AECOM Environment

Prepared for:
Superfund Standby Program
NYSDEC
Albany, NY

Prepared by:
AECOM
Chestnut Ridge, NY
60135736
May 2011

Periodic Review Report
Liberty Industrial Finishing Site
Site #1-52-108
Work Assignment No. D004445-14.3

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Engineering Certification

I, Scott A. Underhill, certify that I am currently a NYS registered professional engineer and that this Periodic Review Report for the Liberty Industrial Finishing Site (Site Number # 1-52-108) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Respectfully submitted,

AECOM Technical Services Northeast, Inc.

Scott Underhill

5/6/2011

Scott Underhill
Registered Professional Engineer
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Date

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Executive Summary

The Periodic Review Report (PRR) of the Liberty Industrial Finishing Site (the "Site") was prepared for the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER) by AECOM Technical Services Northeast, Inc (AECOM). The PRR was conducted in general conformance with NYSDEC guidance (DER-10). The purpose of the PRR is to evaluate the effectiveness of historical remedial actions at achieving the remedial goals specified for the Site in the Record of Decision (ROD) dated March 1999.

The ROD specified the site related contaminants of concern (COCs) to include metals (cadmium, chromium, copper, nickel, and zinc) in all site media and semivolatile organic compounds (SVOCs) (phenol, benzo(k)anthracene, chrysene, and benzo(a)pyrene) in sediment/sludge from the stormwater dry wells. All of the remedial work specified in the ROD was completed in September 2001. The results of these remedial actions were reported in the Final Remediation Report dated July 2002. The remedial actions performed at the site have effectively achieved the goals of the ROD with respect to mitigation of potential impacts to human health and the environment from on-site soil and sediment. The remedial measures excavated and removed impacted soil and sediment to concentrations below applicable cleanup criteria or prevented the infiltration of precipitation through impacted media where excavation was deemed impractical. The six former underground storage tanks (USTs) were properly abandoned in place due to the close proximity of the Long Island Railroad tracks.

In April 2004, NYSDEC issued a declaration that the remedial measures were achieved with respect to soils and sediment. The Site was proposed to be reclassified from Class 2 to Class 4. However, the reclassification was never approved. Long-term monitoring of the groundwater would be conducted to demonstrate natural attenuation of the residual dissolved phase COCs. The asphalt cap placed over the former USTs would be monitored periodically to verify its integrity.

The natural attenuation of Site related COCs would be evaluated by the periodic sampling and analysis of eight groundwater monitoring wells. Two of the wells (MW-5 and MW-6) are located on site, two of the wells (MW-18 and MW-19) are located in the Brentwood Water District well field, two wells (MW-12 and MW-14) are located immediately down gradient of the COC source area plume, and two wells (MW-21 and MW-20) are located near the leading edge of the dissolved COC plume. The direction of the contaminant plume was defined during the RI as emanating from the former UST area (MW-04) and moving south-southeast towards well cluster MW-12 / MW-14. The western extent of the plume was defined by shallow monitoring well MW-8, to the east by shallow monitoring well MW-13 and to the south by shallow monitoring well MW-12. The vertical extent of the plume was defined by deep monitoring wells MW-16 and MW-14. Well Cluster MW-20/MW-21 was installed downgradient of the leading edge of the plume to act as a sentinel well pair.

The Final Sampling and Analysis Plan (Earth Tech, June 2007) for the site includes: groundwater sample collection from eight monitoring wells on a five quarter basis; maintenance of the perimeter

fencing and posted environmental warnings to restrict access; and, additional maintenance activities, as necessary, to maintain site conditions.

Results from the groundwater monitoring indicate that COCs are still present in groundwater at the Site. Cadmium and chromium concentrations in MW-12 an MW-14 continue to exceed the criterion. Data from the other six monitoring wells are below criteria, indicating a stable plume. Achievement of water quality standards has not been consistently demonstrated at all sampling locations. Continued monitoring is necessary to document cadmium and chromium exceedances in well cluster MW-12/MW-14. Future sampling should include both total metals and dissolved metals samples be collected.

1.0 Introduction

The Periodic Review Report (PRR) of the Liberty Industrial Finishing Site (the "Site") was prepared for the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER) by AECOM Technical Services Northeast, Inc (AECOM). The PRR was conducted in general conformance with NYSDEC guidance. The purpose of the PRR is to evaluate the effectiveness of historical remedial actions at achieving the remedial goals specified for the Site in the Record of Decision (ROD) dated March 1999.

1.1 Site Overview

The Liberty Industrial Finishing Site, Site Registry# 1-52-108, is located at 550 Suffolk Avenue, Brentwood (Town of Islip), Suffolk County, New York. A Site location map is included as Figure 1.

The Site is approximately 3.9 acres in total area of which 1.3 acres are historically undeveloped. The remainder of the site consists of previously developed areas with remnants of the former building (concrete floor slab), walkways, parking lots, and driveway areas. The Site is located in an area that is primarily residential and light commercial. A current aerial photograph of the Site and surrounding area is included as Figure 1.

The Site is bound to the north by Suffolk Avenue, to the east by commercial properties, to the south by the Long Island Rail Road (LIRR), and to the west by a gasoline retailer and a shopping plaza. The parcels immediately north of Suffolk Avenue are undeveloped. Immediately south of the LIRR are the Town of Islip Athletic fields and the water supply wells for the Brentwood Water District. The Brentwood municipal water supply wells are less than 500 feet south of the Site.

Liberty Industrial Finishing Products was a metal finishing facility engaged in finishing and plating of components used primarily in the aircraft industry. Metal finishing activities included passivation, phosphotization, electroplating, conversion coating, anodizing, painting, and non-destructive testing. Industrial operation of the facility spanned the period from 1978 through 1997. When active, the industrial operation at the Site included a 30,000-square foot factory building, six underground storage tanks (USTs) for plating process and wastewater, sanitary leaching pools, and stormwater drywells. The USTs were equipped with "emergency" overflow pipes that discharged to the on-site leaching pools.

1.2 Remedial History

Shortly after operations began at the Site, concerns for public health and the environment resulting from operational and waste handling practices at the Site were investigated by the Suffolk County Department of Health Services (SCDHS). In 1982, surface and subsurface discharges of waste water were addressed in an Order of Consent between Liberty and the SCDHS. Corrective actions were

implemented to eliminate the discharge of industrial waste water to the environment and the order was reportedly satisfied.

An inspection conducted by NYSDEC in 1984 identified deficiencies in Site hygiene and waste handling practices. Samples were collected of the liquids in the sanitary leeching pool, the storm water dry well, and a soil sample was collected near the northeast corner of the building. These samples reportedly contained elevated concentrations of 1,1,1-trichloroethane, cadmium, chromium, and lead. The sanitary system and the storm water dry well were subsequently pumped out and cleaned (July 1985).

A Phase II Site Investigation was performed in 1987. The results of the investigation reported concentrations of chromium in the onsite groundwater at concentrations exceeding the Class GA groundwater criterion (NYSDEC Technical and Operational Guidance Series). The Site was subsequently classified as a Class “2a” site on the Registry of Inactive Hazardous Waste Disposal Sites on December 12, 1987. Class “2a” was a temporary listing pending further investigation into the effects the site has on health and the environment. The Site was reclassified to Class 2 in January 1994.

A Phase II Supplemental Site Investigation was performed in 1991. Chromium was reported in the on-site groundwater at concentrations ranging from 2,300 µg/l to 5,800 µg/L. Additionally, sediment/soil in the leaching pool contained elevated concentrations of cyanide (11,500 µg/L). An emergency remedial measure removed a total of 45 inches of sediment/soil from the bottom of the leaching pool (1992). As a result of the Phase II supplemental site investigation, the Site was reclassified as a Class “2” site on the Registry of Inactive Hazardous Waste Disposal Sites in February of 1994.

A Consent Order (March 1996) required that the facility conduct a Focused Remedial Investigation (FRI) to determine the extent of contamination within the six USTs and the emergency leaching pool. FRI activities were never implemented by Liberty Industrial Finishing due to financial constraints.

In 1997, Liberty Industrial Finishing removed waste materials from the on-site building. Wastes removed and disposed of include:

- cyanide plating waste;
- phosphates;
- copper strips;
- copper strip sludge;
- metal hydroxide sludge;
- cyanide salts;
- solutions containing chromium and cadmium;
- chromic acid;

- paint waste containing methyl ethyl ketone; and
- vapor degreaser waste containing trichloroethene.

Floors were swept and the material was drummed and disposed of as hazardous waste. Wood floors were removed from the factory building and stored onsite. Flooring was later disposed of by the USEPA as part of an Interim Remedial Action.

A Remedial Investigation (RI) was performed in 1997-1998 for NYSDEC by Dvirka and Bartilucci. Based on the RI, the NYSDEC conducted a supplemental Remedial Investigation/Feasibility Study (RI/FS) of the Site in 1997-1998. The results and conclusions of the supplemental RI/FS were documented in a report published in 1999. Elevated concentrations of regulated metals, specifically chromium, were reported in excess of the applicable cleanup criteria in surface and subsurface soils, drainage structures, and on-site and off-site groundwater.

A ROD for the Site was published by NYSDEC in March 1999. The ROD specified the site related contaminants of concern to include semivolatile organic compounds (phenol, benzo(k)anthracene, chrysene, and benzo(a)pyrene) in the sediment/sludge from the stormwater dry wells, and metals (cadmium, chromium, copper, nickel, and zinc) in all media.

The ROD specified the following remedial goals for the Site:

- Eliminate sources of contamination that exceed cleanup criteria: such as, surface soil, subsurface soil, and stormwater drywell or sanitary leaching pool sediments;
- Eliminate, to the extent practicable, ingestion of Groundwater affected by the Site that does not meet the NYSDEC Class GA Ambient Water Quality Criteria;
- Mitigate potential impacts to the environment from contaminated groundwater by natural attenuation; and,
- Eliminate the potential for direct human contact with contaminated soil onsite.

To achieve the goals of the ROD remedial measures were performed. These measures included:

- Clean-out of sediments in the stormwater and sanitary leaching galleries;
- Removal of on-site hazardous wastes;
- Delineation, excavation and disposal of on-site and off-site impacted soils;
- Cleaning and closure in place of USTs and associated piping;
- Placement of impermeable asphalt cap over USTs and associate piping;
- Demolition and removal of the building;
- Installation of perimeter security fence; and,
- Installation and periodic sampling of groundwater monitoring wells to assess groundwater quality.

