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Unicorn Management Consultants, LLC

November 1, 2024
Refer to OP- 4711

Ms. Megan Kuczka
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Subject: Former Roundhouse Area Nexus
Union Road Site, Erie County, Cheektowaga, NY
Inactive Hazardous Waste Disposal Site No. 915128

Dear Ms. Kuczka:

Unicorn Management Consultants, LLC (UMC), on behalf of American Premier Underwriters, Inc. (APU), has prepared this Union Road Project History Nexus (Nexus) pursuant to conference calls attended by APU and New York State Department of Environmental Conservation (NYSDEC) representatives on August 28, 2024, and September 25, 2024, as well as NYSDEC correspondences dated October 31, 2022, September 7, 2023, May 28, 2024, and September 6, 2024. The Nexus presents information, reviewed by UMC/APU between 1982 through 2024, related to the former roundhouse area investigations, remediation, orders/directives, operation, maintenance, and monitoring as they relate to NYSDEC's requests for additional remedial investigation and potential remedial actions related to the former roundhouse area at the Union Road Site submitted to UMC/APU between 2022 through 2024. The objective of the Nexus is to present information from the Union Road Administrative Record to assist NYSDEC with the reevaluation of their directives presented in the letter correspondence dated September 6, 2024.

Section 1: Timeline

The following general timeline presents a chain of logic within the Union Road Administrative Record and supports the UMC/APU legal and technical responses to the NYSDEC letter correspondence dated September 6, 2024 and statements made by APU representatives during conference calls on August 28, 2024 and September 25, 2024. Copies of information presented in the following timeline are available upon request.

- *1927-1972 Aerial Photographs*
- *1982 Initial Complaint - 1991 Phase I/II Remedial Investigation Report and Phase III Feasibility Study Report (NYSDEC)* Initial investigations and delineation (RI) of the roundhouse structure conducted by NYSDEC and others thereby defining the "Roundhouse Area" of concern;
- *1986 RCRA Superfund Site Investigation*
- *1991 Conceptual Design Report (NYSDEC);*

- *1992 NYSDEC Record of Decision (ROD)* for the implementation of the NYSDEC ROD selected remedy;
- *1993 Final Remedial Action Work Plan (RAWP)*;
- *1994 Order on Consent* for the implementation of the NYSDEC ROD selected remedy;
- *1995 Remedial Design Report 100% (NES)*
- *1995 As-Built Closure Report*
- *1996 Amendment to Consent Order (NYS)*
- *1998 As-Built Closure Report*
- *1998 Operations and Maintenance Plan (NES)*
- *1998 As-Built Acceptance Letter*
- *1998 - 2024 O&M*
- *October 31, 2022 Original Site Management (SM) - Work Plan Request Letter*
- *September 7, 2023 Former Roundhouse Area Investigation Event Workplan (Updated) Acceptance Letter*
- *May 28, 2024 Former Roundhouse Area Investigation Report Acceptance Letter*
- *September 6, 2024 Former Roundhouse Area Additional Investigation Event Work Plan Request Letter*

Section 2: Site History

The site operated as a large railroad yard (Gardenville Yard) for about 40 years (~1915-1955) and was mainly used as a railroad classification and maintenance facility. The railyard ceased operations in the 1960s. By 1972, the surrounding land had been developed into a residential area and the railyard was abandoned with the majority of railyard support structures demolished (1927-1972 Aerial Photographs).

In 1982, a complaint was submitted to the Erie County Department of Environment and Planning. As a result, the Site was inspected and a pit containing tar-like material was observed. Subsequent testing in 1983 confirmed that the pit was man-made for the purpose of dumping waste.

In 1986, a Superfund Site Investigation revealed a disposal area in the wetlands on the site. As a result, the NYSDEC erected a fence and signs around the Site. (Union Road Site, Preliminary Remedial Action Objectives and Alternatives). The NYSDEC continued to conduct remedial investigations of the Union Road Site, including the former roundhouse and area surrounding the former roundhouse, between 1986 and 1991. The NYSDEC remedial investigation results were summarized in a Phase I, II, and III remedial investigation and feasibility study report drafted by Dvirka & Bartilucci (D&B) on behalf of the NYSDEC, dated June 1991 (NYSDEC/D&B 1991 RI/FS) that defined a "Roundhouse Area" area of concern (**Exhibit 1**) and was used to support a NYSDEC Record of Decision (ROD) in 1992 (**Exhibit 2**). The NYSDEC 1992 ROD selected a remedy for the Roundhouse Area (including the area with the remnants of the former roundhouse structure) included hotspot excavation of contaminated soil for onsite landfilling in the engineered landfill cap area, as well as covering the Roundhouse Area, of approximately 7.5 acres, with at least one-foot of clean soil and vegetation (**Exhibit 3**).

APU representatives, Integrated Environmental Services (IES), a division of Nuclear Energy Service (NES), prepared a remedial action work plan (RAWP, June 18, 1993) that includes a variance to the

remedial proposal for the roundhouse area which, "*involves a smaller area (approximately 5 acres) and placement of six inches of clean fill prior to re-vegetation. The reduction of area is due to the presence of the structures of the former roundhouse which remain onsite. These structures include large concrete foundations and walls; several large holes and openings to underground portions of the former roundhouse are present. Due to these structures and openings, this area is not amenable to covering with a layer of clean soil i.e., the openings would need to be filled and the concrete removed in order to provide a base to cover with soil.*" (**Exhibit 4**). The RAWP was subsequently approved by the NYSDEC on March 8, 1993 (**Exhibit 5**).

In 1994, The Penn Central Corporation (predecessor to APU) and the NYSDEC entered into an Order on Consent (Index# B9-0148-92-03, Site Code #915128) for the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York having an effective date of April 12, 1994 (**Exhibit 6**), and Amendment to RD/RA Consent Order #B9-0148-92-03 (Site #915128) dated June 17, 1996 (**Exhibit 7**).

All work plans, reports, designs, variances for ROD remedy implementation, and as-built submissions were approved by the NYSDEC; The NYSDEC approved the Remedial Action Work Plan via letter correspondence dated March 8, 1993 and As-Built Closure Report for the remedial design on March 13, 1998 (**Exhibit 8**), both NYSDEC approved reports reference the reduced Roundhouse Area acreage for remediation.

In January 1998, NES finalized the Operations and Maintenance Plan (Volumes I, II, and III) as Section 12. Operation and Maintenance Plan, of the Union Road Remedial Design Report 100% Submission (O&M Plan), subsequently approved by the NYSDEC by way of the As-Bulit Closure Report approval correspondence dated March 13, 1998 (**Exhibit 8**). NES, from 1998 through 2001, conducted O&M Plan activities under the oversight of the NYSDEC.

UMC, on behalf of APU, under the direction of the NYSDEC, has been conducting O&M activities at the Site from 2001 to present.

Section 3: UMC/APU Responses to NYSDEC Letter Dated September 6, 2024

RESPONSE 3.1: NYSDEC/DVIRKA&BARTILUCCI RI/FS FINDINGS VS APU/UMC 2023 - 2024 ROUNDHOUSE INVESTIGATION

NYSDEC Comment:
The Former Roundhouse was not thoroughly investigated during initial remedial efforts.

APU/UMC Response:
The NYSDEC/D&B 1991 RI/FS findings are the basis of the NYSDEC 1992 Record of Decision for the Union Road Site, Town of Cheektowaga, Erie County, New York (No. 9-15-128) (NYSDEC 1992 ROD). A review of the 1991 NYSDEC RI/FS supports that the area surrounding the roundhouse was investigated for contaminants of concern in soil and groundwater as well as one water sample collected from within the roundhouse structure itself (**Exhibit 9**). The NYSDEC RI/FS soil and groundwater samples were collected from adjacent areas to locations sampled as part of the UMC Roundhouse Investigation in 2023/2024 (**Exhibit 10**). The soil sampling results are similar to those evaluated within

the Final Baseline Human Health Risk Assessment, which states, "*In general, with exceptions of PAHs, the degree of contamination in the Roundhouse Area is somewhat less than the Disposal Area" (2-11). According to Table 3-23, the highest indicator chemicals within the Roundhouse Area are for Arsenic and Total PAHs for both surficial/subsurface soils. In the conclusion, the roundhouse is susceptible to carcinogenic risk for surficial soil exposure to children (in relation to Arsenic). The recommended alternatives for this site included "removal of... oil spill area from the roundhouse*" and "*placement of a layer of clean fill and establishment of vegetation in currently exposed portions of the Roundhouse Area Hotspots*." **(Exhibit 11).** NES on behalf of APU, presented alternate risk calculations as comments to the 1992 ROD and in Section 2.4 of RAWP (**Exhibits 12a and 12b**). It should be noted that no specific hotspot was identified within or immediately surrounding the remnants of the roundhouse structure. The As-Built Closure Report confirms that Roundhouse Area soil, with significantly elevated concentrations, were identified, excavated, and landfilled within the onsite cover system per the NYSDEC approved remedial design. In addition, the 1992 ROD selected remedy identified and addressed all sensitive receptors (surface water, residential properties, etc.) within proximity of the Site.

In 2023, as requested by the NYSDEC, UMC, on behalf of APU and out of an abundance of caution, confirmed the presence of a soil cover within the restored Roundhouse Area and collected soil samples from test pits, from ground surface to three feet below ground surface or refusal, where possible, within the former roundhouse structure. It should be noted that a significant amounts of debris, that may influence the soil concentrations, were observed consisting of brick, concrete, roofing tiles, and other materials within all test pits with the exception of S-18 located outside the former roundhouse structure. The APU/UMC investigation identified only Arsenic (highest concentration 80.2 mg/kg), Benzo(a)anthracene (highest concentration 12 mg/kg), and Benzo(b)fluoranthene (highest concentration 13 mg/kg) slightly above NYSDEC industrial soil cleanup objectives (SCOs) of 16 mg/kg, 11 mg/kg, and 11 mg/kg, respectively (**Exhibit 13**). During the Phase II Remedial Investigation conducted by the NYSDEC a water sample was collected from within the roundhouse structure and detected no contaminants of concern above regulatory criteria supporting that the residual concentration of arsenic and PAHs are likely not leachable to groundwater and pose little to no threat to sensitive receptors (**Exhibit 14**). The parameters detected above industrial SCOs in 2023 are similar to those detected in historical soil sample results which were approved by NYSDEC to be left in place within the Roundhouse Area. The additional work requested by the NYSDEC in 2024 would include the sample soil and groundwater locations obtained to inform the 1992 ROD selected remedy and remedial design previously approved by the NYSDEC. Please note that the Site has not operated as a railyard since the 1960's and therefore, no new contaminants of concern are expected.

Therefore, APU/UMC agrees with the NYSDEC RI/FS, 1992 ROD, RAWP, and As-Built Closure Reports that the Roundhouse Area, including the former roundhouse structure, have been fully investigated, delineated, and remediated in accordance with the 1992 ROD selected remedy and remedial design. Any new or elevated concentrations of contaminants of concern are likely not as a result of APU's former operations that ceased in the 1960's. Additional investigation is not warranted as no significant difference in site conditions or operations exist to open the 1992 ROD.

RESPONSE 3.2: ROUNDHOUSE AREA COVER SYSTEM

NYSDEC Comment:
It (Roundhouse) did not receive a cover system, as documented in the 1992 Record of Decision.

APU/UMC Response:

The IES 1993 RAWP proposed a variance from the 1992 ROD with regard to the Roundhouse Area selected remedy. Specifically, the variance proposes a reduction in the roundhouse area cover system while excavating "hotspots" from within the Roundhouse Area and placing the hotspot material within the engineered cap area. The variance states that the remedial proposal for the roundhouse area "*involves a smaller area (approximately 5 acres) and placement of six inches of clean fill prior to re-vegetation. The reduction of area is due to the presence of the structures of the former roundhouse which remain onsite. These structures include large concrete foundations and walls; several large holes and openings to underground portions of the former roundhouse are present. Due to these structures and openings, this area is not amenable to covering with a layer of clean soil i.e., the openings would need to be filled and the concrete removed in order to provide a base to cover with soil.*" (**Exhibit 4**) The variance eliminated the cover system from above or within the roundhouse structure itself and reduced the soil cover in the balance of the roundhouse area to a six-inch thickness since the hotspot areas within the Roundhouse Area were excavated and landfilled within the engineered cap. The NYSDEC approved the Remedial Action Work Plan, including the Roundhouse Area variance on March 8, 1993 (**Exhibit 5**), and the As-Built Closure Report dated March 13, 1998 (**Exhibit 8**).

APU/UMC agrees with the Remedial Action Work Plan, As-Built Closure Report, and subsequent NYSDEC approvals which reduced the Roundhouse Area due to the unstable conditions within the remnants of the former roundhouse structure and spokes. The conditions of the former roundhouse structure have not changed since the RAWP and As-Built Closure Report and therefore, do not support the opening of the 1992 ROD for additional investigation and remediation.

RESPONSE 3.3: POTENTIAL CONTAMINATION AT THE FORMER ROUNDHOUSE

NYSDEC Comment:
In order to determine if potential contamination was present at the Former Roundhouse, the Department (NYSDEC) requested preliminary test pitting between the concrete spokes. This investigation revealed soil contamination above soil cleanup objectives, which led to the Department's request for additional investigation in the Former Roundhouse.

UMC's Response:
The NYSDEC RI/FS, Record of Decision, and Remedial Action Work Plan confirm that the former roundhouse was investigated, remediated, and the NYSDEC approved cover system for the Roundhouse Area was implemented and routinely inspected per the NYSDEC approved Remedial Design and O&M Plan. APU/UMC complied with the initial request from the NYSDEC to inspect and collect surface soil samples from within the roundhouse spokes out of an abundance of caution. The results of the 2023 UMC investigation conclude that the contaminants of concern, concentrations of the contaminants, locations of the contamination are consistent with the historical data used to inform the 1992 ROD, RAWP, and remedial design. The additional investigation requested by the NYSDEC in 2024 directs APU/UMC to advance soil borings and monitoring wells in the same locations already investigated to inform the 1992 ROD and subsequent design which included the abandonment of monitoring wells located adjacent to the former roundhouse structure. Further, it should be noted that any new or elevated concentrations of contaminants of concern are likely not as a result of APU's former operations that ceased in the 1960's.

Response 3.4: NYSDEC Request for Additional Investigation and Remedial Evaluation

NYSDEC's Comment:
In order to appropriately characterize the horizontal and vertical extents of contamination at the Former Roundhouse, the Department requests that the draft Former Roundhouse Area Additional Investigation Event Work Plan (dated July 2024) be updated per the Department's August 15, 2024 comments. Completion of these additional investigative activities will assist in the Department's determination on whether engineering and/or institutional controls are warranted in this area.

APU/UMC Response:
The NYSDEC directives for additional investigation within an Area of Concern that is currently addressed within the 1992 NYSDEC ROD is not warranted unless there is a legal basis for amending the record of decision. APU/UMC have not identified any significant difference that would support the opening of the 1992 ROD, revisions to the 1993 Remedial Action Work Plan, revisions to the 1998 As Built Remedial Design Report, or O & M Plan.

Section 4: Conclusions

APU representatives are upholding their commitment to the 1994 Order on Consent to implement the NYSDEC 1992 ROD, 1993 RAWP, 1998 As-Built Closure Report for the remedial design, and operation and maintenance activities related to the Site selected remedy. UMC, on behalf of APU, has not identified any legal or technical basis for additional investigation or remediation of the former roundhouse structure. However, UMC does recommend the installation of a fence with signage around the former roundhouse structure to prevent any potential trespassers from entering the unstable area and having direct contact with the residual soil and debris within the former roundhouse structure.

If you have any questions regarding this report, please call me at 203-205-9000, ext. 11.

Sincerely,

Unicorn Management Consultants, LLC

Francisco Trejo
President

Attachments

cc:
Andrea Caprio, P.E., Regional Remediation Engineer, NYSDEC Region 9
Greg Scholand, Esq., Assistant Regional Attorney, NYSDEC Region 9
Margaret Anne Hill,Esq., Blank Rome, LLP
Michael O'Connor, Unicorn Management Consultants, LLC

Michael Ghioureliotis, Unicorn Management Consultants, LLC
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Amy Leonard, Unicorn Management Consultants, LLC

EXHIBIT 1

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

PHASE III FEASIBILITY STUDY REPORT

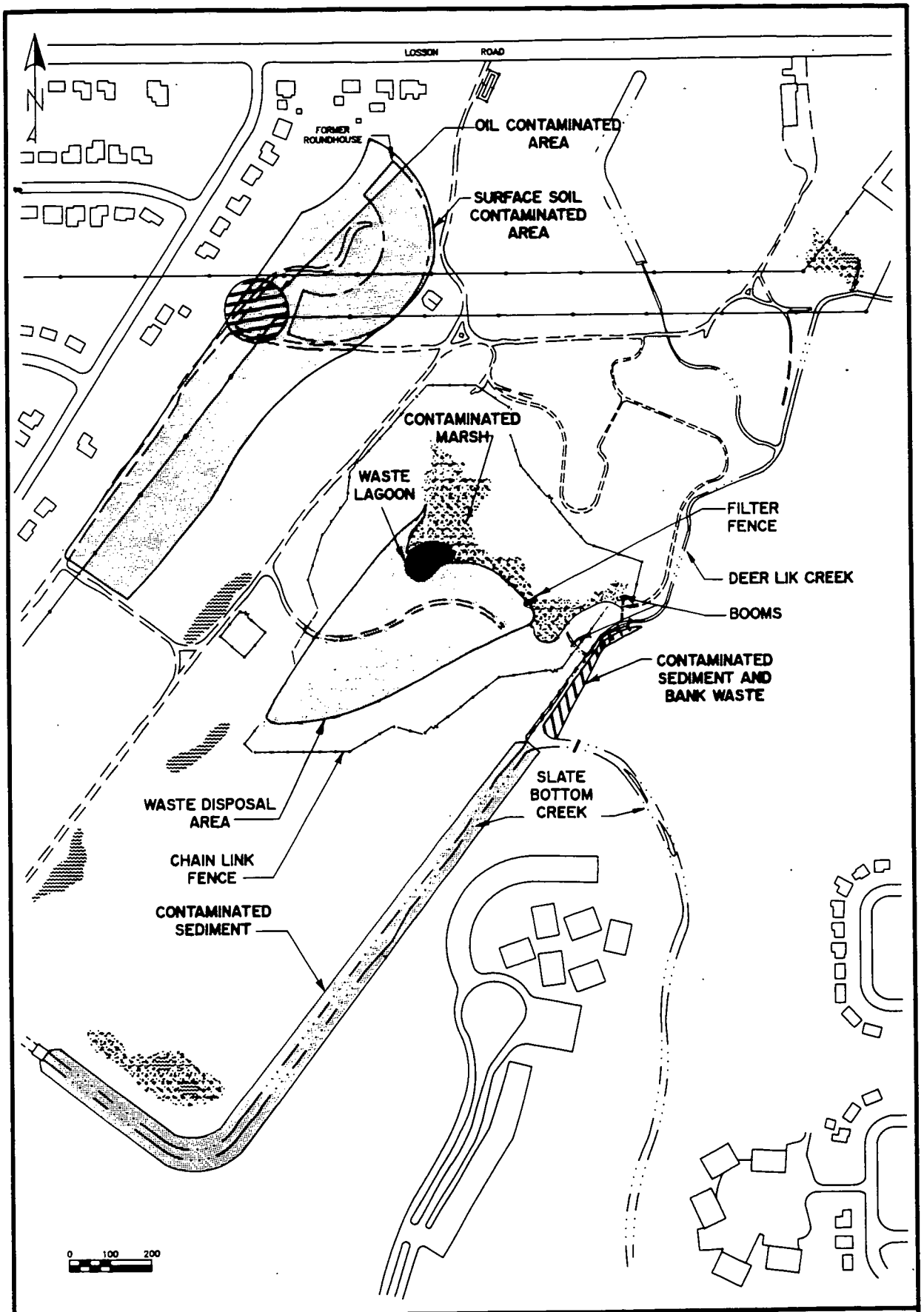
Union Road Site
Town of Cheektowaga
Erie County, New York
(Site Registry No. 9-15-128)
Volume I

