11	12.99	13.93	13.09	432.03	**0.94**	10.73	10.74	11.96	432.94	0.01	10.53	10.54	11.26	433.92	0.01	11.89	12.09	13.01	431.90	**0.20**					
03/31/11	13.16	13.90	13.24	431.88	**0.74**	11.00	11.01	12.23	432.67	0.01	11.08	11.10	11.81	433.37	**0.02**	12.45	12.69	13.57	431.34	**0.24**					
04/08/11	13.08	13.76	13.15	431.97	**0.68**	11.02	11.03	12.25	432.65	0.01	11.22	11.26	11.95	433.23	**0.04**	12.42	12.62	13.54	431.37	**0.20**					
04/15/11	13.18	13.88	13.25	431.87	**0.70**	11.21	11.22	12.44	432.46	0.01	11.26	11.32	12.00	433.18	**0.06**	12.40	12.59	13.52	431.39	**0.19**					
04/21/11	12.97	13.00	12.97	432.15	**0.03**	NM	11.03	11.03	433.87	0.0	10.79	10.80	11.52	433.66	0.01	12.86	12.88	13.96	430.95	**0.02**					
05/18/11 (g)	12.71	12.82	12.72	432.40	**0.11**	10.88	10.89	12.11	432.79	0.01	10.78	10.85	11.52	433.66	**0.07**	12.40	12.41	13.50	431.41	0.01					
07/13/11	12.81	13.21	12.85	432.27	**0.40**	11.52	11.53	12.75	432.15	0.01	11.65	11.71	12.39	432.79	**0.06**	15.79	15.80	16.89	428.02	0.01					
08/18/11	12.68	13.19	12.73	432.39	**0.51**	10.84	10.86	12.07	432.83	**0.02**	11.45	11.82	12.22	432.96	**0.37**	NM	15.83	15.83	429.08	0.0					
09/21/11	12.52	13.03	12.57	432.55	**0.51**	10.89	10.92	12.12	432.78	**0.03**	11.05	11.06	11.78	433.40	0.01	12.22	12.46	13.34	431.57	**0.24**					
11/01/11	12.32	13.00	12.39	432.73	**0.68**	10.84	10.86	12.07	432.83	**0.02**	11.35	11.36	12.08	433.10	0.01	12.22	12.52	13.35	431.56	**0.30**					
12/07/11	12.30	12.98	12.37	432.75	**0.68**	10.70	10.73	11.93	432.97	**0.03**	10.98	11.41	11.75	433.43	**0.43**	12.21	12.41	13.33	431.58	**0.20**					
01/06/12	12.44	12.98	12.50	432.62	**0.54**	10.62	10.63	11.85	433.05	0.01	10.93	10.95	11.66	433.52	**0.02**	12.15	12.30	13.27	431.64	**0.15**					
02/22/12	11.68	12.90	11.81	433.31	**1.22**	10.48	10.51	11.71	433.19	**0.03**	10.92	10.95	11.65	433.53	**0.03**	12.12	12.28	13.24	431.67	**0.16**					
04/04/12	12.65	13.38	12.73	432.39	**0.73**	10.74	10.76	11.97	432.93	**0.02**	10.98	11.00	11.71	433.47	**0.02**	12.12	12.24	13.23	431.68	**0.12**					
05/02/12	12.48	13.41	12.58	432.54	**0.93**	10.88	10.90	12.11	432.79	**0.02**	11.87	12.01	12.61	432.57	**0.14**	12.19	12.25	13.30	431.61	**0.06**					
06/14/12	12.35	12.99	12.42	432.70	**0.64**	10.78	10.79	12.01	432.89	0.01	11.94	12.48	12.73	432.45	**0.54**	12.20	12.30	13.31	431.60	**0.10**					
07/23/12	12.38	14.02	12.55	432.57	**1.64**	11.25	11.27	12.48	432.42	**0.02**	11.96	12.70	12.77	432.41	**0.74**	12.20	12.42	13.32	431.59	**0.22**					
08/24/12	12.79	14.03	12.92	432.20	**1.24**	11.33	11.34	12.56	432.34	0.01	12.09	12.38	12.85	432.33	**0.29**	13.58	13.60	14.68	430.23	**0.02**					
09/25/12	12.50	13.58	12.61	432.51	**1.08**	11.03	11.04	12.26	432.64	0.01	12.05	12.61	12.84	432.34	**0.56**	12.34	12.44	13.45	431.46	**0.10**					
11/09/12	12.78	13.90	12.90	432.22	**1.12**	10.71	10.74	11.94	432.96	**0.03**	11.19	11.41	11.94	433.24	**0.22**	12.15	14.50	13.49	431.42	**2.35**					
12/12/12	12.36	13.32	12.46	432.66	**0.96**	10.78	10.86	12.02	432.88	**0.08**	11.23	11.60	12.00	433.18	**0.37**	12.20	12.64	13.35	431.56	**0.44**					
01/24/13	12.47	13.49	12.57	432.55	**1.02**	10.70	10.74	11.93	432.97	**0.04**	NM	10.73	10.73	434.45	0.0	12.10	12.25	13.22	431.69	**0.15**					
03/07/13	11.60	12.39	11.68	433.44	**0.79**	10.44	10.47	11.67	433.23	**0.03**	NM	10.66	10.66	434.52	0.0	11.86	11.90	12.96	431.95	**0.04**					
04/22/13	12.06	13.49	12.21	432.91	**1.43**	11.43	11.46	12.66	432.24	**0.03**	NM	10.71	10.71	434.47	0.0	11.70	11.75	12.81	432.10	**0.05**					
05/30/13	11.83	13.55	12.01	433.11	**1.72**	11.62	12.65	12.96	431.94	**1.03**	12.07	12.11	12.80	432.38	**0.04**	12.23	12.33	13.34	431.57	**0.10**					
07/18/13	12.08	12.21	12.09	433.03	**0.13**	11.60	11.71	12.84	432.06	**0.11**	11.85	12.59	12.66	432.52	**0.74**	12.21	12.59	13.35	431.56	**0.38**					
08/26/13	NM	11.80	11.80	433.32	0.0	11.71	11.85	12.95	431.95	**0.14**	11.91	12.04	12.65	432.53	**0.13**	12.30	12.36	13.41	431.50	**0.06**					
10/21/13	11.60	11.61	11.60	433.52	0.01	12.51	12.73	13.76	431.14	**0.22**	11.82	11.91	12.56	432.62	**0.09**	12.35	12.42	13.46	431.45	**0.07**					
11/25/13	11.60	11.73	11.61	433.51	**0.13**	11.91	11.98	13.15	431.75	**0.07**	11.90	12.00	12.64	432.54	**0.10**	12.57	12.65	13.68	431.23	**0.08**					
12/30/13	11.50	11.53	11.50	433.62	**0.03**	11.38	11.45	12.62	432.28	**0.07**	11.30	11.53	12.05	433.13	**0.23**	12.37	12.50	13.48	431.43	**0.13**					
01/31/14	NM	12.38	12.38	432.74	0.0	11.60	11.65	12.84	432.06	**0.05**	11.95	11.98	12.68	432.50	**0.03**	12.36	12.49	13.47	431.44	**0.13**					
02/26/14	Inaccessible					11.15	11.23	12.39	432.51	**0.08**	10.61	10.66	11.35	433.83	**0.05**	15.31	13.53	14.43	430.48	**0.22**					
03/31/14	11.50	11.54	11.50	433.62	**0.04**	11.14	11.19	12.38	432.52	**0.05**	10.50	10.56	11.24	433.94	**0.06**	11.89	12.00	13.00	431.91	**0.11**					
04/24/14 (h)	10.05	10.14	10.06	435.06	**0.09**	10.64	10.65	11.87	433.03	**0.01**	10.70	10.75	11.44	433.74	**0.05**	12.03	12.05	13.13	431.78	**0.02**					
08/26/14	NM	10.64	10.64	434.48	0.0	11.23	11.35	12.47	432.43	**0.12**	10.64	10.69	11.38	433.80	**0.05**	12.17	12.20	13.27	431.64	**0.03**					
03/17/15	9.89	9.97	9.90	435.22	**0.08**	NM	10.43	10.43	434.47	0.0	NM	10.53	10.53	434.65	0.0	12.06	12.09	12.06	432.85	**0.03**					
04/20/15	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-					
10/20/15	10.72	10.75	10.72	434.40	**0.03**	NM	10.76	10.76	434.14	0.0	NM	10.64	10.64	434.54	0.0	NM	11.80	11.80	433.11	0.0					
05/25/16	10.40	10.43	10.40	434.72	**0.03**	11.04	11.06	12.27	432.63	**0.02**	11.81	11.87	11.82	433.36	**0.06**	10.05	10.06	10.05	434.86	0.01					
12/16/16	10.31	10.33	10.31	434.81	**0.02**	NM	10.69	10.69	434.21	0.0	10.90	10.91	10.90	434.28	0.01	NM	11.66	11.66	433.25	0.0					
07/06/17	NM	10.27	10.27	434.85	0.0	NM	10.80	10.80	434.10	0.0	NM	10.53	10.53	434.65	0.0	NM	11.57	11.57	433.34	0.0					
02/15/18	NM	10.52	10.52	434.60	0.0	NM	10.98	10.98	433.92	0.0	11.48	11.54	11.49	433.69	**0.06**	11.38	11.39	11.38	433.53	0.01					
09/28/18	10.27	10.28	10.27	434.85	0.01	NM	10.82	10.82	434.08	0.0	11.60	11.62	11.60	433.58	**0.02**	NM	11.30	11.30	433.61	0.0					
04/29/19	10.24	10.26	10.24	434.86	**0.02**	NM	10.45	10.45	434.45	0.0	11.70	11.85	11.72	433.33	**0.15**	NM	11.22	11.22	433.69	0.0					
12/04/19	13.86	13.97	13.87	431.25	**0.11**	11.53	11.59	12.77	432.13	**0.06**	11.82	11.91	11.83	433.35	**0.09**	11.80	11.82	11.80	433.11	**0.02**					
01/23/20	13.63	13.95	13.66	431.46	**0.32**	Not Measured for this Event					12.52	12.56	12.52	432.66	**0.04**	Not Measured for this Event									
07/30/20	13.36	13.44	13.37	431.75	**0.08**	11.63	11.70	12.87	432.03	**0.07**	11.93	12.04	11.94	433.24	**0.11**	NM	12.93	12.93	431.98	0.0					
09/24/20	Not measured for this Event					Not measured for this Event					Not measured for this Event					NM	12.93	12.93	431.98	0.0					
02/22/21	11.21	11.26	11.22	433.90	**0.05**	11.54	11.63	12.78	432.12	**0.09**	11.47	12.00	11.52	433.66	**0.53**	NM	12.68	12.68	432.23	0.0					
03/12/21	Not measured for this Event					Not measured for this Event					Not measured for this Event					Not measured for this Event					Abandoned				

Table 2
Summary of LNAPL Thickness Measurements - Recovery Wells and Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

Well ID	SB-3					SB-4					SB-5					SB-7					SB-8				
Casing Diameter (in)	1					1					1					1					1				
TOC Elevation (ft amsl)	446.12					446.26					446.04					446.05					446.19				
Modified TOC Elevation (ft amsl)	-					-					446.12					446.13					446.25				
Measurement Dates	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (e)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (e)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (e)	Apparent Product Thickness (ft) (d)
		Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected		
09/19/01	Dry	Dry	Dry	-	-	12.07	12.21	12.08	434.18	**0.14**	12.59	12.74	12.61	433.43	**0.15**	12.73	13.81	12.84	433.21	**1.08**	11.86	12.01	11.88	434.31	**0.15**
03/04/03	NM	10.54	10.54	435.58	0.0	12.19	13.20	12.29	433.97	**1.01**	12.83	13.03	12.85	433.19	**0.20**	12.31	12.34	12.31	433.74	**0.03**	11.99	12.15	12.01	434.18	**0.16**
09/04/03	-	-	-	-	-	12.26	13.15	12.35	433.91	**0.89**	13.13	13.43	13.16	432.88	**0.30**	12.95	12.96	12.95	433.10	0.01	12.05	12.24	12.07	434.12	**0.19**
01/09/04	-	-	-	-	-	12.26	13.50	12.39	433.87	**1.24**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/15/04	-	-	-	-	-	12.20	13.42	12.33	433.93	**1.22**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/22/04	-	-	-	-	-	12.15	13.70	12.31	433.95	**1.55**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/04/04	-	-	-	-	-	12.21	13.67	12.36	433.90	**1.46**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/12/04	-	-	-	-	-	12.22	13.70	12.37	433.89	**1.48**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/25/04	-	-	-	-	-	12.31	13.70	12.45	433.81	**1.39**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/07/07	Dry	Dry	Dry	-	-	13.35	13.56	13.37	432.89	**0.21**	13.37	13.65	13.40	432.64	**0.28**	12.76	13.11	12.80	433.25	**0.35**	13.41	13.81	13.45	432.74	**0.40**
05/20/08	Dry	Dry	Dry	-	-	13.12	13.41	13.15	433.11	**0.29**	13.05	13.52	13.10	432.94	**0.47**	12.49	12.69	12.51	433.54	**0.20**	13.27	13.75	13.32	432.87	**0.48**
05/21/08	Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup				
05/21/08	Dry	Dry	Dry	-	-	13.18	13.69	13.23	433.03	**0.51**	13.10	13.52	13.14	432.90	**0.42**	12.61	12.66	12.62	433.43	**0.05**	13.29	13.75	13.34	432.85	**0.46**
05/30/08	Dry	Dry	Dry	-	-	13.41	13.69	13.44	432.82	**0.28**	13.22	13.53	13.25	432.79	**0.31**	12.66	12.70	12.66	433.39	**0.04**	13.39	13.70	13.42	432.77	**0.31**
06/06/08	Inaccessible					13.54	13.69	13.56	432.70	**0.15**	13.32	13.58	13.35	432.69	**0.26**	12.81	12.84	12.81	433.24	**0.03**	13.44	13.76	13.47	432.72	**0.32**
06/20/08	NM	10.48	10.48	435.64	0.0	13.56	13.69	13.57	432.69	**0.13**	13.40	13.49	13.41	432.63	**0.09**	12.79	12.90	12.80	433.25	**0.11**	13.53	13.79	13.56	432.63	**0.26**
06/27/08	Dry	Dry	Dry	-	-	13.59	13.69	13.60	432.66	**0.10**	13.37	13.60	13.39	432.65	**0.23**	13.00	13.11	13.01	433.04	**0.11**	13.51	13.65	13.52	432.67	**0.14**
07/31/08	NM	10.52	10.52	435.60	0.0	12.94	12.99	12.95	433.31	**0.05**	12.70	13.42	12.77	433.27	**0.72**	12.39	12.49	12.40	433.65	**0.10**	12.97	13.15	12.99	433.20	**0.18**
09/03/08	Dry	Dry	Dry	-	-	NM	11.92	11.92	434.34	0.0	12.35	12.56	12.37	433.67	**0.21**	12.33	12.35	12.33	433.72	**0.02**	11.85	12.85	11.95	434.24	**1.00**
10/03/08	Dry	Dry	Dry	-	-	-	-	-	-	-	-	-	-	-	-	12.38	12.39	12.38	433.67	0.01	12.20	13.70	12.35	433.84	**1.50**
11/10/08	Inaccessible					11.70	11.86	11.72	434.54	**0.16**	11.70	11.82	11.71	434.33	**0.12**	12.11	12.13	12.11	433.94	**0.02**	11.63	12.46	11.72	434.47	**0.83**
11/21/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/09/09	NM	10.49	10.49	435.63	0.0	NM	11.60	11.60	434.66	0.0	11.54	11.74	11.56	434.48	**0.20**	11.79	11.87	11.80	434.25	**0.08**	11.58	11.82	11.60	434.59	**0.24**
02/12/09	NM	10.52	10.52	435.60	0.0	11.81	11.84	11.81	434.45	**0.03**	11.66	11.71	11.67	434.37	**0.05**	11.29	11.36	11.30	434.75	**0.07**	11.78	11.83	11.79	434.40	**0.05**
03/20/09	NM	10.52	10.52	435.60	0.0	NM	11.85	11.85	434.41	0.0	NM	11.28	11.28	434.76	0.0	11.26	11.28	11.26	434.79	**0.02**	11.83	11.92	11.84	434.35	**0.09**
05/06/09	NM	10.52	10.52	435.60	0.0	12.14	12.26	12.15	434.11	**0.12**	12.24	12.25	12.24	433.80	0.01	12.07	12.10	12.07	433.98	**0.03**	11.95	12.00	11.96	434.23	**0.05**
06/12/09	Dry	Dry	Dry	-	-	12.14	12.20	12.15	434.11	**0.06**	12.69	12.70	12.69	433.35	0.01	12.22	12.23	12.22	433.83	0.01	12.20	12.24	12.20	433.99	**0.04**
07/15/09	Dry	Dry	Dry	-	-	12.25	12.30	12.26	434.00	**0.05**	12.85	12.87	12.85	433.19	**0.02**	12.53	12.66	12.54	433.51	**0.13**	12.22	12.32	12.23	433.96	**0.10**
08/31/09	NM	10.36	10.36	435.76	0.0	12.30	12.41	12.31	433.95	**0.11**	12.90	13.40	12.95	433.09	**0.50**	12.65	13.10	12.70	433.35	**0.45**	12.47	12.65	12.49	433.70	**0.18**
09/30/09	NM	10.48	10.48	435.64	0.0	12.33	12.44	12.34	433.92	**0.11**	13.10	13.52	13.14	432.90	**0.42**	12.75	12.89	12.76	433.29	**0.14**	12.71	13.05	12.74	433.45	**0.34**
11/09/09	Dry	Dry	Dry	-	-	12.39	12.52	12.40	433.86	**0.13**	12.95	13.02	12.96	433.08	**0.07**	12.73	12.91	12.75	433.30	**0.18**	12.98	13.32	13.01	433.18	**0.34**
12/08/09	Dry	10.48	10.48	435.64	-	12.43	12.44	12.43	433.83	0.01	13.03	13.22	13.05	432.99	**0.19**	12.84	12.85	12.84	433.21	0.01	13.12	13.51	13.16	433.03	**0.39**
01/07/10	Dry	10.43	10.43	435.69	-	NM	12.17	12.17	434.09	0.0	12.74	12.91	12.76	433.28	**0.17**	12.38	12.42	12.38	433.67	**0.04**	NM	12.25	12.25	433.94	0.0
02/16/10	NM	10.51	10.51	435.61	0.0	12.38	12.45	12.39	433.87	**0.07**	12.92	13.00	12.93	433.11	**0.08**	12.70	12.78	12.71	433.34	**0.08**	12.78	12.80	12.78	433.41	**0.02**
03/22/10	10.43	10.46	10.43	435.69	**0.03**	12.35	12.95	12.41	433.85	**0.60**	12.45	13.09	12.52	433.52	**0.64**	12.44	12.50	12.45	433.60	**0.06**	12.75	12.95	12.77	433.42	**0.20**
04/28/10	NM	10.46	10.46	435.66	0.0	12.71	13.45	12.79	433.47	**0.74**	12.98	13.35	13.02	433.02	**0.37**	12.69	12.70	12.69	433.36	0.01	13.10	13.34	13.12	433.07	**0.24**
05/28/10	NM	10.55	10.55	435.57	0.0	12.74	12.97	12.76	433.50	**0.23**	12.98	13.62	13.05	432.99	**0.64**	12.68	12.75	12.69	433.36	**0.07**	13.15	13.75	13.21	432.98	**0.60**
06/28/10	Dry	Dry	Dry	-	-	12.73	13.09	12.77	433.49	**0.36**	12.91	12.92	12.91	433.13	0.01	12.27	12.40	12.28	433.77	**0.13**	12.92	13.45	12.97	433.22	**0.53**
08/03/10	Dry	Dry	Dry	-	-	12.72	12.92	12.74	433.52	**0.20**	12.85	12.86	12.85	433.19	0.01	12.44	12.49	12.45	433.60	**0.05**	12.94	13.61	13.01	433.18	**0.67**
09/01/10	NM	10.48	10.48	435.64	0.0	12.75	12.85	12.76	433.50	**0.10**	12.80	12.85	12.81	433.23	**0.05**	NM	12.48	12.48	433.57	0.0	12.99	13.58	13.05	433.14	**0.59**
10/28/10	NM	10.48	10.48	435.64	0.0	12.85	13.41	12.91	433.35	**0.56**	12.87	12.91	12.87	433.17	**0.04**	12.39	12.41	12.39	433.66	**0.02**	13.01	13.50	13.06	433.13	**0.49**
12/03/10	NM	10.49	10.49	435.63	0.0	12.98	13.60	13.04	433.22	**0.62**	12.92	12.94	12.92	433.12	**0.02**	12.22	12.23	12.22	433.83	0.01	13.09	13.67	13.15	433.04	**0.58**
01/10/11	NM	10.48	10.48	435.64	0.0	13.06	13.65	13.12	433.14	**0.59**	13.02	13.21	13.04	433.00	**0.19**	12.84	12.87	12.84	433.21	**0.03**	13.18	13.51	13.21	432.98	**0.33**
02/15/11	NM	10.48	10.48	435.64	0.0	13.31	13.69	13.35	432.91	**0.38**	13.19	13.48	13.22	432.82	**0.29**	12.58	12.60	12.58	433.47	**0.02**	13.32	13.68	13.36	432.83	**0.36**
03/07/11	NM	10.47	10.47	435.65	0.0	13.08	13.20	13.09	433.17	**0.12**	12.88	12.91	12.88	433.16	**0.03**	12.11	12.16	12.12	433.93	**0.05**	13.01	13.22	13.03	433.16	**0.21**
03/08-03/09/11	Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed				
03/16/11	NM	10.44	10.44	435.68	0.0						13.19	13.20	13.11	433.01	0.01	NM	12.38	12.38	433.75	0.0	13.29	13.59	13.32	432.93	**0.30**
03/31/11	NM	10.52	10.52	435.60	0.0						13.64	13.67	13.56	432.56	**0.03**	NM	12.87	12.87	433.26	0.0	13.75	13.95	13.77	432.48	**0.20**
04/08/11	NM	10.50	10.50	435.62	0.0						13.77	13.78	13.69	432.43	0.01	NM	12.89	12.89	433.24	0.0	13.83	13.94	13.84	432.41	**0.11**
04/15/11	NM	10.49	10.49	435.63	0.0						13.78	13.97	13.72	432.40	**0.19**	NM	12.89	12.89	433.24	0.0	13.86	13.99	13.87	432.38	**0.13**
04/21/11	NM	10.48	10.48	435.64	0.0						13.80	13.81	13.72	432.40	0.01	NM	12.60	12.60	433.53	0.0	13.89	13.95	13.90	432.35	**0.06**
05/18/11 (g)	NM	10.49	10.49	435.63	0.0						13.65	13.81	13.59	432.53	**0.16**	NM	12.52	12.52	433.61	0.0	13.75	13.92	13.77	432.48	**0.17**
07/13/11	NM	10.52	10.52	435.60	0.0						13.80	14.08	13.75	432.37	**0.28**	NM	12.93	12.93	433.20	0.0	13.95	14.03	13.96	432.29	**0.08**
08/18/11	NM	10.55	10.55	435.57	0.0						NM	13.82	13.82	432.30	0.0	NM	12.84	12.84	433.29	0.0	14.00	14.03	14.00	432.25	**0.03**
09/21/11	NM	10.54	10.54	435.58	0.0						13.79	13.89	13.72	432.40	**0.10**	12.84	12.85	12.84	433.29	0.01	13.90	13.95	13.91	432.34	**0.05**
11/01/11	NM	10.55	10.55	435.57	0.0						13.77	13.78	13.69	432.43	0.01	NM	12.84	12.84	433.29	0.0	13.95	13.98	13.95	432.30	**0.03**
12/07/11	NM	10.47	10.47	435.65	0.0						13.77	13.82	13.70	432.42	**0.05**	12.74	12.75	12.74	433.39	0.01	13.98	14.01	13.98	432.27	**0.03**
01/06/12	NM	10.48	10.48	435.64	0.0						13.81	13.82	13.73	432.39	0.01	12.52	12.53	12.52	433.61	0.01	13.94	13.97	13.94	432.31	**0.03**
02/22/12	NM	10.50	10.50	435.62	0.0						13.76	13.82	13.69	432.43	**0.06**	NM	12.60	12.60	433.53	0.0	13.91	13.92	13.91	432.34	0.01
04/04/12	NM	10.50	10.50	435.62	0.0						13.77	13.90	13.70	432.42	**0.13**	NM	12.85	12.85	433.28	0.0	13.87	13.89	13.87	432.38	**0.02**
05/02/12	NM	10.51	10.51	435.61	0.0						13.87	13.92	13.80	432.32	**0.05**	NM	12.75	12.75	433.38	0.0	NM	13.97	13.97	432.28	0.0
06/14/12											13.85	14.15	13.80	432.32	**0.30**	Inaccessible					NM	13.70	13.70	432.55	0.0
07/23/12	Inaccessible										13.71	13.90	13.65	432.47	**0.19**	12.97	12.98	12.97	433.16	0.01	NM	13.98	13.98	432.27	0.0
08/24/12											13.88	13.91	13.80	432.32	**0.03**	12.92	12.93	12.92	433.21	0.01	NM	13.97	13.97	432.28	0.0
09/25/12	NM	10.55	10.55	435.57	0.0						13.87	13.90	13.79	432.33	**0.03**	12.89	12.90	12.89	433.24	0.01	13.96	13.97	13.96	432.29	0.01
11/09/12	NM	10.51	10.51	435.61	0.0						13.78	13.95	13.72	432.40	**0.17**	12.75	12.88	12.76	433.37	**0.13**	13.87	13.95	13.88	432.37	**0.08**
12/12/12	NM	10.62	10.62	435.50	0.0						13.71	13.93	13.65	432.47	**0.22**	12.68	12.75	12.69	433.44	**0.07**	NM	13.86	14.86	432.36	0.0
01/24/13											13.29	13.64	13.25	432.87	**0.35**	12.68	12.79	12.69	433.44	**0.11**	13.38	13.45	14.86	432.36	**0.07**
03/07/13											13.15	13.37	13.09	433.03	**0.22**	NM	12.79	12.79	433.34	0.0	13.28	13.33	13.29	432.96	**0.05**
04/22/13											13.16	13.24	13.09	433.03	**0.08**	NM	12.28	12.28	433.85	0.0	13.30	13.33	13.30	432.95	**0.03**
05/30/13											13.48	13.75	13.43	432.69	**0.27**	NM	12.30	12.30	433.83	0.0	13.57	14.00	13.61	432.64	**0.43**
07/18/13											13.50	13.50	13.42	432.70	0.00	NM	12.87	12.87	433.26	0.0	14.71	14.91	14.73	431.52	**0.20**
08/26/13											13.78	13.90	13.71	432.41	**0.12**	NM	12.89	12.89	433.24	0.0	13.82	13.95	13.83	432.42	**0.13**
10/21/13											13.91	13.94	13.83	432.29	**0.03**	NM	12.90	12.90	433.23	0.0	14.00	14.01	14.00	432.25	0.01
11/25/13											13.85	13.89	13.77	432.35	**0.04**	NM	12.73	12.73	433.40	0.0	DRY	DRY	DRY	-	0.0
12/30/13											13.10	13.14	13.02	433.10	**0.04**	NM	12.65	12.65	433.48	0.0	DRY	DRY	DRY	-	0.0
01/31/14											13.75	13.81	13.68	432.44	**0.06**	NM	12.53	12.53	433.60	0.0	DRY	DRY	DRY	-	0.0
02/26/14											13.70	13.80	13.63	432.49	**0.10**	NM	12.47	12.47	433.66	0.0	Inaccessible				
03/31/14											13.15	13.25	13.08	433.04	**0.10**	NM	11.20	11.20	434.93	0.0	13.27	13.35	13.28	432.97	**0.08**
04/24/14 (h)											13.33	13.50	13.27	432.85	**0.17**	NM	12.62	12.62	433.51	0.0	13.45	13.65	13.47	432.78	**0.20**
08/26/14											13.38	13.70	13.33	432.79	**0.32**	NM	12.54	12.54	433.59	0.0	13.56	13.66	13.57	432.68	**0.10**
03/17/15	No longer measured					Abandoned					13.51	13.82	13.54	431.58	**0.31**	NM	11.60	11.60	433.52	0.0	13.49	13.61	13.50	432.75	**0.12**
04/20/15											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/20/15											13.20	13.67	13.25	431.87	**0.47**	NM	12.33	12.33	432.79	0.0	13.31	13.33	13.31	432.94	**0.02**
05/25/16											13.31	13.84	13.36	431.76	**0.53**	NM	12.18	12.18	432.94	0.0	NM	12.38	12.38	433.87	0.0
12/16/16											13.11	13.37	13.14	431.98	**0.26**	NM	12.24	12.24	432.88	0.0	NM	13.08	13.08	433.17	0.0
07/06/17											13.00	13.25	13.03	432.09	**0.25**	NM	11.79	11.79	433.33	0.0	NM	12.80	12.80	433.45	0.0
02/15/18											12.98	13.08	12.99	432.13	**0.10**	NM	12.66	12.66	432.46	0.0	NM	12.68	12.68	433.57	0.0
09/28/18											13.18	14.05	13.27	431.85	**0.87**	NM	11.70	11.70	433.42	0.0	NM	13.80	13.80	432.45	0.0
04/29/19											13.60	13.98	13.64	431.48	**0.38**	NM	12.21	12.21	432.91	0.0	NM	12.92	12.92	433.33	0.0
12/04/19											13.58	13.77	13.60	431.52	**0.19**	12.09	12.09	12.09	433.03	0.0	NM	16.65	16.65	429.60	0.0
01/23/20											13.68	14.05	13.72	431.40	**0.37**	Not Measured for this Event					Not Measured for this Event				
07/30/20											13.78	14.60	13.86	431.26	**0.82**	NM	12.15	12.15	432.97	0.0	13.86	13.89	13.86	432.39	**0.03**
09/24/20											Not measured for this Event					NM	12.91	12.91	432.21	0.0	Not measured for this Event				
02/22/21											13.90	13.92	13.90	431.22	**0.02**	NM	14.06	14.06	431.06	0.0	Not measured for this Event				
03/12/21											Not Measured for this Event					Not Measured for this Event					NM	13.91	13.91	432.34	0.0