The United States Environmental Protection Agency (USEPA) conducted an emergency removal action including the removal of waste materials stored in the on-site factory building and the in-place

closure of six USTs. Each tank was cleaned and sandblasted, filled to one foot below top with clean soil, and the remaining space (including fill pipes) was plugged with concrete. The tanks were not removed due to the close proximity of the Long Island Rail Road; however, UST in-place closure was determined to be equally protective of human health and the environment. A non-porous asphalt cap was constructed over the UST area to mitigate infiltration of precipitation into the contaminant source area (Figure 2).

All of the removal and in-place closure measures specified in the ROD were completed in September 2001. The results of these remedial actions were reported in the Final Remediation Report (Dvirka and Bartilucci, July 2002). The remedial actions performed at the site have effectively achieved the goals of the ROD with respect to mitigation of potential impacts to human health and the environment from on-site soils and sediment. These measures excavated and removed impacted soil and sediments to concentrations below applicable cleanup criteria or prevented the infiltration of precipitation through impacted media where excavation was deemed impractical.

In April 2004, NYSDEC issued a declaration that the remedial measures were achieved with respect to soils and sediment. The Site was proposed to be reclassified from Class 2 to Class 4; however the reclassification was never approved (Appendix A). Long-term monitoring of the groundwater would be conducted to demonstrate natural attenuation of the residual dissolved phase COCs.

The natural attenuation of site related dissolved phase COCs would be evaluated by the periodic sampling and analysis of eight groundwater monitoring wells (Figure 2). Two of the wells (MW-5 and MW-6) are located on site, two of the wells (MW-18 and MW-19) are located in the Brentwood Water District well field, two wells (MW-12 and MW-14) are located immediately downgradient of the COC source area plume, and two wells (MW-21 and MW-20) are located near the leading edge of the dissolved COC plume.

1.3 Periodic Review Objectives

The periodic review process is used to determine if a remedy is protective of human health and the environment and whether all applicable O&M activities were conducted in accordance with the Final Site Management Plan (SMP), including Long Term Monitoring (LTM) Plan, Institutional Control/Engineering Control (IC/EC) Plan, Operation and Maintenance (O&M) Plan, and Health and Safety (H&S) Plan. The Site only has a Sampling and Analysis Plan (SAP) and associated Safe Work Plan (Earth Tech, June 2007). The general objectives of the periodic review for sites in the State Superfund Program (SSF) include:

- Evaluation of current compliance with the decision document(s) including the ROD, and the O&M Plan;
- Evaluation of all treatment units and the recommendation for repairs or alterations, if necessary;
- Evaluation of the current overall condition of the remedy;

- Certification, if appropriate, that the intent of institutional controls (IC) continues to be met, that engineering controls (EC) remain in place, and that the in-place EC are effective; and
- Evaluation of historic O&M costs to date.

A review of the March 1999 ROD found no mention of institutional controls for the Site. Further review of the NSYDEC project archives also found no mention of institutional controls for the Site. A NYSDEC Memorandum dated August 30, 2004, indicated that a deed restriction document was started by NYSDEC. However, the document was not signed. In addition, a handwritten note in the document indicated the process was terminated as there was no property owner or property title on which to impose a deed restriction (Appendix A).

The requirements of the SAP for the Site include:

- Groundwater sample collection from eight monitoring wells (MW-5, MW-6, MW-12, MW-14, MW-18, MW-19, MW-20, and MW-21) on a five quarter basis;
- Inspection of the asphalt cap placed over the former USTs to verify that the engineering control continues to be effective;
- Maintenance of the perimeter fencing and posted environmental warnings to restrict site access; and,
- Additional maintenance activities, as necessary, to maintain site conditions.

The Site currently does not have a Site Management Plan. A plan will be written to guide future activities and long term monitoring at the Site.

2.0 Evaluation of Remedial Performance

2.1 Summary of Operation Maintenance and Monitoring Activities

Groundwater samples have been periodically collected from eight groundwater monitoring wells since the completion of soil/sediment removal actions and subsurface closure activities at the former Liberty Finishing Site. The purpose of this sampling is to monitor the natural attenuation (dispersion, sorption, and dilution) of dissolved COCs at the Site.

The Final SAP includes:

- Groundwater sample collection from eight monitoring wells (MW-5, MW-6, MW-12, MW-14, MW-18, MW-19, MW-20, and MW-21) on a five quarter basis;
- Maintenance of the perimeter fencing and posted environmental warnings to restrict site access; and,
- Additional maintenance activities, as necessary, to maintain site conditions.

In 2006, a breach in the perimeter security fence was discovered, allowing access to the Site. Several piles of construction debris were dumped at the site. S&A Container Service of Ronkonkoma, New York completed the fence repair activities and debris removal the week of March 12, 2007. Inspection of the site conditions and security measures are completed as a part of the regularly scheduled sampling activities.

To date, the integrity of the asphalt cap over the former USTs has not been inspected on a periodic basis due to the inadvertent omission of this task in the preparation of the work plan. This task will be added to the Site Management Plan.

2.2 Hydrogeology

The site is underlain by the Upper Glacial Aquifer. The Upper Glacial Aquifer is an unconfined aquifer approximately 250 to 260 feet thick with 200 to 210 feet of saturated thickness. The water table beneath the site is approximately 43 feet below ground surface (bgs). Groundwater contours of the water table elevation at the Site, based the reported depth to water on March 2010, are included on Figure 3. Based on these contours, the groundwater flow direction in the Upper Glacial Aquifer is to the south-southeast. Groundwater elevations measured at the Site since June 2006 are presented in Table 1.

The horizontal gradient was calculated between MW-5 and MW-12. This well pair was selected because the well depths are approximately the same and are the only two wells currently being monitored that are screened across the water table. The horizontal gradient was calculated by dividing the difference in water table elevation by the distance between the wells.

Well ID	Well Depth (ft)	Depth to Water (ft)	Water Table (ft AMSL)	Distance Between Wells (ft)	Horizontal Hydraulic Gradient (ft/ft)
MW-5	50.00	43.37	49.95	612	0.0007
MW-12	49.30	40.07	49.52		

The vertical gradient(s) in the Upper Glacial Aquifer was calculated using well pairs MW-12/MW-14 and MW-20/MW-21. The vertical gradient was calculated by dividing the difference in the water table elevation by the vertical distance between the base of the wells.

Based on these calculations, the vertical gradient is downward. At well pair MW-12 and MW-14 the gradient is calculated at -0.0030 ft/ft. At well pair MW-20 and MW-21 the gradient is calculated at -0.0015 ft/ft.

Well ID	Water Table (ft AMSL) (H)	Δ H (ft)	Depth of Well (ft)	Vertical Distance Between Wells	Vertical Hydraulic Gradient (ft/ft)
MW-12	49.52	0.15	49.30	50.70	-0.0030
MW-14	49.37		100.00		
MW-21	49.35	0.06	110.50	39.00	-0.0015
MW-20	49.29		149.50		

Using these calculated gradients and an assumed hydraulic conductivity value of 10^{-2} to 10^{-3} cm/sec, typical for an unconsolidated sandy/gravely aquifer, lateral groundwater flow in the Upper Glacial Aquifer is expected to average approximately 2.4 to 24 feet per year. Vertical groundwater flow in the Upper Glacial Aquifer was calculated to be approximately 10 to 104 feet per year for MW-12/MW-14 and 5 to 52 feet per year for MW-20/MW-21 feet per year.

The Upper Glacial Aquifer is underlain by the Magothy Aquifer. The Magothy Aquifer is the largest of Long Island's aquifers. The aquifer consists of sand deposits alternating with clay and attains a maximum thickness of approximately 1,100 feet. The Magothy Aquifer is the source of water for most of Nassau County and about half of Suffolk County. According to information in the RI, a semi-confining clay layer acts as an aquitard between the Upper Glacial Aquifer and the Magothy Aquifer and controls the downward vertical migration of impacted groundwater from the Site.

Based on depth to water data collected in June 2006 and the reported depth of these wells, the calculated vertical gradient is –0.0022 ft/ft at the MW-5/MW-6 well pair and –0.0078 ft/ft at the MW-18/MW-19 well pair. The vertical gradient in each well pair was calculated by dividing the difference in water table elevations by the distance between the base of the wells.

Well ID	Water Table (ft AMSL) (H)	Δ H (ft)	Depth of Well (ft)	Vertical Distance Between Wells	Vertical Hydraulic Gradient (ft/ft)
MW-5	50.99	-0.47	50.00	215.00	-0.0022
MW-6	50.52		265.00		
MW-18	50.79	-0.76	150.00	98.00	-0.0078
MW -19	50.03		248.00		

The hydraulic conductivity and the thickness of the semi confining clay layer between the Upper Glacial Aquifer and the Magothy Aquifer is unknown. However, it can be assumed that the hydraulic conductivity of this layer is at least 2 to 4 orders of magnitude lower than the Upper Glacial Aquifer (10^{-4} to 10^{-7} cm/sec). Under these circumstances, groundwater from the Upper Glacial Aquifer would move downward very slowly across this confining layer.

2.3 Groundwater Analytical Summary

As required by the SAP, groundwater samples were collected from four well pairs and analyzed for TAL metals. The results are summarized in Table 2 and compared to NYS groundwater standards. The results of the COCs are also summarized on Figure 3. Natural attenuation of Site related COCs was evaluated by comparison with historic sampling results. Each well in each pair is screened to collect samples from different depths in the aquifer. The wells in each pair are collocated to provide comparative water quality data in both the upper and lower portion of the Upper Glacial Aquifer. Two of the wells, MW-6 and MW-19, are installed below the semi-confining clay layer in the Magothy Aquifer.

2.3.1 MW-5 and MW-6 Well Pair

Monitoring wells MW-5 and MW-6 were installed on Site prior to 1991. These wells are immediately upgradient from the Brentwood Municipal Well Field. MW-5 is 50 feet deep and screened across the water table in the Upper Glacial Aquifer. MW-6 is 265 feet deep and screened in the Magothy Aquifer. These wells monitor groundwater quality in the Upper Glacial Aquifer and Magothy directly downgradient of the former drywells located on the western portion of the Site. To date, Site-related compounds have been detected at these wells; however only one metal was detected above the Class GA criteria: cadmium in MW-6 in August 2007 at a concentration of 12.6 µg/L (Class GA criterion is 5 µg/L). Cadmium results from the November 2008 and March 2010 sampling events were both less than 1 µg/L, indicating that the August 2007 result may be an anomaly or that the cadmium plume may have naturally attenuated.