Dvirka and Bartilucci

Consulting Engineers

IN ASSOCIATION WITH:
SCS ENGINEERS

AUGUST 1991

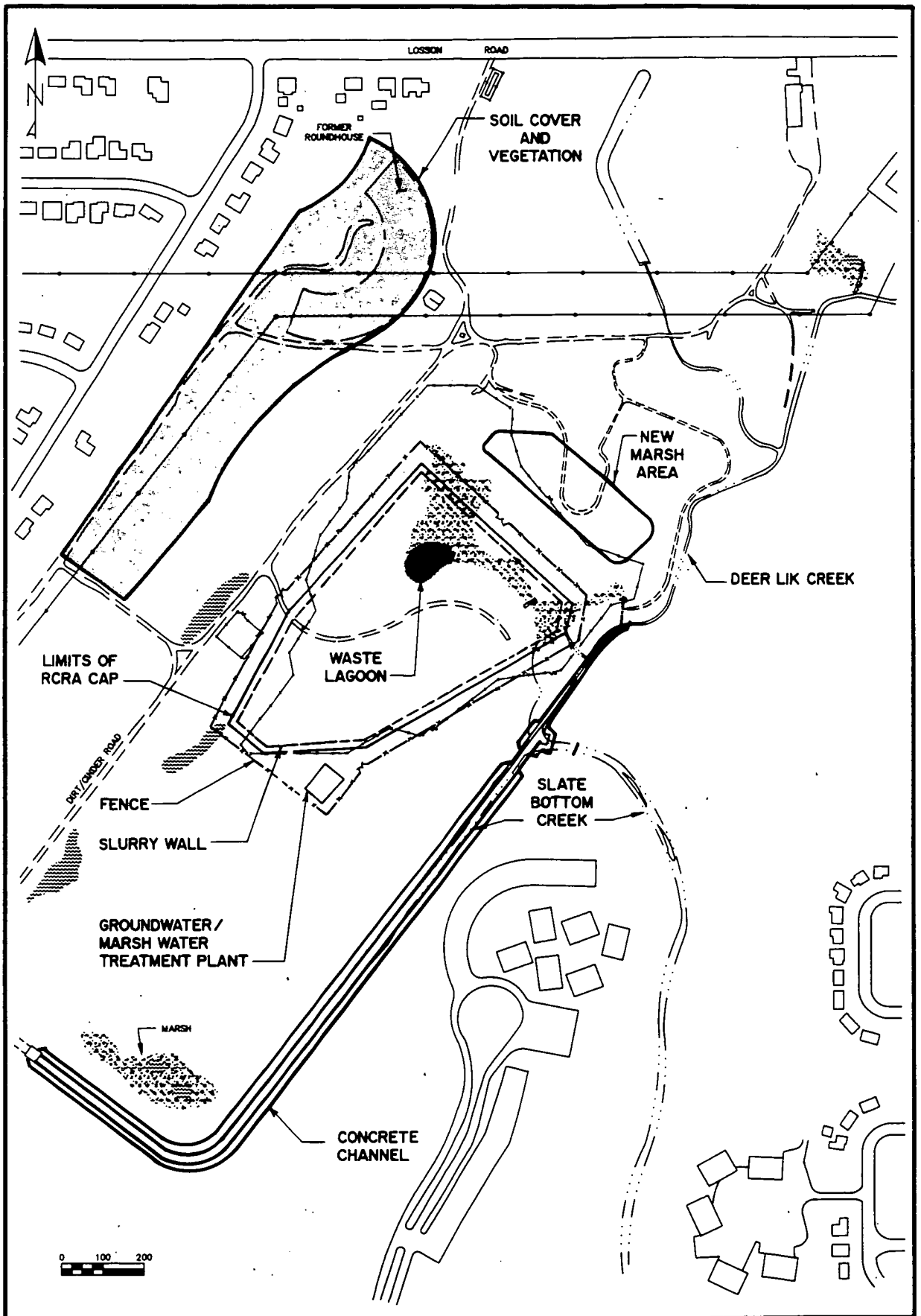


UNION ROAD SITE

CONTAMINATED AREAS

Dvirka and Bartilucci CONSULTING ENGINEERS

FIGURE 5.1



UNION ROAD SITE

Dvirka and Bartilucci CONSULTING ENGINEERS

PREFERRED REMEDIAL ALTERNATIVE

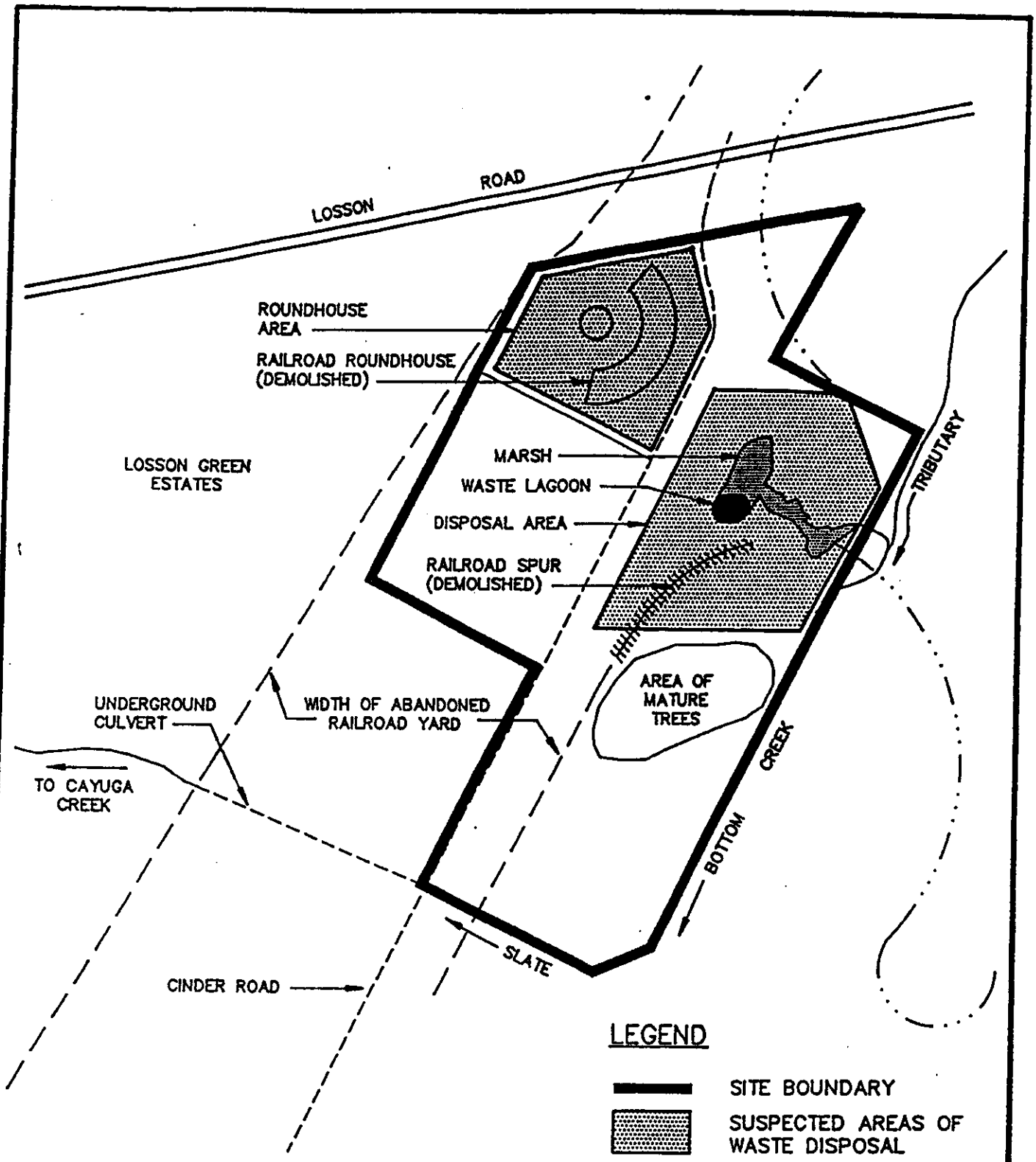
FIGURE 5.2

EXHIBIT 2

L915128

UNION ROAD SITE
Erie County, New York
Site No. 9-15-128

RECORD OF DECISION
March 1992



Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE

DEFINITION OF SITE / STUDY AREA BOUNDARY

FIGURE 1-2

EXHIBIT 13

UNION ROAD SITE
ERIE COUNTY, NEW YORK
SITE No. 9-15-128

RECORD OF DECISION

MARCH 1992

PREPARED BY
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

- Lining of the Deer Lik and Slate Bottom Creeks.
- Provide clean soil cover over the contaminated surface soil in roundhouse area.
- Limited action alternatives which will include the deed restrictions and monitoring.

DECLARATION:

The selected RAP is protective of human health and the environment. The remedy selected will meet the substantive requirements of the Federal and State laws, regulations and standards that are applicable or relevant and appropriate to the remedial action. The remedy will satisfy the statutory preference for remedies that employ treatment that reduce toxicity, mobility or volume as a principal element. This statutory preference will be met by eliminating the mobility of contaminants with a direct pathway of migration to the Creek; and by treating contaminated groundwater to reduce the toxicity. The long term health risk associated with contact with the surface soils will be eliminated by the installation of the soil cap.

Because the remedy will result in hazardous substances remaining on the site above health based levels, the five year review will apply to this remedial action.

3-9-92
Date

Edward O. Sullivan

of the waste from the maintenance facility/classification yard to the disposal area and the tar pit.

On January 20, 1960, the Witben Realty Corporation, a Florida based land development corporation and present owner, took title to approximately 71 acres of land which includes the tar pit, disposal area and the roundhouse area of the Union Road Site.

2.2 Area of Concern:

The portions of the site which are of concern are:

a. The tar pit/lagoon approximately 1/4 acre in area and potentially four to five feet deep containing tar like waste.

b. Waste disposal area south of the tar pit. The 1938 aerial photograph indicates land disposal activity in the area.

c. Roundhouse area. Remains of the underground structures exist at the site.

d. Slate Bottom Creek, the presence of orange colored drainage ways in the marsh area, oil sheen present in the tar pit discharge, and presence of tar like materials in the banks of Slate Bottom Creek are indications that contamination is moving off-site.

2.3 Previous Investigations:

a. During December 1982 the Erie County Department of Environment and Planning (DEP) responded to a complaint and did preliminary investigations of the site. Infrared analysis of the tar like samples indicated characteristics of asphalt and lube oil. In April 1983, DEP resampled the site.

b. During July 1983-May 1984, RECRA Research, Inc. (RECRA) a consultant for Universal Marion/Witben Realty (current owner of the site), performed a technical evaluation of the site.

c. In May 1986, Town of Cheektowaga constructed a snow fence around the site's perimeter and posted signs.

d. In May 1986, a Phase I Investigation was completed by RECRA for the New York State Department of Environmental Conservation (NYSDEC).

e. In December 1986, the site was referred to the United States Environmental Protection Agency (USEPA) for interim removal measures. During 1988 USEPA installed a hi-vis fence around the site, posted hazardous waste signs, and installed a filter fence to prevent/minimize migration of oil/waste to the Slate Bottom Creek.

3.2.4.2 Subsurface Soil/Fill Material/Buried Waste: Significant amounts of waste material and highly contaminated soil are buried about 15 feet below ground surface within the disposal area immediately southwest of the tar pit. The buried waste material is the same as that in the tar pit and resulted from waste disposal activities at the former railroad facility. The volume of this material is estimated to be 25,000 cubic yards.

In addition to the buried waste material underlying the disposal area, the fill material overlying the buried waste, exhibit elevated concentrations of PAHs, petroleum hydrocarbons and lead, as well as chromium, copper and nickel. The depth of the fill overlying the buried waste is approximately 15 feet, which results in a volume of 80,000 cubic yards, including the surficial soils.

Subsurface soil in an area immediately southwest of the former roundhouse was found to be contaminated with fuel oil. Soil samples from this area exhibit levels of semi-volatile organic compounds, petroleum hydrocarbons and lead, as well as arsenic and copper. The aerial extent of the fuel oil contaminated material is about 10,000 to 12,000 square feet and the depth approximately 1 to 5 feet below grade, which results in an estimated volume of 1,800 cubic yards.

Section AA' and EE' (Figure 3-15, 3-19 and 3-11 in Appendix) delineate the waste and fill in the disposal area. Although this buried waste material and fill does not constitute a direct threat to human or ecological health, through direct contact, ingestion or inhalation, it does cause contamination of groundwater and most likely impacts the surface waters and sediments surrounding the site through discharge of contaminated groundwater into surface water body.

3.2.4.3 Surficial Soil: Surficial soil in the disposal area is for the most part stained with oil and generally contains elevated concentrations of PAHs, base neutral compounds, petroleum hydrocarbons and metals, including antimony arsenic, cadmium, copper, zinc and in particular lead, which are well in excess of background concentrations. Asbestos (between 2-10% chrysotile) was found in a few surficial soil samples in the disposal area and roundhouse area in excess of that considered to be a concern by USEPA. EP Toxicity limits were exceeded for lead in two of four samples analyzed. The surface area of contaminated soil in the disposal area is approximately 145,000 square feet. Samples of surficial soil obtained in the roundhouse area and south of the former roundhouse also exhibit contamination; however, except for PAHs, the degree of contamination is substantially less than that found in the disposal area. For the most part, surficial material encountered in the roundhouse area (and to the south) is largely comprised of cinder-like material, whereas the disposal area is overburden. The arsenic exceeded the risk-based cleanup concentration.

3.2.4.4 Groundwater: Groundwater in the bedrock aquifer is contaminated by benzene, ethyl-benzene, toluene and xylene. However, the source of this contamination is either a natural occurence (which is most likely) or off-site.

The till aquifer immediately overlying bedrock and underlying the buried waste and fill material in the disposal area, also exhibits contamination by antimony chromium and lead, in excess of NYS Groundwater Standards.

The perched aquifer in the fill and buried waste in the disposal area, is discolored, and has an oil sheen and fuel odor, and shows high levels of copper, chromium, lead, antimony and arsenic above NYS Groundwater Standards. The semi-volatile organic compounds, including PAHs and petroleum hydrocarbons are also at elevated levels. The perched aquifer in the roundhouse area indicates antimony in excess of NYS Groundwater Guidance Values and base neutral compounds at elevated levels. It is apparent that perched (and till) groundwater contamination is caused by waste disposal operations at the former railroad facility. The volume of contaminated groundwater underlying the disposal area in the perched/fill aquifer is estimated to be approximately 1.8 million gallons. The Figure 2-8 indicates the locations of the monitoring wells.

3.2.4.5 Surface Water: Except for iron, which appears to be indigenous to the area of the Union Road site, analytical results of samples obtained form Slate Bottom and Deer Lik Creeks did not contravene NYS Surface Water Standards and Guidelines for either Class C or D water bodies, and undisturbed samples obtained from the marsh contiguous to the tar pit, also did not exceed Surface Water Standards and Guidelines.

3.2.4.6 Surface Water Sediment: Surficial sediment in Slate Bottom and Deer Lik Creeks, both upstream and contiguous to the site, generally exhibits elevated levels of petroleum hydrocarbons and base neutral compounds however, the highest concentrations of these contaminants, as well as lead, are located downstream of the site.

Sediment in the march adjacent to the tar pit (being closer to the waste source) shows substantially higher contaminant levels as compared to the sediment in the creeks. Concentrations of base neutral compounds, and petroleum hydrocarbons and lead in particular, are very high. Other metals found in the surficial marsh sediment include antimony, arsenic, copper and zinc. Lead and antimony were found in exceed risk-based cleanup concentrations for the site.

The aerial extent of the contaminated portion of the marsh comprises a surface area of approximately 40,000 square feet. Based on an average depth of contaminated sediment of about 5 feet, the estimated volume of contaminated marsh is 8,000 cubic yards.

In an effort to simplify both the detailed analysis of alternatives and the implementation of the selected alternative, the operable units at the site were reduced by combining like units to the following three units:

- o The tar pit (tar-like waste in tar pit).
- o Contaminated soil, sediment and buried waste (waste material in disposal area, marsh, creeks and roundhouse area).
- o Shallow groundwater (including surface water from marsh area).

Remedial alternatives for the contaminated banks and bed of Slate Bottom and Deer Lik Creeks and for contaminated surficial soil in roundhouse area were also developed and evaluated. The following alternatives which passed the initial screening with respect to effectiveness, implementability and cost were analyzed in detail.

Remedial alternatives for the tar pit:

Alternative A1 - No action.
Alternative A2 - Isolation with subsurface barrier and cap (tar pit, buried waste disposal area, marsh area).
Alternative A3 - Isolation by capping (buried waste, tar pit and marsh area).
Alternative A4 - Excavation and transportation to an offsite RCRA landfill.
Alternative A5 - Excavation, on-site stabilization/solidification, and on-site disposal.
Alternative A6 - Excavation and on-site incineration with on-site or offsite ash disposal.
Alternative A7 - Excavation and transportation to an offsite incinerator.

Remedial alternatives for the contaminated soil, sediment and buried waste:

Alternative B1 - No action.
Alternative B2 - Isolation with subsurface barrier and cap (see Alternative A1 above).
Alternative B3 - Isolation by capping (buried waste disposal area, tar pit, and marsh area).
Alternative B4 - Excavation and transportation to an offsite RCRA landfill.
Alternative B5 - Excavation, on-site stabilization/solidification and on-site disposal.
Alternative B6 - Excavation and on-site incineration with on-site or offsite ash disposal.
Alternative B7 - Excavation and transportation to an offsite incinerator.
Alternative B8 - Excavation and bioremediation.
Alternative B9 - Soil washing/soil flushing.
Alternative B10 - On-site vitrification.

Remedial alternatives for remediation of the shallow groundwater:

Alternative C1 - Pump and treat using carbon adsorption (organics removal).

exposed oily waste and contaminated sediment being removed and treated. The waste would be treated offsite using stabilization/ solidification or offsite incineration as discussed above. The present worth of the capital and O&M cost of the alternative is estimated to be $2.6 million.

6.5.2 Alternative D2: Placement of Concrete Culvert in Slate Bottom Creek and Deer Lik Creek

This alternative consists of the construction of a concrete culvert in Slate Bottom Creek from its confluence with Deer Lik Creek to the 16 foot diameter closed culvert south of the site. The culvert would be approximately 1,850 feet in length. It would prevent migration of contaminants from the bed and banks of the creek downstream. Three culvert options are considered:

- o 16 foot diameter closed culvert.
- o Open culvert (channel) extending up the entire height of the banks.
- o Open culvert (channel) extending 15 feet up the banks.

Construction of a concrete channel along the portions of Slate Bottom and Deer Lik Creeks is expected to have a negative impact on plant and animal life along these stretches by reducing wildlife habitat. However, the channel will eliminate the potential for direct contact with waste materials which remain in the Creek banks. It will also eliminate migration or leaching of such wastes into surface waters. Lastly, the channel will negate the need to provide continued, long-term maintenance of the Creek banks and to remove waste material and sediments which would result from bank erosion.

Lining of the Creeks by rip rap or concrete revetment will be less costly and readily acceptable for wildlife habitat. Therefore, although not evaluated in the FS Report, the use of rip rap/concrete revetment for lining the Creeks will be considered during the design phase. If it can be shown that rip rap can provide long term effectiveness and permanence and can protect the human health and environment, then rip rap would be considered.

Cost: The present worth of the total capital cost and O & M cost are $3.5 million for 15 feet open culvert, $4.7 million for full height open culvert and $8.7 million for 16 foot diameter closed culvert.

6.6 Remedial Alternatives - Surficial Soil in Roundhouse Area:

6.6.1 Alternative E1: Soil Cover for Surficial Soil in Roundhouse Area

Although not evaluated in detail in the FS, remedial action for surface soil in the vicinity of the former roundhouse is considered part of the preferred alternative for the Union Road Site. The risk assessment determined that elevated levels of

arsenic found in the surface soils in this area could result in potentially unacceptable health risks (2.9×10^{-6}) due to inhalation exposure for children playing in or near this area. The potential for risk due to inhalation will be minimized with the placement of clean cover soil over the arsenic contaminated areas where cover and vegetation do not currently exist. Vegetation will be placed over the cover to minimize erosion and long-term O&M requirements. This area will be protected by land use restrictions in the deed, and access restrictions will be considered during the design phase. By covering the exposed area, the pathway of concern will be eliminated. Approximately 7.5 acres of land will be covered at the estimated cost of $300,000.

6.7 **Evaluation of Alternatives:**

The preferred alternative for this site is Alternative A2, Isolation of Waste with subsurface barrier (slurry wall) and cap. In addition, contaminated groundwater from the disposal area, and surface water from the marsh area will be removed, treated and disposed of. The waste from the Creek banks and bed will be removed and consolidated with the tar pit waste before capping. The banks and bed of the Creeks will be lined with concrete or rip rap. Clean soil cover will be provided in the roundhouse area.

Based on available information, this alternative appears to provide the best balance of trade-offs among the alternatives with respect to the evaluation criteria described below. This section evaluates the expected performance of the preferred alternative against the criteria and compares it to the other available options when there are significant differences.

The criteria used to compare the potential remedial alternatives are defined in the National Contingency Plan (40 CRF 300.430). For each of the criteria, a brief description is given followed by an evaluation of the preferred and optional alternatives against that criterion.

Threshold Criteria - The first two criteria must be satisfied in order for an alternative to be eligible for selection.

1. **Protection of Human Health and the Environment** - This criterion is an overall and final evaluation of the health and environmental impacts to assess whether each alternative is protective. This evaluation is based upon a composite of factors assessed under other criteria, especially short/long-term impacts and effectiveness and compliance with ARARs (see below).

   The proposed remedy will control risks to human health and the environment by reducing the release of contaminants to the groundwater, surface water, and air pathways. The combination of an impermeable cover along with the slurry wall will reduce the amount of water infiltrating the site which subsequently produces contaminated groundwater. No unacceptable short-term risks or cross-media impacts will be caused by implementation of the remedy. This remedial action will prevent human and ecological contact with hazardous materials. The dermal contact pathway will be eliminated.