Table 2
Summary of LNAPL Thickness Measurements - Recovery Wells and Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

Well ID	SB-9					SB-10					OW-1					OW-4					OW-5				
Casing Diameter (in)	1					1					2					2					4				
TOC Elevation (ft amsl)	446.13					446.16					446.03					446.12					446.13				
Modified TOC Elevation (ft amsl)	446.17					446.24					-					-					-				
Measurement Dates	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (e)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl) (e)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)
		Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected		
09/19/01	12.88	12.89	12.88	433.25	0.01	17.20	17.32	17.21	428.95	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/04/03	NM	13.06	13.06	433.07	0.0	17.25	17.28	17.25	428.91	**0.03**	NM	19.03	19.03	427.00	0.0	-	-	-	-	-	-	-	-	-	-
09/04/03	12.95	12.96	12.95	433.18	0.01	17.29	17.48	17.31	428.85	**0.19**	NM	18.62	18.62	427.41	0.0	NM	14.57	14.57	431.55	0.0	NM	13.21	13.21	432.92	0.0
01/09/04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NM	14.31	14.31	431.81	0.0	NM	13.15	13.15	432.98	0.0
01/15/04	-	-	-	-	-	-	-	-	-	-	NM	18.63	18.63	427.40	0.0	NM	16.42	16.42	429.70	0.0	NM	13.28	13.28	432.85	0.0
01/22/04	-	-	-	-	-	-	-	-	-	-	NM	18.64	18.64	427.39	0.0	NM	16.34	16.34	429.78	0.0	NM	13.27	13.27	432.86	0.0
02/04/04	-	-	-	-	-	-	-	-	-	-	NM	18.65	18.65	427.38	0.0	NM	16.46	16.46	429.66	0.0	NM	13.36	13.36	432.77	0.0
02/12/04	-	-	-	-	-	-	-	-	-	-	NM	18.62	18.62	427.41	0.0	NM	16.53	16.53	429.59	0.0	NM	13.35	13.35	432.78	0.0
02/25/04	-	-	-	-	-	-	-	-	-	-	NM	18.66	18.66	427.37	0.0	NM	16.57	16.57	429.55	0.0	NM	13.28	13.28	432.85	0.0
11/07/07	12.96	13.02	12.97	433.16	**0.06**	16.01	16.62	16.07	430.09	**0.61**	NM	17.00	17.00	429.03	0.0	13.39	14.38	13.49	432.63	**0.99**	13.29	14.31	13.39	432.74	**1.02**
05/20/08	NM	12.82	12.82	433.31	0.0	15.98	16.58	16.04	430.12	**0.60**	NM	17.02	17.02	429.01	0.0	14.39	14.41	14.39	431.73	**0.02**	13.20	14.39	13.32	432.81	**1.19**
05/21/08	Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup				
05/21/08	NM	12.82	12.82	433.31	0.0	15.98	16.56	16.04	430.12	**0.58**	NM	17.03	17.03	429.00	0.0	14.39	14.41	14.39	431.73	**0.02**	13.21	14.39	13.33	432.80	**1.18**
05/30/08	NM	12.84	12.84	433.29	0.0	15.86	16.40	15.92	430.24	**0.54**	NM	17.14	17.14	428.89	0.0	14.27	14.37	14.28	431.84	**0.10**	13.19	14.42	13.32	432.81	**1.23**
06/06/08	NM	12.89	12.89	433.24	0.0	16.11	16.79	16.18	429.98	**0.68**	NM	17.19	17.19	428.84	0.0	14.28	14.39	14.29	431.83	**0.11**	13.19	14.44	13.32	432.81	**1.25**
06/20/08	NM	12.91	12.91	433.22	0.0	15.97	16.61	16.04	430.12	**0.64**	NM	17.18	17.18	428.85	0.0	14.42	14.50	14.43	431.69	**0.08**	13.28	13.47	13.30	432.83	**0.19**
06/27/08	NM	12.92	12.92	433.21	0.0	15.96	16.57	16.02	430.14	**0.61**	NM	17.16	17.16	428.87	0.0	14.46	14.52	14.47	431.65	**0.06**	13.31	14.44	13.43	432.70	**1.13**
07/31/08	12.99	13.01	12.99	433.14	**0.02**	16.20	17.45	16.33	429.83	**1.25**	16.53	16.55	16.53	429.50	**0.02**	-	-	-	-	-	13.28	13.42	13.29	432.84	**0.14**
09/03/08	12.85	12.95	12.86	433.27	**0.10**	15.60	15.99	15.64	430.52	**0.39**	17.00	17.02	17.00	429.03	**0.02**	16.25	16.50	16.28	429.84	**0.25**	13.40	16.51	(f)	(f)	(f)
10/03/08	-	-	-	-	-	-	-	-	-	-	17.02	17.09	17.03	429.00	**0.07**	15.89	15.90	15.89	430.23	**0.01**	13.48	13.99	13.53	432.60	**0.51**
11/10/08	-	-	-	-	-	16.60	16.95	16.64	429.52	**0.35**	NM	17.14	17.14	428.89	0.0	-	-	-	-	-	12.57	12.67	12.58	433.55	**0.10**
11/21/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/09/09	12.81	12.82	12.81	433.32	0.01	16.38	16.99	16.44	429.72	**0.61**	NM	17.09	17.09	428.94	0.0	-	-	-	-	-	12.59	13.65	12.70	433.43	**1.06**
02/12/09	12.90	12.91	12.90	433.23	0.01	15.89	16.65	15.97	430.19	**0.76**	NM	17.26	17.26	428.77	0.0	-	-	-	-	-	12.56	12.64	12.57	433.56	**0.08**
03/20/09	12.86	12.87	12.86	433.27	0.01	15.72	16.70	15.82	430.34	**0.98**	NM	17.32	17.32	428.71	0.0	14.28	14.31	14.28	431.84	**0.03**	12.57	12.69	12.58	433.55	**0.12**
05/06/09	12.82	12.85	12.82	433.31	**0.03**	16.28	17.00	16.35	429.81	**0.72**	NM	17.38	17.38	428.65	0.0	14.21	14.22	14.21	431.91	0.01	12.69	12.76	12.70	433.43	**0.07**
06/12/09	12.90	12.93	12.90	433.23	**0.03**	16.62	16.73	16.63	429.53	**0.11**	NM	17.34	17.34	428.69	0.0	16.42	16.44	16.42	429.70	**0.02**	12.92	12.96	12.92	433.21	**0.04**
07/15/09	12.90	12.92	12.90	433.23	**0.02**	16.98	17.21	17.00	429.16	**0.23**	NM	17.88	17.88	428.15	0.0	16.89	16.90	16.89	429.23	0.01	12.98	13.07	12.99	433.14	**0.09**
08/31/09	12.96	12.97	12.96	433.17	0.00	17.19	17.50	17.22	428.94	**0.31**	16.65	16.68	16.65	429.38	**0.03**	14.37	14.39	14.37	431.75	**0.02**	12.83	12.91	12.84	433.29	**0.08**
09/30/09	12.97	12.99	12.97	433.16	**0.02**	17.42	17.50	17.43	428.73	**0.08**	17.06	17.08	17.06	428.97	**0.02**	14.38	14.43	14.39	431.73	**0.05**	12.98	13.00	12.98	433.15	**0.02**
11/09/09	NM	13.20	13.20	432.93	0.0	Dry	Dry	Dry	-	0.0	18.54	18.56	18.54	427.49	**0.02**	14.09	14.10	14.09	432.03	0.01	12.73	12.77	12.73	433.40	**0.04**
12/08/09	13.09	13.10	13.09	433.04	0.01	Dry	Dry	Dry	-	0.0	18.97	19.00	18.97	427.06	**0.03**	NM	14.19	14.19	431.93	0.0	12.69	12.73	12.69	433.44	**0.04**
01/07/10	13.00	13.01	13.00	433.13	0.01	Dry	Dry	Dry	-	0.0	16.70	16.71	16.70	429.33	0.01	14.07	14.08	14.07	432.05	0.01	12.59	12.60	12.59	433.54	0.01
02/16/10	13.02	13.04	13.02	433.11	**0.02**	17.46	17.50	17.46	428.70	**0.04**	NM	17.09	17.09	428.94	0.0	NM	14.33	14.33	431.79	0.0	12.80	12.83	12.80	433.33	**0.03**
03/22/10	13.01	13.02	13.01	433.12	0.01	17.19	17.38	17.21	428.95	**0.19**	16.89	16.91	16.89	429.14	**0.02**	NM	14.15	14.15	431.97	0.0	12.53	12.55	12.53	433.60	**0.02**
04/28/10	13.10	13.11	13.10	433.03	0.01	17.38	17.42	17.38	428.78	**0.04**	NM	17.10	17.10	428.93	0.0	NM	14.30	14.30	431.82	0.0	12.80	12.82	12.80	433.33	**0.02**
05/28/10	NM	13.10	13.10	433.03	0.00	17.41	17.42	17.41	428.75	0.01	NM	17.10	17.10	428.93	0.0	NM	14.35	14.35	431.77	0.0	12.79	12.80	12.79	433.34	0.01
06/28/10	NM	13.11	13.11	433.02	0.00	NM	Dry	Dry	-	0.0	NM	16.74	16.74	429.29	0.0	NM	14.22	14.22	431.90	0.0	12.64	12.66	12.64	433.49	**0.02**
08/03/10	13.11	13.12	13.11	433.02	0.01	NM	Dry	Dry	-	0.0	NM	16.98	16.98	429.05	0.0	NM	14.26	14.26	431.86	0.0	12.72	12.83	12.73	433.40	**0.11**
09/01/10	NM	13.08	13.08	433.05	0.0	NM	17.48	17.48	428.68	0.0	NM	16.75	16.75	429.28	0.0	NM	14.20	14.20	431.92	0.0	12.71	12.72	12.71	433.42	0.01
10/28/10	NM	12.97	12.97	433.16	0.0	NM	17.42	17.42	428.74	0.0	NM	17.09	17.09	428.94	0.0	14.15	14.16	14.15	431.97	0.01	12.68	12.70	12.68	433.45	**0.02**
12/03/10	NM	13.02	13.02	433.11	0.0	17.45	17.46	17.45	428.71	0.01	NM	17.05	17.05	428.98	0.0	14.04	14.05	14.04	432.08	0.01	12.60	12.61	12.60	433.53	0.01
01/10/11	NM	13.05	13.05	433.08	0.0	17.40	17.41	17.40	428.76	0.01	NM	17.05	17.05	428.98	0.0	NM	14.23	14.23	431.89	0.0	12.79	12.80	12.79	433.34	0.01
02/15/11	13.09	13.12	13.09	433.04	**0.03**	17.48	17.49	17.48	428.68	0.01	NM	17.08	17.08	428.95	0.0	NM	14.22	14.22	431.90	0.0	12.89	12.90	12.89	433.24	0.01
03/07/11	NM	13.13	13.13	433.00	0.0	NM	17.48	17.48	428.68	0.0	NM	16.51	16.51	429.52	0.0	NM	14.12	14.12	432.00	0.0	12.55	12.56	12.55	433.58	0.01
03/08-03/09/11	Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed				
03/16/11	NM	13.18	13.18	432.99	0.0	NM	17.52	17.52	428.72	0.0	NM	16.01	16.01	430.02	0.0	NM	13.91	13.91	432.21	0.0	12.46	12.49	12.46	433.67	**0.03**
03/31/11	NM	13.17	13.17	433.00	0.0	17.47	17.48	17.47	428.77	0.01	16.44	16.45	16.44	429.59	0.01	NM	14.15	14.15	431.97	0.0	12.51	12.55	12.51	433.62	**0.04**
04/08/11	NM	13.21	13.21	432.96	0.0	17.50	17.51	17.50	428.74	0.01	16.89	16.90	16.89	429.14	0.01	NM	14.28	14.28	431.84	0.0	12.61	12.65	12.61	433.52	**0.04**
04/15/11	NM	13.22	13.22	432.95	0.0	17.61	17.64	17.61	428.63	**0.03**	16.99	17.00	16.99	429.04	0.01	NM	14.35	14.35	431.77	0.0	12.63	12.71	12.64	433.49	**0.08**
04/21/11	NM	13.22	13.22	432.95	0.0	NM	17.65	17.65	428.59	0.0	NM	16.79	16.79	429.24	0.0	NM	14.35	14.35	431.77	0.0	12.57	12.58	12.57	433.56	0.01
05/18/11 (g)	NM	13.13	13.13	433.04	0.0	NM	17.60	17.60	428.64	0.0	16.46	16.48	16.46	429.57	**0.02**	NM	14.18	14.18	431.94	0.0	12.50	12.71	12.52	433.61	**0.21**
07/13/11	NM	13.11	13.11	433.06	0.0	NM	17.63	17.63	428.61	0.0	16.78	16.81	16.78	429.25	**0.03**	NM	14.36	14.36	431.76	0.0	12.67	12.89	12.69	433.44	**0.22**
08/18/11	NM	13.04	13.04	433.13	0.0	Dry	Dry	Dry	-	-	NM	16.75	16.75	429.28	0.0	NM	14.21	14.21	431.91	0.0	12.58	12.72	12.59	433.54	**0.14**
09/21/11	NM	13.11	13.11	433.06	0.0	Dry	Dry	Dry	-	-	16.63	16.66	16.63	429.40	**0.03**	13.90	13.91	13.90	432.22	0.01	12.54	12.70	12.56	433.57	**0.16**
11/01/11	NM	13.04	13.04	433.13	0.0	NM	17.59	17.59	428.65	0.0	16.60	16.64	16.60	429.43	**0.04**	NM	13.88	13.88	432.24	0.0	12.51	12.65	12.52	433.61	**0.14**
12/07/11	NM	13.07	13.07	433.10	0.0	NM	17.60	17.60	428.64	0.0	16.45	16.47	16.45	429.58	**0.02**	NM	13.65	13.65	432.47	0.0	12.50	12.60	12.51	433.62	**0.10**
01/06/12	NM	13.20	13.20	432.97	0.0	NM	17.61	17.61	428.63	0.0	16.27	16.32	16.28	429.75	**0.05**	NM	13.67	13.67	432.45	0.0	12.49	12.58	12.50	433.63	**0.09**
02/22/12	NM	13.15	13.15	433.02	0.0	17.58	17.60	17.58	428.66	**0.02**	NM	16.37	16.37	429.66	0.0	NM	13.74	13.74	432.38	0.0	12.54	12.72	12.56	433.57	**0.18**
04/04/12	NM	13.08	13.08	433.09	0.0	Dry	Dry	Dry	-	-	16.37	16.45	16.38	429.65	**0.08**	NM	13.82	13.82	432.30	0.0	12.56	12.71	12.58	433.55	**0.15**
05/02/12	NM	13.17	13.17	433.00	0.0	Dry	Dry	Dry	-	-	16.37	16.42	16.38	429.65	**0.05**	NM	13.98	13.98	432.14	0.0	12.66	12.79	12.67	433.46	**0.13**
06/14/12	NM	13.15	13.15	433.02	0.0	NM	17.61	-	-	0.0	16.40	16.45	16.41	429.62	**0.05**	NM	13.94	13.94	432.18	0.0	12.74	12.90	12.76	433.37	**0.16**
07/23/12	NM	13.15	13.15	433.02	0.0	Dry	Dry	Dry	-	-	16.30	16.32	16.30	429.73	**0.02**	NM	14.20	14.20	431.92	0.0	12.80	12.90	12.81	433.32	**0.10**
08/24/12	NM	13.16	13.16	433.01	0.0	Dry	Dry	Dry	-	-	16.50	16.56	16.51	429.52	**0.06**	NM	14.36	14.36	431.76	0.0	12.87	13.04	12.89	433.24	**0.17**
09/25/12	NM	13.17	13.17	433.00	0.0	Dry	Dry	Dry	-	-	16.52	16.58	16.53	429.50	**0.06**	14.35	14.36	14.35	431.77	0.01	Inaccessible				
11/09/12	NM	12.12	12.12	434.05	0.0	Dry	Dry	Dry	-	-	16.50	16.67	16.52	429.51	**0.17**	14.17	14.20	14.17	431.95	**0.03**	12.58	12.65	12.59	433.54	**0.07**
12/12/12	NM	13.32	13.32	432.85	0.0	Dry	Dry	Dry	-	-	16.34	16.51	16.36	429.67	**0.17**	NM	14.35	14.35	431.77	0.0	12.71	12.78	12.72	433.41	**0.07**
01/24/13						Dry	Dry	Dry	-	-	16.25	16.34	16.26	429.77	**0.09**	13.95	14.10	13.97	432.15	**0.15**	12.65	12.79	12.66	433.47	**0.14**
03/07/13						Dry	Dry	Dry	-	-	15.52	15.76	15.54	430.49	**0.24**	ND	14.10	14.10	432.02	0.0	13.06	13.39	13.09	433.04	**0.33**
04/22/13						Dry	Dry	Dry	-	-	15.92	16.00	15.93	430.10	**0.08**	14.94	14.96	14.94	431.18	**0.02**	13.07	13.10	13.07	433.06	**0.03**
05/30/13						Dry	Dry	Dry	-	-	16.36	16.60	16.38	429.65	**0.24**	NM	16.39	16.39	429.73	0.0	12.89	12.92	12.89	433.24	**0.03**
07/18/13						Dry	Dry	Dry	-	-	16.00	16.45	16.05	429.98	**0.45**	NM	14.40	14.40	431.72	0.0	12.71	12.96	12.74	433.39	**0.25**
08/26/13						Dry	Dry	Dry	-	-	16.58	16.75	16.60	429.43	**0.17**	NM	16.10	16.10	430.02	0.0	12.73	12.85	12.74	433.39	**0.12**
10/21/13						Dry	Dry	Dry	-	-	16.10	16.19	16.11	429.92	**0.09**	14.90	14.91	14.90	431.22	0.01	12.57	12.61	12.57	433.56	**0.04**
11/25/13						Dry	Dry	Dry	-	-	16.40	16.43	16.40	429.63	**0.03**	NM	16.10	16.10	430.02	0.0	12.96	13.00	12.96	433.17	**0.04**
12/30/13						Dry	Dry	Dry	-	-	15.15	15.20	15.16	430.87	**0.05**	NM	15.05	15.05	431.07	0.0	12.55	12.70	12.57	433.56	**0.15**
01/31/14						NM	17.30	17.30	428.94	0.0	16.16	16.25	16.17	429.86	**0.09**	NM	12.00	12.00	434.12	0.0	12.70	12.73	12.70	433.43	**0.03**
02/26/14						NM	17.40	17.40	428.84	0.0	15.48	15.51	15.48	430.55	**0.03**	NM	15.51	15.51	430.61	0.0	Inaccessible				
03/31/14						NM	17.56	17.56	428.68	0.0	15.10	15.14	15.10	430.93	**0.04**	NM	14.24	14.24	431.88	0.0	12.26	12.30	12.26	433.87	**0.04**
04/24/14 (h)						NM	Dry	Dry	-	-	15.17	15.27	15.18	430.85	**0.10**	NM	14.30	14.30	431.82	0.0	12.55	12.58	12.55	433.58	**0.03**
08/26/14						NM	Dry	Dry	-	-	15.16	15.31	15.18	430.85	**0.15**	NM	15.17	15.17	430.95	0.0	12.50	12.62	12.51	433.62	**0.12**
03/17/15			No longer measured			Inaccessible					NM	15.46	15.46	429.66	0.0	NM	14.15	14.15	431.97	0.0	12.53	12.54	12.53	433.60	**0.01**
04/20/15						NM	17.60	17.60	428.64	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
10/20/15						NM	17.27	17.27	428.97	0.0	15.19	15.21	15.19	430.84	**0.02**	NM	13.93	13.93	432.19	0.0	NM	12.52	12.52	433.61	0.0
05/25/16						NM	16.47	16.47	429.77	0.0	15.16	15.22	15.17	430.86	**0.06**	NM	12.96	12.96	433.16	0.0	12.64	12.66	12.64	433.49	**0.02**
12/16/16						NM	17.04	17.04	429.20	0.0	15.82	15.88	15.83	430.20	**0.06**	NM	13.46	13.46	432.66	0.0	12.54	12.67	12.55	433.58	**0.13**
07/06/17						NM	17.25	17.25	428.99	0.0	15.78	15.81	15.78	430.25	**0.03**	NM	13.42	13.42	432.70	0.0	12.47	12.48	12.47	433.66	0.01
02/15/18						NM	16.98	16.98	429.26	0.0	14.38	14.42	14.38	431.65	**0.04**	NM	13.88	13.88	432.24	0.0	NM	12.42	12.42	433.71	0.0
09/28/18						NM	16.84	16.84	429.40	0.0	15.68	15.70	15.68	430.35	**0.02**	NM	13.97	13.97	432.15	0.0	12.55	12.57	12.55	433.58	**0.02**
04/29/19						NM	16.95	16.95	429.29	0.0	15.57	15.59	15.57	430.46	**0.02**	NM	12.04	12.04	434.08	0.0	12.65	12.68	12.65	433.48	**0.03**
12/04/19						16.58	16.59	16.58	429.66	0.01	15.22	15.25	15.22	430.81	**0.03**	14.08	14.08	14.08	432.04	0.0	12.78	12.81	12.78	433.35	**0.03**
01/23/20						Not Measured for this Event					16.25	16.56	16.28	429.75	**0.31**	Not Measured for this Event					13.20	13.22	13.20	432.93	**0.02**
07/30/20						NM	16.20	16.20	430.04	0.0	12.89	13.11	12.91	433.12	**0.22**	NM	16.65	16.65	429.47	0.0	12.88	12.91	12.88	433.25	**0.03**
09/24/20						NM	12.91	12.91	433.33	0.0	Not measured for this Event					15.61	15.64	15.61	430.51	**0.03**	Not measured for this Event				
02/22/21						NM	16.28	16.28	429.96	0.0	NM	12.73	12.73	433.30	**0.0**	Not Accessible					12.72	13.01	12.75	433.38	**0.29**
03/12/21						Not measured for this Event					Not measured for this Event					NM	16.59	16.59	429.53	0.0	Not measured for this Event				