2.3.2 MW-12 and MW-14 Well Pair

MW-12 and MW-14 are located off-site approximately 500 feet immediately downgradient of the former on-Site USTs. The purpose of these wells is to monitor the contaminant plume associated with the former USTs at the water table and in deeper portions of the Upper Glacial Aquifer. The total depth of monitoring well MW-12 is 49.6 ft bgs and total depth of monitoring well MW-14 is 100 ft bgs. The installation date(s) of these wells is unknown. Based on information contained in the ROD, chromium was reported in 1999 in shallow well MW-12 at 1.2 µg/L and in the deeper well MW-14 at 53.7 µg/L.

The concentrations of site related COCs were either not detected or detected below the criteria for samples collected from MW-12 in 2001 through 2008 with the exception of cadmium. Cadmium concentrations have exceeded the Class GA criterion during the last three sampling events (2007, 2008 and 2010). The results from 2010 showed a significant spike in concentration for all five COCs, with chromium and copper also exceeding criteria. These results will need to be verified in future sampling events to confirm the concentrations. High turbidity in the sample (160 NTUs) may have contributed to the high reported concentrations in 2010. At MW-14, concentrations of COCs have remained below the criteria with the exception of cadmium and chromium. Cadmium concentrations exceeded the criterion during the 2008 and 2010 sampling events. Chromium concentrations have remained above the criterion since 1998 with the exception of the two sampling events in 2001 and 2003. Future sampling events will collect both filtered and unfiltered metals samples to assess whether suspended sediment, responsible for the turbidity spike, in the samples is causing the exceedances.

2.3.3 MW-18 and MW-19 Well Pair

MW-18 and MW-19 are located within the Brentwood Water District well field approximately 200 feet downgradient from MW-5 and MW-6. MW-18 is screened at 150 ft bgs within the lower portion of the Upper Glacial Aquifer and MW-19 is screened at 248 feet bgs (Magothy Aquifer). This sentinel well pair was installed to monitor the potential migration of COCs toward the production well.

Both of these wells were reported as non-detect for all site related COCs in 2001. Between 2006 and 2010, the concentrations of COCs have shown minor fluctuations in both MW-18 and MW-19; however, with the exception of cadmium, none of the reported concentrations exceeded the Class GA criteria. The cadmium concentration from the 2007 sampling event slightly exceeded the criterion but has been below criterion in subsequent sampling events.

2.3.4 MW-20 and MW-21 Well Pair

MW-20 and MW-21 are located immediately down gradient of the MW-12/MW-14 well pair. These wells were installed at or near the presumed leading edge of the contaminant plume as delineated during the remedial investigation. These wells are installed in the Upper Glacial Aquifer at 149.5 ft bgs and 110.5 ft bgs, respectively. The purpose of these wells is to monitor the leading edge of the dissolved plume.

At the time of their installation in 2001, analytical results for both wells were reported as not detected for both wells. Sample results were again not detected in 2003. Since 2003, the concentrations of COCs in these two wells have shown minor fluctuations; however, there have been no exceedances of the Class GA criteria.

2.4 Evaluation of Analytical Results

All eight of the periodically monitored wells were reported as non-detect for all site related COCs during the sampling events conducted in November 2001 and March 2003. The below table summarizes which wells have had COC exceedances over the past four sampling events (June 2006, August 2007, November/December 2008 and March 2010). Out of the five COCs specified in the ROD, only three have been detected above the Class GA criteria: cadmium in four wells and chromium in two wells and copper in one well.

Number of Exceedances in Individual Monitoring Wells (and Maximum Concentration) Between 2006 and 2010 (all concentrations in µg/L)

COC	Class GA criterion	MW-5	MW-6	MW-12	MW-14	MW-18	MW-19	MW-20	MW-21
Cadmium	5	-	**1** (12.6 in 2007)	**3** (205 in 2010)	**2** (59.1 in 2008)	-	**1** (8 in 2007)	-	-
Chromium	50	-	-	**1** (251 in 2010)	**4** (248 in 2007)	-	-	-	-
Copper	200	-	-	**2** (377 in 2010)	-	-	-	-	-
Nickel	100	-	-	-	-	-	-	-	-
Zinc	2,000	-	-	-	-	-	-	-	-

1 (12.6 in 2007) - # of exceedances (maximum concentration in µg/L and year of sampling event)

The sample results from the eight wells included in the long term monitoring plan indicate that COCs are still present in groundwater at the Site. Achievement of water quality standards has not been consistently demonstrated at all sampling locations. However, given that the concentrations in the perimeter monitoring wells (i.e., MW-5 and MW-6) have not shown any significant increase in concentrations, no residual source is suspected to still exist on site.

Figure 3 includes the historic chromium isoconcentration contour lines as reported in the ROD (believed to be the June 1998 sampling event) for the Site and data boxes with results from recent groundwater sampling events. The historic chromium isoconcentration lines indicated that the leading edge of the plume was at MW-14 (53.7 µg/L, deep well) in 1998. Subsequent sampling in 2001 and 2003 indicated that the contamination was no longer present but sampling from 2007 through 2010 indicated an increase in the chromium concentrations at MW-14. There has not been an increase in chromium concentrations in well pair MW-20/MW-21 located downgradient of MW-14, indicating that the plume is not migrating to any significant degree.

An assessment needs to be made to determine if the increase in metals concentrations MW-14 is a result of entrained silt/clay particles in the samples or reflect the actual dissolved concentrations in groundwater. Future sampling events will collect both filtered and unfiltered samples for comparison.

2.5 IC/EC Certification Plan Report

Institutional controls and engineering controls (IC/ECs) at the site currently consist of:

- Maintaining restricted access to the site and posting warning notifications;
- Inspection and maintenance of the asphalt cap; and,
- A deed restriction in the title of the property to appropriately restrict the use of the Site was prepared by NYSDEC but was not implemented after Liberty Industrial filed for bankruptcy.

The proposed deed restriction (Appendix A) contains the following provisions:

- No alterations to the property are allowed that may interfere with active remedial programs being conducted at the Site, or that are reasonably anticipated to expose the public or environment to harm, without written consent from the NYSDEC;
- Maintaining the nonporous asphalt cap to prevent surface infiltration, and the monitoring well network;
- The property owner is not to conduct any excavations, or disturb previously excavated areas on Site;
- The property shall only be utilized for non-residential commercial or industrial purposes excluding health and daycare;
- Withdrawal of groundwater from beneath the Site is prohibited without written acceptance from the NYSDEC of a treatment system rendering it safe;
- The owner of the Site shall continue in full force and affect the engineering and institutional controls put in place, until permission is obtained from the NYSDEC to discontinue the controls; and,
- The owner must allow the NYSDEC agent, or other representatives to enter and inspect the property, and collect samples at reasonable times and in a reasonable manor.

2.5.1 IC / EC Requirements and Compliance

Determination of compliance with the IC/ECs at the site is made based on the following criteria:

- The IC/ECs applied at the site are in place and unchanged from the previous certification; and
- Nothing has occurred that would impair the ability of such controls to protect the public health and the environment, or constitute a violation or failure to comply with any element of the Site Work Plan for such controls.

The IC/EC Certification Form for the Site is located in Appendix B.

3.0 Evaluate Costs

3.1 SUMMARY OF COSTS

Major cost components for the Site in 2007 were:

- Groundwater sampling (per event) $7,100
- Site Maintenance (fence repair, debris removal) $20,180
- Reporting (per event) $6,500

The figures include all costs associated with the completion of monitoring including subcontractor, Earth Tech field and reporting labor, and lab fees.

4.0 Conclusions and Recommendations

4.1 Conclusions

The ROD specified four remedial goals. Each of these remedial goals and results from the remedial efforts for the Site are discussed below.

1. Elimination of constituents that exceed NYSDEC cleanup criteria:

   This goal has been effectively achieved through excavation and removal of impacted soil and sediments and permanent closure of the USTs. Residually impacted soils associated with the source areas have been isolated by capping with an impermeable barrier.

2. Elimination, to the extent practicable, of the migration of groundwater affected by the Site that does not meet the NYSDEC Class GA Ambient Water Quality Criteria (Class GA):

   Groundwater at the Site is still impacted with COCs above the Class GA criteria. The plume will continue to migrate until the COCs are diluted and dispersed to a concentration below the Class GA criteria. The selected remedy of natural attenuation in conjunction with the appropriate monitoring is currently being implemented. The asphalt cap will be inspected and monitored periodically. The asphalt will be repaired as needed.

3. Mitigation of potential impacts to the environment from contaminated groundwater by natural attenuation.

   This goal has not yet been achieved, as documented by the following:

   - Two COCs have been detected with concentrations exceeding applicable criteria in the monitoring wells located downgradient of the site during the previous four sampling events (2006 through 2010). Cadmium concentrations have exceeded the Class GA criterion in MW-12 during the last three sampling events and the last two sampling events at MW-14. Chromium concentrations have exceeded the Class GA criterion in MW-14 during the last four sampling events and the most recent sampling event in MW-12. There have been three other one-time exceedances of the Class GA criteria (cadmium and copper) in the eight long term monitoring wells but the results were not duplicated in other events.
   - The available data set is insufficient to evaluate trends and predict future sampling results other than to state that exceedances of cadmium and chromium in MW-12 and MW-14 have been fairly consistent over the past few sampling rounds. The data appears to indicate that the remedial actions performed to date have removed and/or isolated impacted soils and sediments that could act as a sustaining source. Periodic monitoring of wells located closer to the former USTs in the area immediately south of the Long Island Rail Road tracks (MW-1, MW-2, MW-3, and MW-4), where historic data indicates that the highest groundwater impacts

were observed, would be useful in evaluating the beneficial effects of the remedial actions on groundwater quality and natural attenuation rates.

- Based on the currently available data, additional monitoring, performed on a 5-quarter rotation, is required to increase the data set so that the effects of natural attenuation can be evaluated and achievement of this goal evaluated. Future sampling events should include the collection of filtered and unfiltered samples to evaluate whether the contamination is in the dissolved groundwater phase.