Section 7: SUMMARY OF GOVERNMENT'S DECISION

7.1 Introduction:

Based on the evaluation of alternatives this remedial action provides the best balance of trade-offs among the alternatives. Although some treatment techologies is technically possible, it would require multiple technologies and involves much uncertainty. The high cost of most of these remedies is not justified. The long remediation period required for some of the treatment technologies makes them unacceptable for this site. Technologies such as on-site incineration may not be acceptable to the local public.

The recommended remedial action for the Union Road site is the containment option which includes:

a. Isolation of waste with a subsurface barrier and cap as described briefly in Section 6.2.2 and 6.3.2 above;

b. Lining of the contaminated Creek banks and bed, as described in Section 6.5.2 above with concrete or rip rap;

c. Extraction, treatment and disposal of contaminated shallow groundwater as described in Section 6.4 above; and

d. Covering of the select areas of the roundhouse with clean soil fill and vegetation as described in Section 6.6.1 above.

7.2 Description of the Preferred Alternative:

The preferred alternative basically comprises the excavation of select areas of the site containing contaminated soil and sediment; placement, consolidation and containment of this excavated material on-site; removal of contaminated groundwater and on-site treatment and disposal; installation of a subsurface barrier/slurry wall around the waste disposal area; placement of clean soil cover and vegetation over areas with contaminated surficial soil; and lining of contaminated creek banks and bed. This remedial action plan is designed to prevent human and ecological contact with hazardous materials and contaminant releases from the site, as well as to minimize adverse impacts to the environment as a result of remediation of the site by the restoration/relocation of a marsh which is currently contaminated and will be removed as part of the preferred remedial alternative.

The preferred alternative will prevent erosion of the contaminated on-site soil/waste by surface run-off and limit migration of contaminants to the groundwater by minimizing the infiltration.

The recommended groundwater and marsh water treatment system consists of an oil/water separator for nonaqueous liquids/oil removal, an iron-based coprecipitation system for primary metals removal, a sorption filtration system for secondary metals removal (if required) and a carbon adsorption system for organics removal. A process schematic for the recommended treatment system is shown in Figure 1 (Appendix). The contaminated water could be disposed off to BSA without pre-treatment, if permitted.

The major components of the preferred alternative for the Union Road site are as follows:

- o Dewatering and on-site treatment of the existing marsh area water prior to disposal to the creek.
- o Excavation of contaminated sediment from the marsh and creek banks and contaminated subsurface soil in the area of the former roundhouse, and placement and consolidation of the material within the buried waste disposal area.
- o Backfill of the tar pit, marsh area, roundhouse area and waste disposal area with fill from the on-site borrow area.
- o Installation of a subsurface barrier/slurry wall around the waste disposal area.
- o Capping of the area within the limits of the slurry wall.
- o Installation of access road, fence and screening vegetation around the capped area.
- o Restoration/relocation of the marsh.
- o Installation of monitoring wells around the slurry wall.
- o Installation of a concrete or rip rap liner in the creek channels.
- o Covering of select areas of contaminated surface soils in the roundhouse area with clean soil and vegetation.
- o Extraction of shallow/perched contaminated groundwater within the slurry wall.
- o On-site treatment of the contaminated groundwater and disposal to the creek.

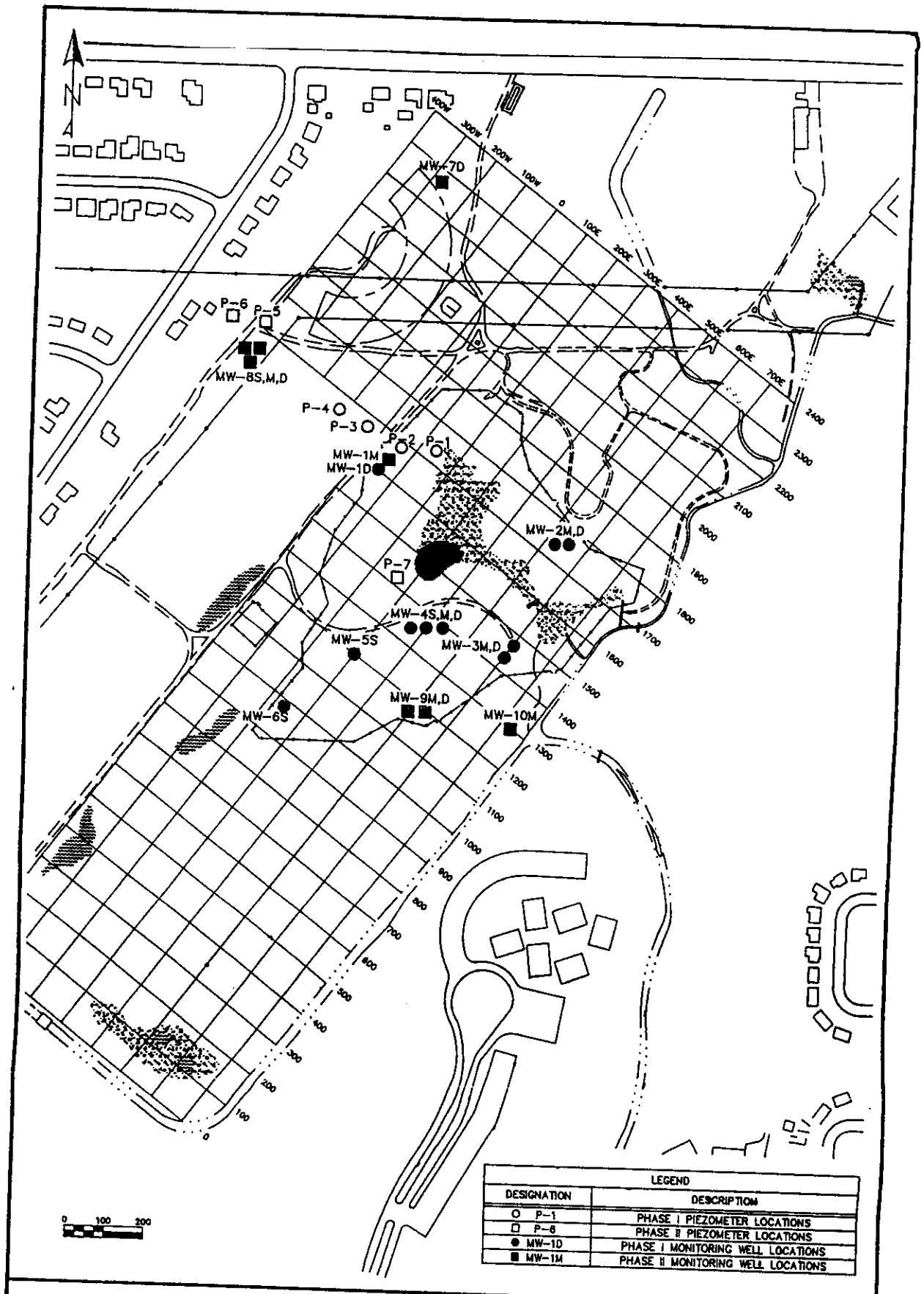
The conceptual design of the preferred alternative is shown in Drawings 1 and 2, and Figures 3 through 5 (Appendix). Treatability study of compactibility testing if required, will be done during the design phase.

7.3 Permanent vs. Non-Permanent Options:

The two major components of the preferred alternative are isolation of the waste and treatment of the contaminated groundwater. The treatment of the contaminated groundwater is considered as a permanent remedy. However, isolating the waste by containment system is not considered as a permanent remedy. The reasons for not selecting a permanent remedy for waste are described briefly in Section 7.1 above, which includes uncertainty in technologies, high costs, long remediation period and public acceptability.

7.4 Monitoring:

As a part of the long term monitoring program at this site, water level measurements as well as analyses of groundwater samples will be used to determine if the the remedial action is achieving its intended goals. The

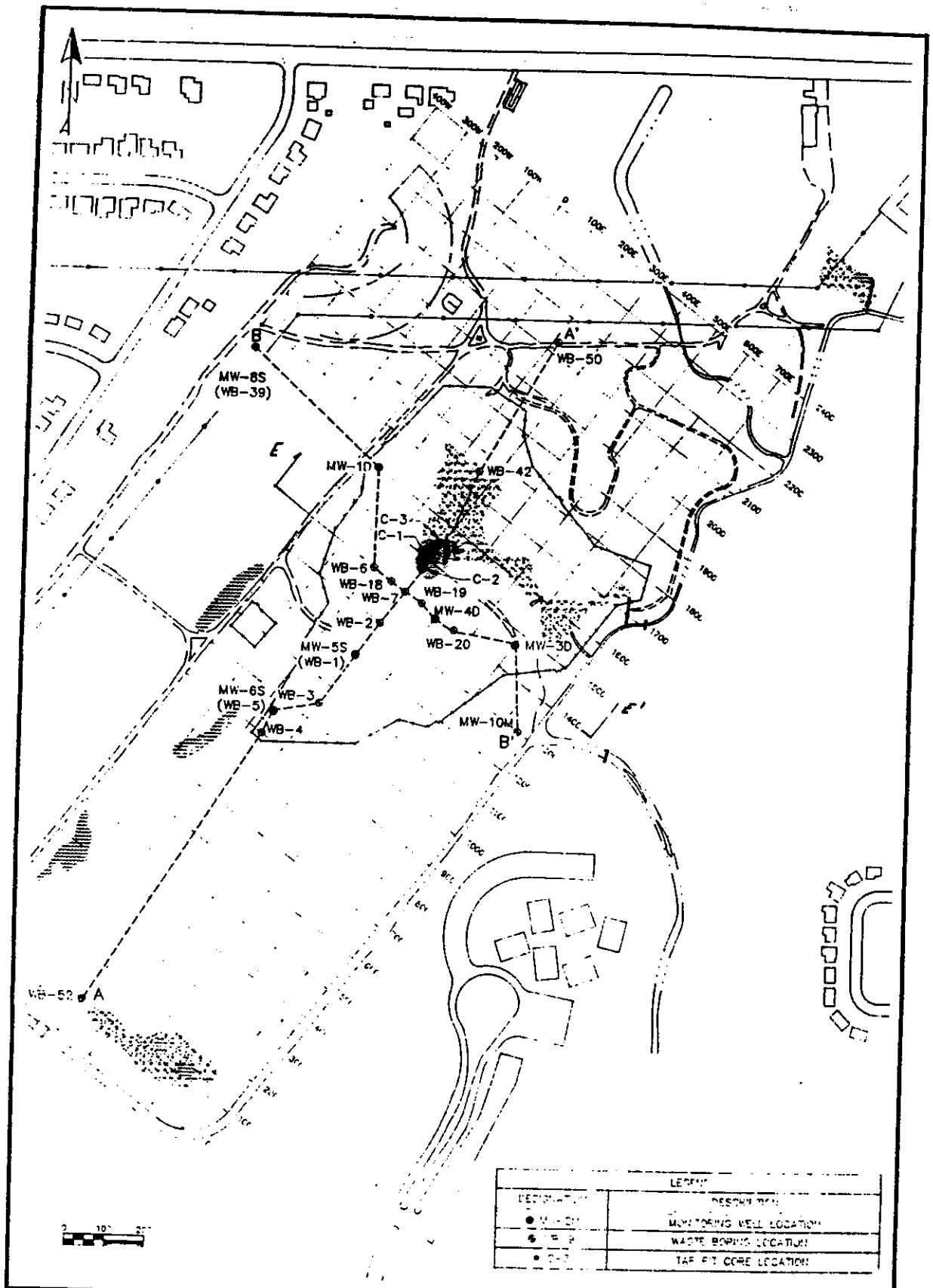


Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE

LOCATIONS OF MONITORING WELLS AND PIEZOMETERS

FIGURE NO. 2-8

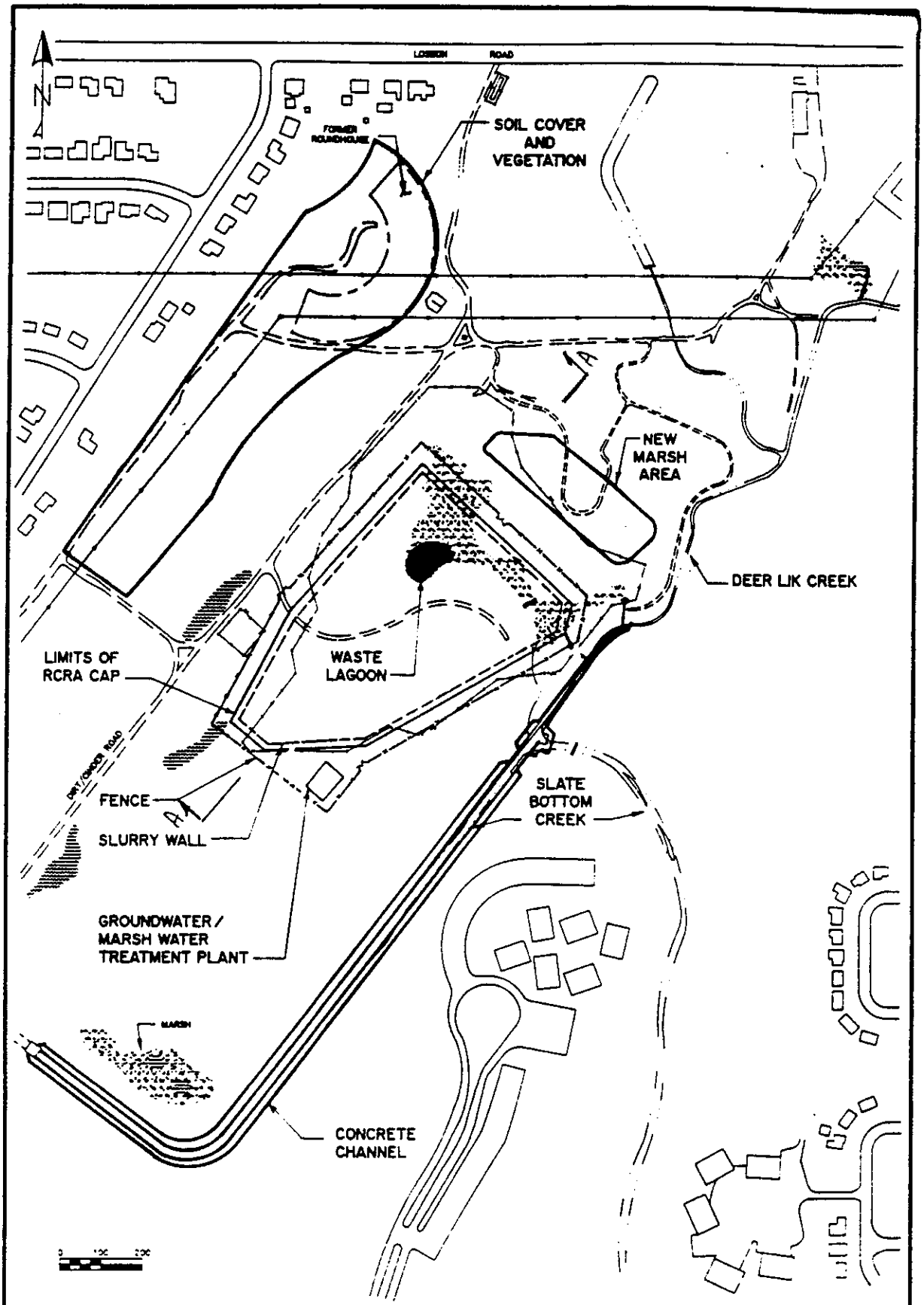


Dvirka and Bartilucci

UNION ROAD SITE

LOCATIONS OF GEOLOGIC & WASTE CROSS SECTIONS

FIGURE NO. 3-11

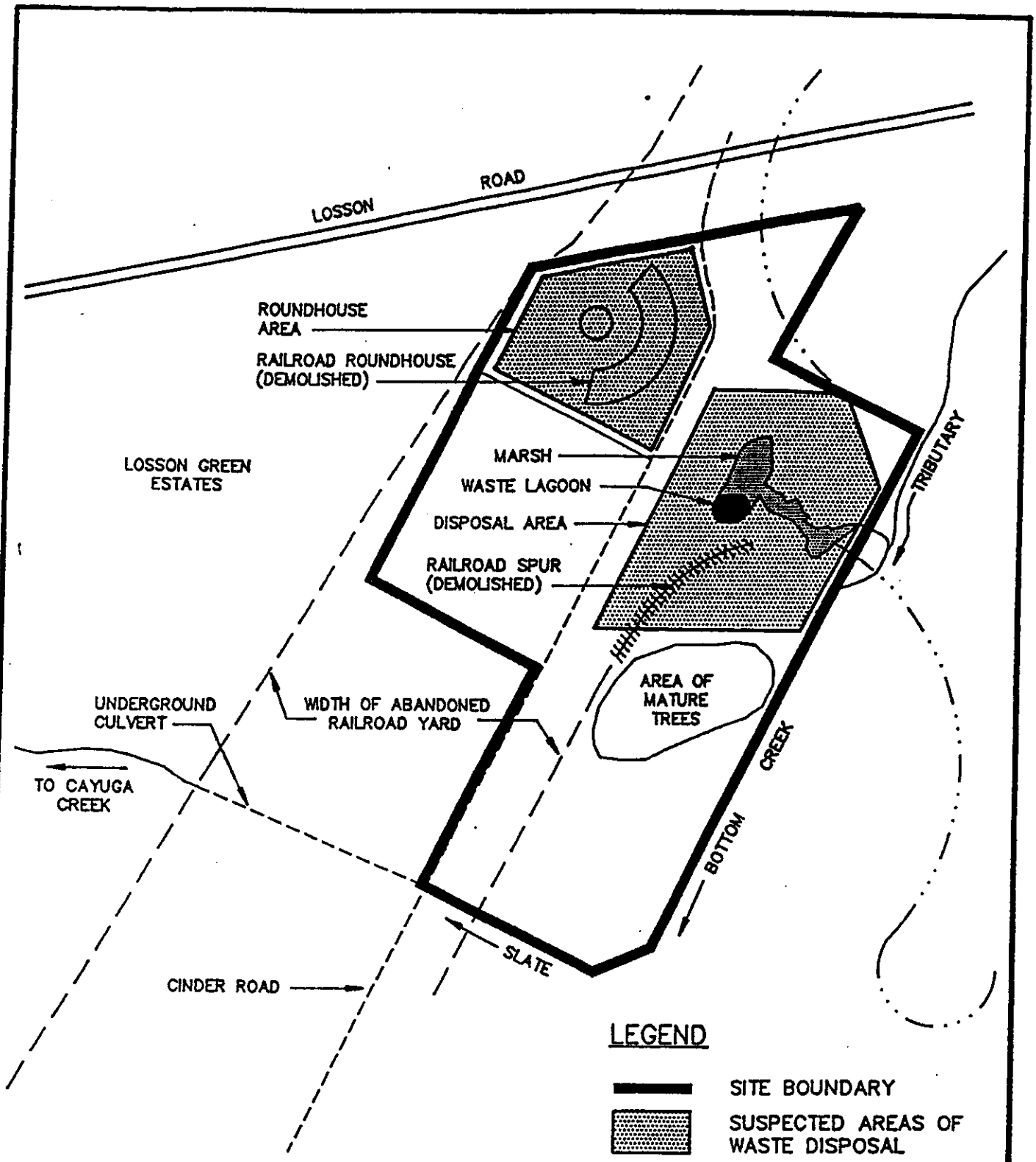


UNION ROAD SITE

Dvirka and Bartilucci CONSULTING ENGINEERS

PREFERRED REMEDIAL ALTERNATIVE

DRAWING - 1



Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE

DEFINITION OF SITE / STUDY AREA BOUNDARY

FIGURE 1-2

TABLE 4-96

UNION ROAD SITE/TOWN OF CHEEKTOWAGA, NEW YORK
PHASE I/II REMEDIAL INVESTIGATION
CONTAMINANT DETECTION FREQUENCY FOR GROUNDWATER

CONTAMINANT	Number of detections/ number of samples collected	Concentration Min - Max	Location of Maximum (Sample ID)
VOLATILE ORGANICS (ug/l)			
Acetone	4/27	11 - 41	MW-1D
Benzene	11/27	7 - 350	MW-1D (53-63)
Ethylbenzene	3/27	10 - 39	MW-1D (53-63)
Toluene	2/27	15 - 42	MW-4D
Xylenes	5/27	5 - 54	MW-1D (53-63)
SEMIVOLATILE ORGANICS (ug/l)			
Benzo(a)anthracene	2/27	10 - 19	MW-6S
Benzo(b)fluoranthene	1/27	16 - 16	MW-6S
Benzo(ghi)perylene	1/27	12 - 12	MW-6S
Benzo(a)pyrene	1/27	16 - 16	MW-6S
Chrysene	2/27	10 - 19	MW-6S
Di-n-butylphthalate	1/27	29 - 29	MW-1D (53-63)
Bis(2-ethylhexyl)phthalate	12/27	10 - 60	MW-5S
Fluoranthene	2/27	21 - 45	MW-6S
Indeno(1,2,3-cd)pyrene	1/27	12 - 12	MW-6S
Di-n-octyl phthalate	1/27	59 - 59	MW-5S
Phenanthrene	2/27	15 - 44	MW-6S
Pyrene	2/27	20 - 48	MW-6S
PESTICIDE/PCBs (ug/l)	0/27		
METALS (ug/l)			
Aluminum	22/27	206 - 35600	MW-3M
Antimony	14/27	13.6 - 408	MW-4S
Arsenic	3/27	27.1 - 35.5	MW-4S
Barium	10/27	201 - 704	MW-4S
Beryllium	1/27	0.48 - 0.48	MW-4S
Cadmium	1/27	8.4 - 8.4	MW-6S
Calcium	27/27	22800 - 1030000	MW-3M
Chromium	12/27	10.2 - 350	MW-4S
Copper	6/27	62.2 - 898	MW-6S
Iron	26/27	173 - 140000	MW-6S
Lead	13/27	7.2 - 10100	MW-4S
Magnesium	26/27	17900 - 287000	MW-3M
Manganese	20/27	19.2 - 4660	MW-3M
Mercury	2/27	0.22 - 0.72	MW-6S
Nickel	5/27	51.3 - 91.8	MW-3D (46.5-59)
Potassium	13/27	5070 - 35800	MW-3D (46.5-59)
Sodium	27/27	5310 - 3470000	MW-3D (46.5-59)
Vanadium	1/27	95.6 - 95.6	MW-3M
Zinc	13/27	22.3 - 1270	MW-1D (45.5-53)

site. In addition, the surface water in the marsh area is found to be contaminated by the disposal activities. Therefore, the contaminated groundwater from the site (estimated to be 1.8 mg to 5.4 mg) will be extracted and contaminated surface water (app. 0.6 mg) will be collected. These contaminated waters will require treatment before discharge. If the water is discharged to the sewer system, it will be treated to meet Buffalo Sewer Authority (BSA) effluent criteria. If the treated water is discharged to the Creek, the treatment will have to meet the effluent limitations and monitoring requirements provided by the NYSDEC Division of Water under surface water SPDES program. The effluent limitations are developed based on the technology assessment (which can be achieved based on the available technology) and which are protective of the quality of the receiving water. Therefore, the treatment will be done to meet the effluent limitations as the case may be. The groundwater Class GA standards will be used for end-point sampling of the groundwater to ensure that groundwater at the site has been restored to at least Class "GA" standards.