Table 2
Summary of LNAPL Thickness Measurements - Recovery Wells and Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

Well ID	OW-6					OW-7					MW-4					RW-2				
Casing Diameter (in)	2					2					2					4				
TOC Elevation (ft amsl)	445.93					446.18					447.98					445.91				
Modified TOC Elevation (ft amsl)	-										445.56					-				
Measurement Dates	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (d)
		Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected		
09/19/01	-	-	-	-	-	-	-	-	-	-	19.14	19.26	19.15	428.83	**0.12**	-	-	-	-	-
03/04/03	-	-	-	-	-	-	-	-	-	-	18.85	18.96	18.86	429.12	**0.11**	NM	12.95	12.95	432.96	0.0
09/04/03	NM	13.76	13.76	432.17	0	NM	14.60	14.60	431.58	0	19.13	19.25	19.14	428.84	**0.12**	NM	14.07	14.07	431.84	0.0
01/09/04	NM	16.91	16.91	429.02	0	NM	17.69	17.69	428.49	0	-	-	-	-	-	-	-	-	-	-
01/15/04	Dry	Dry	Dry	-	0	Dry	Dry	Dry	-	0	-	-	-	-	-	-	-	-	-	-
01/22/04	Dry	Dry	Dry	-	0	Dry	Dry	Dry	-	0	-	-	-	-	-	-	-	-	-	-
02/04/04	Dry	Dry	Dry	-	0	Dry	Dry	Dry	-	0	-	-	-	-	-	-	-	-	-	-
02/12/04	Dry	Dry	Dry	-	0	Dry	Dry	Dry	-	0	-	-	-	-	-	-	-	-	-	-
02/25/04	Dry	Dry	Dry	-	0	Dry	Dry	Dry	-	0	-	-	-	-	-	-	-	-	-	-
11/07/07	NM	16.83	16.83	429.10	0	NM	17.63	17.63	428.55	0	16.27	16.31	16.27	429.29	**0.04**	13.53	13.7	13.55	432.36	**0.17**
05/20/08	NM	16.83	16.83	429.10	0.00	NM	17.64	17.64	428.54	0.00	16.38	16.44	16.39	429.17	**0.06**	13.55	13.73	13.57	432.34	**0.18**
05/21/08	Recovery System Startup					Recovery System Startup					Recovery System Startup					Recovery System Startup				
05/21/08	NM	16.84	16.84	429.09	0.00	-	17.64	17.64	428.54	0.00	16.39	16.44	16.40	429.16	**0.05**	13.55	13.73	13.57	432.34	**0.18**
05/30/08	NM	16.86	16.86	429.07	0.00	NM	17.65	17.65	428.53	0.00	16.42	16.50	16.43	429.13	**0.08**	13.76	13.89	13.77	432.14	**0.13**
06/06/08	Dry	Dry	Dry	-	0.00	Dry	Dry	Dry	-	0.00	16.49	16.55	16.50	429.06	**0.06**	13.91	13.98	13.92	431.99	**0.07**
06/20/08	NM	16.90	16.90	429.03	0.00	Dry	Dry	Dry	-	0.00	16.50	16.63	16.51	429.05	**0.13**	13.94	13.95	13.94	431.97	0.01
06/27/08	NM	16.91	16.91	429.02	0.00	NM	17.69	17.69	428.49	0.00	16.50	16.62	16.51	429.05	**0.12**	13.94	13.95	13.94	431.97	0.01
07/31/08	NM	16.89	16.89	429.04	0.00	Dry	Dry	Dry	-	0.00	14.36	14.43	14.37	431.19	**0.07**	13.23	13.25	13.23	432.68	**0.02**
09/03/08	NM	15.36	15.36	430.57	0.00	Dry	Dry	Dry	-	0.00	14.88	14.96	14.89	430.67	**0.08**	13.31	13.44	13.32	432.59	**0.13**
10/03/08	-	-	-	-	-	Dry	Dry	Dry	-	0.00	-	-	-	-	-	13.70	13.72	13.70	432.21	**0.02**
11/10/08	NM	13.30	13.30	432.63	0.00	Dry	Dry	Dry	-	0.00	NM	15.36	15.36	430.20	0.0	12.92	12.93	12.92	432.99	0.01
11/21/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/09/09	NM	13.38	13.38	432.55	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	12.02	12.02	433.89	0.0
02/12/09	13.69	13.70	13.69	432.24	0.01	NM	17.79	17.79	428.39	0.0	-	-	-	-	-	NM	11.10	11.10	434.81	0.0
03/20/09	NM	13.88	13.88	432.05	0.0	NM	17.78	17.78	428.40	0.0	15.55	15.61	15.56	430.00	**0.06**	NM	10.77	10.77	435.14	0.0
05/06/09	NM	13.86	13.86	432.07	0.0	Dry	Dry	Dry	-	0.0	16.21	16.23	16.21	429.35	**0.02**	12.70	12.71	12.70	433.21	0.01
06/12/09	NM	13.88	13.88	432.05	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	13.33	13.34	13.33	432.58	0.01
07/15/09	NM	15.85	15.85	430.08	0.0	NM	17.78	17.78	428.40	0.0	16.21	16.23	16.21	429.35	**0.02**	13.85	13.86	13.85	432.06	0.01
08/31/09	NM	13.84	13.84	432.09	0.0	Dry	Dry	Dry	-	0.0	13.88	13.96	13.89	431.67	**0.08**	13.95	13.96	13.95	431.96	0.01
09/30/09	NM	12.89	12.89	433.04	0.0	Dry	Dry	Dry	-	0.0	14.20	14.22	14.20	431.36	**0.02**	17.14	17.15	17.14	428.77	0.01
11/09/09	NM	13.86	13.86	432.07	0.0	Dry	Dry	Dry	-	0.0	NM	16.01	16.01	429.55	0.0	13.95	13.96	13.95	431.96	0.01
12/08/09	NM	13.86	13.86	432.07	0.0	NM	17.77	17.77	428.41	0.0	16.17	16.28	16.18	429.38	**0.11**	15.22	15.23	15.22	430.69	0.01
01/07/10	NM	13.87	13.87	432.06	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	13.56	13.56	432.35	0.0
02/16/10	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	13.89	13.89	432.02	0.0
03/22/10	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	15.37	15.39	15.37	430.19	**0.02**	NM	13.50	13.50	432.41	0.0
04/28/10	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	15.97	15.98	15.97	429.59	0.01	NM	13.98	13.98	431.93	0.0
05/28/10	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	NM	16.06	16.06	429.50	0.0	14.00	14.01	14.00	431.91	0.01
06/28/10	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	NM	15.67	15.67	429.89	0.0	NM	13.52	13.52	432.39	0.0
08/03/10	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	NM	15.70	15.70	429.86	0.0	NM	13.68	13.68	432.23	0.0
09/01/10	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	15.38	15.40	15.38	430.18	**0.02**	NM	13.59	13.59	432.32	0.0
10/28/10	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	NM	15.65	15.65	429.91	0.0	NM	12.98	12.98	432.93	0.0
12/03/10	NM	16.89	16.89	429.04	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	12.18	12.18	433.73	0.0
01/10/11	NM	16.89	16.89	429.04	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	14.09	14.09	431.82	0.0
02/15/11	NM	16.89	16.89	429.04	0.0	Dry	Dry	Dry	-	0.0	-	-	-	-	-	NM	14.02	14.02	431.89	0.0
03/07/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	0.0	15.93	15.94	15.93	429.63	0.01	NM	11.55	11.55	434.36	0.0
03/08-03/09/11	Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed				
03/16/11	NM	16.84	16.84	429.09	0.0	Dry	Dry	Dry	-	0.0	15.12	15.13	15.12	430.44	0.01	NM	12.12	12.12	433.79	0.0
03/31/11	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	15.68	15.69	15.68	429.88	0.01	NM	13.97	13.97	431.94	0.0
04/08/11	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	15.88	15.89	15.88	429.68	0.01	NM	13.78	13.78	432.13	0.0
04/15/11	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	15.90	15.91	15.90	429.66	0.01	NM	14.02	14.02	431.89	0.0
04/21/11	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	0.0	NM	16.05	16.05	429.51	0.0	NM	12.11	12.11	433.80	0.0
05/18/11 (g)	NM	16.86	16.86	429.07	0.0	Dry	Dry	Dry	-	NA	15.65	15.66	15.65	429.91	0.01	NM	13.11	13.11	432.80	0.0
07/13/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	NM	15.92	15.92	429.64	0.0	NM	16.92	16.92	428.99	0.0
08/18/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	NM	16.01	16.01	429.55	0.0	16.32	16.33	16.32	429.59	0.01
09/21/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	15.90	15.91	15.90	429.66	0.01	NM	13.82	13.82	432.09	0.0
11/01/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	15.98	16.00	15.98	429.58	**0.02**	NM	13.96	13.96	431.95	0.0
12/07/11	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	15.99	16.01	15.99	429.57	**0.02**	NM	13.71	13.71	432.20	0.0
01/06/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	15.97	15.98	15.97	429.59	0.01	NM	13.81	13.81	432.10	0.0
02/22/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	15.87	15.88	15.87	429.69	0.01	NM	13.22	13.22	432.69	0.0
04/04/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	NM	15.89	15.89	429.67	0.0	NM	13.73	13.73	432.18	0.0
05/02/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	16.01	16.02	16.01	429.55	0.01	NM	14.02	14.02	431.89	0.0
06/14/12	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	15.80	15.81	15.80	429.76	0.01	NM	14.04	14.04	431.87	0.0
07/23/12	NM	16.88	16.88	429.05	0.0	Dry	Dry	Dry	-	NA	15.99	16.00	15.99	429.57	0.01	NM	14.03	14.03	431.88	0.0
08/24/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	16.07	16.08	16.07	429.49	0.01	NM	14.02	14.02	431.89	0.0
09/25/12	NM	16.85	16.85	429.08	0.0	Dry	Dry	Dry	-	NA	16.16	16.17	16.16	429.40	0.01	NM	14.02	14.02	431.89	0.0
11/09/12	NM	16.80	16.80	429.13	0.0	Dry	Dry	Dry	-	NA	NM	16.02	16.02	429.54	0.0	13.82	13.85	13.82	432.09	**0.03**
12/12/12	NM	16.87	16.87	429.06	0.0	Dry	Dry	Dry	-	NA	16.05	16.29	16.07	429.49	**0.24**	13.42	13.45	13.42	432.49	**0.03**
01/24/13											Inaccessible					NM	13.00	13.00	432.91	0.0
03/07/13											15.61	15.64	15.61	429.95	**0.03**	NM	12.35	12.35	433.56	0.0
04/22/13											15.73	15.77	15.73	429.83	**0.04**	NM	15.77	15.77	430.14	0.0
05/30/13											15.96	15.97	15.96	429.60	0.01	NM	13.10	13.10	432.81	0.0
07/18/13											NM	15.79	15.79	429.77	0.0	NM	13.78	13.78	432.13	0.0
08/26/13											NM	16.02	16.02	429.54	0.0	NM	13.90	13.90	432.01	0.0
10/21/13											15.90	15.91	15.90	429.66	0.01	NM	13.80	13.80	432.11	0.0
11/25/13											Inaccessible					NM	13.55	13.55	432.36	0.0
12/30/13											Inaccessible					NM	12.75	12.75	433.16	0.0
01/31/14											Inaccessible					NM	13.55	13.55	432.36	0.0
02/26/14											Inaccessible					NM	12.90	12.90	433.01	0.0
03/31/14											Inaccessible					NM	10.97	10.97	434.94	0.0
04/24/14 (h)											15.26	15.44	15.28	430.63	**0.18**	NM	13.20	13.20	432.71	0.0
08/26/14											NM	15.45	15.45	430.46	0.0	NM	13.09	13.09	432.82	0.0
03/17/15											Inaccessible					NM	13.31	13.31	432.60	0.0
04/20/15											NM	15.62	15.62	430.29	0.0	-	-	-	-	0.0
10/20/15											NM	15.78	15.78	430.13	0.0	NM	13.52	13.52	432.39	0.0
05/25/16											Damaged					NM	12.98	12.98	432.93	0.0
12/16/16											Damaged					NM	13.05	13.05	432.86	0.0
07/06/17											Damaged					NM	12.90	12.90	433.01	0.0
02/15/18											Damaged					NM	12.73	12.73	433.18	0.0
09/28/18											Damaged					NM	12.96	12.96	432.95	0.0
04/29/19											Damaged					NM	13.20	13.20	432.71	0.0
12/04/19											Damaged					12.62	12.62	12.62	433.29	0.0
01/23/20											Damaged					Not Measured for this Event				
07/30/20											Damaged					NM	12.70	12.70	433.21	0.0
09/24/20											Damaged					14.01	14.20	14.03	431.88	**0.19**
02/22/21											Damaged					13.96	13.98	13.96	431.95	**0.02**
03/12/21											Damaged					Not Measured for this Event				