4. Elimination of the potential for direct human contact with contaminated soil onsite.

   This goal appears to have been effectively achieved. A fence has been installed to prevent unauthorized entry onto the site. Damage to the fence will be repaired upon discovery. Additionally, inspection and maintenance of the asphalt cap covering the residually impacted soils associated with the former USTs will be included in future long term monitoring.

5. Site Management Plan.

   A Site Management Plan will be prepared for use during the continued long term monitoring at the Site.

4.2 Recommendations

The following recommendations are proposed for the Liberty Industrial Finishing Site:

- Complete a one-time Site-wide monitoring well inspection. Following the inspection, propose well decommissioning as needed. Specifically, inspect monitoring wells MW-1, MW-2, MW-3, MW-4, MW-10 and MW-16 to determine if these wells remain serviceable. If all wells are serviceable, add all six wells to the monitoring program.
- Continue monitoring of groundwater in MW-5 and MW-6 to ensure that contaminant concentrations remain below applicable groundwater criteria onsite and increase size of available dataset to establish trends in the data. This monitoring will be done on a five quarter sampling basis.
- Inspect the condition of the former building slab and asphalt cap on a five-quarter basis (will be performed in conjunction with the groundwater sampling events). Repair cracks and/or potential leak points as needed to prevent infiltration through residually impacted soil around former USTs.
- In-situ treatment of the metals: Regenesis Metals Remediation Compound (MRC) should be considered for the Site. MRC is a controlled release product that may remove a range of dissolved COCs (metals) from groundwater via in-situ immobilization. A pilot test to evaluate the effectiveness of MRC could be conducted for a reasonable cost. Immobilization of COCs would greatly reduce the monitoring time for the site as required by the current natural attenuation remedy.
- Develop a Site Management Plan

- Upon completion of the Site Management Plan, institute an institutional control on the property either in the form of a deed restriction or environmental notice.

5.0 References

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NYSDEC, 1999. Record of Decision, Liberty Industrial Finishing Site, Town of Islip, Suffolk County, Site Number 1-52-108. March 1999.

NYSDEC, 2004. Memorandum to initiate the reclassification of the Liberty Industrial Finishing Site (Site No. 1-52-108) from Class 2 to Class 4 (never completed). August 30, 2004.

Tables

TABLE 1
LIBERTY INDUSTRIAL FINISHING SITE (1-52-108)
GROUNDWATER ELEVATIONS

Well #	Reference Elevation (ft, NGVD)	Total Depth of Well (ft)	Date	Depth To Water (ft)	Water Table Elevation (ft, NGVD)
MW-5	93.32	50.0	6/12/06	42.24	51.08
			8/21/07	43.11	50.21
			11/13/08	45.40	47.92
			3/10/10	43.37	49.95
MW-6	92.71	265.0	6/12/06	42.19	50.52
			8/21/07	43.15	49.56
			11/13/08	45.23	47.48
			3/10/10	43.12	49.59
MW-12	89.59	49.3	6/14/06	39.09	50.50
			8/24/07	39.95	49.64
			11/13/08	42.25	47.34
			12/23/08	41.81	47.78
			3/10/10	40.07	49.52
MW-14	89.55	100.0	6/14/06	39.13	50.42
			8/24/07	40.00	49.55
			11/13/08	42.35	47.20
			12/23/08	41.98	47.57
			3/10/10	40.18	49.37
MW-18	91.55	150.0	6/22/06	40.76	50.79
			8/21/07	41.25	50.30
			11/13/08	43.80	47.75
			3/10/10	41.82	49.73
MW-19	91.98	248.0	6/22/06	41.95	50.03
			8/21/07	41.60	50.38
			11/13/08	43.90	48.08
			3/10/10	42.78	49.20
MW-20	88.59	149.5	6/14/06	38.29	50.30
			8/21/07	39.18	49.41
			11/13/08	41.20	47.39
			3/10/10	39.30	49.29
MW-21	88.66	110.5	6/14/06	38.30	50.36
			8/21/07	39.20	49.46
			11/13/08	41.47	47.19
			3/10/10	39.31	49.35

All measurements were taken from the top of PVC casing

Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-5 (shallow)						
		2/22/1991	10/25/2001	5/15/2003	6/12/2006	8/23/2007	11/14/2008	3/8/2010
COCs								
Cadmium	5	ND	ND	ND	0.13 B	0.51 B	ND	ND
Chromium	50	30	ND	ND	18.2 B	42.2	7.3 B	29
Copper	200	50	ND	ND	23.8 B	10.9 B	ND	ND
Nickel	100	20	ND	ND	3.3 B	1.1 B	ND	1.2 B
Zinc	2,000	140	ND	13 B	29.1 B	18.4 B	13.7 B	15.2 B
Non-COCs								
Aluminum	NC	-	230	1,050	238	157 B	ND	87.5 BE
Antimony	3	-	ND	ND	***3.7 B***	ND	ND	ND
Arsenic	25	-	ND	ND	2.2 B	ND	ND	ND
Barium	1,000	-	ND	14 B	49.3 B	50 B	45.7 B	49.4 B
Beryllium	3	ND	ND	ND	ND	ND	ND	0.089 B
Calcium	NC	-	21,000	11,800	19,000	15,000	16,900	14,100
Cobalt	NC	-	ND	ND	0.67 B	1.4 B	ND	ND
Iron	300	-	ND	***655***	198 B	122 B	ND	107 BN
Lead	25	24.4	ND	1 B	1.3 B	3.4 B	ND	ND
Magnesium	35,000	-	2,900 B	3,310	2,040 E	1,870	2,040	1,830
Manganese	300	-	37	157	15.1 B	13.7 B	6.8 B	16.5 B
Mercury	0.7	ND	ND	-	ND	ND	ND	0.056 B
Potassium	NC	-	ND	3,840	4,330	4,500	4,380	4,740
Selenium	10	-	ND	ND	ND	7.4 B	ND	ND
Silver	50	-	ND	ND	ND	4 B	ND	ND
Sodium	20,000	-	10,000	15,100	4,460	7,800	7,570	6,570
Thallium	0.50	-	ND	ND	ND	ND	ND	ND
Vanadium	NC	-	ND	ND	ND	0.59 B	ND	ND

Notes: All data presented in micrograms per liter (µg/L)
1 Division of Water Technical and Operational Guidance Series (TOGS)(1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
NC - No NYSDEC criterion
ND - Not Detected
B - Estimated value
BOLD/Italics - Exceeds criterion
E - Estimated value due to interference

Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-6 (Magothy)						
		2/22/1991	10/25/2001	5/15/2003	6/12/2006	8/24/2007	11/14/2008	3/8/2010
COCs								
Cadmium	5	ND	ND	2.9 B	ND	***12.6***	0.55 B	0.62 B
Chromium	50	0	ND	17	0.79 B	28.7	ND	1.9 B
Copper	200	ND	ND	ND	15.6 B	31.3	ND	5.6 B
Nickel	100	ND	ND	ND	3.6 B	12.3 B	2.2 B	1.9 B
Zinc	2,000	90	ND	ND	24.8 B	118	21.9 B	25.4 B
Non-COCs								
Aluminum	NC	-	ND	ND	ND	398	ND	50.2 BE
Antimony	3	-	ND	ND	***3.1 B***	***8.0 B***	ND	ND
Arsenic	25	-	ND	ND	ND	ND	ND	ND
Barium	1,000	-	ND	29 B	24.9 B	29.6 B	15.7 B	11.3 B
Beryllium	3	ND	ND	ND	ND	ND	ND	0.062 B
Calcium	NC	-	4,600 B	9,400	9,880	10,000	8,300	6,120
Cobalt	NC	-	ND	ND	0.31 B	2.2 B	ND	ND
Iron	300	-	100	19 B	45.2 B	***3,120***	147 B	137 BN
Lead	25	5.6	ND	ND	ND	15.8	ND	ND
Magnesium	35,000	-	1,600 B	2,240	2,980 E	2,630	2,590	1,970
Manganese	300	-	7.4 B	35	5.9 B	60.9	40.8 B	11.4 B
Mercury	0.7	ND	ND	-	ND	ND	ND	ND
Potassium	NC	-	ND	4,060	759 B	1,390	2,060	1,180
Selenium	10	-	ND	ND	1.6 B	ND	ND	ND
Silver	50	-	ND	ND	ND	ND	ND	ND
Sodium	20,000	-	6,200	***47,500***	10,100	9,950	11,600	7,660
Thallium	0.50	-	ND	ND	ND	ND	ND	ND
Vanadium	NC	-	ND	ND	ND	2 B	ND	ND

Notes: All data presented in micrograms per liter (µg/L)
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Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-12 (shallow)					
		10/25/2001	5/15/2003	6/14/2006	8/24/2007	12/23/2008	3/9/2010
COCs							
Cadmium	5	ND	ND	0.52 B	***5.6***	***25.5***	***205***
Chromium	50	ND	7.7 B	2.5 B	37.5	18.9 B	***251***
Copper	200	ND	ND	14.9 B	85.3	63.5	***377***
Nickel	100	ND	ND	3.4 B	12.4 B	14.9 B	57.1
Zinc	2,000	ND	2.2 B	26.1 B	246	220	1,280
Non-COCs							
Aluminum	NC	ND	124 B	445	9,070	2,260	33,600 E
Antimony	3	ND	ND	1.8 B	***11.2 B***	ND	***13.9 B***
Arsenic	25	ND	ND	ND	3.3 B	ND	14.2 B
Barium	1,000	ND	ND	45.2 B	75.4 B	60.5 B	188 B
Beryllium	3	ND	ND	0.38 B	0.24 B	0.19 B	2.1 B
Calcium	NC	19,000	23,400	13,100	26,900	19,700	29,900
Cobalt	NC	ND	ND	0.63 B	5.5 B	2.6 B	12.8 B
Iron	300	ND	49 B	***467***	***10,900***	***4,080***	***38,100 N***
Lead	25	ND	ND	7.7 B	***106***	***83.7***	***553***
Magnesium	35,000	3,000 B	2,000	3,710 E	6,830	4,330	10,900
Manganese	300	7	47	77.3	96.9	82.7	253
Mercury	0.7	ND	-	ND	ND	ND	0.54
Potassium	NC	ND	4,480	2,280	2,700	2,540	3,810
Selenium	10	ND	3.1 B	2.6 B	ND	ND	***13.4 B***
Silver	50	ND	ND	ND	ND	7.6 B	ND
Sodium	20,000	9,300	13,200	11,700	13,400	***27,100***	***33,600***
Thallium	0.50	ND	ND	ND	ND	ND	ND
Vanadium	NC	ND	ND	0.77 B	28.8 B	8.6 B	89.7