Remediation of Soils in the Roundhouse Area

Comment 1: Selection of these soils for remediation was based on an improbable and therefore inappropriate risk calculation for arsenic (see Table 8-2 in Appendix to PRAP). This calculation was based on an exposure scenario that a child would be on-site in the roundhouse area 2.6 hr/day, 365 days/year for 12 years. Exposure to arsenic was calculated via ingestion of dust. The calculated risk level was 2.10×10^{-6}; this value is slightly greater than the NYSDEC target risk goal of 1.0×10^{-6}. Considering the very unreasonable exposure scenario evaluated and the very slight exceedence of the target risk goal, it is unreasonable to require remediation in this area.

Furthermore, arsenic is a natural component of the human diet and studies have indicated that the human body can detoxify low levels of arsenic. The US Agency for Toxic Substances and Disease Registry (ATSDR, 1987) has estimated average daily human intakes to be 20-70 ug/day, most of which comes from food. According to Moseby's Medical and Nursing Dictionary (1986), the average daily intake of arsenic is 900 ug/day.

The USEPA's Science Advisory Board (1989) concluded that arsenic risk assessments should account for the ability of the human body to detoxify low levels of arsenic. These studies indicates that daily doses of 250-1,000 ug/day are largely metabolized into non-toxic substances.

The risk calculations for this site included in the HRA determined a daily intake of approximately 0.0011 ug/day arsenic (2.59 E-08 mg/kg/day from Table 5-24 x 41.2 kg average body weight for child). Based on this very low intake and the unreasonable exposure scenario described above, it appears that

the calculated risk value for arsenic is overly conservative and not represenative of the actual toxicity of arsenic. Therefore, because the calculated target risk level only very slightly exceeded the target risk level, remediation of the roundhouse area is not fully justified and should not be considered necessary.

Response 1: Due to the proximity of the area to residents and contamination in the surficial soil which could present an elevated incremental health risk it was proposed to cover the area with clean fill. This will prevent wind erosion of soils eliminating inhalation pathway and will protect from exposure by contact. The final HRA is based on less conservative exposure scenario as compared to the more conservative assumptions given in the USEPA guidance documents. This less conservative exposure scenario was developed in consultation with NYSDOH and is considered appropriate for the site conditions. The frequency of exposure to ingestion is 74 days/year for children (page 5-28 of HRA), the frequency of exposure to fugitive dust from wind erosion is 365 days/year and to children from recreational vehicles at the site is 74 days/year (page 5-50 of HRA). Based on the incremental health risk remediation of roundhouse area is justified. Covering the area with clean fill was considered cost effective and was preferred over removing the contaminated soil.

Comment 2: The Conceptual Design Report (September 1991, page 2-9) indicates that oil-contaminated soil at depths ranging from 6-9 feet will be excavated (approximately 7,500 cubic yards). This excavated material will be deposited in the waste disposal area to be capped. However, the Phase III Feasibility Study (August 1991, page 5-12) does not include this area in the discussion of the preferred alternative. In addition, the HRA did not identify an elevated risk associated with subsurface soil in the roundhouse area (see Summary Table of Elevated Risks, Final Baseline Health Risk Assessment, Table 7-1).

The Phase I/II RI Report (June 1991, page 6-6) states that the level of contamination in this area could cause possible groundwater contamination but does not appear to pose a direct threat to human or environmental health because it is below ground surface. The oil-contaminated soil is indicated to be 1-5 foot below ground surface with an estimated volume of 1,800 cubic yards. These numbers do not agree with the numbers presented for this material in the Conceptual Design Report discussed above.

Adequate justification has not been provided concerning why excavation of this material is required. Justification should be provided or this remedial measure should be removed from the PRAP. If remediation is deemed necessary, the appropriate volume of material should be more clearly identified.

Response 2: The initially estimated quantity of the oil-contaminated soil

EXHIBIT 4

INTEGRATED ENVIRONMENTAL SERVICES

Final Remedial Action Work Plan

Union Road Site
Town of Cheektowaga
Erie County, New York
Site No. 9-15-128

Prepared by:

Integrated Environmental Services
A Division of NES, Inc.
44 Shelter Rock Road
Danbury, CT 06810

Document Number IES-017-007, Rev. 1

June 15, 1993

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2.2 EXCAVATION OF WASTE MATERIAL AND CONTAMINATED SOIL AND SEDIMENT

2.2.1 Background Information.

2.2.1.1 Tar Pit. According to the ROD (p. 4), the tar pit has an exposed surface area of about 9000 square feet and is four to five feet in depth; this represents about 1700 cubic yards of material. A summary of analytical data from samples collected in this area is presented in Table 2-1; sample locations are shown on Figure 2-1. The data indicate elevated levels of lead in three of the four samples analyzed. One sample (C-4) contained elevated levels of Base Neutral compounds (BNs) and Polycyclic Aromatic Hydrocarbons (PAHs).

2.2.1.2 Buried Waste Material and Surficial Soil in the Disposal Area. According to the ROD (p. 5), buried waste material is present about 15 feet below ground surface within the disposal area immediately southwest of the tar pit; the volume of this material was estimated to be about 25,000 cubic yards and the fill above the buried material represents about 80,000 cubic yards. A summary of analytical data from samples collected in this area is presented in Table 2-2. Sample locations are shown on Figure 2-2.

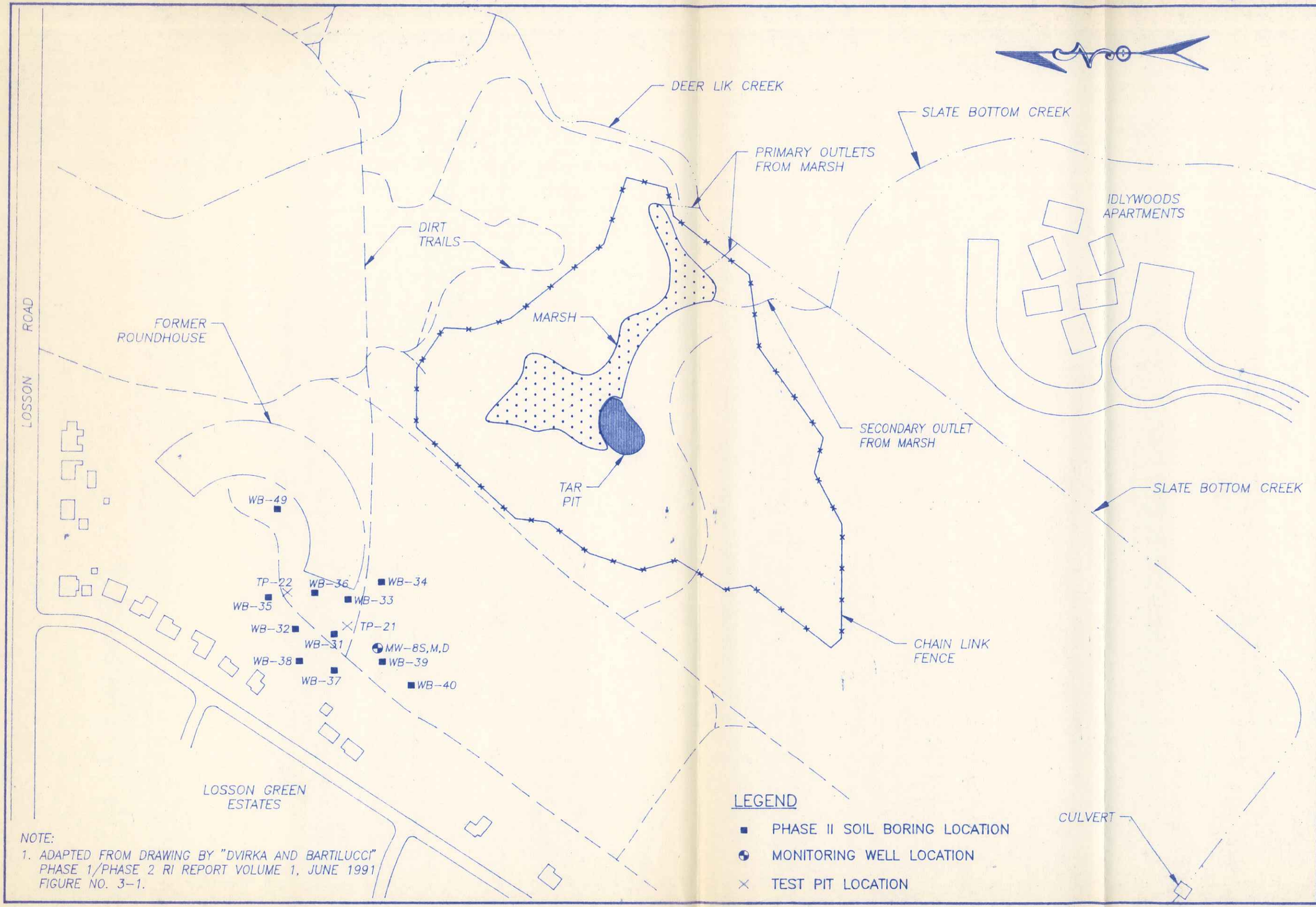
2.2.1.3 Marsh and Creek Sediment. According to the ROD (p. 6), the areal extent of the contaminated portion of the marsh comprises an area of approximately 40,000 square feet. Sediment is present in both Slate Bottom and Deer Lik Creeks contiguous to the site. A summary of analytical data from samples collected in these areas is presented in Tables 2-3 and 2-4. Marsh sample locations are shown on Figure 2-3 and creek sample locations are shown on Figure 2-4.

The data for sediment from Deer Lik Creek indicate that sample DLC-SD-4, which was collected adjacent to the primary outlets from the marsh, contains elevated levels of TPH (279,000 ppm) and lead (143,000 ppm). However, sample SD-3, which was collected approximately 200 feet downgradient of DLC-SD-4, contained significantly lower levels of these parameters (TPH, 100 ppm; lead 16,5 ppm). These data suggest that waste material in the creek sediments in this location is present in discrete locations rather than spread throughout the entire area.

2.2.1.4 Roundhouse Area. Soil boring, test pit and monitoring well locations are shown on Figure 2-5; analytical results of subsurface soil samples collected in this area are presented in Table 2-5. The data indicate the presence of TPH, metals and organic compounds in this area.

Boring logs and test pit descriptions from this area are presented in Attachment B. A table summarizing visual observations of waste material in this area is also presented in Attachment B; the table indicates that visible contamination was identified in borings WB-31, WB-32, WB-33 (trace amounts), WB-39 (trace amounts) and WB-40 and in test pit TP-21. Possible traces of waste material were identified in WB-34.

These observations indicate that buried waste material in the roundhouse area is in the vicinity of WB-31, WB-32 and TP-21 and also at WB-40.



NOTE:
1. ADAPTED FROM DRAWING BY "DVIRKA AND BARTILUCCI" PHASE 1/PHASE 2 RI REPORT VOLUME 1, JUNE 1991 FIGURE NO. 3-1.

REVISIONS	
NO.	DATE

UNION ROAD
CHEEKTOWAGA, NEW YORK

SOIL BORING, TEST PIT & MONITORING WELL LOCATIONS IN THE ROUNDHOUSE AREA

PROJECT

DRAWING

ies
INTEGRATED ENVIRONMENTAL SERVICES

PROJECT # 2308-101
FILENAME: 2308101F
SCALE: 1"=200' DATE: 1/13/92
BY: AD CK: RJW
FIGURE # 2-5

TABLE 2 - 5
SUMMARY OF ANALYTICAL RESULTS
OF SOIL AND GROUNDWATER IN THE ROUNDHOUSE AREA

	PHASE 1	PHASE 2						
	SOIL	SOIL	SOIL	SOIL	SOIL	GROUNDWATER	GROUNDWATER	GROUNDWATER
	TP - 21 (1 - 2')	WB - 31 (6 - 8')	WB - 32 (6 - 8')	WB - 34 (8 - 10')	WB - 40 (14 - 16')	MW - 8S (5.2 - 10.2')	MW - 8M (42 - 52')	MW - 8D
TOTAL VOC	0.046	NA	NA	NA	0.030 (0.028)	U	15	74
TOTAL PAH	4.9 (6.8)	NA	NA	NA	14 (14)	4	U	U
TOTAL BN	5.6 (8.3)	NA	NA	NA	14 (14)	95	46	20
TOTAL AE	U (U)	NA	NA	NA	U (0.17)	12	18	U
TPH	9770	386	10,500	34.5	2660	<1000	<1000	<1000
LEAD	266	12.5	45.7	9.7	1060	0.7	U	2.5

*Soil results given in mg/kg
*Groundwater results given in ug/l
*(x) - Re extraction and/or analysis
*U - Undetected
*NA - Not analyzed
*Groundwater sampled 12-89

A well nest containing three monitoring wells (MW-8S, MW-8M, and MW-8D) is located adjacent to this area of buried waste material; the location of these wells are shown on Figure 2-5. Analytical results of groundwater samples collected from these wells are presented on Table 2-5; these data indicate that this material is having minimal impact on groundwater quality in this area.

According to well construction data and depth to groundwater measurements presented in the Remedial Investigation (RI) report, depth to groundwater in these wells is approximately 2-3 ft in MW-8S (screened interval 5.2 - 10.2 ft, screened in the overburden), 17-18 ft in MW-8M (screened interval 42 - 52 ft, screened at the overburden/bedrock interface), and 23-24 ft in MW-8D (placed in bedrock, open hole interval 58.1 - 65.8 ft).

This information indicates that waste material identified in WB-31 (4-9 ft depth), WB-32 (4-9 ft depth) and WB-40 (14.5 -16.5 ft depth) may be present beneath the water table.

2.2.2 Description of the Remedial Measure. Contaminated sediment/soil from Deer Lik Creek, Slate Bottom Creek, the marsh and the roundhouse area will be excavated and deposited in the location of the tar pit and waste disposal area. The extent of excavation in Deer Lik and Slate Bottom Creek was discussed in Section 2.1.2.

The extent of excavation in the marsh will be limited horizontally by the perimeter of the marsh (approximately 40,000 square ft). Vertically, according to the Conceptual Design Report (p. 2-9), the depth of the contaminated sediment is estimated to vary from 1 - 6 ft. Therefore, the excavation in the marsh is proposed to be to a depth of approximately 6 ft.

Pursuant to the meeting with the NYSDEC on November 23, 1992, the subsurface soil in the roundhouse area will be treated as an oil spill due to the suspected former location of an underground storage tank (UST) in this area. The remedial objective for this area will be to remove visibly contaminated soil.

As discussed in Section 2.2.1, visible indications of contamination were identified in borings WB-31 (4-9 ft below grade), WB-32 (4-9 ft below grade), WB-40 (14.5-16.5 ft below grade) and test pit TP-21 (1-2.5 ft below grade); the objective of remedial efforts will be to remove visibly contaminated material in the vicinity of WB-31, WB-32 and TP-21. During the excavation process, the NYSDEC will be contacted to visit the site and confirm that all visible contamination is removed prior to backfilling. In addition, excavation and removal of material will be documented with photographs.

The waste material in the tar pit and waste disposal area will remain in place. A containment wall will be constructed around the location of the tar pit and the waste disposal area and keyed into the low permeability clay layer beneath the site. The containment wall will be designed in order to encircle the tar pit and waste disposal area as identified during the geophysical study and waste boring program described in the Remedial Investigation (RI) report. The precise extent of the containment wall will be identified during implementation of the remedial work

plan as discussed in Section 3.3. A cap will be placed over the area encompassed by the containment wall.

2.2.3 Difference Between This Remedial Measure and the ROD. There is no difference between this remedial measure and the one described in the ROD.

2.3 CONSTRUCTION OF CAP AND CONTAINMENT WALL

2.3.1 Background Information. The overall approach to remediation of this site is consolidation of contaminated material from various locations beneath a cap. The objective of the cap is to isolate the waste material to prevent human and environmental exposure. A containment wall will be constructed around the waste material beneath the cap to prevent contaminated material from leaching into groundwater.

2.3.2 Description of the Remedial Measure. The remedial measure will consist of excavation of a trench around the waste disposal area and tar pit, construction of a containment wall around this area and dewatering of the area inside the containment wall. Contaminated soil and sediment from the marsh, Slate Bottom Creek, Deer Lik Creek and the roundhouse area will be excavated and placed inside the containment wall. Additional non-contaminated material may need to be excavated from elsewhere on the site in order to provide sufficient material to construct the cap and maintain required slopes and grades.

2.3.3 Difference Between This Remedial Measure and the ROD. This remedial measure is the same as described in the ROD.

2.4 SURFACE SOILS IN THE FORMER ROUNDHOUSE AREA

2.4.1 Background Information. Surface soil samples collected in the former roundhouse area indicated the presence of organic and inorganic parameters. According to Table 8-2 in the HHRA, which presents a summary of elevated risks, inhalation by children of soil that is airborne due to wind erosion was calculated to present a carcinogenic risk (2.10E-06) greater than the target risk level (1.0E-06) for arsenic. The calculated risk level for arsenic is the driving factor behind the proposed remediation of this area as described in the ROD.

However, the risk calculations which indicated a risk level greater than the target value (HHRA, Table 5-29, Wind Erosion, Roundhouse Area, Inhalation Exposure Doses and Risks, Onsite Exposures) contain several overly conservative assumptions which serve to overestimate actual site risks. These assumptions are not consistent with USEPA risk assessment policy which existed at the time that the HHRA was performed. The *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)*, Interim Final, December, 1989 (EPA document Number EPA/540/1-89-002) states that actions at Superfund sites should be based on an estimate of reasonable maximum exposure (RME) expected to occur at a a site (p. 6-4). The HHRA for this site contains the following overly conservative assumptions which provide evaluation of worst case conditions rather than RME:

- EPA's default value for exposure duration of residents is 30 years, not 70 years as used in the HHRA, because 30 years represents the 90th percentile value for years living in the same home based on Bureau of the Census data (*Exposure Factors Handbook*, July 1989, EPA document number EPA/600/8-89/043, p. 5-34); the 90th percentile is considered to represent a reasonable worst case. 70 years is appropriate for use as the averaging time for evaluating carcinogenic risks but is not appropriate for use as an exposure duration;

- EPA's default value for frequency of exposure for residents is 350 days, not 365 days as used in the HHRA;

- Figure 5-2 in the HHRA (attached) indicates that the estimated slope from the emission rate with respect to wind speed does not fit the data because the line is drawn such that all of the site-specific data lies below the line. The HHRA selected an estimated emission rate for wind erosion (0.14 grams/second; HHRA, p. 5-10) at the maximum observed wind speed (8 m/second; HHRA, p. 5-10) which does not reflect actual site conditions. The actual site-specific emission rate measured at a wind speed of 8 m/s is approximately 0.095 grams/second.