No longer measured

No longer measured

Table 2

Summary of LNAPL Thickness Measurements - Recovery Wells and Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

a/ LNAPL = light non-aqueous phase liquid; in = inches; ft = feet; bTOC = below top of casing; amsl = above mean sea level; NM = no measurable product detected in the well; "-" = measurement was not collected.
b/ All depth to water measurements were corrected to account for the depression caused by the weight of the LNAPL. For correction of the depth to water, the LNAPL specific gravity was assumed to be equivale NOCO Quench 1000 (0.8972), which was used in the Former Heat Treat Area at the time site operations ceased.
c/ OW-2, OW-3, OW-8, and RW-1 were cut below grade during installation of the vacuum recovery system (the casing elevations were lowered).
d/ Bolded concentration in shaded cell are LNAPL thickness measurements that exceed the remedial action objective of 0.01 foot.
e/ A PVC coupler was glued onto the top of SB-5, SB-7, SB-8, SB-9, and SB-10 prior to the pneumatic fracturing to allow for installation of a threaded plug (the casing elevations were raised).
f/ Depth to water and depth to product measurements are assumed to be inaccurate due to emulsified water and product inside of OW-5 during the 9/3/2008 visit.
g/ The vacuum removal for the field event on 5/18/2011 was completed on 6/2/2011.
h/ LNAPL recovery with absorbents initiated; absorbents checked and replaced bi-monthly. Absorbents removed every 6 months for a period of 30 days before obtaining LNAPL thickness measurements.

Table 3

Summary of LNAPL Thickness Measurements - Pneumatic Fracturing Boreholes/Observation Wells
Former Rollway Bearing Corporation Facility
Liverpool, New York (a,b)

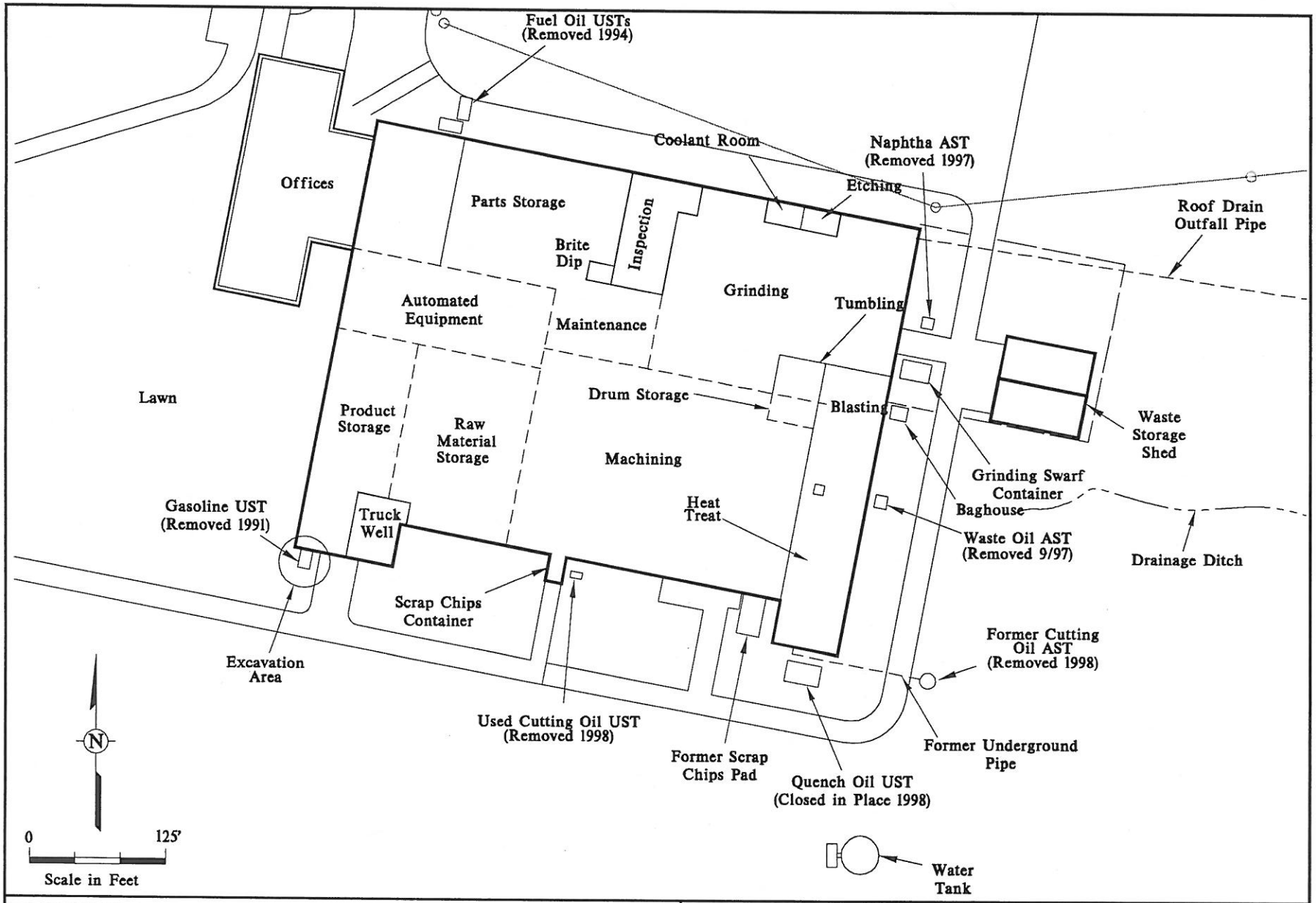
ID	OW-10/FB-1					OW-9/FB-2					FB-3					OW-11/FB-4				
Casing Diameter (in)	4					4					4					4				
Total Depth (ft bTOC)	17.08					14.83					17.64					16.40				
Floor Elevation (ft amsl)	446.43					446.40					446.39					446.36				
Measurement Dates	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (c)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (c)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (c)	Depth to Product (ft bTOC)	Depth to Water (ft bTOC)		Groundwater Elevation (ft amsl)	Apparent Product Thickness (ft) (c)
		Measured	Corrected				Measured	Corrected				Measured	Corrected				Measured	Corrected		
3/8-3/9/2011	Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed					Pneumatic Fracturing Completed				
3/16/2011	15.61	15.63	15.61	430.82	**0.02**	13.42	13.68	13.45	432.95	**0.26**	11.73	11.74	11.73	434.66	0.01	11.69	11.70	11.69	434.67	0.01
3/31/2011	15.03	15.19	15.05	431.38	**0.16**	13.88	14.10	13.90	432.50	**0.22**	12.12	12.13	12.12	434.27	0.01	12.07	12.13	12.08	434.28	**0.06**
4/8/2011	15.08	15.65	15.14	431.29	**0.57**	13.98	14.22	14.00	432.40	**0.24**	12.13	12.14	12.13	434.26	0.01	12.11	12.16	12.12	434.24	**0.05**
4/15/2011	15.08	15.70	15.14	431.29	**0.62**	14.19	14.34	14.21	432.19	**0.15**	12.18	12.20	12.18	434.21	**0.02**	12.23	12.28	12.24	434.12	**0.05**
4/21/2011	14.91	15.75	15.00	431.43	**0.84**	14.03	14.25	14.05	432.35	**0.22**	11.98	11.99	11.98	434.41	0.01	11.97	11.98	11.97	434.39	0.01
5/18/2011 (d)	14.38	15.55	14.50	431.93	**1.17**	13.85	14.45	13.91	432.49	**0.60**	11.80	11.81	11.80	434.59	0.01	11.90	11.91	11.90	434.46	0.01
7/13/2011	16.08	16.53	16.13	430.30	**0.45**	14.16	14.39	14.18	432.22	**0.23**	NM	12.28	12.28	434.11	0.0	13.13	13.75	13.19	433.17	**0.62**
8/18/2011	15.77	16.21	15.82	430.61	**0.44**	14.16	14.35	14.18	432.22	**0.19**	NM	12.05	12.05	434.34	0.0	12.05	12.07	12.05	434.31	**0.02**
9/21/2011	14.99	15.81	15.07	431.36	**0.82**	14.05	14.23	14.07	432.33	**0.18**	11.96	11.97	11.96	434.43	0.01	11.96	11.98	11.96	434.40	**0.02**
11/1/2011	16.28	16.61	16.31	430.12	**0.33**	14.11	14.22	14.12	432.28	**0.11**	NM	11.95	11.95	434.44	0.0	11.95	11.97	11.95	434.41	**0.02**
12/7/2011	15.28	15.56	15.31	431.12	**0.28**	14.09	14.35	14.12	432.28	**0.26**	NM	11.94	11.94	434.45	0.0	11.93	11.95	11.93	434.43	**0.02**
1/6/2012	14.69	15.70	14.79	431.64	**1.01**	14.03	14.72	14.10	432.30	**0.69**	NM	11.82	11.82	434.57	0.0	11.83	11.84	11.83	434.53	0.01
2/22/2012	15.22	16.20	15.32	431.11	**0.98**	14.02	14.27	14.05	432.35	**0.25**	NM	11.88	11.88	434.51	0.0	11.91	11.92	11.91	434.45	0.01
4/4/2012	14.38	15.80	14.53	431.90	**1.42**	14.07	14.67	14.13	432.27	**0.60**	NM	11.90	11.90	434.49	0.0	11.91	11.93	11.91	434.45	**0.02**
5/2/2012 (e)	-	-	-	-	-	-	-	-	-	-	NM	12.01	12.01	434.38	0.0	11.99	12.01	11.99	434.37	**0.02**
6/14/2012	15.60	15.70	15.61	430.82	**0.10**	14.20	14.60	14.24	432.16	**0.40**	NM	12.00	12.00	434.39	0.0	12.00	12.10	12.01	434.35	**0.10**
7/23/2012	15.95	16.39	16.00	430.43	**0.44**	14.21	14.31	14.22	432.18	**0.10**	NM	12.09	12.09	434.30	0.0	12.07	12.08	12.07	434.29	0.01
8/24/2012	16.57	16.82	16.60	429.83	**0.25**	14.21	14.35	14.22	432.18	**0.14**	NM	12.11	12.11	434.28	0.0	12.08	12.11	12.08	434.28	**0.03**
9/25/2012	15.72	16.17	15.77	430.66	**0.45**	14.17	14.34	14.19	432.21	**0.17**	NM	12.10	12.10	434.29	0.0	12.12	12.28	12.14	434.22	**0.16**
11/9/2012	15.59	16.29	15.66	430.77	**0.70**	14.06	14.34	14.09	432.31	**0.28**	NM	11.92	11.92	434.47	0.0	11.90	11.91	11.90	434.46	0.01
12/12/2012	15.47	15.55	15.48	430.95	**0.08**	14.00	14.22	14.02	432.38	**0.22**						11.88	11.92	11.88	434.48	**0.04**
1/24/2013	15.54	16.15	15.60	430.83	**0.61**	13.50	14.01	13.55	432.85	**0.51**						11.78	11.90	11.79	434.57	**0.12**
3/7/2013	13.55	15.94	13.80	432.63	**2.39**	13.48	13.50	13.48	432.92	**0.02**						11.76	11.77	11.76	434.60	0.01
4/22/2013	13.25	13.54	13.28	433.15	**0.29**	14.01	14.05	14.01	432.39	**0.04**						11.71	11.74	11.71	434.65	**0.03**
5/30/2013	13.98	14.35	14.02	432.41	**0.37**	13.83	14.00	13.85	432.55	**0.17**						13.35	13.80	13.40	432.96	**0.45**
7/18/2013	13.93	14.20	13.96	432.47	**0.27**	13.90	14.00	13.91	432.49	**0.10**						13.07	13.35	13.10	433.26	**0.28**
8/26/2013	13.13	13.28	13.15	433.28	**0.15**	NM	13.85	13.85	432.55	0.0						13.42	13.48	13.43	432.93	**0.06**
10/21/2013	13.05	13.12	13.06	433.37	**0.07**	Dry	Dry	Dry	-	-						13.00	13.45	13.05	433.31	**0.45**
11/25/2013	13.21	13.25	13.21	433.22	**0.04**	Dry	Dry	Dry	-	-						13.30	13.35	13.31	433.05	**0.05**
12/30/2013	12.85	12.89	12.85	433.58	**0.04**	Dry	Dry	Dry	-	-						12.00	12.05	12.01	434.35	**0.05**
1/31/2014	14.03	14.07	14.03	432.40	**0.04**	Dry	Dry	Dry	-	-						12.04	12.07	12.04	434.32	**0.03**
2/26/2014	13.94	13.96	13.94	432.49	**0.02**	Inaccessible										Inaccessible				
3/31/2014	13.40	13.41	13.40	433.03	0.01	13.34	13.36	13.34	433.02	**0.02**						NM	11.55	11.55	434.81	0.0
4/24/2014 (f)	13.77	13.85	13.78	432.65	**0.08**	13.75	13.80	13.76	432.60	**0.05**						11.90	11.91	11.90	434.46	0.01
8/26/2014	13.72	(g)	(g)	(g)	(g)											11.81	11.82	11.81	434.55	0.01
3/17/2015	13.82	13.91	13.83	432.60	**0.09**	Inaccessible										NM	11.71	11.71	434.65	0.0
10/20/2015	13.51	13.55	13.51	432.92	**0.04**											11.80	12.03	11.82	434.54	**0.23**
5/25/2016 (h)	16.81	16.82	16.81	429.62	0.01	16.74	16.91	16.76	429.60	**0.17**						NM	15.95	15.95	430.41	0.0
12/16/2016	Dry	Dry	Dry	-	-	16.67	16.70	16.67	429.69	**0.03**						NM	15.67	15.67	430.69	0.0
7/6/2017	NM	16.81	16.81	429.62	0.0	NM	16.64	16.64	429.72	0.0						NM	15.55	15.55	430.81	0.0
2/15/2018	16.82	16.83	16.82	429.61	0.01	NM	16.62	16.62	429.74	0.0						NM	15.33	15.33	431.03	0.0
9/28/2018	17.84	17.98	17.85	428.45	**0.14**	16.95	17.00	16.96	429.40	**0.05**						NM	15.82	15.82	430.54	0.0
4/29/2019	16.85	16.88	16.85	429.58	**0.03**	16.66	16.74	16.67	429.69	**0.08**						NM	15.73	15.73	430.63	0.0
12/4/2019	16.80	16.82	16.80	429.63	**0.02**	16.62	16.77	16.64	429.72	**0.15**						12.68	12.68	12.68	433.68	0.0
1/23/2020	16.97	17.10	16.98	429.45	**0.13**	17.19	17.21	17.19	429.17	**0.02**						Not Measured for this Event				
7/30/2020	17.28	17.43	17.30	429.13	**0.15**	DRY										15.65	15.70	15.66	430.70	**0.05**
9/24/2020	Not Measured for this Event					DRY										Not Measured for this Event				
2/22/2021	NM	17.40	17.40	429.03	0.0	17.13	17.37	17.15	429.21	**0.24**						15.70	15.73	15.70	430.66	**0.03**

No longer measured

a/ LNAPL = light non-aqueous phase liquid; in = inches; ft = feet; bTOC = below top of casing; amsl = above mean sea level; NM = no measurable product detected in the well.
b/ All depth to water measurements were corrected to account for the depression caused by the weight of the LNAPL. For correction of the depth to water, the LNAPL specific gravity was assumed to be equivalent to NOCO Quench 1000 (0.8972), which was used in Former Heat Treat Area during the end of operation at the former Rollway Bearing Corporation facility.
c/ Bolded concentration in shaded cell are LNAPL thickness measurements that exceed the remedial action objective of 0.01 foot.
d/ The vacuum removal for the field event on 5/18/2011 was completed on 6/2/2011.
e/ Vacuum removal of FB-1 and FB-2 was not completed on 5/2/2012 due to mechanical issues with the vacuum truck.
f/ Absorbent LNAPL recovery initiated; LNAPL thicknesses to be recorded semi-annually
g/ No water present in well casing below LNAPL.
h/ In April 2016, open boreholes FB-1, FB-2, and FB-4 were converted to 4-inch ID PVC observation wells, and open borehole FB-3 was abandoned.