Notes: All data presented in micrograms per liter (µg/L)
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ND - Not Detected
B - Estimated value
BOLD/Italics - Exceeds criterion
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Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-14 (deep)					
		10/25/2001	5/15/2003	6/14/2006	8/24/2007	12/23/2008	3/9/2010
COCs							
Cadmium	5	ND	ND	4.9 B	1.5 B	***59.1***	***26***
Chromium	50	11	ND	***95.8***	***248***	***69.6***	***68.6***
Copper	200	ND	ND	22.2 B	8.9 B	110	42.8
Nickel	100	ND	ND	7.5 B	4.4 B	53.2	18.3 B
Zinc	2,000	ND	ND	40.1 B	27.5 B	520	279
Non-COCs							
Aluminum	NC	ND	ND	780	314	7,090	4,830 E
Antimony	3	ND	ND	1.5 B	ND	ND	ND
Arsenic	25	ND	ND	ND	ND	5.6 B	6 B
Barium	1,000	ND	ND	40.5 B	31.5 B	162 B	107 B
Beryllium	3	ND	ND	ND	ND	0.38 B	0.28 B
Calcium	NC	17,000	5,440	13,100	12,900	35,800	18,700
Cobalt	NC	ND	ND	2 B	1.2 B	5.1 B	2.7 B
Iron	300	ND	40 B	***728***	***389***	***9,320***	***14,000 N***
Lead	25	ND	ND	2.9 B	3.4 B	***221***	***76.5***
Magnesium	35,000	4,100 B	1,730	1,610 E	3,000	6,340	2,910
Manganese	300	73	4.6 B	35.3 B	21.2 B	231	186
Mercury	0.7	ND	-	ND	ND	ND	0.1 B
Potassium	NC	6,200	510 B	3,320	4,140	7,090	1,670
Selenium	10	ND	2.2 B	ND	6.7 B	ND	ND
Silver	50	ND	ND	ND	3.2 B	4.3 B	ND
Sodium	20,000	***25,000***	8,510	***31,900***	***28,900***	***561,000***	***25,400***
Thallium	0.50	ND	ND	ND	***3.4 B***	ND	ND
Vanadium	NC	ND	ND	0.58 B	0.51 B	22.5 B	12.6 B

Notes: All data presented in micrograms per liter (µg/L)
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Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-18 (very deep)					
		10/25/2001	5/15/2003	6/22/2006	8/24/2007	11/13/2008	3/10/2010
COCs							
Cadmium	5	ND	ND	0.33 B	1.3 B	0.92 B	0.86 B
Chromium	50	ND	ND	3.3 B	2.1 B	5.4 B	6.5 B
Copper	200	ND	ND	ND	8.1 B	11 B	9.8 B
Nickel	100	ND	ND	1.4 B	3.1 B	3.2 B	6.5 B
Zinc	2,000	ND	ND	25 B	34.8 B	86.7	57.8
Non-COCs							
Aluminum	NC	ND	ND	135 B	252	196 B	716 E
Antimony	3	ND	ND	ND	ND	***9 B***	***5.2 B***
Arsenic	25	ND	ND	ND	ND	ND	ND
Barium	1,000	ND	37.6 B	74.8 B	92.5 B	86.4 B	103 B
Beryllium	3	ND	ND	ND	ND	ND	0.12 B
Calcium	NC	18,000	16,500	12,800	15,500	13,500	18,900
Cobalt	NC	ND	ND	0.48 B	1.3 B	ND	1 B
Iron	300	ND	ND	212	***308***	***307***	***731 N***
Lead	25	ND	ND	ND	3 B	2.5 B	3.9 B
Magnesium	35,000	9,000	7,720	5,440	5,430	4,960	4,460
Manganese	300	14 B	37.5	169	***547***	122	***312***
Mercury	0.7	ND	-	ND	ND	ND	0.057 B
Potassium	NC	5,700	ND	10,800	7,290	10,200	13,500
Selenium	10	ND	ND	ND	ND	ND	ND
Silver	50	ND	ND	ND	4 B	1.6 B	ND
Sodium	20,000	***28,000***	***38,000***	***30,000***	***26,700***	***29,600***	***30,000***
Thallium	0.50	ND	ND	ND	ND	ND	ND
Vanadium	NC	ND	ND	ND	0.66 B	ND	0.63 B

Notes: All data presented in micrograms per liter (µg/L)
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ND - Not Detected
B - Estimated value
BOLD/Italics - Exceeds criterion
E - Estimated value due to interference

Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-19 (Magothy)					
		10/25/2001	5/15/2003	6/22/2006	8/24/2007	11/13/2008	3/10/2010
COCs							
Cadmium	5	ND	ND	1.1 B	***8***	ND	2.7 B
Chromium	50	ND	ND	1 B	2 B	ND	1.8 B
Copper	200	ND	ND	ND	11.7 B	ND	ND
Nickel	100	ND	ND	ND	2.9 B	ND	0.96 B
Zinc	2,000	ND	6.6 B	42.8 B	48.1 B	30.5 B	47 B
Non-COCs							
Aluminum	NC	ND	ND	53.4 B	74.9 B	ND	69.9 BE
Antimony	3	ND	ND	ND	***6.7 B***	ND	ND
Arsenic	25	ND	ND	ND	ND	ND	ND
Barium	1,000	ND	ND	14.2 B	21.5 B	20 B	18.7 B
Beryllium	3	ND	ND	ND	ND	ND	0.046 B
Calcium	NC	8,100	8,570	9,900	13,000	9,700	11,500
Cobalt	NC	ND	ND	ND	1.2 B	ND	ND
Iron	300	ND	ND	54.2 B	221	ND	234 N
Lead	25	ND	ND	ND	4.1 B	ND	ND
Magnesium	35,000	3,000 B	3,250	3,180	4,600	3,970	4,350
Manganese	300	ND	3 B	3.5 B	9.3 B	14.9 B	8 B
Mercury	0.7	ND	-	ND	ND	ND	ND
Potassium	NC	ND	661	816 B	949 B	947 B	1,070
Selenium	10	ND	ND	ND	ND	ND	ND
Silver	50	ND	ND	ND	3.3 B	1.1 B	ND
Sodium	20,000	9,400	10,700	10,200	14,400	13,400	14,900
Thallium	0.50	ND	ND	ND	***2.9 B***	ND	ND
Vanadium	NC	ND	ND	ND	ND	ND	ND

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Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-20 (very deep)					
		10/26/2001	5/15/2003	6/14/2006	8/22/2007	11/13/2008	3/9/2010
COCs							
Cadmium	5	ND	ND	1 B	0.45 B	0.74 B	ND
Chromium	50	ND	ND	4.6 B	3.1 B	2.1 B	5.1 B
Copper	200	ND	ND	13.6 B	8.7 B	ND	5.7 B
Nickel	100	ND	ND	4.6 B	2.4 B	1.8 B	3.5 B
Zinc	2,000	ND	ND	48.7 B	32.8 B	28.5 B	187
Non-COCs							
Aluminum	NC	ND	ND	223	299	81.6 B	404 E
Antimony	3	ND	ND	1.7 B	***9.5 B***	ND	***4.4 B***
Arsenic	25	ND	ND	ND	ND	ND	ND
Barium	1,000	ND	ND	38.9 B	57.8 B	48.8 B	35 B
Beryllium	3	ND	ND	ND	ND	ND	0.057 B
Calcium	NC	13,000	16,600	13,200	20,600	4,420	9,050
Cobalt	NC	ND	ND	0.92 B	2.5 B	ND	1.1 B
Iron	300	ND	21 B	***1,710***	***624***	164 B	***1,370 N***
Lead	25	ND	ND	1.5 B	3.7 B	ND	4.9 B
Magnesium	35,000	5,600	6,990	6,050 E	9,820	3,400	4,400
Manganese	300	ND	4 B	27.8 B	60.5	35 B	27.1 B
Mercury	0.7	ND	-	ND	ND	ND	0.064 B
Potassium	NC	ND	1,830	2,050	2,220	8,190	1,970
Selenium	10	ND	ND	1.1 B	ND	ND	ND
Silver	50	ND	ND	ND	5.2 B	0.6 B	ND
Sodium	20,000	18,000	***28,400***	***21,800***	***31,100***	***29,700***	***39,600***
Thallium	0.50	ND	ND	ND	ND	ND	ND
Vanadium	NC	ND	ND	0.48 B	1.6 B	ND	1.2 B

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ND - Not Detected
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Table 2
Groundwater Analytical Results
Liberty Industrial Finishing (1-52-108)
Brentwood, NY

Sample ID Screen Depth Sample Date	Class GA Ground Water Criteria[1]	MW-21 (deep)					
		10/26/2001	5/15/2003	6/14/2006	8/22/2007	11/14/2008	3/9/2010
COCs							
Cadmium	5	ND	ND	ND	1.5 B	4.8 B	1.1 B
Chromium	50	ND	ND	0.94 B	3 B	2.3 B	9 B
Copper	200	ND	ND	ND	13.7 B	6.6 B	8.2 B
Nickel	100	ND	ND	1.9 B	2.4 B	6.9 B	4.9 B
Zinc	2,000	ND	ND	14.2 B	40.5 B	69.1	67.6
Non-COCs							
Aluminum	NC	ND	ND	ND	197 B	457	793 E
Antimony	3	ND	ND	1.9 B	***6.7 B***	ND	ND
Arsenic	25	ND	ND	2.2 B	ND	ND	ND
Barium	1,000	ND	56 B	79.3 B	60.9 B	58.2 B	119 B
Beryllium	3	ND	ND	ND	ND	ND	0.16 B
Calcium	NC	8,500	11,000	7,520	5,190	11,900	12,600
Cobalt	NC	ND	ND	0.48 B	1.5 B	ND	1.5 B
Iron	300	ND	ND	31.4 B	***503***	198 B	***1,840 N***
Lead	25	ND	ND	ND	4.5 B	2.6 B	8.2 B
Magnesium	35,000	6,900	9,000	5,440 E	3,320	2,960	8,380
Manganese	300	35	42	26.4 B	51.8	***627***	57.7
Mercury	0.7	ND	-	ND	ND	ND	0.058 B
Potassium	NC	ND	5,370	5,670	6,350	6,250	12,700
Selenium	10	ND	ND	4.1 B	ND	ND	ND
Silver	50	ND	ND	ND	ND	ND	ND
Sodium	20,000	***24,000***	***25,200***	***24,500***	***27,200***	19,200	***31,800***
Thallium	0.50	ND	ND	ND	ND	ND	ND
Vanadium	NC	ND	ND	ND	0.063 B	ND	2.1 B