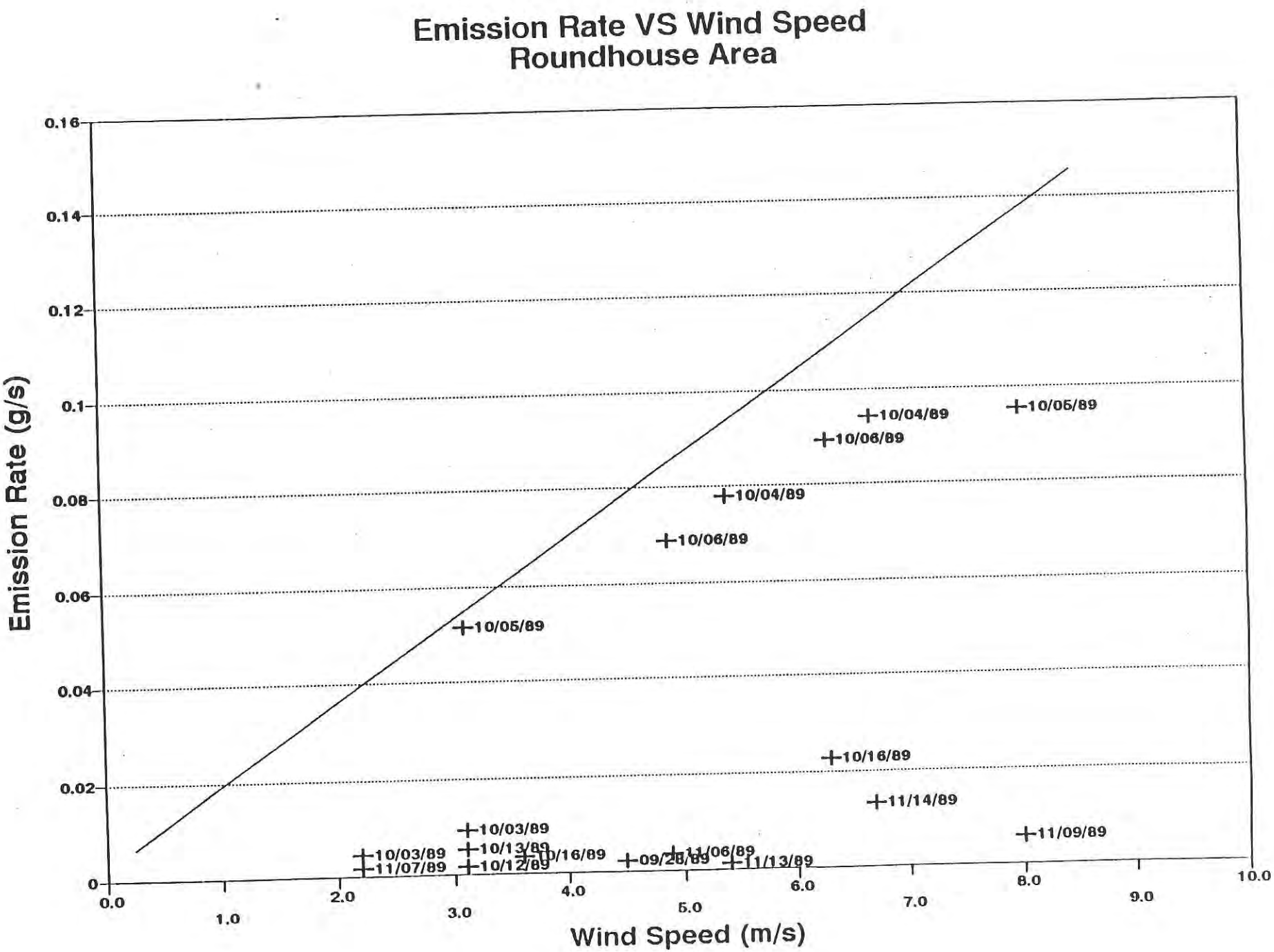
  On page 5-7 of the HHRA, it is stated that "As can be seen in the figures, all of the site-specific readings result in emission rates fall in the area of the graph below the estimated slope" (emphasis added). This is clearly a worst case assumption which is inconsistent with the accepted risk assessment practice of evaluating RME. The site-specific readings should have been evaluated to determine a "best fit" line through the actual data; based on this line, a more representative value, perhaps the 90th percentile value, should have been used to determine the emission rate;and

- the air model used to evaluate inhalation assumed that receptors are standing outdoors at ground level; therefore, the receptor height above ground is 0 meters (HHRA, p. 5-7). It is unclear why a receptor standing would be 0 meters above ground; a more realistic value for an exposed child would be 1 meter.

The net effect of these overly conservative assumptions is an over-estimate of actual site risks. As indicated in a letter from Mr. Michael Rivera of the New York State Department of Health (NYSDOH) to Mr. Shive Mittal of the NYSDEC dated June 18, 1991, "While the calculated carcinogenic total risk associated with inhalation in the roundhouse area is greater than 1X10-6 with arsenic as the primary contaminant of concern the risk levels are within EPA's range of acceptable risk of 10-4 - 10-7. It would, however, be preferable to restrict future use of this area or at a minimum, prior to any future change in land use in the roundhouse area, require further evaluation of soils in this portion of the former rail yard."

2.4.2 Description of the Remedial Measure. Although the risk assessment for this area overestimated actual site risks, restoration of this area via revegetation is included as a remedial goal. Remediation proposed for this area involves placement of six inches of clean fill over approximately five acres and re-vegetation. As discussed in Section 3.11, soil fertility testing

Figure 5-2


Emission Rate VS Wind Speed
Roundhouse Area
Emission Rate (g/s)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Wind Speed (m/s)
10/04/89
10/05/89
10/06/89
10/04/89
10/06/89
10/05/89
10/16/89
11/14/89
11/09/89
10/03/89
10/13/89
10/03/89
11/07/89
10/12/89
09/28/89
11/13/89

will be performed to evaluate re-vegetation requirements The area proposed to be remediated is shown on Figure 2-6.

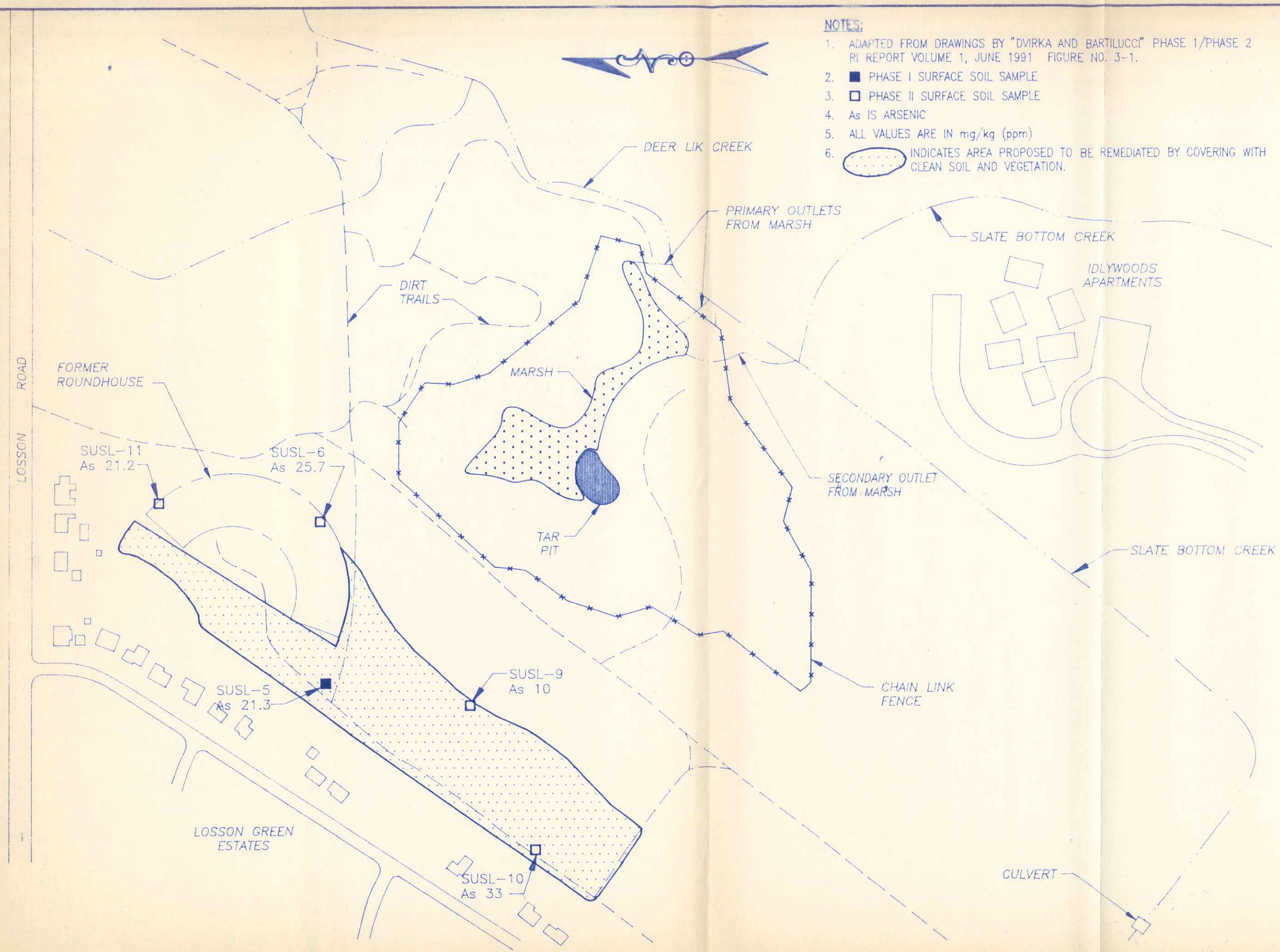
2.4.3 Difference Between This Remedial Measure and the ROD. Remediation of this area discussed in the ROD involved placement of one foot of clean soil cover over approximately 7.5 acres. This area would then be vegetated. Additionally, land use restrictions would be cited in the deed and access restrictions will be considered.

The remedial proposal for this area contained herein involves a smaller area (approximately 5 acres) and placement of six inches of clean fill prior to re-vegetation.

The reduction in area is due to the presence of the structures of the former roundhouse which remain on site. These structures includes large concrete foundations and walls; several large holes and openings to underground portions of the former roundhouse are present. Due to these structures and openings, this area is not amenable to covering with a layer of clean soil i.e. the openings would need to be filled and the concrete removed in order to provide a base to cover with soil.

NOTES:

1. ADAPTED FROM DRAWINGS BY "DVIRKA AND BARTILUCCI" PHASE 1/PHASE 2 RI REPORT VOLUME 1, JUNE 1991 FIGURE NO. 3-1.
2. ■ PHASE I SURFACE SOIL SAMPLE
3. □ PHASE II SURFACE SOIL SAMPLE
4. As IS ARSENIC
5. ALL VALUES ARE IN mg/kg (ppm)
6. INDICATES AREA PROPOSED TO BE REMEDIATED BY COVERING WITH CLEAN SOIL AND VEGETATION.



REVISIONS	
NO.	DATE

AREA OF PROPOSED REMEDIATION IN THE ROUNDHOUSE AREA AND RESULTS OF SURFACE SOIL SAMPLES FOR ARSENIC

UNION ROAD
CHEEKTOWAGA, NEW YORK

PROJECT

DRAWING

INTEGRATED ENVIRONMENTAL SERVICES

PROJECT # 2308-101
FILENAME: 2308101D
SCALE: 1" = 200'
DATE: 6/26/92
BY: AD
CK: RJW

FIGURE # 2-6

ATTACHMENT B
BORING LOGS AND TEST PIT DESCRIPTIONS IN THE ROUNDHOUSE AREA

SUMMARY OF OBSERVATIONS OF WASTE MATERIAL IN SUBSURFACE SOIL IN THE ROUNDHOUSE AREA

Boring, Test Pit Number	*Depth*	*Description*
WB-31	4-6 ft	Black waste; oily grease in medium-coarse fill; coal, slag debris, moist
	6-8 ft	Black waste; liquid, hydrocarbon odor, waste in coarse fill matrix, wet
	8-9 ft	Black waste, wet
WB-32	4-6 ft	Brown-black coarse fill and waste material, light hydrocarbon odor, dry
	6-8 ft	Brown-black coarse fill and waste; aromatic benzene-kerosene odor, dry
	8-9 ft	Waste
WB-33	8-10 ft	Light grey-brown fine-medium clay fill, trace of waste, moist
WB-34	6-8 ft	Gray-brown fine fill; organic rich clayey sand at base, possible trace of waste
	8-10 ft	dark clayey silt, abundant organic residue (top 8.0 - 9.1'), light gray-brown sand (9.1-9.8'), trace of waste?
WB-39	6-10 ft	Brown clayey silt, trace sand, coal, brick fragments, trace of waste, saturated
WB-40	12.5 -14.5 ft	Gray very fine fill, trace of waste?
	14.5-16.5 ft	Gray very fine fill, black "greasy" waste at base
TP-21	1-2.5 ft	Black coarse gravel containing oil/grease

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-31
SHEET 1 OF 2
BY M J G DATE 9-29-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Fuller, Johnson GEOLOGIST M. Goydas, W. Dorsch
DRILL RIG CME-45 DRILLING METHOD 2 1/4" HSA
DATE STARTED 9-29-89 DATE COMPLETED 9-29-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA.
FINISHED TOP EL. 624.3'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLER SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	22"	2-3, 6-4	<1 ppm OVA	DARK BROWN FILL DEBRIS; Coal, Cinder, Slag, Glass Debris (Dry) 2.0'		
-1-									
-2-									
-3-	2	2-4'	24"	3"	4-4, 4-3	<1 ppm OVA	BROWN MEDIUM FILL; Coal and Cinder Debris - Trace of Waste "Greasy" (Moist) 4.0'		
-4-									
-5-	3	4-6'	24"	6"	3-2, 2-3	6ppm OVA 30-40 TIP	BLACK WASTE; Oily Grease in Medium-Coarse Fill: Coal, Slag Debris (Moist) 6.0'		
-6-									
-7-	4	6-8'	24"	7"	-	9ppm OVAm 40-45ppm TIP	BLACK WASTE; Liquid, Hydrocarbon Odor, Waste in Coarse Fill Matrix (Wet) 7.0'		
-8-									
-9-	5	8-10'	24"	17"	3-3-5-9	-	BLACK WASTE (Wet) - - - - - - - - - - - - - - - GRAY SILTY CLAY (1.1) (Wet) 9.0'		
-10-									

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-31
SHEET 2 OF 2
BY M J G DATE 9-29-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Fuller, Johnson GEOLOGIST M. Goydas, W. Dorsch
DRILL RIG CME-45 DRILLING METHOD 2 1/4" HSA
DATE STARTED 9-29-89 DATE COMPLETED 9-29-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA.
FINISHED TOP EL.
MEASUREMENT POINT

DEPTH	SAMPLER SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-10-	6	10-12'	24"	16"	2-3, 5-9	-	LIGHT BROWN SILTY CLAY (Moist)		
-11-									
-12-							End of Boring @ 12.0'		
-13-									
-14-									
-15-									
-16-									
-17-									
-18-									
-19-									
-20-									

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Bertlucci Consulting Engineers

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-32
SHEET 1 OF 1
BY M J G DATE 9-29-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Fuller, Johnson GEOLOGIST M. Goydas, W. Dorsch
DRILL RIG CME-45 DRILLING METHOD 2 1/4" HSA
DATE STARTED 9-29-89 DATE COMPLETED 9-29-89

BOREHOLE COMPLETION DEPTH 10'
INITIAL HOLE DIA.
FINISHED TOP EL. 625.0'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	11"	2-3, 3-4	-	BROWN-BLACK MEDIUM-COARSE FILL; "Rail-Bed" Debris, Coal, Ash, Concrete, Brick, Glass Debris		
-1-							(Dry) 2.0'		
-2-	------	------	---	---	------	----	----------		
-3-	2	2-4'	24"	7"	2-3, 3-3	-	SAME AS ABOVE		
-4-							(Dry) 4.0'		
-4-	------	------	---	---	------	----	----------		
-5-	3	4-6'	24"	16"	3-2, 2-3	15-20 ppm TIP	BROWN-BLACK COARSE FILL AND WASTE MATERIAL; Light Hydrocarbon Odor (Dry) 6.0'		
-6-	------	------	---	---	------	----	----------		
-7-	4	6-8'	24"	17"	33-7, 8-11	6ppm OVA 20-30ppm TIP	BROWN-BLACK COARSE FILL AND WASTE; Aromatic Benzene - Kerosene Odor (Dry) 8.0'		
-8-	------	------	---	---	------	----	----------		
-9-	5	8-10'	24"	22"	10-4, 4-8	15-20 ppm TIP	WASTE - - - - - - - - - - - - - - LIGHT GRAY CLAY (Dry)		
-10-							End Boring @ 10.0'		

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-33
SHEET 1 OF 2
BY M J G DATE 10-2-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA.
FINISHED TOP EL. 625.0'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-							DARK BROWN-BLACK FILL; Coal, Organic Slag Debris		
-1-	1	0-2'	24'	17"	7-9, 9-11	-	(Damp) 2.0'		
-2-	---	---	---	---	---	---	---		
-3-	2	2-4'	24"	18"	11-14, 10-10	<1 ppm OVA	SAME AS ABOVE; Silty Clay Fill at Base (Damp) 4.0'		
-4-	---	---	---	---	---	---	---		
-5-	3	4-6'	24"	14"	4-10, 5-5	<1 ppm OVA	LIGHT GREY-BROWN FINE-MEDIUM CLAY FILL; (Moist) 6.0'		
-6-	---	---	---	---	---	---	---		
-7-	4	6-8'	24"	24"	6-4, 4-10	<1 ppm OVA	SAME AS ABOVE; W/ Abundant Brick Fragments (Wet) 8.0'		
-8-	---	---	---	---	---	---	---		
-9-	5	8-10'	24"	24"	3-3, 3-4	<1 ppm OVA	SAME AS ABOVE; Trace of Waste (Moist) 10.0'		
-10-	---	---	---	---	---	---	---		

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Bertlucci CONSULTING ENGINEERS

PROJECT

Union Road RI/FS
Cheektowaga, NY

PROJECT NO. 935-05B

WELL/BORING NO. WB-33
SHEET 2 OF 2
BY M J G DATE 10-2-89
CHK'D ____ DATE ____

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA. ____
FINISHED TOP EL. ____
MEASUREMENT POINT ____

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-10-	6	10-12'	24"	17"	2-4, 6-7		SAME AS ABOVE LIGHT BROWN CLAY at Base Appears "Clean", Moderate Hard (Moist)		
-11-									
-12-							End of Boring @ 12.0'		
-13-									
-14-									
-15-									
-16-									
-17-									
-18-									
-19-									
-20-									

REMARKS:

STATIC WATER LEVEL ____ DATE ____
LEVEL ____ DATE ____
LEVEL ____ DATE ____

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-34
SHEET 1 OF 2
BY M J G DATE 10-2-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA.
FINISHED TOP EL. 625.5'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-							BLACK MEDIUM-COARSE FILL; Coal, Slag, Glass, Organic Debris		
-1-	1	0-2'	24"	14"	7-7, 10-8	<1 ppm OVA	Gray-Brown Silty Clay Fill at Base (0.7') (Damp-Moist) 2.0'		
-2-	------	------	---	---	------	----	----------		
-3-	2	2-4'	24"	18"	5-4, 4-5	1ppm OVA <1 TIP	GRAY-BROWN FINE FILL; Debris in Silty Clay Matrix and Clean Sand at Base (0.4) (Moist) 4.0'		
-4-	------	------	---	---	------	----	----------		
-5-	3	4-6'	24"	20"	3-3, 3-4	<1 ppm OVA	SAME AS ABOVE 6.0'		
-6-	------	------	---	---	------	----	----------		
-7-	4	6-8'	24"	15"	4-4, 4-4	<1 ppm OVA	SAME AS ABOVE; Organic Rich Clayey Sand at Base Possible Trace of Waste 8.0'		
-8-	------	------	---	---	------	----	----------		
-9-	5	8-10'	24"	20"	1-1, 3-6	<1 ppm OVA	DARK CLAYEY SILT; Abundent Organic Residue (Top 8.0-9.1') Light Gray-Brown Sand-(9.1-9.8') Trace of Waste? 10.0'		
-10-	------	------	---	---	------	----	----------		

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Earth Tech Bartlwood Consulting Engineer

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-34
SHEET 2 OF 2
BY M J G DATE 10-2-89
CHK'D ____ DATE ____

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 12'
INITIAL HOLE DIA. ____
FINISHED TOP EL. ____
MEASUREMENT POINT ____

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-10-	6	10-12'	24"	18"	2-2, 5-9	<1 ppm OVA	DARK GRAY CLAYEY SAND Soft (Wet) 10.5'		
-11-							LIGHT GRAY SILTY CLAY Hard (Moist)		
-12-							End of Boring @ 12.0'		
-13-									
-14-									
-15-									
-16-									
-17-									
-18-									
-19-									
-20-									

REMARKS:

STATIC WATER LEVEL ____ DATE ____
LEVEL ____ DATE ____
LEVEL ____ DATE ____

and Berthwood CONSULTING ENGINEERS

PROJECT

PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-35
SHEET 1 OF 1
BY M J G DATE 10-2-89
CHK'D ____ DATE ____