APPENDIX

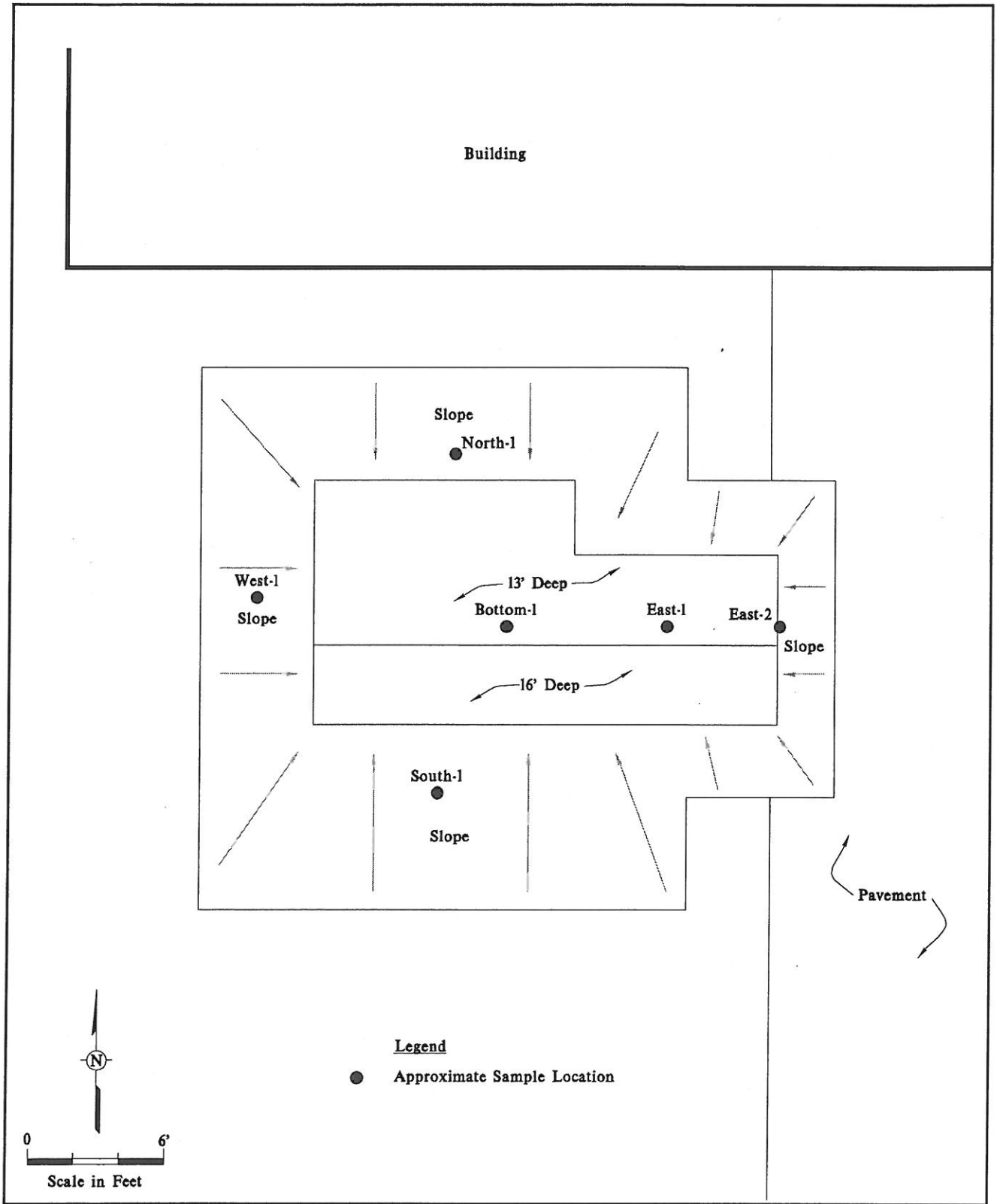
A RELEVANT HISTORICAL SITE FIGURES



ENVIRONMENTAL STRATEGIES CORPORATION
ESC
11911 Freedom Drive Suite 900
Reston, Virginia 22090
703-709-6500

Figure 1
Site Layout
Rollway Bearing Facility
Liverpool, New York

13392810.DWG



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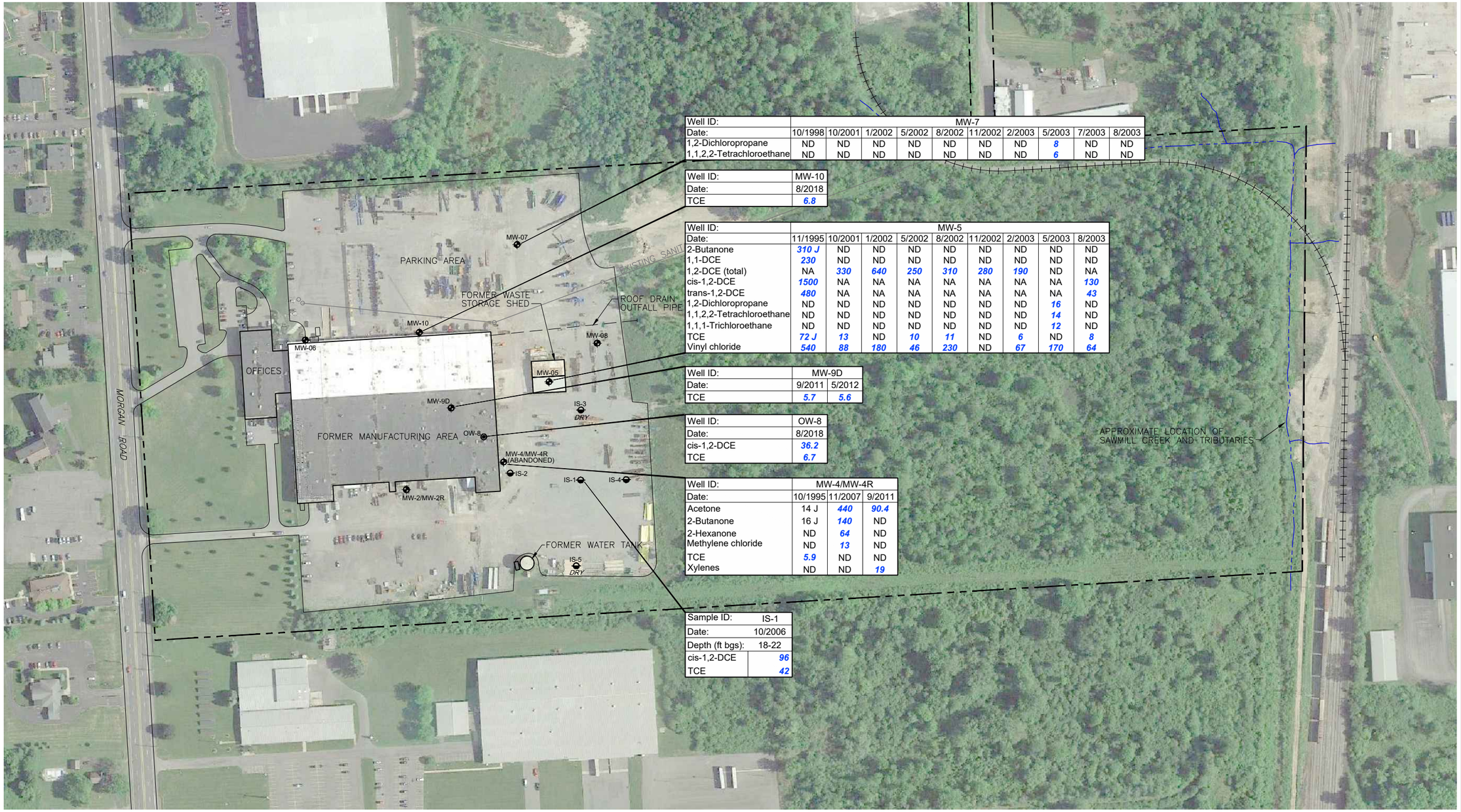
703-709-6500

Figure 2
Excavation Limits
Rollway Bearing Facility
Liverpool, New York

13392809.DWG



Well ID:	MW-7									
Date:	10/1998	10/2001	1/2002	5/2002	8/2002	11/2002	2/2003	5/2003	7/2003	8/2003
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	*8*	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	*6*	ND	ND

Well ID:	MW-10
Date:	8/2018
TCE	*6.8*

Well ID:	MW-5								
Date:	11/1995	10/2001	1/2002	5/2002	8/2002	11/2002	2/2003	5/2003	8/2003
2-Butanone	*310 J*	ND	ND	ND	ND	ND	ND	ND	ND
1,1-DCE	*230*	ND	ND	ND	ND	ND	ND	ND	ND
1,2-DCE (total)	NA	*330*	*640*	*250*	*310*	*280*	*190*	ND	NA
cis-1,2-DCE	*1500*	NA	NA	NA	NA	NA	NA	NA	*130*
trans-1,2-DCE	*480*	NA	NA	NA	NA	NA	NA	NA	*43*
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	*16*	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	*14*	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	*12*	ND
TCE	*72 J*	*13*	ND	*10*	*11*	ND	*6*	ND	*8*
Vinyl chloride	*540*	*88*	*180*	*46*	*230*	ND	*67*	*170*	*64*

Well ID:	MW-9D	
Date:	9/2011	5/2012
TCE	*5.7*	*5.6*

Well ID:	OW-8
Date:	8/2018
cis-1,2-DCE	*36.2*
TCE	*6.7*

Well ID:	MW-4/MW-4R		
Date:	10/1995	11/2007	9/2011
Acetone	14 J	*440*	*90.4*
2-Butanone	16 J	*140*	ND
2-Hexanone	ND	*64*	ND
Methylene chloride	ND	*13*	ND
TCE	*5.9*	ND	ND
Xylenes	ND	ND	*19*

Sample ID:	IS-1
Date:	10/2006
Depth (ft bgs):	18-22
cis-1,2-DCE	*96*
TCE	*42*

REFERENCES:

1. GOOGLE EARTH AERIAL PHOTOGRAPH, DATED 05/28/2016.
2. AERIAL PHOTOGRAPHS USED FOR THIS ILLUSTRATION CONTAIN INHERENT DISTORTIONS RESULTING FROM THE PHOTOGRAPHIC PROCESS THAT MAY RESULT IN SLIGHT MISALIGNMENTS WITH THE SURVEYED SITE FEATURES.

B

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTES:

1. CONCENTRATIONS ARE SHOWN IN MICROGRAMS PER LITER.
2. THE SAMPLE DEPTH FOR IN SITU GROUNDWATER SAMPLE IS-1 IS SHOWN IN FEET BELOW GROUND SURFACE.
3. GROUNDWATER CONCENTRATIONS IN BLUE ITALIC ARE ABOVE THE NEW YORK STATE AMBIENT WATER QUALITY STANDARDS OR GUIDANCE VALUE FOR CLASS GA GROUNDWATER PROVIDED IN THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), DATED JUNE 1998 AND ADDENDUMS.
4. ONLY SAMPLE LOCATIONS WITH RESULTS ABOVE WATER QUALITY STANDARDS ARE SHOWN.

LEGEND

- MONITORING WELL
- In-Situ GROUNDWATER SAMPLE (OCTOBER 2006)
- OBSERVATION WELL
- PROPERTY LINE AND INSTITUTIONAL CONTROL BOUNDARY
- RAILROAD
- EXISTING SANITARY SEWER

TCE	TRICHLOROETHENE
cis-1,2-DCE	CIS-1,2-DICHLOROETHENE
trans-1,2-DCE	TRANS-1,2-DICHLOROETHENE
IS-1	IN SITU GROUNDWATER SAMPLE
J	ESTIMATED CONCENTRATION
ND	NOT DETECTED
NA	NOT ANALYZED FOR THIS PARAMETER
VOCs	VOLATILE ORGANIC COMPOUNDS

N

0 250 500

SCALE IN FEET

Drawn By: EGC
Checked:
Approved: BES 8/26/2021
DWG Name: 314V1545.018-014

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 3
GROUNDWATER RESULTS
(1995-2018)

WSP USA Inc.
7000 E. GENESEE STREET
BUILDING D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

R:\ACAD\CADD_CLIENT\Emerson\NY_Liverpool\314O1545.018\CAD\314V1545.018-014.dwg 7/7/2021 8:37 AM USEC01012

VOCs (ug/m^3)	SS-1		
	6/21/2006	8/1/2006	3/29/2019
TCE	2,900	1,560	530 D
PCE	29	27	140

VOCs (ug/m^3)	SS-10
	3/26/2007
cis-1,2-DCE	145
TCE	3,600 D

VOCs (ug/m^3)	SS-3	
	10/11/2006	3/29/2019
TCE	550	230 D

VOCs (ug/m^3)	SS-4
	10/11/2006
cis-1,2-DCE	5,700
TCE	50,000

VOCs (ug/m^3)	SS-12		SS-100 (a)
	3/26/2007	3/29/2019	3/29/2019
VC	3.95	ND	ND
cis-1,2-DCE	22,000 D	620	810
TCE	1,600,000 D	46,000	62,000
PCE	5,700 D	2,600	3,300

VOCs (ug/m^3)	SS-13
	3/26/2007
cis-1,2-DCE	345
TCE	5,500 D

VOCs (ug/m^3)	SS-5
	10/11/2006
cis-1,2-DCE	270
TCE	10,000

VOCs (ug/m^3)	SG-4
	8/1/2006
cis-1,2-DCE	60.9
TCE	214

VOCs (ug/m^3)	SS-16	
	3/26/2007	3/29/2019
TCE	330 D	8.3

VOCs (ug/m^3)	SS-8
	10/11/2006
TCE	340

VOCs (ug/m^3)	SS-15	
	3/26/2007	3/29/2019
TCE	419	1.1

VOCs (ug/m^3)	SS-7
	10/11/2006
TCE	63

VOCs (ug/m^3)	SS-14	
	3/26/2007	3/29/2019
TCE	350 D	0.20 J

SS-20 [Not Analyzed]

SS-21 [Not Analyzed]

SS-22 [Not Analyzed]

SS-19 [Not Analyzed]

SS-23 [Not Analyzed]

LEGEND

- SS-17 — SUB-SLAB VAPOR SAMPLE LOCATION (MARCH 2019)
- SS-4 — SUB-SLAB VAPOR SAMPLE LOCATION (2006, 2007)
- SG-4 — VADOSE ZONE SOIL GAS SAMPLE LOCATION (2006)
- MW-4 — MONITORING WELL
- OW-3 — OBSERVATION WELL CONNECTED TO LNAPL RECOVERY SYSTEM
- RW-1 — RECOVERY WELL CONNECTED TO LNAPL RECOVERY SYSTEM
- COLUMN
- FORMER PIT FILLED AND CAPPED WITH CONCRETE
- FORMER PIT TRENCH
- LNAPL RECOVERY SYSTEM AIR CONVEYANCE PIPING

VOCs (ug/m^3)	SS-3	
	10/11/2006	3/29/2019
TCE	550	230 D

- SAMPLE LOCATION
- SAMPLE COLLECTION DATE
- CONCENTRATION IN MICROGRAMS PER CUBIC METER
- CONCENTRATIONS IN BLUE EXCEED CRITERIA (SEE NOTE 2)
- CONSTITUENT

J	ESTIMATED CONCENTRATION
D	RESULT IS FROM A DILUTION
ND	NOT DETECTED
VOCs	VOLATILE ORGANIC COMPOUNDS
TCE	TRICLOROETHENE
PCE	TETRACHLOROETHENE

NOTES:

1. (a) SS-100 IS A DUPLICATE SAMPLE OF SS-12.
2. SUB-SLAB SOIL VAPOR AND SOIL GAS CRITERIA ARE THE CONCENTRATIONS REQUIRING REMEDIATION IN A RESIDENTIAL SETTING REGARDLESS OF INDOOR AIR CONCENTRATION, AS PROVIDED IN NEW YORK STATE DEPARTMENT OF HEALTH'S (NYSDOH'S) FINAL GUIDANCE FOR EVALUATION OF SOIL VAPOR INTRUSION IN THE STATE OF NEW YORK (UPDATED MAY 2017)
3. ONLY SAMPLE LOCATIONS WITH RESULTS ABOVE NYSDOH CRITERIA ARE SHOWN.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

0 25 50 75
SCALE IN FEET

REVISIONS

REV	DESCRIPTION			
1	Revised:	Chkd:	Appr.:	
2	Revised:	Chkd:	Appr.:	
3	Revised:	Chkd:	Appr.:	

SEAL

DATE

DRAWN BY ECG 4/26/2021
CHECKED AMR
APPROVED TJES

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DRAWING IN ANY WAY.

SUB-SLAB SOIL VAPOR AND SOIL GAS SAMPLING RESULTS (2006, 2007, AND 2019)

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

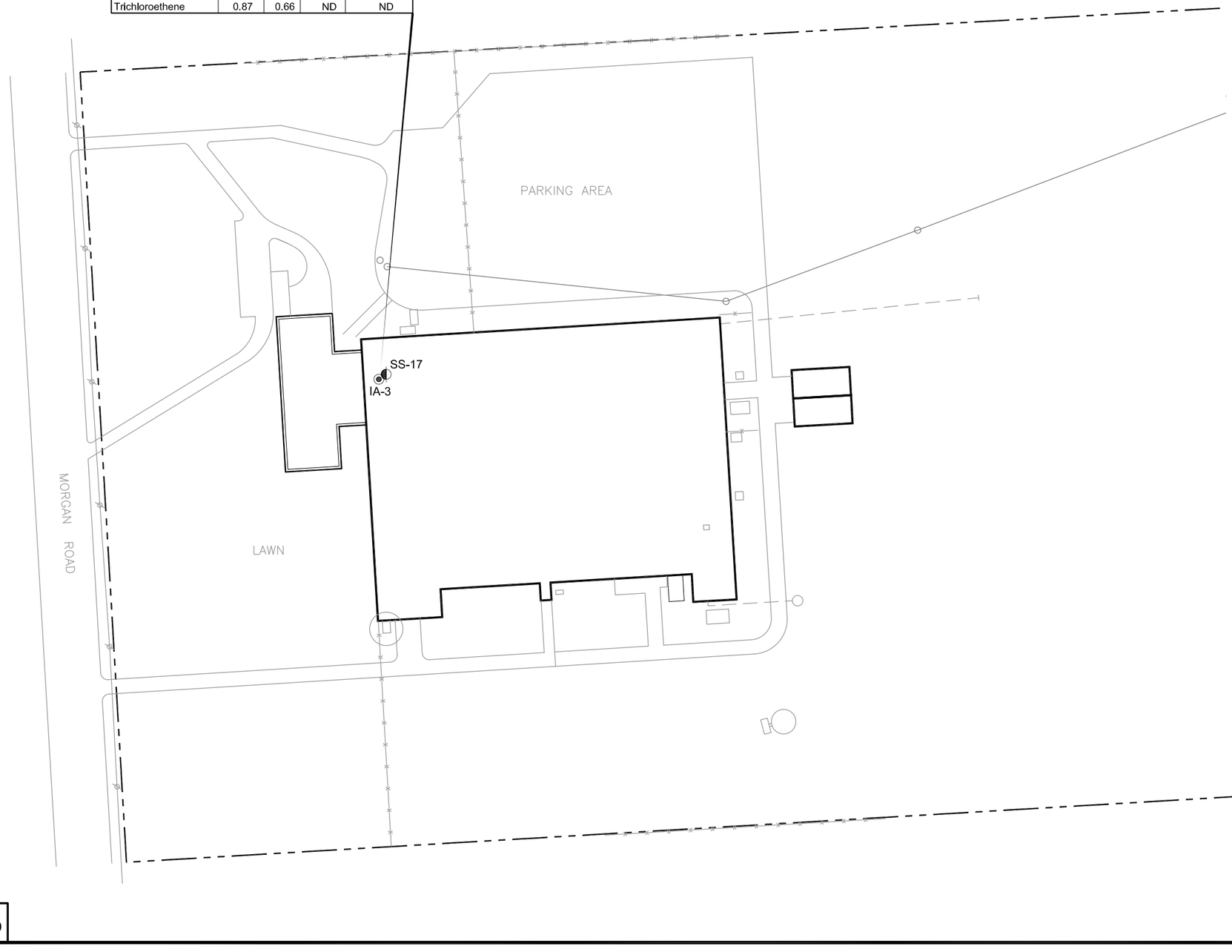
WSP USA Inc.
7000 E. GENESEE ST. BLDG D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

FIGURE 4

Drawing Number
314V1545.018-015

D

Sample Date:	27-Feb-12			
Sample ID:	SS-17	IA-3	IA-3R	AA022712
Compound (mg/m^3)				
1,1,1-Trichloroethene	0.94	ND	ND	ND
Acetone	24	51	59	6.0 J
Benzene	3.5	1.3	1.1	0.91
Chloroform	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Freon 113	1.1 J	ND	ND	ND
Tetrachloroethylene	33	3.2	2.6	ND
Trichloroethene	0.87	0.66	ND	ND



LEGEND

- ◉ INDOOR AIR SAMPLE LOCATION
- ◐ SUBSLAB SOIL GAS SAMPLE LOCATION

ND NOT DETECTED
J ESTIMATED CONCENTRATION
IA INDOOR AIR SAMPLE
SS SUBSLAB SOIL GAS SAMPLE

NOTES:

1. CONCENTRATIONS ARE SHOWN IN MICROGRAMS PER CUBIC METER (ug/m^3).
2. SAMPLE IA–3R IS A DUPLICATE OF SAMPLE IA–3.
3. SAMPLE AA022712 IS AN AMBIENT OUTDOOR AIR SAMPLE.

Drawn By: EGC
Checked:
Approved:
DWG Name: 314V0435–007

FORMER ROLLWAY BEARING CORPORATION FACILITY
LIVERPOOL, NEW YORK
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 5

INDOOR AIR SAMPLING RESULTS – OFFICE AREA – FEBRUARY 2012

WSP USA Inc.
7000 E. GENESEE STREET
BUILDING D, 2ND FLOOR
FAYETTEVILLE, NY 13066
TEL: +1 315.655.3900

B

APPENDIX

B ANNUAL SITE-WIDE INSPECTION FORM

Site Management Plan Annual Site-Wide Inspection Form
Former Rollway Bearing Corporation Site
Liverpool, New York

Site Street Address: 7600 Morgan Road

Inspector: Brian Silfer Affiliation: WSP USA Inc.

Inspector Address: 7000 East Genesee, Fayetteville, NY 13066

Phone Number: 315-655-3900 ex. 1 Date: June 17, 2021

Arrival Time: 1325 Departure Time: 1715

Weather Conditions: Partly Cloudy and Breezy; Approximately 76°F

Type of Report: ☒ Routine (annual) ☐ Non-routine/Emergency

Event Type (if non-routine or emergency): NA

Section 1 – Institutional Controls

1. Institutional Controls are recorded on the property deed that prohibits:
    a. vegetable gardens and farming
    b. the use of the groundwater underlying the property (without treatment rendering it safe for its intended use and pre-approval by the New York State Department of Environmental Conservation [NYSDEC])
    c. the use of the land for purposes other than commercial/industrial (as specified in the Environmental Easement)
        - Are vegetable gardens or other farm activities present? Yes ☐ No ☒
        - Is the underlying groundwater in use? Yes ☐ No ☒
        - Is the property being used for purposes other than Commercial/Industrial (e.g., residential)? Yes ☐ No ☒

        If the answer to any of the above questions is yes, notify NYSDEC immediately.

2. During the past year, was soil excavated in the area designated as having *Remaining Contamination*[1]? (See the SMP figures for location and depth of the *Remaining Contamination*.)

    Yes ☐ No ☒

    Were any areas of *Discovered Contamination*[2] identified?