Notes: All data presented in micrograms per liter (µg/L)
1 Division of Water Technical and Operational Guidance Series (TOGS)(1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
NC - No NYSDEC criterion
ND - Not Detected
B - Estimated value
BOLD/Italics - Exceeds criterion
E - Estimated value due to interference

Figures

Legend:

- Wells utilizied in long term monitoring
- Site Boundary
- Asphalt Cap

0 40 80 160 240 320 Feet

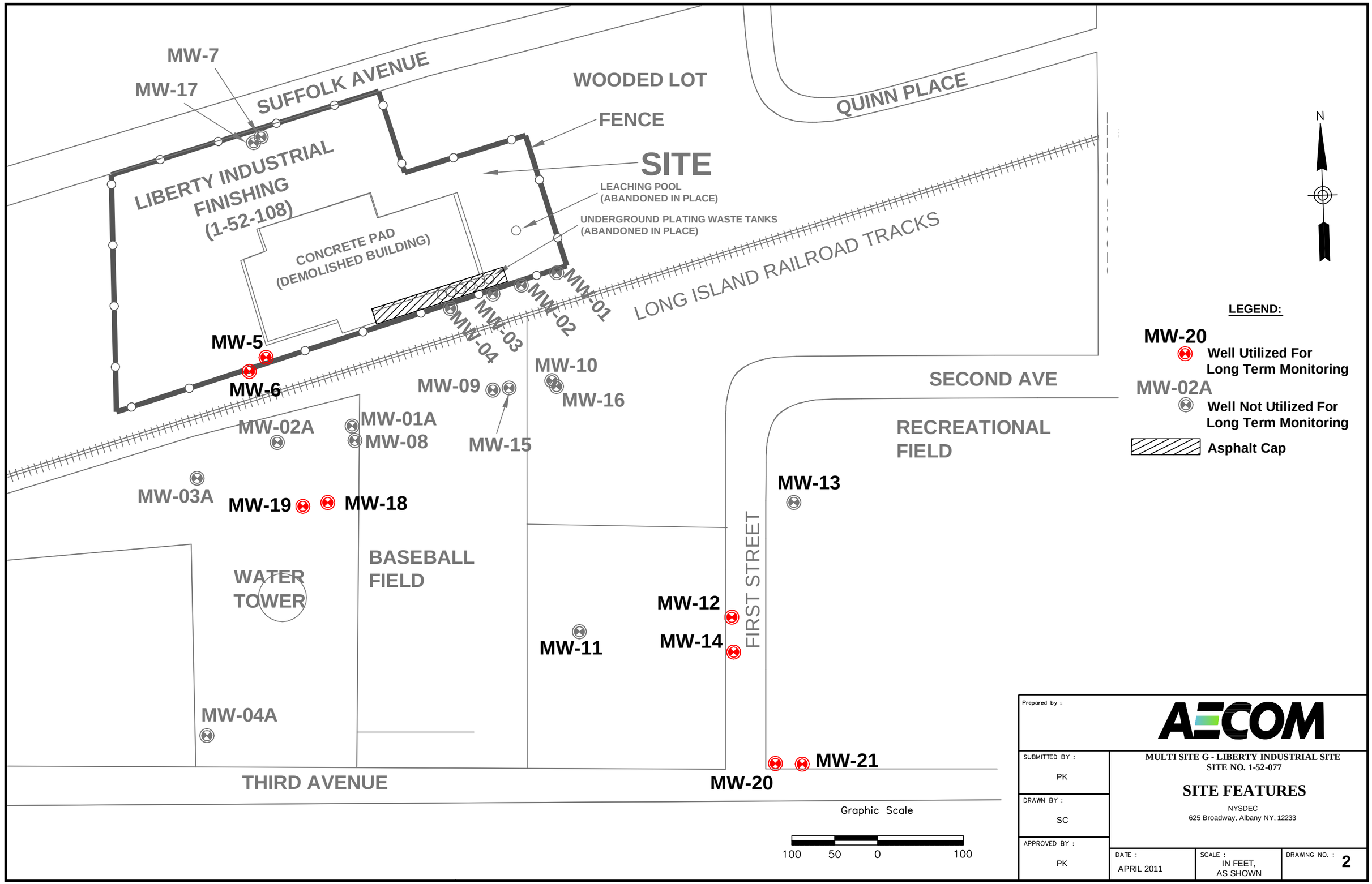
Prepared by: AECOM

Prepared for: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Multi Site G
Operation, Maintenance & Monitoring

Liberty Industrial Finishing Site

Date:	Scale:	Figure No. :
May 2011 6-10	1 inch = 167 feet	1



Prepared by : AECOM

SUBMITTED BY : PK	MULTI SITE G - LIBERTY INDUSTRIAL SITE SITE NO. 1-52-077
DRAWN BY : SC	**SITE FEATURES** NYSDEC 625 Broadway, Albany NY, 12233
APPROVED BY : PK	DATE : APRIL 2011 / SCALE : IN FEET, AS SHOWN / DRAWING NO. : 2

Sample ID	NYSAGWQS	MW-5 (S)									
Sample Date		5/15/2003		6/12/2006		8/23/2007		11/14/2008		3/8/2010	
COCs											
Cadmium	5	ND		0.13	B	0.51	B	ND		ND	
Chromium	50	ND		18.2	B	42.2		7.3	B	29	
Copper	200	ND		23.8	B	10.9	B	ND		ND	
Nickel	100	ND		3.3	B	1.1	B	ND		1.2	B
Zinc	2,000	13	B	29.1	B	18.4	B	13.7	B	15.2	B

Sample ID	NYSAGWQS	MW- 12 (S)									
Sample Date		5/15/2003		6/14/2006		8/24/2007		12/23/2008		3/9/2010	
COCs											
Cadmium	5	ND		0.52	B	***5.6***		***25.5***		***205***	
Chromium	50	7.7	B	2.5	B	37.5		18.9	B	***251***	
Copper	200	ND		14.9	B	85.3		63.5		***377***	
Nickel	100	ND		3.4	B	12.4	B	14.9	B	57.1	
Zinc	2,000	2.2	B	26.1	B	246		220		1,280	

Sample ID	NYSAGWQS	MW- 6 (M)									
Sample Date		5/15/2003		6/12/2006		8/24/2007		11/14/2008		3/8/2010	
COCs											
Cadmium	5	2.9	B	ND		***12.6***		0.55	B	0.62	B
Chromium	50	17		0.79	B	28.7		ND		1.9	B
Copper	200	ND		15.6	B	31.3		ND		5.6	B
Nickel	100	ND		3.6	B	12.3	B	2.2	B	1.9	B
Zinc	2,000	ND		24.8	B	118		21.9	B	25.4	B

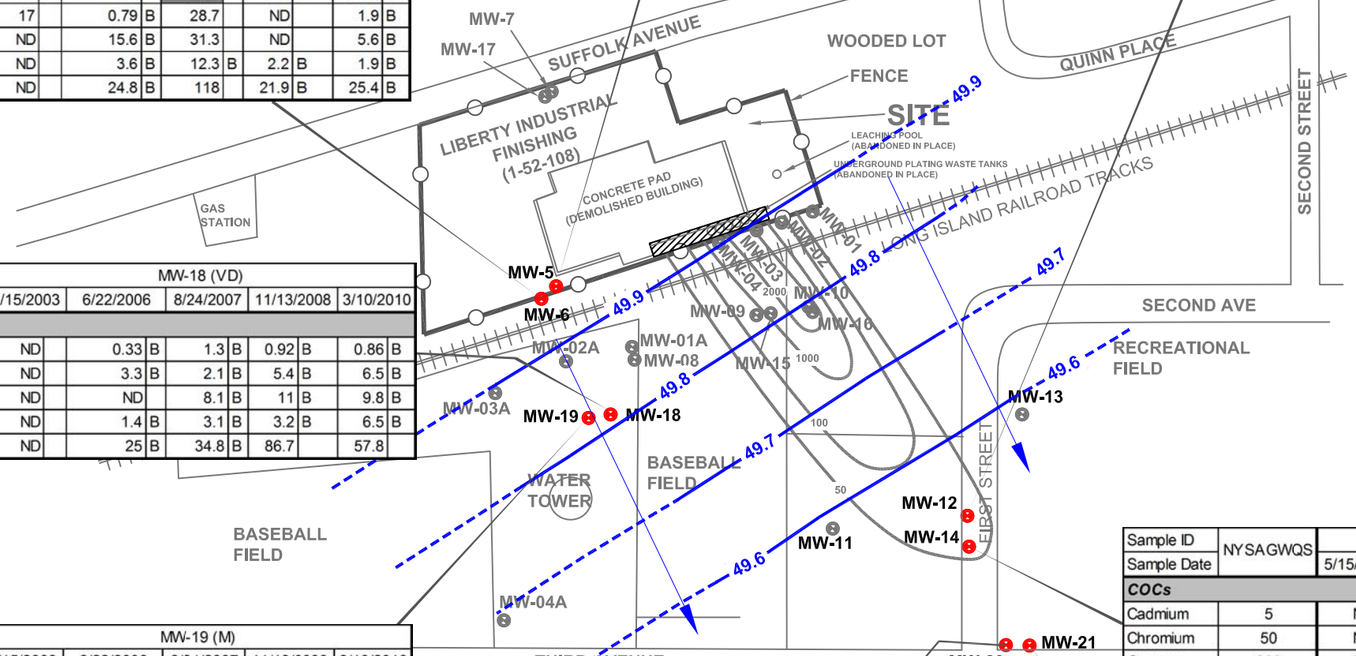
Sample ID	NYSAGWQS	MW-18 (VD)									
Sample Date		5/15/2003		6/22/2006		8/24/2007		11/13/2008		3/10/2010	
COCs											
Cadmium	5	ND		0.33	B	1.3	B	0.92	B	0.86	B
Chromium	50	ND		3.3	B	2.1	B	5.4	B	6.5	B
Copper	200	ND		ND		8.1	B	11	B	9.8	B
Nickel	100	ND		1.4	B	3.1	B	3.2	B	6.5	B
Zinc	2,000	ND		25	B	34.8	B	86.7		57.8	