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 8'
INITIAL HOLE DIA. ____
FINISHED TOP EL. 624.3'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	18"	3-3, 5-5	<1 ppm OVA	BLACK MEDIUM-COARSE FILL; Coal, Slag Ash, Glass Debris; Soft		
-1-							(Moist) 2.0'		
-2-	------	------	---	---	------	---	----------		
-3-	2	2-4'	24"	17"	3-3, 5-6	9ppm OVA <1 ppm TIP	SAME AS ABOVE; With Gray Silt Clay - Organic Rich, "Perched" (Water Above Clay) 4.0'		
-4-	------	------	---	---	------	---	----------		
-5-	3	4-6'	24"	20"	3-4, 4-5	1ppm OVA 1ppm TIP	GREY SILT CLAY; With Bands (0.2'-0.3') Saturated Fill Debris 6.0'		
-6-	------	------	---	---	------	---	----------		
-7-	4	6-8'	24"	20"	9-11, 13-18	-	GRAY BROWN SILTY CLAY; Top Saturated - Soft (Moist)		
-8-							End of Boring @ 8'		
-9-									
-10-									

REMARKS:

STATIC WATER LEVEL ____ DATE ____
LEVEL ____ DATE ____
LEVEL ____ DATE ____

Bertlucci Consulting Engineers

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-36
SHEET 1 OF 1
BY M J G DATE 10-2-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-2-89 DATE COMPLETED 10-2-89

BOREHOLE COMPLETION DEPTH 8'
INITIAL HOLE DIA.
FINISHED TOP EL. 624.9'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	24"	1-11, 9-9	<1 ppm OVA	BLACK MEDIUM-COARSE FILL; Brick, Concrete Glass Slag Debris		
-1-							(Moist) 2.0'		
-2-	---	---	---	---	---	---	---		
-3-	2	2-4'	24"	19"	8-8, 8-10	<1 ppm OVA	SAME AS ABOVE; With Clayey Sand Seams		
-4-							(Moist) 4.0'		
-5-	3	4-6'	24"	15"	4-4, 4-5	<1 ppm OVA	SAME AS ABOVE		
-6-							6.0'		
-7-	4	6-8'	24"	24"	2-3, 5-6	<1 ppm OVA	LIGHT BROWN-SILTY CLAY; Clean, Dense, Hard		
-8-							(Moist)		
-9-							End of Boring @ 8'		
-10-									

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Bertlucci CONSULTING ENGINEERS

PROJECT

Union Road RI/FS
Cheektowaga, NY

PROJECT NO. 935-05B

WELL/BORING NO. WB-37
SHEET 1 OF 1
BY M J G DATE 10-3-89
CHK'D ____ DATE ____

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-3-89 DATE COMPLETED 10-3-89

BOREHOLE COMPLETION DEPTH 8'
INITIAL HOLE DIA. ____
FINISHED TOP EL. ____
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	18"	4-6, 8-8	-	BLACK MEDIUM-COARSE FILL; Coal, Slag, Ash, Organic Debris		
-1-							(Moist) 2.0'		
-2-	---	---	---	---	---	---	---		
-3-	2	2-4'	24"	15"	7-13, 13-6		SAME AS ABOVE; LIGHT BROWN SILTY CLAY At Base (Wet) 4.0'		
-4-	---	---	---	---	---	---	---		
-5-	3	4-6'	24"	18"	3-5, 5-6	<1 ppm OVA	LIGHT GRAY-BROWN FINE FILL: Little Clayey Sandy Silt and Clay Fill (Wet) 6.0'		
-6-	---	---	---	---	---	---	---		
-7-	4	6-8'	24"	20"	7-6, 8-7	8ppm OVA <1 ppm TIP	LIGHT GRAY SILT CLAY; Abundant Organic Material (Wet)		
-8-							End Boring @ 8.0'		
-9-									
-10-									

REMARKS:

STATIC WATER LEVEL ____ DATE ____
LEVEL ____ DATE ____
LEVEL ____ DATE ____

Bertlucci CONSULTING ENGINEERS

PROJECT

Union Road RI/FS
Cheektowaga, NY

PROJECT NO. 935-05B

WELL/BORING NO. WB-38
SHEET 1 OF 1
BY M J G DATE 10-3-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 SKid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-3-89 DATE COMPLETED 10-3-89

BOREHOLE COMPLETION DEPTH 10'
INITIAL HOLE DIA.
FINISHED TOP EL. 624.7'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-	1	0-2'	24"	24"	4-7, 7-21	-	BROWN CLAY FILL; Some Cool, Slag, Organic Debris		
-1-									
							(Dry-Damp) 2.0'		
-2-	---	---	---	---	---	---	---		
-3-	2	2-4'	24"	12"	20-19, 32-14	-	SAME AS ABOVE; With Coarse Brick, Cement, Slag, Ash Debris 4.0'		
-4-	---	---	---	---	---	---	---		
-5-	3	4-6'	24"	0"	7-6, 4-5	-	NO RECOVERY CUTTINGS - Same As Above 6.0'		
-6-	---	---	---	---	---	---	---		
-7-	4	6-8'	24"	5"	5-5, 5-5	-	BROWN CLAY FILL; Silty Clay With Brick, Gravel Trace Coal 8.0'		
-8-	---	---	---	---	---	---	---		
-9-	5	8-10'	24"	2"	7-5, 5-8		BROWN CLAY; (Moist)		
-10-							End of Boring @ 10.0'		

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-39
SHEET 1 OF 2
BY W R D DATE 1-04-89
CHK'D ____ DATE ____

DRILLING CONTRACTOR Empire Soils Investigation
DRILLER Ken Fuller GEOLOGIST Mike Goydas
DRILL RIG CME-45 Trailer DRILLING METHOD 2 1/4" HSA
DATE STARTED ____ DATE COMPLETED ____

BOREHOLE COMPLETION DEPTH 12.0'
INITIAL HOLE DIA. ____
FINISHED TOP EL. ____
MEASUREMENT POINT ____

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-							BROWN-BLACK FINE-COARSE FILL MATERIAL		
-1-	1	0-2'	24"	0.5'	5-8, 9-13	<1 ppm OVA	Some Coal, Slag, Concrete Debris		
-2-							(Dry) 2.0'		
-3-	2	2-4'	24"	1.8'	8-8, 6-6	<1 ppm OVA	REDDISH BROWN MEDIUM FILL MATERIAL Some Slag, Coal (Moist) 4.0'		
-4-									
-5-	3	4-6'	24"	1.7'	3-2, 2-3	<1 ppm OVA	BROWN SILTY CLAY Little Coal and Brick Debris (Moist) 6.0'		
-6-									
-7-	4	6-8'	24"	1.7'	3-3, 4-3	2ppm OVA	BROWN CLAYEY SILT Trace Sand, Coal, Brick Fragments, Wood Fragments, Trace of Waste (Saturated)		
-8-									
-9-	5	8-10'	24"	1.5'	4-5, 8-5	40ppm OVA 1ppm TIP	(Saturated) 10.0'		
-10-									

REMARKS:

STATIC WATER LEVEL ____ DATE ____
LEVEL ____ DATE ____
LEVEL ____ DATE ____

Bertlucci Consulting Engineers

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-39
SHEET 2 OF 2
BY W R D DATE 1-04-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigation
DRILLER Ken Fuller GEOLOGIST Mike Goydas
DRILL RIG CME-45 Trailer DRILLING METHOD 2 1/4" HSA
DATE STARTED DATE COMPLETED

BOREHOLE COMPLETION DEPTH 12.0'
INITIAL HOLE DIA.
FINISHED TOP EL.
MEASUREMENT POINT

DEPTH	SAMPLER NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-10-	------	------	---	---	------	----	BROWN SILTY SAND (Saturated) 10.5'		
-11-	6	10-12'	24"	24"	4-6, 8-9	2ppm OVA	GREY-BROWN CLAYEY SILT		
-12-							(Moist) End of Boring @ 12.0'		
-13-									
-14-									
-15-									
-16-									
-17-									
-18-									
-19-									
-20-									

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Bertrucci Consulting Engineers

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-40
SHEET 1 OF 2
BY M J G DATE 10-3-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-3-89 DATE COMPLETED 10-3-89

BOREHOLE COMPLETION DEPTH 18'
INITIAL HOLE DIA.
FINISHED TOP EL. 625.5'
MEASUREMENT POINT Ground Surface

DEPTH	SAMPLER	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-0-							5ppm OVA	BLACK MEDIUM FILL:		
-1-	1	0-2'	24"	13"	3-2, 2-2		5ppm TIP	Brick, Coal Debris, Some Medium-Coarse Sand Bands		
								(Wet) 2.0'		
-2-	------	------	---	---	------		----	----------		
-3-	2	2-4'	24"	8"	2-3, 3-5		40 ppm OVA 2ppm TIP	BLACK MEDIUM-COARSE FILL		
								(Wet) 4.0'		
-4-	------	------	---	---	------		----	----------		
-5-	3	4-6'	24"	3"	5-5, 7-9		20 ppm OVA 2ppm TIP	SAME AS ABOVE Saturated		
								(Wet) 6.0'		
-6-	------	------	---	---	------		----	----------		
-7-	4	6-8'	24"	12"	5-3, 2-2		40-80ppm OVA 4ppm TIP	TOP - SAME AS ABOVE (0.5') BASE - GRAY VERY FINE FILL Saturated		
								(Wet) 8.0'		
-8-	------	------	---	---	------		----	----------		
-9-	5	8-10'	24"	13"	W/T-2, 3-5		-	SAME AS ABOVE; Very Fine Fill		
								(Wet) 10.0'		
-10-	------	------	---	---	------		----	----------		

REMARKS:
Water Encountered at Approximately 4.0'

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

dames & Moore CONSULTING ENGINEERS

PROJECT PROJECT NO. 935-05B

Union Road RI/FS
Cheektowaga, NY

WELL/BORING NO. WB-40
SHEET 2 OF 2
BY M J G DATE 10-3-89
CHK'D DATE

DRILLING CONTRACTOR Empire Soils Investigations
DRILLER Ken Fuller GEOLOGIST W. Dorsch, M. Goydas
DRILL RIG CME-45 Skid DRILLING METHOD 2 1/4" HSA
DATE STARTED 10-3-89 DATE COMPLETED 10-3-89

BOREHOLE COMPLETION DEPTH 18'
INITIAL HOLE DIA.
FINISHED TOP EL.
MEASUREMENT POINT

DEPTH	SAMPLE NUMBER	SAMPLING INTERVAL	PENETRATION	RECOVERY	BLOWS/6"	HEADSPACE	SAMPLE DESCRIPTION	GRAPHIC LOG	WELL CONSTRUCTION
-10-	6	10-12'	24"	12"	4-2, 2-3	3-4 ppm OVA 1ppm TIP	SAME AS ABOVE		
-11-									
-12-	------	------	---	---	------	----	Refusal Augered to 12.5'		
-13-	7	12.5'-14.5'	24"	15"	4-15, 26-19	2-3 ppm OVA 1ppm TIP	SAME AS ABOVE Trace of Waste?		
-14-	------	------	---	---	------	----	14.5'		
-15-	8	14.5'-16.5'	24"	14"	24-15, 11-10		SAME AS ABOVE BLACK "GREASY" WASTE AT BASE		
-16-	------	------	---	---	------	----	16.5'		
-17-	9	16.0'-18.0'	24"	-	-	-	*Refusal-Concrete Slab-Hole Moved LIGHT GRAY CLAY - Clean (Dry)		
-18-							End Boring @ 15.0'		
-19-							*Refusal at 12.0' and 16.5'-forced to move Borehole 5' West-New Borehole Clay Present @ 13.0' (Cuttings)		
-20-									

REMARKS:

STATIC WATER LEVEL DATE
LEVEL DATE
LEVEL DATE

Table No. 3–1 (continued)

TEST PIT/TRENCH DESCRIPTION
SUMMARY

Test Pit/ Trench No.	Location (Grid System Coordinates)	Total Depth (Ft.)	Soil/Fill/Waste Material Encountered
13	1500/500E	8.0	Black Fine Fill (0–1.0') Black Fine–Coarse Gravel Fill (1.0–3.0') Red Fine–Coarse Sand, trace silt (3.0–8.0')
14	1525/075E	8.0	Ceramic Fragments (0–0.5') Assorted Debris and Course Gravel Fill (0.5–1.5') Grey–Brown Mottled Clay (1.5–8.0')
15	1525/175E	8.0	Debris (0–1.0') Black Fine–Coarse Fill (1.0–8.0')
16	1550/225E	5.5	Wood Fragments (0–2.0') Black Coarse Fill (2.0–4.0') Reddish–Brown Slag (4.0–5.5')
17	1525/375E	8.0	Black Fine Fill containing white, chalky material, ceramic fragments and small lenses of coarse gravel Fill (0–8.0')
18	1575/475E	8.0	Black Fine Fill (0–1.0') Brown Fine–Coarse Gravel Fill (1.0–2.0') Black Fine Fill with crushed brick, ceramic fragments (2.0–8.0')
21	1700/400E	4.5	Black Fine – Medium Fill (0–1.0') Black Coarse Gravel containing oil/grease (1.0–2.5') Brown Silty Clay (2.5–4.5')
22	1800/400W	8.0	Black Fine – Coarse Fill with orange staining (0–2.0') Brown Silty Clay (Mottled) (2.0–8.0')
23	1800/0	8.0	Coarse Fill (0–2.0') Grey–Brown Clay (2.0–8.0')
25	300/250E	8.0	Brown Clayey Silt (Mottled) (0–5.0') Grey Clay, little silt (5.0–8.0')
26	500/700E	8.0	Brown Clayey Silt (Mottled) (0.5.0') Grey Clay, little silt (5.0–8.0')

Note: No Test Pit/Trench Nos. 19 and 20.

ATTACHMENT C
RESUMES OF KEY IES PERSONNEL

EXHIBIT 5

Post-it™ brand fax transmittal memo 7671 | # of pages 4

To Robert J. Weireter	From David C. Mittal
Co. IES	Co. NYSDEC
Dept. IES	Phone 518-457-0315
Fax # 203-792-3168	Fax # 518-457-1088

New York State Department of Environmental C
50 Wolf Road, Albany, New York 12233

March 8, 1993

Thomas C. Jorling
Commissioner

To: B McPeak
D Knapp
FYI

Mr. Robert J. Weireter
Department Manager
Geoscience & Environmental
Engineering
Integrated Environmental Services
44 Shelter Park Road
Danbury, CT 06810-7095

Dear Mr. Weireter:

Re: Union Road Site, Erie County, New York, Site No. 9-15-128

The Remedial Action Work Plan, dated January 14, 1993 for the above-referenced site prepared by Integrated Environmental Services (IES), was discussed with you in a meeting held on January 21, 1993 at Buffalo, New York. Based on January 21, 1993 discussions and subsequent review of the Work Plan by the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH), the following comments are offered on this Work Plan:

General Comments:

1) Preparation and Submission of Design and Remedial Action Supporting Documents: This issue was discussed with you during our January 21, 1993 meeting and you were provided with a copy of the RD/RA Work Plan for a different site to be used as a guidance to prepare and include a new section on document submission. The design and bid specifications shall be prepared and submitted to the NYSDEC in the following manner:

   I. Preliminary Design - The preliminary design shall address approximately 30 percent of the total design and shall be submitted for review and approval. The preliminary design shall consist of an outline of the design report, an outline of draft specifications (following CSI format), and preliminary drawings. The preliminary design should be sent to the NYSDEC for review and a subsequent conference between the parties will be held to discuss the submission. The drawings to be submitted with the 30 percent design shall contain sufficient detail to convey an understanding of various design elements.

   The respondent shall respond to all NYSDEC comments on the 30 percent design package.

The first draft of the following documents shall be submitted with the Preliminary Design:

A. Monitoring Plan - The monitoring plan shall be prepared, submitted, and implemented in accordance with the schedule submitted to the NYSDEC to monitor the effectiveness of the RA. The monitoring plan shall outline the sampling type and schedule necessary for all portions of the RA and include the necessary sample and analysis plan, QC/QAP, and health and safety plan.

   a. Sample Plan(s) - Describing all field activities for the collection of samples for construction, start-up, operation and maintenance activities.

   b. QC/QAP - The QC/QAP(s) shall be prepared for sampling activities conducted as part of the RA implementation.

   c. Site Health and Safety Plan - To address hazards that any sampling, construction, start-up, and operation and maintenance activities may present to the investigation or construction teams and the surrounding community.

B. Permits and Approvals Plan - Describing how and when all permits and approvals shall be obtained and submitted to the Department.

C. Construction Oversight and Start-up Plan - Describing the type and level of oversight planned for all portions of the RA, the construction and inspection schedules for all portions of the RA.

D. Operation and Maintenance Plan - Describing the type, schedule, and frequency of long-term operation and maintenance of the RA. The Operation and Maintenance (O&M) Plan must specify what actions will be taken if, for any reason, the slurry wall containment is breached, the cap subsides, or the rip-rap fails.

II. Prefinal Design - The prefinal design submittal shall be submitted at approximately 90 percent of completion. The 90 percent submittal shall consist of the plans and specifications, the operation and maintenance plan and the QC/QAP. This submittal shall be prepared to solicit all comments on the details and adequacy of the design, allow a review of the design against ARARs, and assure consistency with the ROD/Workplan. Approval by the Department to the responses to the comments on the 90 percent design will allow preparation of the Final Design.

IV. Final Design - The final design shall be submitted at 100 percent completion of the design with reproducible drawings and specifications that are suitable for use in soliciting construction quotations and for remediation of the site. The

WHY?

final design shall include the results of all predesign investigations, design analysis, final construction drawings and specifications, and a cost estimate.

Final versions of the monitoring plan(s), permits, and approval plan, traffic control plan, construction oversight plan, and O&M plan shall be submitted with the final design.

2) Remediation in the Roundhouse Area: The placement of the six inches of clean fill over approximately five areas of roundhouse area is acceptable, provided this area is restricted for any future activity. The question of other types of restriction will be dealt separately by legal personnel.

3) Citizen Participation Plan: Item I-8 of the Order On Consent requires the PRP to include a Citizen Participation Plan (CPP) in the remedial design. The NYSDEC will develop a site specific CPP and the PRP will assist NYSDEC in implementing the following plan requirements:

- Provide copies of all necessary documents to the local repository.

- Assist with meeting room arrangements, mailing to citizens, legal notices if required, participation in pubic meetings; arrange for legal transcripts if needed; and meet any other requirement as outlined in the CPP.

Therefore, please add a section in the workplan to include these requirements.

Specific Comments:

4) Page 19, Section 3.1 Discharge location Identification: Based on the review of the maximum concentrations of bioaccumulative/persistent toxics present in the groundwater and surface water (Table 4-96 and 4-97 of RI Volume 2), NYSDEC has approved the discharge of the contaminated groundwater and surface water to the sewer system. However, IES will have to meet the requirements of local sewer authorities, Erie County Department of Environmental Planning (DEP), and Buffalo Sewer Authority (BSA) and obtain their permission to discharge. The requirements may include location of discharge, water quality standards, rate of discharge, estimated quantity of ground and marsh water, and monitoring requirements (frequency and parameters for sampling).

5) Page 20, Section 3.2.1 and Page 21, Section 3.3.1: The depth of vertical cut-off wall which will be keyed into the underlying clay may vary from two to three feet and will be determined during design phase. Please revise these sections accordingly.

6) Page 33, Section 4.9: Project Schedule: The project schedule provided in the attachment "D" was discussed with you during the January 21 meeting. During our conversation of March 8, 1993, you had indicated that IES is revising the project schedule and it may be possible to cut the 44 month schedule by six to eight months.

Please finalize the Work Plan by March 31, 1993. If you have any questions, please feel free to call me at (518) 457-0315.

Sincerely,

Shive R. Mittal

Shive R. Mittal, P.E.
Project Manager
Remedial Section B
Bureau of Western Remedial Action
Division of Hazardous Waste Remediation

cc: J. Periconi, Esq.
M. Rivara, NYSDOH

SRM/kk

EXHIBIT 6

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York 14203-2999
Div. Environmental Enforcement
Phone: (716) 851-7050
Fax: (716) 851-7067

Langdon Marsh
Acting Commissioner

April 7, 1994

James Periconi, Esq.
Donovan, Leisure

New York, New York

Re: Union Road New York State Inactive Hazardous Waste Disposal Site No.

Dear Mr. Periconi:

I enclose a final, signed original copy of the above-referenced consent order for your use. Please note that the effective date of this consent order is April 12, 1994. Please feel free to contact me if any questions arise concerning the administration of this consent order.

Very truly yours,

Cheryl A. Peterson
Senior Attorney
Division of Environmental Enforcement

CAP/P/lk

Enclosure

cc: (w/encl.) Shive Mittal - DHWR/Albany
Martin Doster - Region 9
G. Anders Carlson - NYDOH/Albany
Walter Mugden - USEPA, Region II

P134

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the
Development and Implementation
of a Remedial Program for an
Inactive Hazardous Waste Disposal
Site, Under Article 27, Title 13,
and Article 71, Title 27 of the
Environmental Conservation Law
of the State of New York
by
THE PENN CENTRAL CORPORATION
Respondent.

ORDER
ON
CONSENT
INDEX # B9-0148-92-03

Site Code #915128

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"), entitled "Inactive Hazardous Waste Disposal Sites." This Order is entered into pursuant to the Department's authority under ECL Article 27, Title 13 and ECL Section 3-0301.

2. The Penn Central Corporation ("Penn Central"), a Respondent, is authorized to do business in New York and is organized in the Commonwealth of Pennsylvania. The Department alleges that a predecessor to Penn Central conducted activities which resulted in the disposal of hazardous waste on that property currently owned by Witben Realty and Universal Marion Corporation which may be controlled by Louis Wolfson, among others, known as the Union Road Site in Cheektowaga, NY (the "Site"). There is evidence of alleged unauthorized dumping at

the Site after Respondent's predecessor was allegedly connected with the Site.