    Yes ☐ No ☒

    If yes, describe nature of contamination: _____

[1] "*Remaining Contamination*" is defined as residual light non-aqueous phase liquid below the former heat treat department and volatile organic compounds (VOCs) in subslab soil gas and groundwater above the applicable standards, criteria, and guidance (SCGs). The *Remaining Contamination* is shown on Figures 5, 6, 7, and 8 of the Site Management Plan.

[2] "*Discovered Contamination*" is soil that may be discovered during the course of site activities that exhibits visible, olfactory, or other evidence of contamination. *Discovered Contamination* must be characterized following the procedures outlined in the Site Management Plan.

Attach description of waste characterization sampling and data, if appropriate. (NA)

a. If the answer to <u>any</u> of the above questions is yes, please provide the following information:

- Was NYSDEC notified: Yes ☐ No ☐

  If yes, please provide date: _____

- Were the procedures outlined in the Excavation Work Plan (Appendix E in the SMP) followed? Yes ☐ No ☐
- Was soil characterized as a non-hazardous waste? Yes ☐ No ☐

  hazardous waste? Yes ☐ No ☐
- Provide dates of excavation: _____
- Provide volume of excavated soil: _____

Attach figure and color photographs (if appropriate) showing excavation location and verification sample locations

Attach post-excavation verification sample data with comparison to appropriate standards/criteria

Attach copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-specified format)

3. During the past year, were any buildings developed within the IC boundaries noted on Figure 2 of the SMP? Yes ☐ No ☒

   If yes, was a vapor intrusion study performed within the new building? Yes ☐ No ☐

   Were potential impacts monitored or mitigated? Yes ☐ No ☐ NA ☐

4. During the past year, did the use of tetrachloroethene (PCE)-containing materials within the onsite building change (i.e., are PCE-containing materials no longer used)? Yes ☐ No ☒

   If yes, was the NYSDEC notified and was a vapor intrusion study performed within the building? Yes ☐ No ☐

   Were potential impacts monitored or mitigated? Yes ☐ No ☐ NA ☒

Section 2 – Engineering Controls

1. <u>Cover System</u>

   - Please describe the general condition of the cover system at the facility (See SMP for location of cover system).

   <u>Exposed areas of the cover system were intact and appeared to be in good condition. Approximately 10 small-diameter holes (i.e., 1-inch in diameter, or less) that were formerly used to anchor equipment to the floor were observed. In addition, some minor cracks were observed (less than 1/8-inch wide) in the western portion of the former manufacturing area of the building. However, it is unknown whether these openings penetrate the concrete slab. No breeches were observed in the cover system.</u>

   - Were there any excavations or other breeches of the cover system during the reporting period?

     Yes ☒ No ☐

If yes, please describe the excavation or breech: The floor slab was cored at 22 locations within the eastern portion of the building during installation of the sub-slab depressurization system in August and September of 2020. The floor slab was promptly restored in accordance with the approved work plan. Concrete cores and soil removed during construction of the sub-slab suction points was drummed and disposed of offsite at a licensed disposal facility as non-hazardous waste. The waste disposal documentation was provided in the Sub-Slab Depressurization System Completion Report, dated March 2, 2021.

Date of excavation or breech: August and September 2020

Was the NYSDEC notified? Yes ☒ No ☐

- Is there any damage to the cover system that could compromise its effectiveness as an engineering control?

  Yes ☐ No ☒

  If yes, please describe:
  _____
  _____
  _____

- Were any openings or repair(s) made to the cover system during the reporting period?

  Yes ☒ No ☐

  If yes, please describe the openings/repair(s): See above discussion regarding installation of the sub-slab depressurization system.

  Date of openings/repairs: August and September 2020

  Was the NYSDEC notified? Yes ☒ No ☐

- Are there any visible cracks, fissures, or other damage to the cover system that could compromise its effectiveness?

  Yes ☐ No ☒

  If yes, please describe: _____

2. Vacuum-Enhanced LNAPL Recovery System

   - Please describe the general condition of the LNAPL recovery system.

   The LNAPL recovery system was operational and appeared to be well-maintained. Temperature and vacuum readings on the treatment equipment were generally within normal operating ranges. Operation and maintenance visits are performed bi-monthly and system measurements are recorded during each visit.

   _____

Is the LNAPL recovery system performing as designed and does it continue to be protective of human health and the environment?

Yes ☒ No ☐

If no, please describe deviation(s):

_____
_____
_____

- Is the LNAPL recovery system being operated, maintained, and monitored in accordance with the SMP?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

- Is all paperwork associated with operation of the LNAPL recovery system up to date?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

- Please describe the general condition of the LNAPL recovery and observation wells in the former heat treat area.

  The recovery well vaults are in good condition and function properly. All hoses are connected and appear in good condition. Flow meters on the recovery wells are operational and the flow and vacuum at each recovery well are balanced. The observation well manhole covers are closed.

3. Sub-Slab Depressurization System

- Please describe the general condition of the Sub-Slab Depressurization System (SSDS).

  The SSDS appeared to be in good condition and operating as designed. The vertical and horizontal conveyance piping appeared to be intact and the vacuum gauges were operational. No issues with respect to the exterior-mounted fans could be detected from ground level.

- Is the SSDS performing as designed and does it continue to be protective of human health and the environment?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____

_____
_____

- Is the SSDS being operated, maintained, and monitored in accordance with the SMP?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____
  _____

- Is all paperwork associated with operation of the SSDS up to date?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

Notes:

1. Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.

2. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

3. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

APPENDIX

C LNAPL RECOVERY SYSTEM O&M CHECKLISTS

Site Management Plan Annual Site-Wide Inspection Form
Former Rollway Bearing Corporation Site
Liverpool, New York

Site Street Address: 7600 Morgan Road

Inspector: Brian Silfer Affiliation: WSP USA Inc.

Inspector Address: 7000 East Genesee, Fayetteville, NY 13066

Phone Number: 315-655-3900 ex. 1 Date: June 17, 2021

Arrival Time: 1325 Departure Time: 1715

Weather Conditions: Partly Cloudy and Breezy; Approximately 76°F

Type of Report: ☒ Routine (annual) ☐ Non-routine/Emergency

Event Type (if non-routine or emergency): NA

Section 1 – Institutional Controls

1. Institutional Controls are recorded on the property deed that prohibits:
    a. vegetable gardens and farming
    b. the use of the groundwater underlying the property (without treatment rendering it safe for its intended use and pre-approval by the New York State Department of Environmental Conservation [NYSDEC])
    c. the use of the land for purposes other than commercial/industrial (as specified in the Environmental Easement)
        - Are vegetable gardens or other farm activities present? Yes ☐ No ☒
        - Is the underlying groundwater in use? Yes ☐ No ☒
        - Is the property being used for purposes other than Commercial/Industrial (e.g., residential)? Yes ☐ No ☒

        If the answer to any of the above questions is yes, notify NYSDEC immediately.

2. During the past year, was soil excavated in the area designated as having *Remaining Contamination*[1]? (See the SMP figures for location and depth of the *Remaining Contamination*.)

    Yes ☐ No ☒

    Were any areas of *Discovered Contamination*[2] identified?

    Yes ☐ No ☒

    If yes, describe nature of contamination: _____

[1] "*Remaining Contamination*" is defined as residual light non-aqueous phase liquid below the former heat treat department and volatile organic compounds (VOCs) in subslab soil gas and groundwater above the applicable standards, criteria, and guidance (SCGs). The *Remaining Contamination* is shown on Figures 5, 6, 7, and 8 of the Site Management Plan.

[2] "*Discovered Contamination*" is soil that may be discovered during the course of site activities that exhibits visible, olfactory, or other evidence of contamination. *Discovered Contamination* must be characterized following the procedures outlined in the Site Management Plan.

Attach description of waste characterization sampling and data, if appropriate. (NA)

a. If the answer to <u>any</u> of the above questions is yes, please provide the following information:

- Was NYSDEC notified: Yes ☐ No ☐

  If yes, please provide date: _____

- Were the procedures outlined in the Excavation Work Plan (Appendix E in the SMP) followed? Yes ☐ No ☐
- Was soil characterized as a non-hazardous waste? Yes ☐ No ☐

  hazardous waste? Yes ☐ No ☐
- Provide dates of excavation: _____
- Provide volume of excavated soil: _____

Attach figure and color photographs (if appropriate) showing excavation location and verification sample locations

Attach post-excavation verification sample data with comparison to appropriate standards/criteria

Attach copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-specified format)

3. During the past year, were any buildings developed within the IC boundaries noted on Figure 2 of the SMP? Yes ☐ No ☒

   If yes, was a vapor intrusion study performed within the new building? Yes ☐ No ☐

   Were potential impacts monitored or mitigated? Yes ☐ No ☐ NA ☐

4. During the past year, did the use of tetrachloroethene (PCE)-containing materials within the onsite building change (i.e., are PCE-containing materials no longer used)? Yes ☐ No ☒

   If yes, was the NYSDEC notified and was a vapor intrusion study performed within the building? Yes ☐ No ☐

   Were potential impacts monitored or mitigated? Yes ☐ No ☐ NA ☒

Section 2 – Engineering Controls

1. <u>Cover System</u>

   - Please describe the general condition of the cover system at the facility (See SMP for location of cover system).

   <u>Exposed areas of the cover system were intact and appeared to be in good condition. Approximately 10 small-diameter holes (i.e., 1-inch in diameter, or less) that were formerly used to anchor equipment to the floor were observed. In addition, some minor cracks were observed (less than 1/8-inch wide) in the western portion of the former manufacturing area of the building. However, it is unknown whether these openings penetrate the concrete slab. No breeches were observed in the cover system.</u>

   - Were there any excavations or other breeches of the cover system during the reporting period?

     Yes ☒ No ☐

If yes, please describe the excavation or breech: The floor slab was cored at 22 locations within the eastern portion of the building during installation of the sub-slab depressurization system in August and September of 2020. The floor slab was promptly restored in accordance with the approved work plan. Concrete cores and soil removed during construction of the sub-slab suction points was drummed and disposed of offsite at a licensed disposal facility as non-hazardous waste. The waste disposal documentation was provided in the Sub-Slab Depressurization System Completion Report, dated March 2, 2021.

Date of excavation or breech: August and September 2020

Was the NYSDEC notified? Yes ☒ No ☐

- Is there any damage to the cover system that could compromise its effectiveness as an engineering control?

  Yes ☐ No ☒

  If yes, please describe:
  _____
  _____
  _____

- Were any openings or repair(s) made to the cover system during the reporting period?

  Yes ☒ No ☐

  If yes, please describe the openings/repair(s): See above discussion regarding installation of the sub-slab depressurization system.

  Date of openings/repairs: August and September 2020

  Was the NYSDEC notified? Yes ☒ No ☐

- Are there any visible cracks, fissures, or other damage to the cover system that could compromise its effectiveness?

  Yes ☐ No ☒

  If yes, please describe: _____

2. Vacuum-Enhanced LNAPL Recovery System

   - Please describe the general condition of the LNAPL recovery system.

   The LNAPL recovery system was operational and appeared to be well-maintained. Temperature and vacuum readings on the treatment equipment were generally within normal operating ranges. Operation and maintenance visits are performed bi-monthly and system measurements are recorded during each visit.

   _____

Is the LNAPL recovery system performing as designed and does it continue to be protective of human health and the environment?

Yes ☒ No ☐

If no, please describe deviation(s):

_____
_____
_____

- Is the LNAPL recovery system being operated, maintained, and monitored in accordance with the SMP?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

- Is all paperwork associated with operation of the LNAPL recovery system up to date?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

- Please describe the general condition of the LNAPL recovery and observation wells in the former heat treat area.

  The recovery well vaults are in good condition and function properly. All hoses are connected and appear in good condition. Flow meters on the recovery wells are operational and the flow and vacuum at each recovery well are balanced. The observation well manhole covers are closed.

3. Sub-Slab Depressurization System

- Please describe the general condition of the Sub-Slab Depressurization System (SSDS).

  The SSDS appeared to be in good condition and operating as designed. The vertical and horizontal conveyance piping appeared to be intact and the vacuum gauges were operational. No issues with respect to the exterior-mounted fans could be detected from ground level.

- Is the SSDS performing as designed and does it continue to be protective of human health and the environment?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____

_____
_____

- Is the SSDS being operated, maintained, and monitored in accordance with the SMP?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____
  _____

- Is all paperwork associated with operation of the SSDS up to date?

  Yes ☒ No ☐

  If no, please describe deviation(s):

  _____
  _____
  _____

Notes:

1. Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.

2. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

3. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

APPENDIX

D SSDS INSPECTION FORMS

Sub-Slab Depressurization System Inspection Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date:	**1/21/2021**	**Inspector (print):**	Nate Winston
Time:	**10:00**	**Inspector (sign):**	
		Weather Conditions	27 deg F, cloudy

Reason for Visit (check all that apply):

Routine Inspection/O&M **X** Response to Owner Notification

Other

Vacuum Measurements

SSD Extraction Point	Vacuum Reading (in W.C.)	SSD Extraction Point	Vacuum Reading (in W.C.)	
SSD-01	-8.02	SSD-13	-5.85	a/ Extraction point turned off.
SSD-02 (a)	-	SSD-14	-3.32	
SSD-03	-25.72	SSD-15	-4.86	
SSD-04	-30.51	SSD-16	-4.45	
SSD-05 (a)	-	SSD-17	-2.09	
SSD-06	-25.12	SSD-18	-25.69	
SSD-07	-25.56	SSD-19	-21.14	
SSD-08 (a)	-	SSD-20 (a)	-	
SSD-09	-25.85	SSD-21	-25.06	
SSD-10	-26.32	SSD-22	-6.28	
SSD-11 (a)	-	SSD-23	-0.85	
SSD-12	-27.86			

SSD Risers	Yes	No	Comments/Corrective Action Taken
Observable leaking connections		X	
Riser piping supports secure	X		
Defective or damaged instrumentation		X	
Damage to protective bollards or barriers		X	
Piping Network			
Observable leaking connections		X	
Lateral piping supports secure	X		
New air intakes within 10 ft of discharge points		X	
Discharge Fans			
Inoperable fan(s)		X	

Other Notable Observations

NA

Sub-Slab Depressurization System Inspection Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date:	**1/21/2021**	**Inspector (print):**	Nate Winston
Time:	**10:00**	**Inspector (sign):**	
		Weather Conditions	27 deg F, cloudy

Reason for Visit (check all that apply):

Routine Inspection/O&M	**X**	Response to Owner Notification	
Other			

Vacuum Measurements

SSD Extraction Point	Vacuum Reading (in W.C.)	SSD Extraction Point	Vacuum Reading (in W.C.)	
SSD-01	-8.02	SSD-13	-5.85	
SSD-02 (a)	-	SSD-14	-3.32	
SSD-03	-25.72	SSD-15	-4.86	
SSD-04	-30.51	SSD-16	-4.45	
SSD-05 (a)	-	SSD-17	-2.09	a/ Extraction point turned off.
SSD-06	-25.12	SSD-18	-25.69	
SSD-07	-25.56	SSD-19	-21.14	
SSD-08 (a)	-	SSD-20 (a)	-	
SSD-09	-25.85	SSD-21	-25.06	
SSD-10	-26.32	SSD-22	-6.28	
SSD-11 (a)	-	SSD-23	-0.85	
SSD-12	-27.86			

SSD Risers	Yes	No	Comments/Corrective Action Taken
Observable leaking connections		X	
Riser piping supports secure	X		
Defective or damaged instrumentation		X	
Damage to protective bollards or barriers		X	
Piping Network			
Observable leaking connections		X	
Lateral piping supports secure	X		
New air intakes within 10 ft of discharge points		X	
Discharge Fans			
Inoperable fan(s)		X	

Other Notable Observations

NA

Sub-Slab Depressurization System Inspection Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date:	**2/22/2021**	**Inspector (print):**	Nate Winston
Time:	**10:15**	**Inspector (sign):**	

Weather Conditions 28 deg F, snowing

Reason for Visit (check all that apply):

Routine Inspection/O&M	**X**	Response to Owner Notification	
Other			

Vacuum Measurements

SSD Extraction Point	Vacuum Reading (in W.C.)	SSD Extraction Point	Vacuum Reading (in W.C.)
SSD-01	-8.60	SSD-13	-5.77
SSD-02	-0.84	SSD-14	-3.29
SSD-03	-25.80	SSD-15	-4.79
SSD-04	-29.87	SSD-16	-4.39
SSD-05	-0.41	SSD-17	-2.17
SSD-06	-25.05	SSD-18	-23.06
SSD-07	-25.65	SSD-19	-20.85
SSD-08	-0.65	SSD-20	-0.88
SSD-09	-26.07	SSD-21	-24.97
SSD-10	-26.14	SSD-22	-6.38
SSD-11	-1.17	SSD-23	-0.93
SSD-12	-19.34		

SSD Risers	Yes	No	Comments/Corrective Action Taken
Observable leaking connections		X	
Riser piping supports secure	X		
Defective or damaged instrumentation		X	
Damage to protective bollards or barriers		X	
Piping Network			
Observable leaking connections		X	
Lateral piping supports secure	X		
New air intakes within 10 ft of discharge points		X	
Discharge Fans			
Inoperable fan(s)		X	

Other Notable Observations

NA

Sub-Slab Depressurization System Inspection Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date:	**4/21/2021**	**Inspector (print):**	Nate Winston
Time:	**10:30**	**Inspector (sign):**	

Weather Conditions 32 deg F, snowing

Reason for Visit (check all that apply):

Routine Inspection/O&M	**X**	Response to Owner Notification	
Other			

Vacuum Measurements

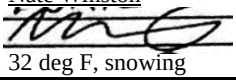
SSD Extraction Point	Vacuum Reading (in W.C.)	SSD Extraction Point	Vacuum Reading (in W.C.)
SSD-01	-8.53	SSD-13	-7.25
SSD-02	-0.91	SSD-14	-3.94
SSD-03	-25.94	SSD-15	-5.40
SSD-04	-27.87	SSD-16	-4.93
SSD-05	-0.49	SSD-17	-2.55
SSD-06	-26.02	SSD-18	-20.83
SSD-07	-25.60	SSD-19	-21.66
SSD-08	-0.80	SSD-20	-1.02
SSD-09	-26.11	SSD-21	-25.34
SSD-10	-26.55	SSD-22	-7.15
SSD-11	-1.35	SSD-23	-1.08
SSD-12	-18.96		

SSD Risers	Yes	No	Comments/Corrective Action Taken
Observable leaking connections		X	
Riser piping supports secure	X		
Defective or damaged instrumentation		X	
Damage to protective bollards or barriers		X	
Piping Network			
Observable leaking connections		X	
Lateral piping supports secure	X		
New air intakes within 10 ft of discharge points		X	
Discharge Fans			
Inoperable fan(s)		X	

Other Notable Observations

NA

Sub-Slab Vacuum Monitoring Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date: 4/21/2021 **Inspector (print):** Nate Winston
Time: 10:30 **Inspector (sign):** 

Weather Conditions 32 deg F, snowing

Vacuum Monitoring Location	Vacuum Reading	Comments/Observations
SS-1	-3.15 in. H_2O	
SS-3	-0.81 in. H_2O	
SS-10	-1.25 in. H_2O	
SS-11	-0.13 in. H_2O	Was not accessible on 4/21/21; measured on May 11, 2021
SS-12	-1.17 in. H_2O	Was not accessible on 4/21/21; measured on May 11, 2021
SS-14	-0.09 in. H_2O	
SS-15	-0.92 in. H_2O	
SS-16	-0.44 in. H_2O	
SS-17	-0.61 in. H_2O	
SS-18	-1.80 in. H_2O	
MP-3	-0.26 in. H_2O	
MP-10	-0.28 in. H_2O	
MP-15	-0.11 in. H_2O	
MP-19	-0.13 in. H_2O	
MP-23	-0.71 in. H_2O	
MP-30	-1.30 in. H_2O	
MP-31	-1.54 in. H_2O	Was not accessible on 4/21/21; measured on May 11, 2021

Sub-Slab Depressurization System Inspection Form
Former Rollway Bearing Corporation Facility
Liverpool, New York

Date:	**6/10/2021**	**Inspector (print):**	Nate Winston
Time:	**9:45**	**Inspector (sign):**	
		Weather Conditions	73 deg F, sunny

Reason for Visit (check all that apply):

Routine Inspection/O&M	**X**	Response to Owner Notification	
Other			

Vacuum Measurements

SSD Extraction Point	Vacuum Reading (in W.C.)	SSD Extraction Point	Vacuum Reading (in W.C.)
SSD-01	-8.74	SSD-13	-7.36
SSD-02	-1.03	SSD-14	-4.11
SSD-03	-25.05	SSD-15	-5.92
SSD-04	-26.99	SSD-16	-4.06
SSD-05	-0.47	SSD-17	-2.74
SSD-06	-25.82	SSD-18	-20.41
SSD-07	-25.07	SSD-19	-20.19
SSD-08	-1.12	SSD-20	-1.29
SSD-09	-26.33	SSD-21	-25.01
SSD-10	-26.49	SSD-22	-7.64
SSD-11	-1.06	SSD-23	-1.18
SSD-12	-18.25		

SSD Risers	Yes	No	Comments/Corrective Action Taken
Observable leaking connections		X	
Riser piping supports secure	X		
Defective or damaged instrumentation		X	
Damage to protective bollards or barriers		X	
Piping Network			
Observable leaking connections		X	
Lateral piping supports secure	X		
New air intakes within 10 ft of discharge points		X	
Discharge Fans			
Inoperable fan(s)		X	

Other Notable Observations

NA

APPENDIX

E IC/EC CERTIFICATION STATEMENTS

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7**):**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. V00202

Site Name Lipe-Rollway

Site Address: 7600 Morgan Road Zip Code: 13090
City/Town: Liverpool
County: Onondaga
Site Acreage: 78.326

Reporting Period: June 21, 2020 to June 21, 2021

	YES	NO
1. Is the information above correct?	X	
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?		X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	
7. Are all ICs in place and functioning as designed?	X	

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. V00202 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
095-0201	Emerson Electric Co.	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan

- The property may be used for commercial or industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Onondaga County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Deed Restriction.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 2 of the SMP, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited;

Box 4

Description of Engineering Controls

Parcel	Engineering Control
095-0201	Groundwater Treatment System Cover System Monitoring Wells

Cover

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of the existing concrete building floor slab within the former manufacturing area of the main building, which includes the former heat treat area. Figure 8 of the SMP presents the location of the cover system. The Excavation Work Plan (EWP) provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring Plan included in Section 4.0 of the SMP. The cover system will be inspected annually in accordance with the Site Inspection Form in Appendix F of the SMP.