Sample ID	NYSAGWQS	MW-19 (M)									
Sample Date		5/15/2003		6/22/2006		8/24/2007		11/13/2008		3/10/2010	
COCs											
Cadmium	5	ND		1.1	B	***8***		ND		2.7	B
Chromium	50	ND		1	B	2	B	ND		1.8	B
Copper	200	ND		ND		11.7	B	ND		ND	
Nickel	100	ND		ND		2.9	B	ND		0.96	B
Zinc	2,000	6.6	B	42.8	B	48.1	B	30.5	B	47	B

Sample ID	NYSAGWQS	MW-14 (D)									
Sample Date		5/15/2003		6/14/2006		8/24/2007		12/23/2008		3/9/2010	
COCs											
Cadmium	5	ND		4.9	B	1.5	B	***59.1***		***26***	
Chromium	50	ND		***95.8***		***248***		***69.6***		***68.6***	
Copper	200	ND		22.2	B	8.9	B	110		42.8	
Nickel	100	ND		7.5	B	4.4	B	53.2		18.3	B
Zinc	2,000	ND		40.1	B	27.5	B	520		279	

Sample ID	NYSAGWQS	MW-21 (D)							
Sample Date		5/15/2003	6/14/2006		8/22/2007		11/14/2008		3/9/2010	
COCs										
Cadmium	5	ND	ND		1.5	B	4.8	B	1.1	B
Chromium	50	ND	0.94	B	3	B	2.3	B	9	B
Copper	200	ND	ND		13.7	B	6.6	B	8.2	B
Nickel	100	ND	1.9	B	2.4	B	6.9	B	4.9	B
Zinc	2,000	ND	14.2	B	40.5	B	69.1		67.6	

Sample ID	NYSAGWQS	MW-20 (VD)									
Sample Date		5/15/2003		6/14/2006		8/22/2007		11/13/2008		3/9/2010	
COCs											
Cadmium	5	ND		1	B	0.45	B	0.74	B	ND	
Chromium	50	ND		4.6	B	3.1	B	2.1	B	5.1	B
Copper	200	ND		13.6	B	8.7	B	ND		5.7	B
Nickel	100	ND		4.6	B	2.4	B	1.8	B	3.5	B
Zinc	2,000	ND		48.7	B	32.8	B	28.5	B	187	



LEGEND:

- MW-20 — Well Utilized For Long Term Monitoring
- Well Not Utilized For Long Term Monitoring
- (S) Shallow Well (50ft bgs)
- (D) Deep Well (100 bgs)
- (VD) Very Deep Well (150 bgs)
- (M) Magothy Aquifer Well (250 bgs)
- Asphalt Cap
- Groundwater Contour Line (Feet NAVD88) (March 2010 data)
- Estimated Groundwater Line (Feet NAVD 88)
- Generalized Groundwater Flow Direction
- 100 — Historical Chromium Isoconcentration Line (June 1998) in ug/L
- B — Estimated Concentration (Less than the Instrument Reporting Limit)
- U — Concentration is Less Than the Instrument Detection Limit
- ND — Non Detect (Concentration is Less Than the Instrument Detection Limit)
- ***377*** — Concentration Exceeds the NYSAGWQS
- 63.5 — Detected Concentration is Less Than the NYSAGWQS
- NYSAGWQS[1] — New York State Ambient Groundwater Quality Standards
- All Values are in ug/L

Graphic Scale

200 100 0 200

Prepared by : AECOM

SUBMITTED BY : PK

DRAWN BY : SC

APPROVED BY : PK

MULTI SITE G - LIBERTY INDUSTRIAL SITE
SITE NO. 1-52-077

SITE DATA FIGURE

NYSDEC
625 Broadway, Albany NY, 12233

DATE : APRIL 2011

SCALE : IN FEET, AS SHOWN

DRAWING NO. : 3

Appendix A

NYSDEC Memorandum dated August 24, 2004: Proposed Site Reclassification and Draft Deed Restriction

From eDocs
J. Trad

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, 12th Floor
625 Broadway, Albany, New York 12233-7013
Phone: (518) 402-9814 • **FAX:** (518) 402-9819
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

MEMORANDUM

TO: Kelly Lewandowski, Site Control Section
THRU: Robert Marino, Chief, Bureau of Technical Support

FROM: Jeffrey Trad, Remedial Section A
THRU: Robert Knizek, Chief, Remedial Bureau E

SUBJECT: Site No. 1-52-108, Liberty Industrial Finishing Site, Suffolk County

DATE: AUG 30 2004

The NYSDEC has successfully completed the Remedial Action at the Liberty Industrial Finishing Site in accordance with the March 1999 ROD (attached) and approved design documents and is now in the O&M phase. This work included the following:

- Excavated the two areas containing contaminated soil;
- Applied a minimum of two feet of clean fill over residual metals contaminated soils;
- Installed an asphalt cap over the UST and pipe gallery area;
- Installation of groundwater monitoring wells;
- Excavation and offsite disposal of contaminated soil/sediment from two sanitary leaching polls, two storm water dry wells and two catch basins.

The attached "Final Remediation Report" describes the project in detail.

At this time, it is proposed to reclassify the site from a Class 2 - "Significant threat to the public health or environment - action required" to a Class 4 - "Site has been properly closed, requires continued management."

Supporting documentation is attached as justification for the proposed reclassification:

1. Site Investigation Information forms;
2. Registry of Inactive Hazardous Waste Site Information Sheets;
3. March 1999 Record of Decision;
4. Site Maps;
5. Final Remediation Report;
6. Draft Deed Restrictions;
7. October 2001 NYSDEC Groundwater Monitoring Results and the 2003 NYSDEC Groundwater Monitoring Results.

If you have any questions, please call Jeff Trad at 2-9814.

Attachments

cc: w/o Att.: S. Ervolina
P. Scully - NYSDEC, Region 1
W. Parish - NYSDEC, Region 1
C. Vasudevan

JET/ts
bcc: R. Knizek
J. Trad
Dayfile
F:\Liberty Industrial Finishing\reclass.lib.wpd

1.0 Site Investigation Forms

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

10/24/03

SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
Liberty Industrial Finishing Products	152108	Brentwood	Suffolk

5. REGION	6. PROGRAM TYPE
1	BCP ☐ ERP ☐ SPILL ☐ SUPERFUND ☒ If Superfund: Current 2 Proposed 4 Modification X

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

a. Quadrangle b. Site Latitude 4° 46'40" Site Longitude 73° 15' 15"

c. Tax Map Number(s) d. Site Street Address: 550 Suffolk Avenue, Brentwood, NY 11717

8. BRIEFLY DESCRIBE THE SITE (Attach site map showing disposal/sampling locations)

Liberty Industrial Finishing Products was a metal finishing facility engaged in the finishing and plating of parts and components used primarily in the aircraft industry. Metal finishing activities included passivation, phosphatization, electroplating, conversion coating, anodizing, painting and non-destructive testing. The Town demolished the building in 2002 leaving the slab and foundations intact.

a. Area 3.9 acres b. Completed: ( ) Env. Property Assessment (X) Site Characterization ( ) SI ( ) ESI (x) IRM (x)RI (x) Construction (x) OM&M ( ) Spill Response ( )Other

9. CONTAMINANTS DISPOSED (Hazardous Waste, Petroleum, Other. Includes EPA Hazardous Waste Numbers)

1,1,1 - trichloroethane(TCA) - F001, cadmium - D006, chromium - D007, spent cyanide plating bath solutions and sludges - F007, F008
An inspection in 1983 discovered potential leaks in two of the underground tanks containing cyanide and other compounds. Unauthorized discharges into cesspools and directly into the ground occurred in 1984. These wastewater discharges were contaminated with manganese phosphate, zinc phosphate, chromic acid and other compounds.

10. ANALYTICAL DATA AVAILABLE

a. ( )Air (X)Groundwater ( )Surface Water (x)Sediment (x)Soil ( )Waste ( )Leachate ( )EPTox ( )TCLP
b. Contravention of Standards or Guidance Values

A Phase II was performed in 1987 and groundwater exceedences for chromium were found. A supplemental Phase II was performed in 1991. High levels of cyanide was found in a leaching pool as well as chromium exceedences in groundwater. The DEC completed a State-funded RI/FS at the site. The 1999 RI Report confirmed contamination in the surface and subsurface soil, storm-water drywell/leaching pool, sediment and groundwater. The contaminated groundwater plume extends approximately 150 feet from the site in a SSE direction with chromium as the primary site-related contaminant.

11. CONCLUSION

The USEPA completed an IRM between August 1998 and January 1999 and removed waste materials from the interior of the industrial building and capped six underground storage tanks. The Town of Islip also excavated contaminated surface soil at the Town of Islip Athletic Field and the Brentwood Water District property under an IRM. The DEC issued a ROD in March 1999 that called for the removal of contaminated sediment from four drywells and one leaching pool; the excavation of contaminated soil; and the construction of an asphalt cap above the on-site underground storage tanks as the selected remedy. All of the remedial woork specified in the ROD was completed on September 18, 2001.

a. Institutional Controls (IC) Required? (X)Y ( )N b. If yes, identify: Restrict use of groundwater; long term groundwater monitoring; maintain asphalt cap
c. Are these ICs in place and verified? ( ) Y ( )N some are/ No property owner exists to apply a deed restriction for use of groundwater. Longterm GW monitoring has been performed; the asphalt cap has been inspected and maintained.