3. Following a period of public comment, the Department selected a final remedial alternative for the Site in a Record of Decision ("ROD"). The ROD, attached to this Order as Appendix "A", as implemented by the RD/RA Work Plan, is incorporated as an enforceable part of this Order.

4. Penn Central has submitted, and the Department has approved, a Remedial Design/Remedial Action Work Plan ("RD/RA Work Plan") for the site which is incorporated herein and which is attached as Appendix "B".

5. The Site is an inactive hazardous waste disposal Site, as that term is defined at ECL Section 27-1301.2, and presents a significant threat to the public health or environment. The Site has been listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 915128. The Department has classified the Site as a Classification "2" pursuant to ECL Section 27-1305.4.b.

6. A. Pursuant to ECL Section 27-1313.3.a, whenever the Commissioner of Environmental Conservation (the "Commissioner") "finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the

Department, at such site, and (ii) to implement such program within reasonable time limits specified in the order."

B. Any person under order pursuant to ECL Section 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the remedial program committed to under order. ECL Section 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative and/or criminal sanctions.

C. The Department also has the power, inter alia, to provide for the prevention and abatement of all water, land, and air pollution. ECL Section 3-0301.1.i.

7. The Department and Penn Central agree that the goals of this Order are for Penn Central to (i) implement, in accordance with the ROD, as implemented by the RD/RA Work Plan, an inactive hazardous waste disposal site remedial program ("Remedial Program") for the Site that shall include design and implementation, and operation, maintenance and monitoring of the selected remedial alternative; and (ii) reimburse the Department's administrative costs.

8. Penn Central, having waived Penn Central's right to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agrees to be bound by its terms. Penn Central consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Remedial Design Contents

A. Pursuant to the schedule in Appendix "B", Penn Central shall submit to the Department a remedial design to implement the remedial alternative for the Site selected by the Department in the ROD in Appendix "A", as implemented by the RD/RA Work Plan in Appendix "B" (the "Remedial Design"). The Remedial Design shall be prepared by and have the signature and seal of a professional engineer who shall certify that the Remedial Design was prepared in accordance with this Order.

B. The Remedial Design shall include the following:

1. A detailed description of the remedial objectives and the means by which each essential element of the selected remedial alternative will be implemented to achieve those objectives, including, but not limited to:

a. the construction and operation of any structures;

b. the collection, destruction, treatment, and/or disposal of hazardous wastes and substances and their constituents and degradation products, and of any soil or other materials contaminated thereby;

c. the collection, destruction, treatment, and/or disposal of contaminated groundwater, leachate, and air;

d. physical security and posting of the Site;

e. health and safety of persons living and/or working at or in the vicinity of the Site;

f. quality control and quality assurance procedures and protocols to be applied during implementation of the Remedial Design; and

g. monitoring which integrates needs which are present on-Site and off-Site during implementation of the Department-selected remedial alternative.

2. "Biddable Quality" documents for the Remedial Design including, but not limited to, documents and specifications prepared, signed, and sealed by a professional engineer. These plans shall satisfy all applicable local, state and federal laws, rules and regulations;

3. A time schedule to implement the Remedial Design;

4. The parameters, conditions, procedures, and protocols to determine the effectiveness of the Remedial Design, including a schedule for periodic sampling of groundwater monitoring wells on-Site and off-Site;

5. A description of operation, maintenance, and monitoring activities to be undertaken after the Department has approved construction of the Remedial Design, including the number of years during which such activities will be performed;

6. A contingency plan to be implemented if any element of the Remedial Design fails to achieve any of its objectives or otherwise fails to protect human health or the environment;

7. A health and safety plan for the protection of persons at and in the vicinity of the Site during construction and after completion of construction. This plan shall be prepared in accordance with 29 C.F.R. 1910 by a certified health and safety professional; and

8. A citizen participation plan which incorporates appropriate activities outlined in the Department's publication, "New York State Inactive Hazardous Waste Citizen Participation Plan," dated August 30, 1988, and any subsequent revisions thereto.

II. Remedial Design Construction and Reporting

A. Within 90 days of the Department's approval of the Remedial Design, Penn Central shall commence construction of the Remedial Design.

B. Penn Central shall implement the Remedial Design in accordance with the RD/RA Work Plan and with Department-approved Remedial Design.

C. During implementation of all construction activities identified in the Remedial Design, Penn Central shall have on-Site a full-time representative who is qualified to supervise the work done.

D. Within 90 days after completion of the construction activities identified in the Remedial Design, Penn Central shall submit to the Department a detailed post-remedial operation and maintenance plan ("O & M Plan"); "as-built" drawings and a final engineering report (each including all changes made to the Remedial Design during construction); and a certification by a professional engineer that the Remedial Design was implemented and all construction activities were completed in accordance with the Department-approved Remedial Design. The O & M Plan, "as built" drawings, final engineering report, and certification must be prepared, signed, and sealed by a professional engineer.

E. Upon the Department's approval of the O & M Plan, Penn Central shall implement the O & M Plan in accordance with the requirements of the Department-approved O & M Plan.

F. Within sixty days after receipt of the "as-built" drawings, final engineering report, and certification, the Department shall notify Penn Central in writing whether the Department is satisfied that all construction activities have been completed in compliance with the approved Remedial Design. Such satisfaction shall not be unreasonably withheld.

G. If the Department concludes that any element of the Remedial Program fails to achieve its objectives or otherwise fails to protect human health or the environment, Penn Central shall take whatever action the Department

reasonably determines necessary to achieve those objectives or to ensure that the Remedial Program otherwise protects human health and the environment. If Penn Central disagrees with such determination, Penn Central shall be in violation of this Order, unless within ten days of receipt of notice of such determination, it invokes the dispute resolution mechanism in paragraph XII. This is without prejudice, however, to Penn Central's right to contest any allegation that it has violated this Order and without prejudice to any and all legal rights otherwise available to Penn Central.

III. Progress Reports

A. Penn Central shall submit to the parties set forth in paragraph XI in the numbers indicated therein copies of written monthly progress reports that: (i) describe the actions which have been taken toward achieving compliance with this Order during the previous month; (ii) include all results of sampling and tests and all other data received or generated by Penn Central or Penn Central's contractors or agents in the previous month, including quality assurance/quality control information, whether conducted pursuant to this Order or conducted independently by Penn Central; (iii) identify all work plans, reports, and other deliverables required by this Order that were completed and submitted during the previous month; (iv) describe all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the next month and provide other information

relating to the progress at the Site; (v) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Penn Central's obligations under the Order, and efforts made to mitigate those delays or anticipated delays; (vi) include any modifications to any work plans that Penn Central has proposed to the Department or that the Department has approved; and (vii) describe all activities undertaken in support of the Citizen Participation Plan during the previous month and those to be undertaken in the next month. Penn Central shall submit these progress reports to the Department by the tenth day of every month following the effective date of this Order.

B. Penn Central shall allow the Department to attend, and shall provide the Department at least seven days advance notice of the occurrence of, any of the following: prebid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting.

IV. Review of Submittals

A. (1) The Department shall review each of the submittals Penn Central makes pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify, within sixty days of receipt of a submittal, Penn

Central in writing of its approval or disapproval of the submittal except for the submittal discussed in paragraph I.B(7). All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

(2) (a) If the Department disapproves a submittal, it shall so notify Penn Central in writing and shall specify the reasons for its disapproval. Within a reasonable period of time specified by the Department in the notification, but in no event less than 60 days following its receipt of the disapproval notice, Penn Central shall make a revised submittal to the Department that addresses and resolves all of the Department's stated reasons for disapproving the first submittal.

(b) Within sixty days of receipt of the revised submittal, the Department shall notify Penn Central in writing of its approval or disapproval. If the Department disapproves the revised submittal, the Department shall notify Penn Central in writing of the Department's objections and the reasons therefor. Within a reasonable period of time specified by the Department in the notification, but in no event less than sixty days, Penn Central shall review the notice and submit a re-revised submittal. Within sixty days of receipt of the re-revised submittal, the Department shall notify Penn Central in writing of its approval or disapproval. If the Department disapproves the re-revised submittal, Penn Central shall be in violation of this Order, unless within 15 business

days of its receipt of the notice of disapproval, Penn Central invokes the dispute resolution mechanism set forth in paragraph XII herein. This is without prejudice however to Respondent's right to contest any allegation that it has violated this Order and without prejudice to any and all legal rights otherwise available to Penn Central. If the Department approves the revised or re-revised submittal, it shall be incorporated into and become an enforceable part of this Order.

B. The Department may require Penn Central to modify and/or amplify and expand a submittal and associated work if the Department determines, as a result of reviewing data generated by an activity required under this Order or as a result of reviewing any other data or facts, that further work is necessary. If Penn Central disagrees with such determination, it shall be in violation of this Order, unless within 15 business days of receipt of notice of the same, Penn Central invokes the dispute resolution mechanism set forth in paragraph XII herein. This is without prejudice however to Respondent's right to contest any allegation that it has violated this Order and without prejudice to any and all legal rights otherwise available to Penn Central.

V. Penalties

A. (1) Penn Central's material failure to comply with any term of this Order constitutes a violation of this Order and the ECL.

(2) Except as provided in paragraph V.(B) herein, Penn Central shall be liable for payment to the Department of the sums set forth in the ECL for each day or part thereof that Penn Central is in violation of the terms of this Order. Payment of any penalties under the ECL shall not in anyway alter Penn Central's obligation to complete performance of the terms of this Order.

B. Penn Central shall not suffer any penalty under this Order or be subject to any proceeding or action for any remedy or relief if it cannot comply with any scheduling requirements of this Order because of an act of God, war, or riot or because of any condition or event entirely beyond the control of Penn Central or its agent or agents carrying out Penn Central's obligations under this Order. Penn Central shall immediately notify the Department in writing when it obtains knowledge of any such condition and request an appropriate extension or modification of this Order.

Penn Central shall, within five days of when they obtain knowledge of any such condition, notify the Department in writing. Penn Central shall include in such notice the measures taken and to be taken by Penn Central to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Such extension or modification shall not be unreasonably withheld. Failure to give such notice within such five-day period constitutes a waiver of any claim that a delay is not subject to penalties. Penn Central

shall have the burden of proving that an event is a defense to compliance with this Order pursuant to this subparagraph.

Increased costs or expenses of any work to be performed under this Order, the financial inability of Penn Central to perform such work, the failure of Penn Central to make complete and timely application for any required approval or permit, and nonattainment of the goals, standards and requirements of this Order do not constitute conditions or events warranting the relief set forth in this subparagraph.

VI. Entry upon Site

Penn Central hereby consents to the entry upon the Site or areas in the vicinity of the Site to the extent to which they are under the temporary, if not permanent, control of Penn Central by any duly designated employee, consultant, contractor, or agent of the Department or any State agency to ensure Penn Central's compliance with this Order, and following reasonable notice, for purposes of inspection, sampling, and testing. Penn Central shall provide the Department with suitable office space at the Site, including access to a telephone, and shall permit the Department full access to all records relating to matters addressed by this Order and job meetings.

VII. Payment of Costs

Within 30 days after receipt of quarterly itemized invoices from the Department, Penn Central shall pay to the Department a sum of money which shall represent reimbursement

for the amount of the invoice setting forth the State's "reasonable oversight expenses" including, but not limited to, direct labor, overhead, travel, analytical costs, and contractor costs incurred by the State of New York for work performed pursuant to this Order, as well as for reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, and collecting and analyzing samples. "Reasonable oversight expenses" is defined as an amount not to exceed $275,000.00 during the course of the Remedial Program, and may be less than that amount.

Additionally, within 30 days of any actual collection and recovery of Penn Central's gross response costs ("Collected Cost Recovery Dollars") from the Site owners or operators, or other responsible parties in Penn Central's cost recovery action(s) against such other responsible parties at the Site, Penn Central shall pay to the Department a sum constituting fifty percent (50%) of such Collected Cost Recovery Dollars, not to exceed $1.9M, which shall represent reimbursement for the State's past expenses at the Site, including but not limited to RI/FS work performed for the Site ("Past Costs"). Penn Central's obligation to reimburse the State for such Past Costs is limited to such Collected Cost Recovery Dollars, and Penn Central has no obligation to reimburse the State for such Past Costs other than as a result of such actual Collected Cost Recovery Dollars.

Penn Central shall vigorously use its best efforts to pursue actual collection and recovery of its response costs. Penn Central shall provide the Department with monthly progress reports describing its efforts in this matter. Penn Central shall report to the Department in writing any settlement in this matter sixty days prior to its acceptance. Penn Central shall commence a lawsuit to collect its response costs within sixty days from the date Penn Central first submits the engineer's certification referred to in paragraph II.D. herein if this matter has not been resolved prior to that time.

Such payments shall be made by certified check payable to the Department of Environmental Conservation. Payment shall be sent to the Bureau of Program Management, Division of Hazardous Waste Remediation, N.Y.S.D.E.C., 50 Wolf Road, Albany, NY 12233-7010. Itemization of the costs shall include an accounting of personal services indicating the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period as identified by an assigned time and activity code. This information shall be documented by quarterly reports of Direct Personal Service. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (e.g., supplies, materials, travel, contractual) and shall be documented by the New York State Office of the State Comptroller's quarterly expenditure reports.

VIII. Department Reservation of Rights

A. Nothing contained in this Order, except as specified in paragraph IX, shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights including, but not limited to nor exemplified by, the following:

1. the Department's right to bring any action or proceeding against anyone other than Penn Central and/or any of Penn Central's directors, officers, employees, servants, agents, successors, and assigns;

2. the Department's right to enforce this Order against Penn Central and/or any of Penn Central's directors, officers, employees, servants, agents, successors, and assigns if Penn Central fails to satisfy any of the terms of this Order;

3. the Department's right to bring any action or proceeding against Penn Central and/or any of Penn Central's successors, and assigns with respect to claims for natural resources damages as a result of the release or threatened release of hazardous substances or constituents at or from the Site or areas in the vicinity of the Site;

4. the Department's right to gather information and enter and inspect property and premises.

B. Nothing contained in this Order shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

IX. Release

If, after review, the Department approves, in accordance with the procedures set forth in paragraph IV, the engineer's certification that construction of the Remedial Program was completed in accordance with the approved Remedial Design, then unless a supplementary remedial program is required pursuant to paragraph II.G., and except for the provisions of paragraph X hereof, and except for the future Operation and Maintenance of the site, reimbursement of Department expenditures at the Site as specified in paragraph VII, and any Natural Resource Damage claims that may arise, such approval shall constitute a release for each and every claim, demand, remedy or action whatsoever against Penn Central, its directors, officers, employees, agents, successors and assigns, which the Department has or may have pursuant to Article 27, Title 13 of the ECL, and to the extent within the Department's jurisdiction, similar provisions of federal law, relative to or arising from the disposal of hazardous wastes at the Site; provided, however, that the Department specifically reserves all of its rights concerning, and any such release and satisfaction shall not extend to, any investigation or remediation the Department deems necessary due to:

(1) environmental conditions on-site or off-site which are related to the disposal of hazardous wastes at the Site and were unknown to the Department at the time of its approval of the Remedial Investigation Report; or

(2) information received, in whole or in part, after the Department's approval of the Remedial Investigation Report;

and such environmental conditions or information received indicates that the Remedial Program is not protective of human health or the environment. The Department shall notify Penn Central of such environmental conditions or information and its basis for determining that the Remedial Program is not protective of human health and the environment.

This release shall inure only to the benefit of Penn Central, its directors, officers, employees, agents, successors and assigns.

Nothing herein shall be construed as barring, diminishing, adjudicating or in any way affecting any legal or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against anyone other than Penn Central, its directors, officers, employees, agents, successors and assigns.

The release granted herein shall be given the force and effect of a release as set forth in New York General Obligations Law 15-108. Pursuant to that Section and to the extent provided by 42 U.S.C. 113(f), CERCLA, Penn Central shall not be liable for claims for contribution and, except as provided in paragraph X, indemnification regarding any matters covered by the release and satisfaction set forth herein.

X. Indemnification

Penn Central shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Penn Central, and/or Penn Central's directors, officers, employees, servants, agents, successors, and assigns. Penn Central, however, shall not be required to indemnify and hold the Department, the State of New York or their employees harmless for any claims, suits, actions, damages and costs arising from the negligence of Department or the State, or their representatives or employees.

XI. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

Communication from Penn Central shall be sent to:

1. Director, Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

2. Director, Bureau of Environmental Exposure Investigation
New York State Department of Health
2 University Place
Albany, New York 12203

3. Regional Director
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, New York 14203

B. Copies of work plans and reports shall be submitted as follows:

1. Four copies (one unbound) to Director, Division of Hazardous Waste Remediation.

2. Two copies to the Director, Bureau of Environmental Exposure Investigation.

3. One copy to Regional Director, Region 9

4. One copy to Cheryl Peterson, Division of Environmental Enforcement, New York State Department of Environmental Conservation, 270 Michigan Avenue, Buffalo, NY 14203

C. Communication to be made from the Department to the Penn Central shall be sent to:

James J. Periconi, Esq.
Donovan, Leisure, Newton & Irvine
30 Rockefeller Plaza
New York, NY 10112

Michael L. Cioffi, Esq.
Assistant General Counsel
The Penn Central Corporation
1400 Provident Tower
One East Fourth Street
Cincinnati, OH 45202

Robert Weireter
Integrated Environmental Services
44 Shelter Rock Road
Danbury, CT 06810

D. The Department and Penn Central reserves the right to designate additional or different addressees for communication or written notice to the other.

XII. Pursuant to subparagraphs II.G, IV.B or XIII.B or if the Department disapproves a re-revised submittal pursuant to paragraph IV, Penn Central shall be in violation of this Order unless, within 15 business days of receipt of the Department's notice of disapproval, Penn Central serves on the Department's Director of Hazardous Waste Remediation ("the Director") a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis or opinion supporting its position, and all supporting documentation on which Penn Central relies (hereinafter called the "Statement of Position"). The Department shall serve its Statement of Position, including supporting documentation no later than fifteen business (15) days after receipt of Penn Central's Statement of Position. In the event that these 15-day time periods for exchange of Statements of Position may cause a delay in the work being performed under this Order, the time periods may be shortened upon and in accordance with notice by the Department as agreed to by Penn Central.

An administrative record of any dispute under this paragraph shall be maintained by the Department. The record shall include the Statement of Position of each party served pursuant to the preceding subparagraph, and any relevant

information. The record shall be available for review of all parties and the public.

Upon review of the administrative record as developed pursuant to this paragraph, the Director shall issue a final decision and order resolving the dispute. With respect to the final determination of the Director, Penn Central shall have those rights granted pursuant to Article 78 of the Civil Practice Law and Rules of New York (CPLR), provided that a Petition is filed within forty-five (45) business days of receipt of the final decision and order issued by the Director.

In review by the Director of any dispute pursued under this paragraph, Penn Central shall have the burden of proof in this proceeding.

The invocation of the procedures stated in this paragraph shall not extend, postpone or modify Penn Central's obligations under this Order with respect to any nondisputed items, unless and until the Department agrees or a court determines otherwise. The invocation of the procedures stated in this paragraph shall constitute an election of remedies by the party initiating the proceedings, and such election of this remedy shall constitute a waiver of any and all other remedies which may otherwise be available to that party regarding the issue in dispute.

XIII. Miscellaneous

A. All activities and submittals required by this Order shall address both on-Site and off-Site contamination, resulting from the disposal of hazardous waste at the Site.

B. Penn Central shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. The experience, capabilities, and qualifications of the firms or individuals selected by Penn Central shall be submitted to the Department within 30 days after the effective date of this Order or as specified in the RD/RA Work Plan. The Department's approval of these firms or individuals shall be obtained before the start of any activities for which the Penn Central and such firms or individuals will be responsible. Any disputes between the Department and Penn Central as to the qualifications of firms or individuals shall be subject to the dispute resolution mechanism in paragraph XII herein. The responsibility for the performance of the professionals retained by Penn Central shall rest solely with Penn Central.

C. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Penn Central, and the Department also shall have the right to take its own samples. Penn Central shall make available to the Department the results of all sampling and/or tests or other data generated by Penn Central

with respect to implementation of this Order and shall submit these results in the progress reports required by this Order.

D. Penn Central shall notify the Department at least 10 working days in advance of any field activities to be conducted pursuant to this Order.

E. Penn Central shall use best efforts to obtain all Federal permits, easements, rights-of-way, rights-of-entry, approvals, or authorizations necessary to perform Penn Central's obligations under this Order. For purposes of this paragraph "best efforts" include the payment of reasonable sums of money in consideration. If any access required to perform this Order is not obtained despite best efforts within 45 days of the effective date of this Order, or within 45 days of the date the Department notifies the Penn Central in writing that additional access beyond that previously secured is necessary, Penn Central shall promptly notify the Department, and shall include in that notification a summary of the steps Penn Central has taken to attempt to obtain access. The Department shall consistent with its legal authority, assist Penn Central in obtaining access, permits or authorizations which Penn Central was unable to obtain. Penn Central shall reimburse the Department for all costs incurred by the Department in obtaining access, including, but not limited to, attorneys fees. If Penn Central cannot, despite its best efforts, obtain such permits, access, or other authorizations within the period of time specified by the Department, the time for performance

of any obligation dependent upon such authorization shall be appropriately extended by the Department or this Order shall be appropriately modified. Penn Central, after using its best efforts, shall not be penalized for failure to obtain the necessary permits or authorizations necessary to perform Penn Central's obligations under this Order.