Groundwater Treatment-Vacuum-Enhanced LNAPL Recovery System

A vacuum-enhanced LNAPL recovery system was installed in 2008 as an remedial measure to remove measurable LNAPL (i.e., greater than 0.01 foot) under a portion of the former heat treat area of the facility.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00202

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Brian E. Silfer (print name) at 7000 E. Genesee Street, Fayetteville, NY 13066 (print business address),

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Brian E. Silfer

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

7/21/21

Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I David Alan Rykaczewski (print name) at 11 Stanwix Street, Suite 950, Pittsburgh, PA 15222 (print business address),

am certifying as a Professional Engineer for the Remedial Party (Owner or Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

7/20/21
Date

APPENDIX

F ABSORBENT INSPECTION/ REPLACEMENT FORMS

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: June 24, 2020 Inspector (print): Nathaniel Winston
Arrival Time: 1100 Inspector (sign): [signature]
Departure Time: 1400 Weather Conditions: 78°F, sunny

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (g)
RW-1	Y	N **	1599.5
RW-2	*	N	-
OW-1	Y	N **	902.0
OW-2	Y	N **	597.5
OW-3	Y	N **	815.5
OW-4	N	N	355
OW-5	Y	N **	602.0
OW-8	Y	N **	471
SB-5	Y	N **	38
SB-7	*	N	-
SB-8	*	N	-
SB-10	*	N	-
OW-10/FB-1	Y	N **	732.5
OW-9/FB-2	N	N **	304.0
OW-11/FB-4	*	N	-

* = no absorbent in well and no measurable product observed
** = absorbent will be replaced in July 2020

Notable Observations:

OW-9/FB-2 appeared dry

Well Maintenance:

Description of Maintenance Needed:

NA

Date of Maintenance Completion:

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: September 24, 2020 Inspector (print): Nathaniel Winston
Arrival Time: 09:00 Inspector (sign): _____
Departure Time: 14:15 Weather Conditions: 55 F, sunny

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (g)
RW-1	Y	Y	1790.0
RW-2	**	Y	-
OW-1	Y	Y	743.5
OW-2	Y	Y	304.0
OW-3	Y	Y	404
OW-4	**	Y	-
OW-5	Y	Y	459.0
OW-8	*	N*	-
SB-5	N – Absorbent not installed correctly	N ***	-
SB-7	*	N*	-
SB-8	Y	Y	40.0
SB-10	*	N*	-
OW-10/FB-1	Y	Y	664
OW-9/FB-2	N - Dry	N***	-
OW-11/FB-4	Y	Y	1629

* = no absorbent in well and no measurable product observed
** = no absorbent in well and measurable product observed during September 24, 2020, site visit
*** = same absorbent left in well and not replaced.

Notable Observations:

OW-9/FB-2 appeared dry; absorbent in well SB-5 was not installed correctly in July

Well Maintenance:

Description of Maintenance Needed:

NA

Date of Maintenance Completion:

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: November 11, 2020 Inspector (print): Nathaniel Winston
Arrival Time: 10:30 Inspector (sign): [signature]
Departure Time: 15:00 Weather Conditions: 62 F, rain

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (in grams)
RW-1	Y	Y	1360.5
RW-2	Y	Y	1385.0
OW-1	Y	Y	802.0
OW-2	Y	Y	522.0
OW-3	Y	Y	477.5
OW-4	Y	Y	317.0
OW-5	Y	Y	595.5
OW-8	*	-	-
SB-5	N - Dry	N **	-
SB-7	*	-	-
SB-8	Y	Y	37.5
SB-10	*	-	-
OW-10/FB-1	Y	Y	616.5
OW-9/FB-2	N - Dry	N**	-
OW-11/FB-4	Y	Y	1285.0

* = no absorbent in well
** = same absorbent left in well and not replaced.

Notable Observations:

SB-5 and OW-9/FB-2 appeared dry

Well Maintenance:

Description of Maintenance Needed:

NA

Date of Maintenance Completion:

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: January 21, 2021 Inspector (print): Nathaniel Winston
Arrival Time: 09:30 Inspector (sign): _____
Departure Time: 12:40 Weather Conditions: 26 F, cloudy

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (in grams)
RW-1	Y	Y**	1620.0
RW-2	Y	Y**	1950.0
OW-1	Y	Y**	775.0
OW-2	Y	Y**	171.5
OW-3	Y	Y**	581.5
OW-4	Y	Y***	309.0
OW-5	Y	Y**	311.0
OW-8	*	-	-
SB-5	N - Dry	Y**	5.5
SB-7	*	-	-
SB-8	Y	Y***	37.0
SB-10	*	-	-
OW-10/FB-1	Y	Y**	617.0
OW-9/FB-2	Y	Y**	241.5
OW-11/FB-4	Y	Y**	2221.5

* = no absorbent in well
** = new absorbent installed in well on February 22, 2021.
*** = new absorbent installed in well on March 12, 2021.

Notable Observations:

SB-5 appeared dry on January 21, 2021 but had water on February 22, 2021.

Well Maintenance:

Description of Maintenance Needed:

NA

Date of Maintenance Completion:

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: April 21, 2021 Inspector (print): Nathaniel Winston
Arrival Time: 10:00 Inspector (sign): _____
Departure Time: _____ Weather Conditions: 32 F, snow

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (in grams)
RW-1	Y	Y	2116.0
RW-2	Y	Y	1003.5
OW-1	Y	Y	411.5
OW-2	Y	Y	607.0
OW-3	Y	Y	495.5
OW-4	Y	Y	406.0
OW-5	Y	Y	619.5
OW-8	*	-	-
SB-5	Y	Y	32
SB-7	*	-	-
SB-8	Y	Y	34
SB-10	*	-	-
OW-10/FB-1	Y	Y	684.1
OW-9/FB-2	Y	Y	402.5
OW-11/FB-4	Y	Y	379.6

* = no absorbent in well

Notable Observations:

Well Maintenance:

Description of Maintenance Needed:

NA

Date of Maintenance Completion:

Field Form for Absorbent Inspection/Replacement
Former Rollway Bearing Facility
Liverpool, New York

Date: June 10, 2021 Inspector (print): Nathaniel Winston
Arrival Time: 9:45 Inspector (sign): _____
Departure Time: _____ Weather Conditions: 73 F, sunny

Well ID	Staining (Y/N)	Absorbent Replaced (Y/N)	Spent Absorbent Weight (in grams)
RW-1	Y	N	1880.5
RW-2	N	N	882
OW-1	Y	N	781.0
OW-2	Y	N	266.0
OW-3	Y	N	629.5
OW-4	N	N	371
OW-5	Y	N	299
OW-8	*	-	-
SB-5	Y	N	29.5
SB-7	*	-	-
SB-8	Y	N	36.5
SB-10	*	-	-
OW-10/FB-1	Y	N	578.0
OW-9/FB-2	Y	N	734.5
OW-11/FB-4	Y	N	1844

* = no absorbent in well

Notable Observations:

New absorbents will be installed in August 2021.

Well Maintenance:

Description of Maintenance Needed:

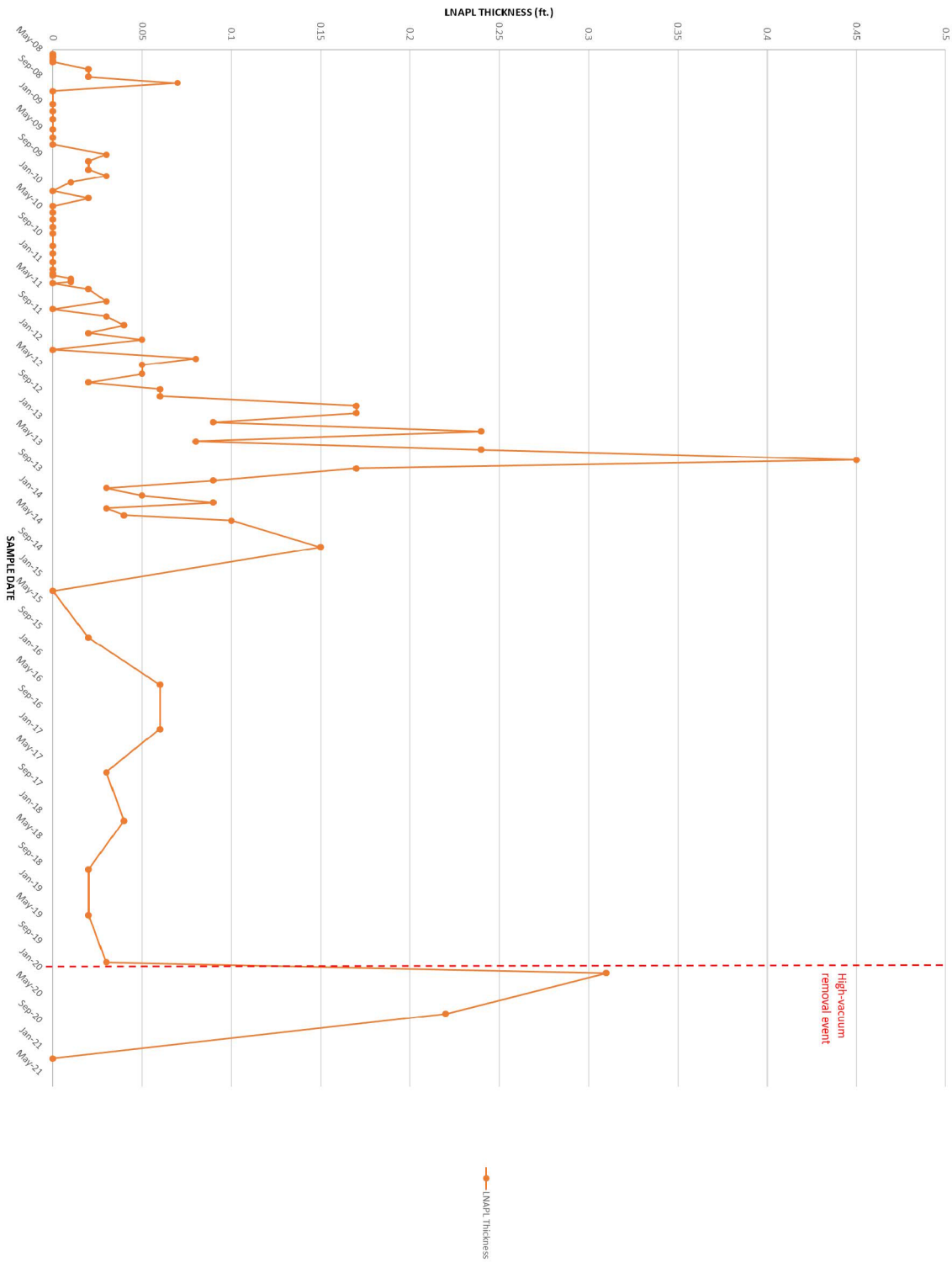
NA

Date of Maintenance Completion:

_____

APPENDIX

G LNAPL THICKNESS GRAPHS



NOTES:

1. LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID
2. LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MAY 2008 - FEBRUARY 2021.

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066

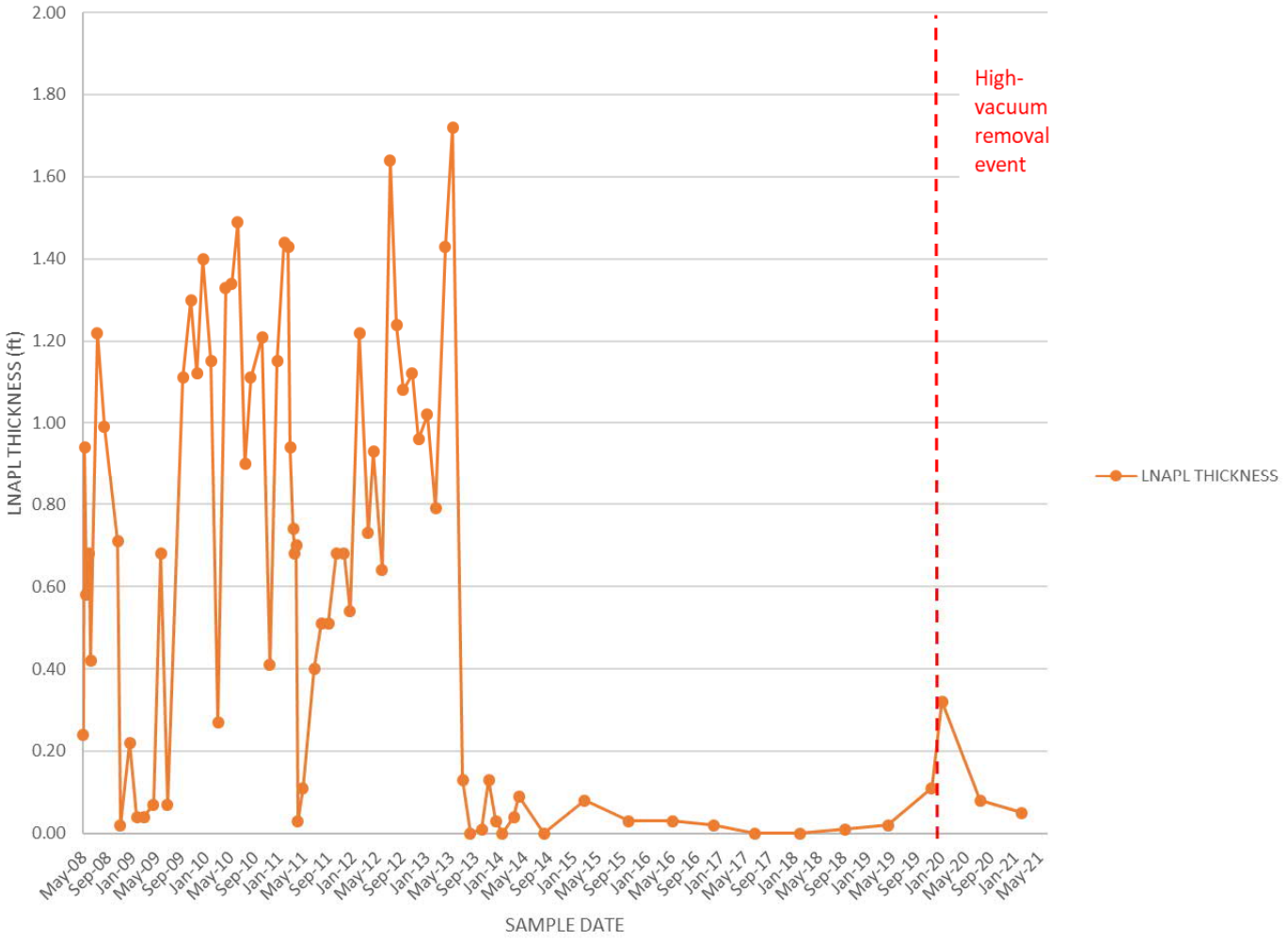
FIGURE 1

LNAPL THICKNESS
OW-1

FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR

EMERSON
ST. LOUIS, MISSOURI



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MAY 2008 - FEBRUARY 2021.

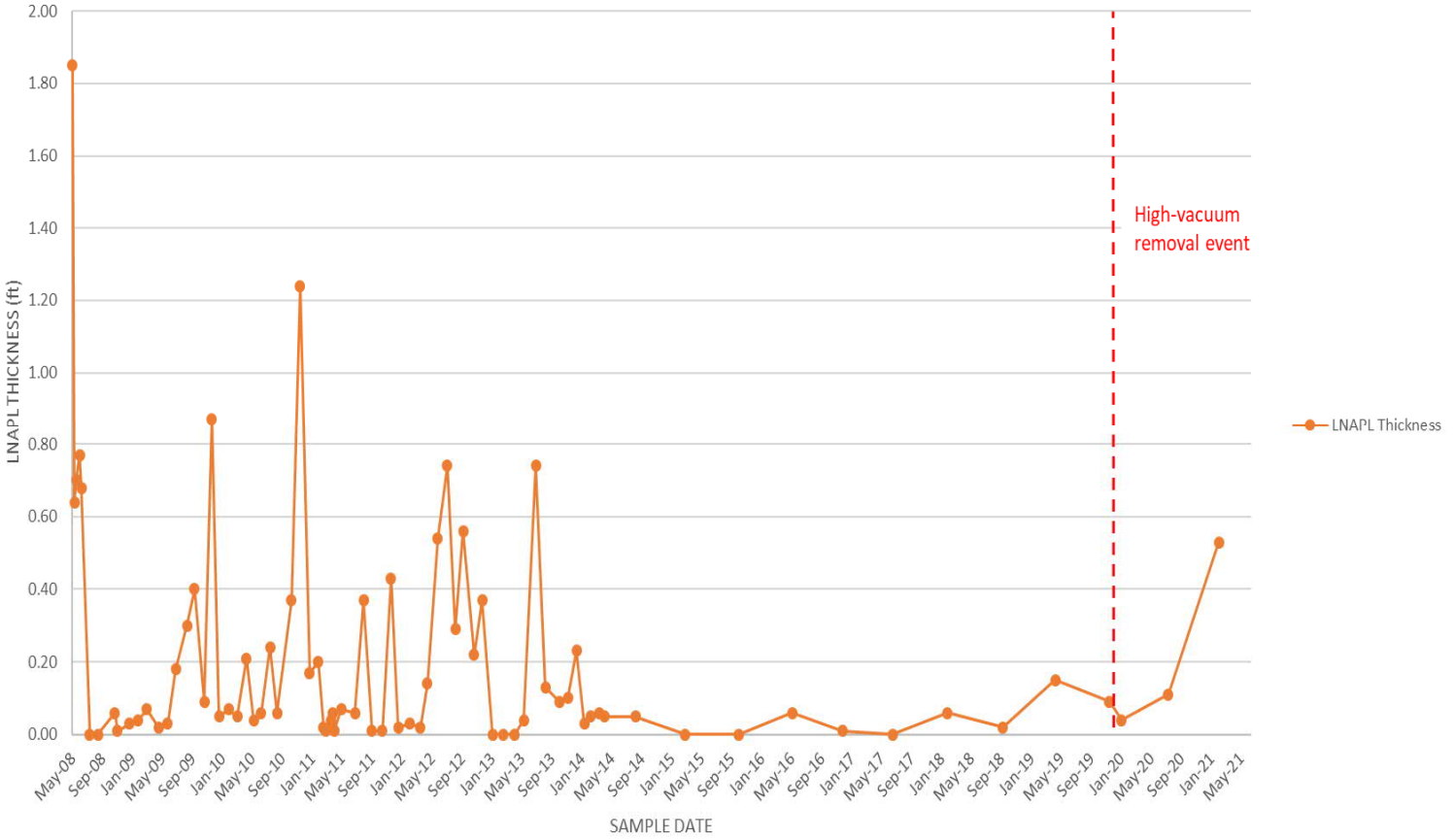
FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 2

LNAPL THICKNESS
OW-2

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MAY 2008 - FEBRUARY 2021.