12. SITE IMPACT DATA

a. Nearest Surface Water: Distance 7500 ft.	Direction: ESE		Class: Orowac Creek - Class C		
b. Groundwater: Depth 50 ft.	Flow Direction: SSE		(x)Sole Source	( )Primary	( )Other High-Yield Aquifer
c. Water Supply: Distance 100 ft.	Direction: South		Active (X)Yes	( )No	
d. Nearest Building: Distance 150 ft.	Direction: WNW		Use: Gas Station		
e. Documented fish or wildlife mortality?	( )Y	(x)N	h. Exposed hazardous waste?	( )Y	(x)N
f. Impact on special status fish or wildlife resource?	( )Y	(x)N	i. Site Priority Ranking Sheet --------Impact Score	N/A	
g. Controlled Site Access?	(X)Y	( )N	j. EPA ID# NYD013563390	HRS Score	N/A

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Liberty Industrial Finishing	550 Suffolk Avenue, Brentwood, NY 11717	n/a

16. PREPARER	17. APPROVED
Jeffrey Trad, EEII	Robert C. Knizek, Director, Remedial Bureau E
Signature Date: 8/31/04	Signature Date
Name, Title, Organization	Name, Title, Organization

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

10/24/03

SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
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9. CONTAMINANTS DISPOSED (Hazardous Waste, Petroleum, Other. Includes EPA Hazardous Waste Numbers)

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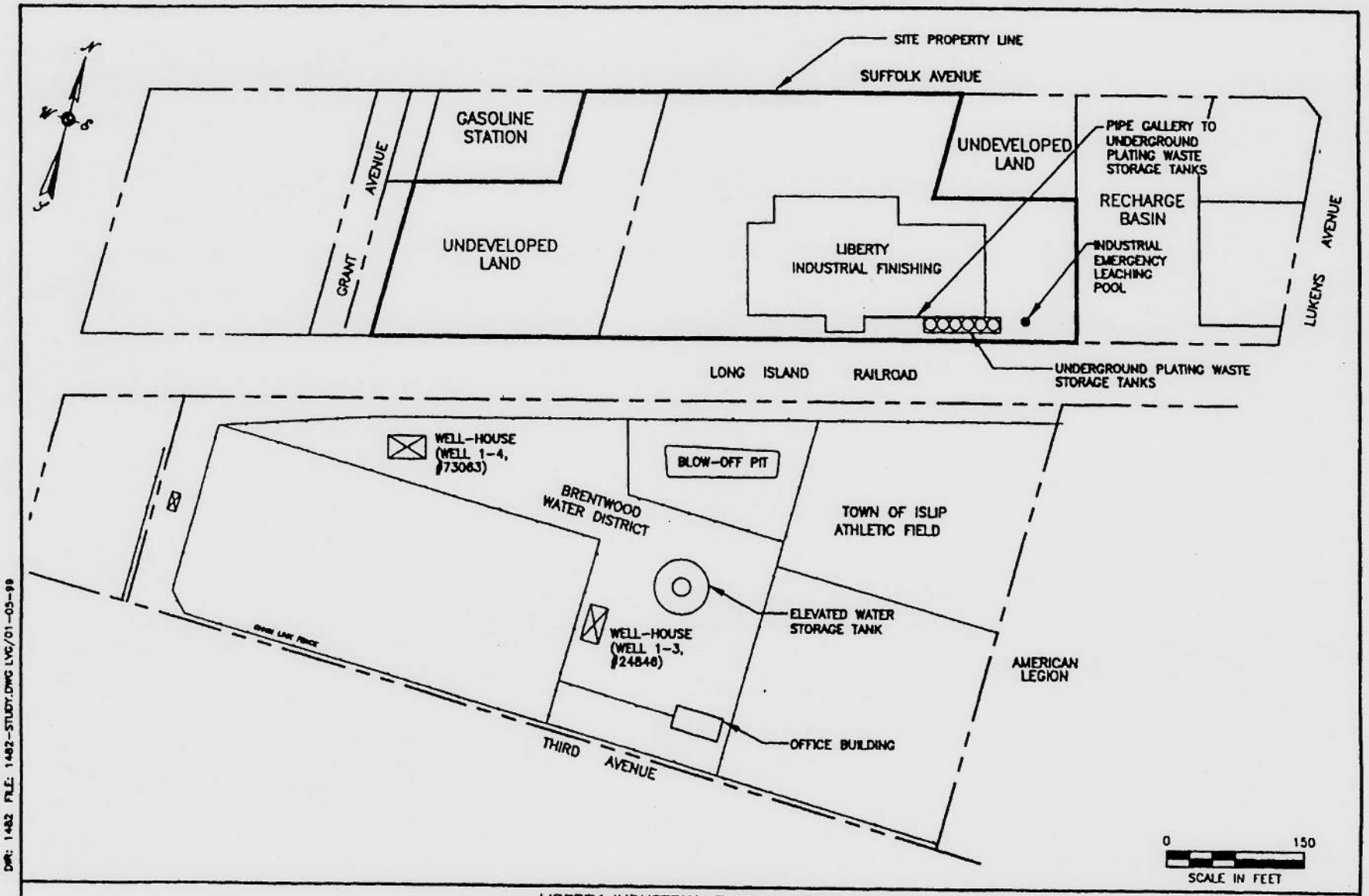
b. Groundwater: Depth 50 ft.	Flow Direction: SSE		(x)Sole Source ( )Primary ( )Other High-Yield Aquifer		
c. Water Supply: Distance 100 ft.	Direction: South		Active (X)Yes ( )No		
d. Nearest Building: Distance 150 ft.	Direction: WNW		Use: Gas Station		
e. Documented fish or wildlife mortality?	( )Y	(x)N	h. Exposed hazardous waste?	( )Y	(x)N
f. Impact on special status fish or wildlife resource?	( )Y	(x)N	i. Site Priority Ranking Sheet ---------Impact Score	N/A	
g. Controlled Site Access?	(X)Y	( )N	j. EPA ID# NYD013563390	HRS Score	N/A

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Liberty Industrial Finishing	550 Suffolk Avenue, Brentwood, NY 11717	n/a

16. PREPARER	17. APPROVED
Jeffrey Trad, EEII	Robert Marino, Director, Technical Support Bureau
Signature Date: Jeffrey Trad 5/30/04	Signature Date
Name, Title, Organization	Name, Title, Organization



DWG: 1482 FILE: 1482-STUDY.DWG LVC/01-05-99

LIBERTY INDUSTRIAL FINISHING SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
BRENTWOOD, NEW YORK

STUDY AREA MAP

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 2

Deed Restriction Forthcoming

Now a SSF Site.

No Property Owner to put IC/EC on the property title.

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT, made the __ day of _____ 200x, by Liberty Industrial Finishing, Inc., a corporation organized and existing under the laws of the State of xxxxxxxxx and having an office for the transaction of business at

WHEREAS, Liberty Industrial Finishing, Inc. is the owner of an inactive hazardous waste disposal Site which is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 1-52-108, located at 550 Suffolk Avenue, Hamlet of Brentwood Town of Islip, NY 11551, consisting of approximately 3.9 acres, Tax Map Number **xx-xx**, Block Number **xx-xx** and Lot Number **xx-xx** as filed **(Date)**, File No. **Xxxx** in the Office of the County Clerk at the County of Suffolk and more particularly described in Appendix A attached to this Covenant and made a part hereof, and hereinafter referred to as the "Property"; and

WHEREAS, the Property is the subject of a consent order issued by the New York State Department of Environmental Conservation to Liberty Industrial Finishing, Inc.; and

WHEREAS, the New York State Department of Environmental Conservation set forth a remedy to eliminate or mitigate all significant threats to the environment presented by hazardous waste disposal on the Site in a Record of Decision ("ROD") dated March 1999, and such ROD or the Work Plan for the implementation of the ROD required that the Property be subject to restrictive covenants.

NOW, THEREFORE, Liberty Industrial Finishing, Inc., for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof, and consists of **[insert metes and bounds description]**

Second, unless prior written approval by the New York State Department of Environmental Conservation or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, no person shall engage in any activity that will, or that reasonably is anticipated to, prevent or interfere significantly with any proposed, ongoing or completed program at the Property or that will, or is reasonably foreseeable to, expose the public health or the environment to a significantly increased threat of harm or damage.

Third, the owner of the Property shall protect and maintain the asphalt cap covering the excavation area and the groundwater monitoring wells installed on the Property. Any damage to the asphalt cap or groundwater monitoring wells must immediately be brought to the attention of the Department. Any work, action or change of use altering or effecting the asphalt cap or groundwater monitoring wells must be brought to the attention of the Department. No work,

action or change of use altering or effecting the asphalt cap or groundwater monitoring wells may occur without obtaining prior written approval of the Department or Relevant Agency.

Fourth, the owner of the Property shall prohibit any excavation or disturbance of the excavation area as delineated in Appendix "B" by crosshatch, unless the owner of the Property first obtains permission to do so from the Relevant Agency.

Fifth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for non-residential commercial/industrial uses, excluding day-care and health care facilities, without the express written waiver of such prohibition by the Relevant Agency.

Sixth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Seventh, the owner of the Property shall continue in full force and effect any institutional and engineering controls the Department required Respondent to put into place and maintain unless the owner first obtains permission to discontinue such controls from the Relevant Agency.

Eight, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property and shall provide that the owner, and its successors and assigns, consents to the enforcement by the Relevant Agency of the prohibitions and restrictions recorded by this Declaration of Covenants and Restrictions, and hereby covenants not to contest the authority of the Department to seek enforcement.

Ninth, the owner of the Property may petition the Department to modify or terminate this Declaration of Covenants and Restrictions at such time as it can certify that reliance upon such covenants and restrictions is no longer required to meet the goals of the Remedial Program. Such certification shall be made by a Professional Engineer. The Department shall not unreasonably withhold its consent to such petition.

Tenth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

Eleventh, the owner of the property must allow the Relevant Department, its Agent, employees or other representatives of the State to enter and inspect the Property and sample the groundwater monitoring wells on the Property at reasonable times in a reasonable manner.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

[acknowledgment]

IN WITNESS WHEREOF, the parties have signed this Agreement on the day and year indicated beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Acknowledgment

State of New York)

County of Nassau)

On this Fifteenth day of March, 2000, before me personally came , to me known, who being duly sworn, did depose and say that he is the Supervisor of the Town of , the political subdivision or agency thereof described in and which executed the within instrument; that he knows the seal of said political subdivison; that the seal affixed to said instrument is such seal; that it was so affixed by order, resolution or authority of the Town Board of said political subdivision and that he signed his name by that authority.

By: _____

Notary Public

Date: _____

Appendix B

IC/EC Certification Forms