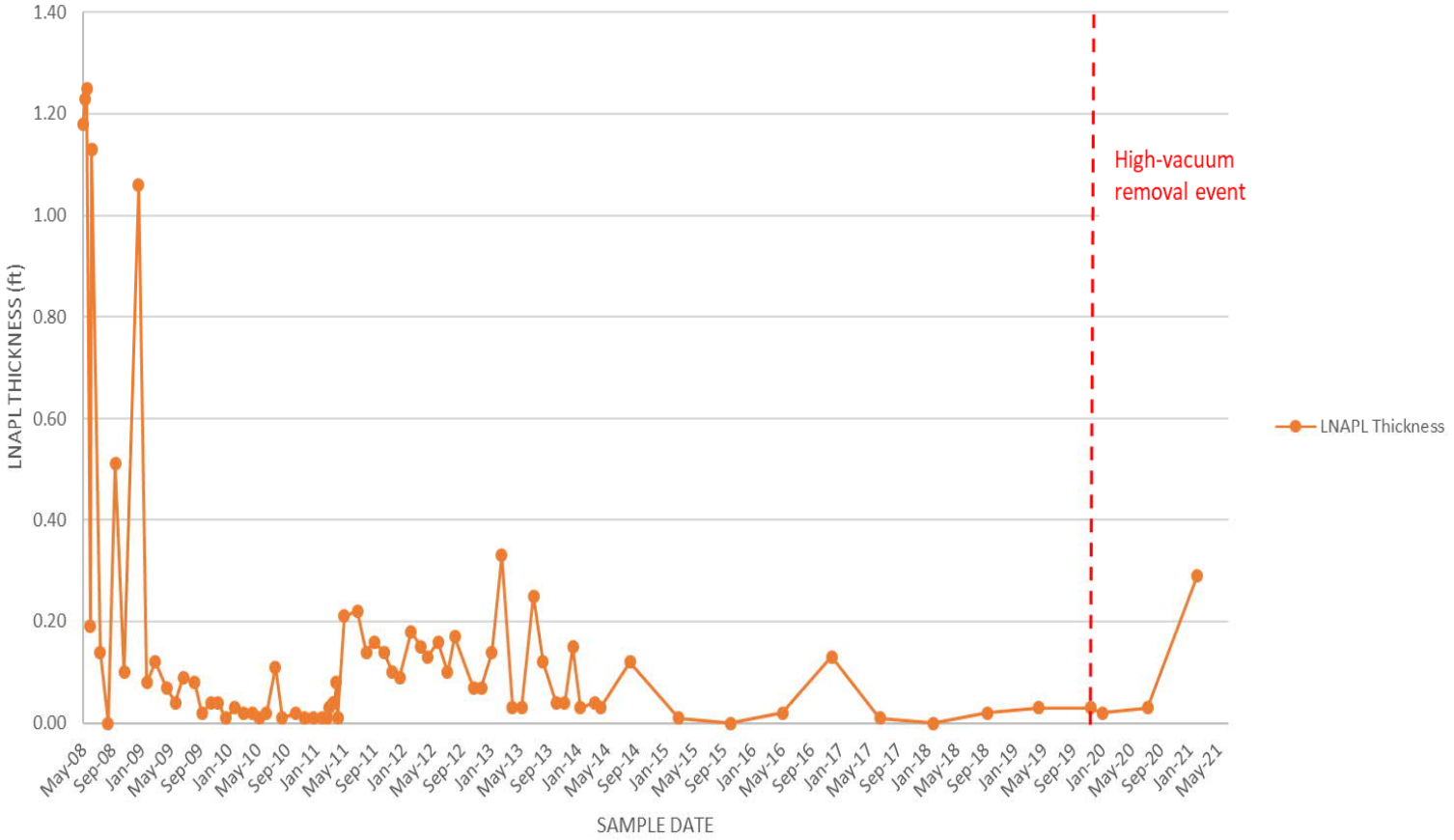
FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 3

LNAPL THICKNESS OW-3

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MAY 2008 - FEBRUARY 2021.

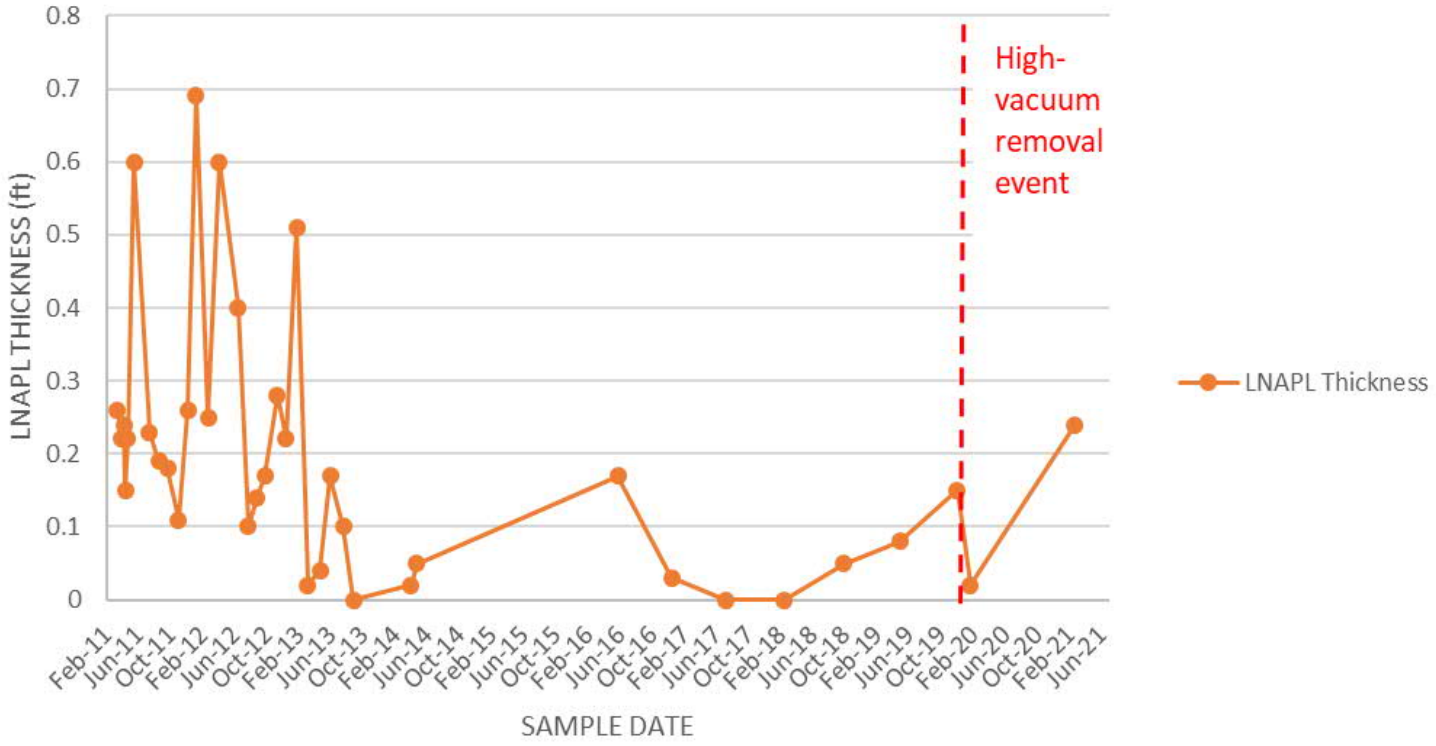
FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 4

LNAPL THICKNESS
OW-5

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MARCH 2011 - FEBRUARY 2021.

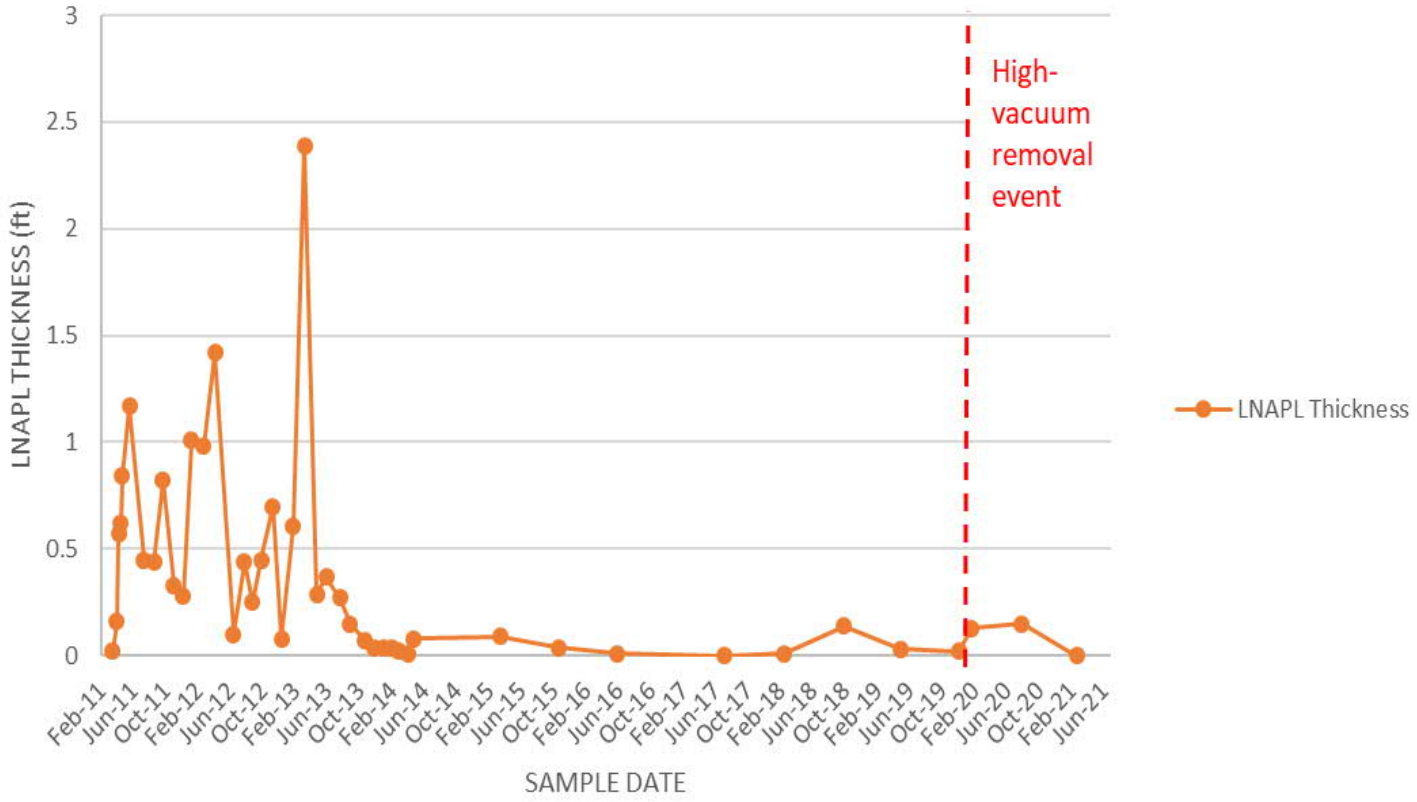
FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 5

LNAPL THICKNESS
OW-9/FB-2

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MARCH 2011 - FEBRUARY 2021.

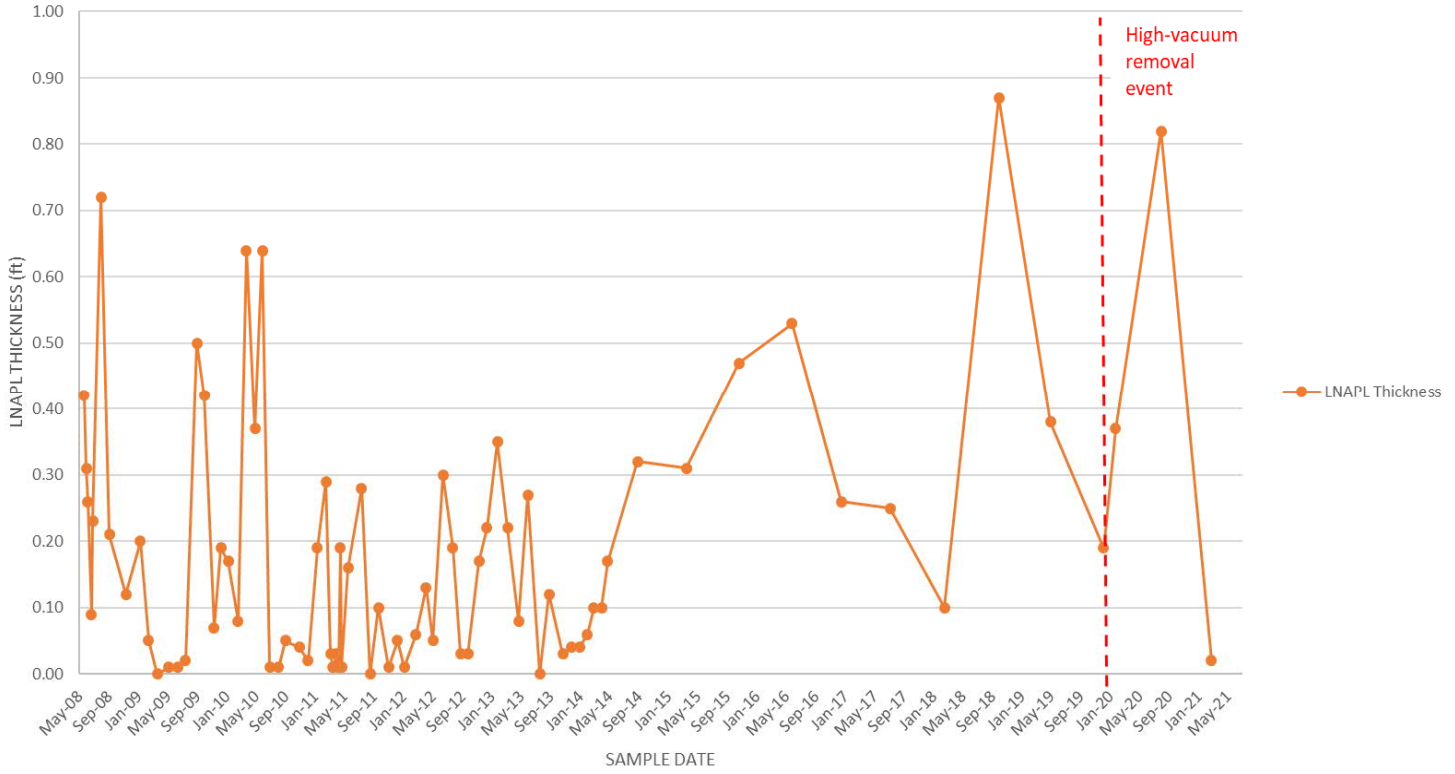
FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 6

LNAPL THICKNESS
OW-10/FB-1

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066



NOTES:

1 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

2 LNAPL PRODUCT THICKNESS MEASUREMENTS PRESENTED IN THIS FIGURE WERE COLLECTED FROM MAY 2008 - JANUARY 2020.

FORMER ROLLWAY BEARING
LIVERPOOL, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 7

LNAPL THICKNESS SB-5

WSP USA INC.
7000 East Genesee St., Building D, 2nd FL
Fayetteville, NY 13066

APPENDIX

H SUPPORTING MATERIALS FOR MANN-KENDALL ANALYSIS

Appendix H

Supporting Materials for Mann-Kendall Trend Analysis

A Mann-Kendall analysis was conducted to analyze the trend of LNAPL measurements in groundwater for wells OW-1, OW-2, OW-3, OW-5, and SB-5 that were collected from May 2008 to February 2021 and for wells OW-9/FB-2 and OW-10/FB-1 that were collected from March 2011 to February 2021. The Mann-Kendall analysis is a non-parametric (rank-based) procedure that tests for simple monotonic (i.e., single direction – increasing or decreasing) trends. The Mann-Kendall test is insensitive to gross outliers, does not make assumptions regarding data distributions, and accommodates trace values or non-detects.

The Mann-Kendall trend analysis for the wells was performed using the U.S. Environmental Protection Agency's *Statistical Software ProUCL 5.1.00 for Environmental Applications for Data Sets with and without Nondetect Observations*. The analysis relies on the "S" statistic, which indicates whether the concentration trend versus time is generally decreasing (i.e., negative "S" value) or increasing (positive "S" value).

The results of the Mann-Kendall trend analysis for each well are provided in Attachments H-1 through H-7 and summarized below:

Well	Time Period	Trend of LNAPL Thickness
OW-1	May 2008 – February 2021	Increasing Trend
OW-2	May 2008 – February 2021	Decreasing Trend
OW-3	May 2008 – February 2021	No Trend
OW-5	May 2008 – February 2021	Decreasing Trend
OW-9/FB-2	March 2011 – February 2021	Decreasing Trend
OW-10/FB-1	March 2011 – February 2021	Decreasing Trend
SB-5	May 2008 – February 2021	No Trend

Reference

U.S. Environmental Protection Agency. 2015. ProUCL Version 5.1 User Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations. Office of Research and Development. October.

Mann-Kendall Trend Test Analysis		ATTACHMENT H-1
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 4:43:27 PM	
From File	OW-1.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

OW-1 LNAPL THICKNESS

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	79
Number Values Reported (n)	79
Minimum	0
Maximum	0.45
Mean	0.0478
Geometric Mean	0
Median	0.02
Standard Deviation	0.0788
Coefficient of Variation	1.646

Mann-Kendall Test

M-K Test Value (S)	1309
Critical Value (0.05)	1.645
Standard Deviation of S	229.8
Standardized Value of S	5.692
Approximate p-value	6.2649E-9

Statistically significant evidence of an increasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	ATTACHMENT H-2
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 4:51:49 PM	
From File	OW-2.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

OW-2 LNAPL THICKNESS

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	77
Number Values Reported (n)	77
Minimum	0
Maximum	1.72
Mean	0.614
Geometric Mean	0
Median	0.64
Standard Deviation	0.523
Coefficient of Variation	0.851

Mann-Kendall Test

M-K Test Value (S)	-728
Critical Value (0.05)	-1.645
Standard Deviation of S	227.2
Standardized Value of S	-3.199
Approximate p-value	6.8905E-4

Statistically significant evidence of a decreasing trend at the specified level of significance.

	A	B	C	D	E	F	G	H	I	J	K	L
1				Mann-Kendall Trend Test Analysis					ATTACHMENT H-3			
2			User Selected Options									
3			Date/Time of Computation	ProUCL 5.16/8/2021 5:04:11 PM								
4			From File	OW-3.xls								
5			Full Precision	OFF								
6			Confidence Coefficient	0.95								
7			Level of Significance	0.05								
8												
9			OW-3 LNAPL THICKNESS									
10												
11			General Statistics									
12			Number or Reported Events Not Used	0								
13			Number of Generated Events	79								
14			Number Values Reported (n)	79								
15			Minimum	0								
16			Maximum	1.85								
17			Mean	0.205								
18			Geometric Mean	0								
19			Median	0.06								
20			Standard Deviation	0.315								
21			Coefficient of Variation	1.539								
22												
23			Mann-Kendall Test									
24			M-K Test Value (S)	-346								
25			Critical Value (0.05)	-1.645								
26			Standard Deviation of S	235.9								
27			Standardized Value of S	-1.462								
28			Approximate p-value	0.0718								
29												
30	Insufficient evidence to identify a significant											
31	trend at the specified level of significance.											

	Mann-Kendall Trend Test Analysis	ATTACHMENT H-4
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 5:10:03 PM	
From File	OW-5.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

OW-5 LNAPL THICKNESS

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	76
Number Values Reported (n)	76
Minimum	0
Maximum	1.25
Mean	0.156
Geometric Mean	0
Median	0.07
Standard Deviation	0.285
Coefficient of Variation	1.82

Mann-Kendall Test

M-K Test Value (S)	-520
Critical Value (0.05)	-1.645
Standard Deviation of S	222.6
Standardized Value of S	-2.332
Approximate p-value	0.00985

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	ATTACHMENT H-5
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 5:14:23 PM	
From File	OW-9.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

OW-9 LNAPL Thickness

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	37
Number Values Reported (n)	37
Minimum	0
Maximum	0.69
Mean	0.194
Geometric Mean	0
Median	0.17
Standard Deviation	0.174
Coefficient of Variation	0.898

Mann-Kendall Test

M-K Test Value (S)	-262
Critical Value (0.05)	-1.645
Standard Deviation of S	76.37
Standardized Value of S	-3.417
Approximate p-value	3.1601E-4

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	ATTACHMENT H-6
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 5:38:06 PM	
From File	OW-10.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

OW-10 LNAPL Thickness

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	44
Number Values Reported (n)	44
Minimum	0
Maximum	2.39
Mean	0.367
Geometric Mean	0
Median	0.155
Standard Deviation	0.473
Coefficient of Variation	1.289

Mann-Kendall Test

M-K Test Value (S)	-466
Critical Value (0.05)	-1.645
Standard Deviation of S	98.83
Standardized Value of S	-4.705
Approximate p-value	1.2680E-6

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	ATTACHMENT H-7
User Selected Options		
Date/Time of Computation	ProUCL 5.16/8/2021 5:42:37 PM	
From File	SB-5.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

SB-5 LNAPL Thickness

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	78
Number Values Reported (n)	78
Minimum	0
Maximum	0.87
Mean	0.191
Geometric Mean	0
Median	0.125
Standard Deviation	0.199
Coefficient of Variation	1.045

Mann-Kendall Test

M-K Test Value (S)	250
Critical Value (0.05)	1.645
Standard Deviation of S	231.5
Standardized Value of S	1.076
Approximate p-value	0.141

Insufficient evidence to identify a significant trend at the specified level of significance.