F. Penn Central and Penn Central's officers, directors, agents, servants, employees, successors, and assigns shall be bound by this Order. Any change in ownership or corporate status of Penn Central including, but not limited to, any transfer of assets or real or personal property shall in no way alter Penn Central's responsibilities under this Order.

G. Penn Central shall provide a copy of this Order to each contractor hired to perform work required by this Order and to each person representing Penn Central with respect to the Site. Penn Central or Penn Central's contractors shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Penn Central shall nonetheless be responsible for ensuring that Penn Central's contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

H. All references to "professional engineer" in this Order are to an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law.

I. All references to "days" in this Order are to calendar days unless otherwise specified.

J. The section headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Order.

K. (1) The terms of this Order shall constitute the complete and entire Order between Penn Central and the Department concerning the Site. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other submittal shall be construed as relieving Penn Central of Penn Central's obligation to obtain such formal approvals as may be required by this Order.

(2) If Penn Central desires that any provision of this Order be changed, Penn Central shall make timely written application, signed by the Penn Central, to the Commissioner setting forth reasonable grounds for the relief sought. A copy of such written application shall be delivered or mailed to:

Cheryl Peterson
Division of Environmental Enforcement
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203

L. The effective date of this Order shall be fifteen days after the date it is signed by the Commissioner or his designee.

DATED: Albany, New York
March 28, 1994

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

J. LANGDON MARSH
Acting Commissioner

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

THE PENN CENTRAL CORPORATION

By: _____

Michael L. Cioffi
(Type Name of Signer)

Title: Vice President, Assistant General Co.

Date: March 8, 1994

STATE OF ~~NEW YORK~~ Ohio)
) s.s.:
COUNTY OF Hamilton)

On this 8th day of March, 1994, before me personally came Michael L. Cioffi, to me known, who, being by me duly sworn, did depose and say that he resides in Cincinnati, Ohio; that he is the Vice President of the Penn Central Corporation the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Sharon Koster
Notary Public

SHARON KOSTER
Notary Public, State of Ohio
My Commission Expires January 31, 1998

RECORD OF DECISION

Appendix "A"

REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN

Appendix "B"

EXHIBIT 7

15 (12-75)

New York State Department of Environmental Conservation

MEMORANDUM

Lana 2

TO: Michael O'Toole, Director - DHWR, Albany
FROM: Charles E. Sullivan, Jr., - Bur. Chief - DEE, Albany
SUBJECT: Union Road Site - Final Approval and Signature for an Amendment to RD/RA Consent Order #B9-0148-92-03 (Site #850002)
DATE: 17 JUNE 1996

9-15-128

Enclosed for your review, approval and signature are duplicate originals of an Amendment to the RD/RA Order on Consent originally signed by the Department and the Penn Central Corporation on March 28, 1994.

This amendment requires the Respondent, American Premier Underwriters (formerly the Penn Central Corporation), to sample, excavate, and dispose of contaminated soils on a property adjacent to the above-referenced site. This work will be performed pursuant to a Department-approved Addendum to the RD/RA Work Plan.

The estimated cost of this additional off-site remedial work is approximately $300,000.00. Any additional oversight costs are covered under the original Order on Consent.

This site is a former railroad repair yard in the Town of Lancaster in Erie County. The remedial work under the original Order on Consent is well underway and will likely cost $14 million when completed.

This Amendment was negotiated by Joseph P. Ryan, Esq. of DEE's Western Field Unit. If you have any questions, he can be reached at (716) 851-7050. The technical issues were negotiated by David Locey (DHWR - Region 9). He can be reached at (716) 851-7220.

Attachment

cc: J. Cahill
G. Mikol
G. Caito
E. Armater

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by AMERICAN PREMIER UNDERWRITERS (f/k/a THE PENN CENTRAL CORPORATION) Respondent.	AMENDMENT TO ORDER ON CONSENT INDEX # B9-0148-92-03

Site Code #915128

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"), entitled "Inactive Hazardous Waste Disposal Sites." This Order is entered into pursuant to the Department's authority under ECL Article 27, Title 13 and ECL Section 3-0301.

2. American Premier Underwriters ("APU"), the Respondent, formerly known as the Penn Central Corporation, is authorized to do business in New York and is organized in the Commonwealth of Pennsylvania. The Department alleges that a predecessor to APU conducted activities which resulted in the disposal of hazardous waste on that property currently owned by Witben Realty and Universal Marion Corporation which may be controlled by Louis Wolfson, among others, known as the Union Road Site in Cheektowaga, NY (the "Property"). There is

evidence of alleged unauthorized dumping at the Property after Respondent's predecessor was allegedly connected with the Site.

3. The Department and Respondent entered into an Order on Consent as identified in the above caption effective March 28, 1994, wherein Respondent was to conduct an inactive hazardous waste disposal site remedial program ("Remedial Program") at portions of the Property designated as inactive hazardous waste site no. 915128 (the "Site").

4. Pursuant to that Order on Consent and in accordance with a Remedial Work Plan approved by the Department, Respondent is currently implementing this Remedial Program. However, during the implementation of the Remedial Program, additional contamination, primarily soils, was discovered at or adjacent to the Site.

5. To effectively address the additional contamination, the Respondent and the Department have agreed to additional remedial actions for soil removal and other activities for the Site by incorporating elements from the initial work plan. This Work Plan implements activities consistent with 40 C.F.R. Part 300.

6. The Department and Respondent agree that the goal of this Amendment is for Respondent to implement additional remedial actions at or adjacent to the Site pursuant to the original remedial Work Plan and the Addendum as set forth on Schedule A as attached.

7. Respondent, having waived its right to a hearing herein as provided by law, and having consented to the issuance and entry of this Amendment, agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Amendment.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Implementation

Respondent shall undertake and implement additional remedial actions for the Site as agreed to by the Department and Respondent pursuant to the attached Schedule A and the original Remedial Work Plan, under the oversight of the Department. Any modifications or revisions which may be required due to unanticipated field conditions shall be subject to approval by the Department. Any such modification or revisions shall be attached to and incorporated into this Amendment as an Appendix. The Department, for good cause shown, reserves the right to change Schedule A which was agreed to by the Department and Respondent. For good cause shown, Respondent may request the Department to change Schedule A. Schedule A is incorporated into this Amendment as Appendix "A".

During the performance of field activities, Respondent must have on-Site a full-time representative who is qualified to supervise the work done.

Within the time frame set forth in the Appendix A, Respondent must prepare a report ("Addendum Report") that includes all data generated and all other information obtained during the additional remedial actions and identifies any additional data that must be collected. The Addendum Report shall be prepared by and have the signature and seal of a professional engineer who shall certify that the Addendum Report was prepared in accordance with this Amendment.

II. This Amendment and any appendices shall be incorporated in and become a part of the Order on Consent between the Department and the Respondent dated March 28, 1994 and identified as Index No. B9-0148-92-03. The terms, provisions, conditions and requirements of the Order on Consent shall remain in effect and shall apply to this Amendment.

III. The terms, conditions and modifications contained in this Amendment shall become effective on the date this Amendment is signed by the Commissioner or his designee.

DATED: 3/21, New York
, 1996

MICHAEL D. ZAGATA
Commissioner
New York State Department
of Environmental Conservation

Michael J. O'Toole, Jr.

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Amendment, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Amendment.

AMERICAN PREMIER UNDERWRITERS

By: _____

Michael L. Cioffi
(Type Name of Signer)

Title: Vice President

Date: June 4, 1996

STATE OF OHIO)
) s.s.:
COUNTY OF HAMILTON)

On this 4th day of June, 1996, before me personally came Michael L. Cioffi, to me known, who, being by me duly sworn, did depose and say that he resides in Cincinnati, Ohio; that he is the Vice President of the American Premier, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

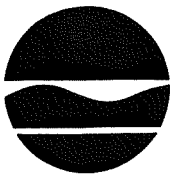
Mary L Bonta
Notary Public

NOTARIAL SEAL
STATE OF OHIO

MARY L. BONTA
Notary Public, State of Ohio
My Commission Expires March 21, 1999

EXHIBIT 8

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York 14203-2999



John P. Cahill
Commissioner

March 13, 1998

Mr. Mark Cambra, P.E.
NES Inc.
44 Shelter Rock Road
Danbury, Connecticut 06810

Dear Mr. Cambra:

Union Road, Site #915128
Cheektowaga (C), Erie County

The New York State Department of Environmental Conservation has completed its review of the revised As-Built Closure Report, dated January 30, 1998, and the revised As-Built Drawings, submitted February 5, 1998, for the Union Road site. The Department finds these revised documents acceptable and is satisfied that all construction activities have been completed in compliance with the approved Remedial Design.

If you have any questions, please call me at (716) 851-7220.

Sincerely,

David P. Locey
Environmental Engineer I
Division of Environmental Remediation
Region 9

DPL:sz

cc: Mr. Martin Doster, NYSDEC
Mr. Shive Mittal, NYSDEC, Albany
Mr. Michael Rivara, NYS Department of Health, Albany
Mr. James Periconi, Periconi & Rothberg
Mr. Michael Cioffi, American Financial Group

EXHIBIT 9

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

PHASE I/PHASE II REMEDIAL INVESTIGATION REPORT

Union Road Site
Town of Cheektowaga, Erie County, New York
(Site Registry No. 9-15-128)

Volume II

Dvirka and Bartilucci

Consulting Engineers

JUNE 1991

SL-4 (CHEEKTOWAGA TOWN PARK APPROX. 0.5 MILES)

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.040
TOTAL PAH:	12.0 *
TOTAL BN:	68.0 *
TOTAL AE:	3.0
TOTAL PHC:	182.0 *
TOTAL LEAD:	370.0 *

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.015
TOTAL PAH:	0.29
TOTAL BN:	9.8
TOTAL AE:	0.13
TOTAL PHC:	92.2
TOTAL LEAD:	741.0 *

SL-5

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.094
TOTAL PAH:	13.0 *
TOTAL BN:	59.0 *
TOTAL AE:	1.3
TOTAL PHC:	373.0 *
TOTAL LEAD:	921.0 *

SL-1

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.10
TOTAL PAH:	22.0 *
TOTAL BN:	150.0 *
TOTAL AE:	0.44
TOTAL PHC:	44.6
TOTAL LEAD:	3200.0 *

SL-2

SL-3

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.027
TOTAL PAH:	4.8
TOTAL BN:	97.0 *
TOTAL AE:	0.73
TOTAL PHC:	118.0 *
TOTAL LEAD:	1370.0 *

SOIL CLEANUP LEVEL GUIDELINES (mg/kg)

TOTAL VOC: 1.0
TOTAL PAH: 10.0
TOTAL BN: 10.0
TOTAL AE: 10.0
TOTAL PHC: 100.0
TOTAL LEAD: 250.0

Since lead exceeded preliminary ARARs in all, but one, sample matrix analyzed, it is shown as an analyte of concern. However, it is noted that other metals, i.e., antimony, arsenic, chromium, copper, nickel and zinc, were also found to be analytes of concern.

0 100 200

LEGEND	
DESIGNATION	DESCRIPTION
□ SL-1	SURFICIAL SOIL SAMPLE LOCATION
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
VOC	VOLATILE ORGANIC COMPOUNDS
BN	BASE NEUTRALS
AE	ACID EXTRACTABLES
PHC	PETROLEUM HYDROCARBONS

* EXCEEDS SOIL CLEANUP LEVEL GUIDELINES

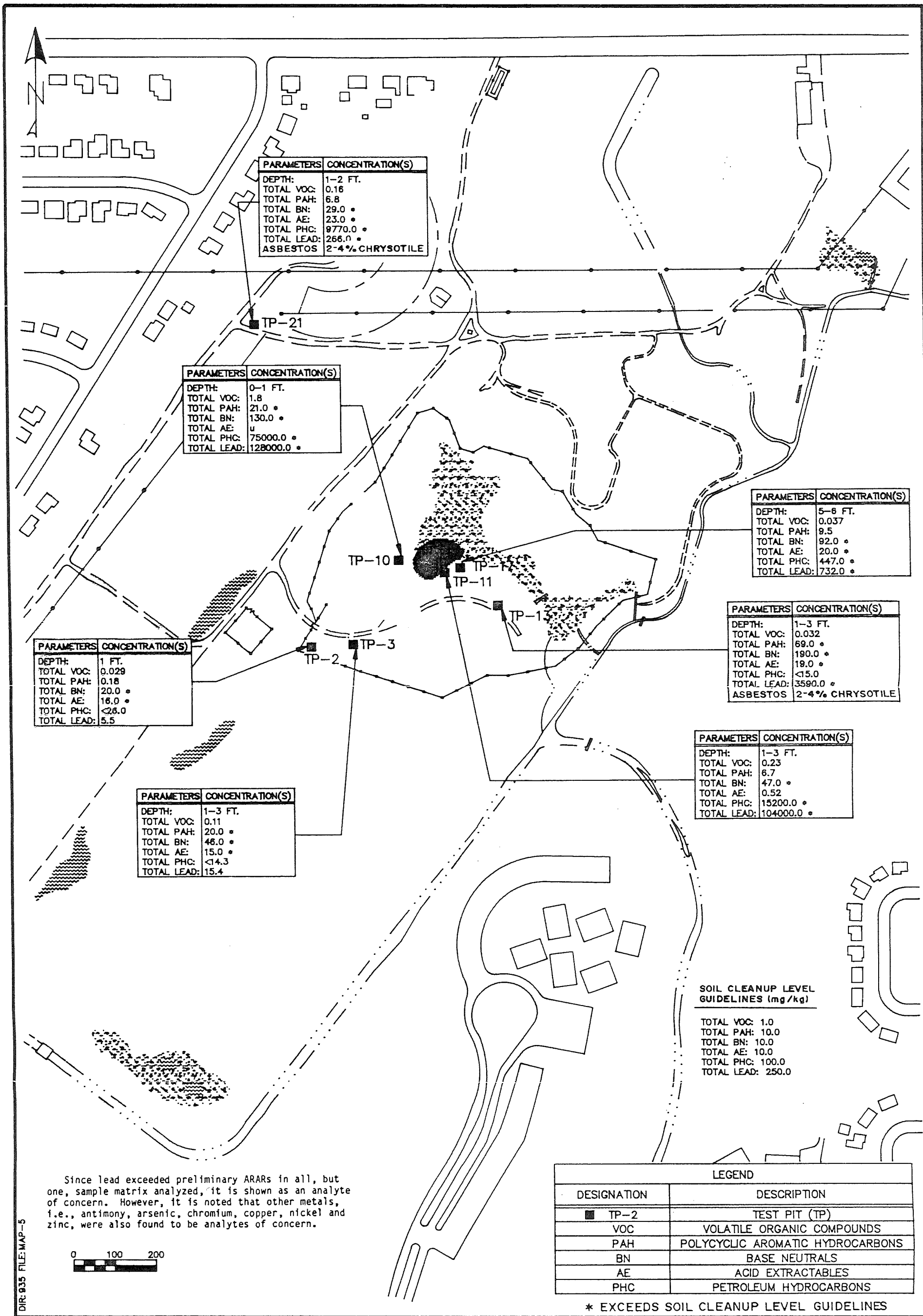
DIR: 935 FILE: MAP-3

Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE

LOCATIONS OF SURFICIAL SOIL SAMPLES AND ANALYTES OF CONCERN (mg/kg)

FIGURE NO.4-3



PARAMETERS	CONCENTRATION(S)
DEPTH:	1-2 FT.
TOTAL VOC:	0.16
TOTAL PAH:	6.8
TOTAL BN:	29.0 *
TOTAL AE:	23.0 *
TOTAL PHC:	9770.0 *
TOTAL LEAD:	266.0 *
ASBESTOS	2-4% CHRYSOTILE

PARAMETERS	CONCENTRATION(S)
DEPTH:	0-1 FT.
TOTAL VOC:	1.8
TOTAL PAH:	21.0 *
TOTAL BN:	130.0 *
TOTAL AE:	u
TOTAL PHC:	75000.0 *
TOTAL LEAD:	128000.0 *

PARAMETERS	CONCENTRATION(S)
DEPTH:	5-6 FT.
TOTAL VOC:	0.037
TOTAL PAH:	9.5
TOTAL BN:	92.0 *
TOTAL AE:	20.0 *
TOTAL PHC:	447.0 *
TOTAL LEAD:	732.0 *

PARAMETERS	CONCENTRATION(S)
DEPTH:	1 FT.
TOTAL VOC:	0.029
TOTAL PAH:	0.18
TOTAL BN:	20.0 *
TOTAL AE:	16.0 *
TOTAL PHC:	<26.0
TOTAL LEAD:	5.5

PARAMETERS	CONCENTRATION(S)
DEPTH:	1-3 FT.
TOTAL VOC:	0.032
TOTAL PAH:	69.0 *
TOTAL BN:	190.0 *
TOTAL AE:	19.0 *
TOTAL PHC:	<15.0
TOTAL LEAD:	3590.0 *
ASBESTOS	2-4% CHRYSOTILE

PARAMETERS	CONCENTRATION(S)
DEPTH:	1-3 FT.
TOTAL VOC:	0.11
TOTAL PAH:	20.0 *
TOTAL BN:	46.0 *
TOTAL AE:	15.0 *
TOTAL PHC:	<14.3
TOTAL LEAD:	15.4

PARAMETERS	CONCENTRATION(S)
DEPTH:	1-3 FT.
TOTAL VOC:	0.23
TOTAL PAH:	6.7
TOTAL BN:	47.0 *
TOTAL AE:	0.52
TOTAL PHC:	15200.0 *
TOTAL LEAD:	104000.0 *

SOIL CLEANUP LEVEL GUIDELINES (mg/kg)

TOTAL VOC: 1.0
TOTAL PAH: 10.0
TOTAL BN: 10.0
TOTAL AE: 10.0
TOTAL PHC: 100.0
TOTAL LEAD: 250.0

Since lead exceeded preliminary ARARs in all, but one, sample matrix analyzed, it is shown as an analyte of concern. However, it is noted that other metals, i.e., antimony, arsenic, chromium, copper, nickel and zinc, were also found to be analytes of concern.

LEGEND	
DESIGNATION	DESCRIPTION
■ TP-2	TEST PIT (TP)
VOC	VOLATILE ORGANIC COMPOUNDS
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
BN	BASE NEUTRALS
AE	ACID EXTRACTABLES
PHC	PETROLEUM HYDROCARBONS

* EXCEEDS SOIL CLEANUP LEVEL GUIDELINES

DIR: 935 FILE: MAP-5

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UNION ROAD SITE
LOCATIONS OF TEST PITS AND ANALYTES OF CONCERN (mg/kg)

FIGURE NO.4-5

N

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	316.0*
TOTAL LEAD:	214.0
LEAD EP TOX (mg/l):	0.014

SUSL-11

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.009
TOTAL PAH:	10.0*
TOTAL BN:	46.0*
TOTAL AE:	2.2
TOTAL PHC	174.0*
TOTAL LEAD:	227.0
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	113.0*
TOTAL LEAD:	203.0
LEAD EP TOX (mg/l):	0.071

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	17.1
TOTAL LEAD:	43.9
LEAD EP TOX (mg/l):	NA

SUSL-13

SUSL-12

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.038
TOTAL PAH:	69.0*
TOTAL BN:	120.0*
TOTAL AE:	0.44
TOTAL PHC	389.0*
TOTAL LEAD:	767.0*
LEAD EP TOX (mg/l):	0.158

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.024
TOTAL PAH:	2.3
TOTAL BN:	96.0
TOTAL AE:	U
TOTAL PHC	227.0*
TOTAL LEAD:	68.6
LEAD EP TOX (mg/l):	0.031

SUSL-6

SUSL-7

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	147.0*
TOTAL LEAD:	66.0
LEAD EP TOX (mg/l):	NA

SUSL-8

SUSL-9

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.007
TOTAL PAH:	15.0*
TOTAL BN:	37.0*
TOTAL AE:	4.0
TOTAL PHC	72.3
TOTAL LEAD:	325.0*
LEAD EP TOX (mg/l):	0.177

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.015
TOTAL PAH:	37.0*
TOTAL BN:	93.0*
TOTAL AE:	1.8
TOTAL PHC	581.0*
TOTAL LEAD:	94.1
LEAD EP TOX (mg/l):	0.019

SUSL-10

SUSL-14

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.024
TOTAL PAH:	0.15
TOTAL BN:	49.0*
TOTAL AE:	0.94
TOTAL PHC	18.6
TOTAL LEAD:	14.7
LEAD EP TOX (mg/l):	NA

SUSL-19

SUSL-15

SUSL-16

SUSL-18

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.037
TOTAL PAH:	U
TOTAL BN:	7.8
TOTAL AE:	U
TOTAL PHC	379.0*
TOTAL LEAD:	403.0*
LEAD EP TOX (mg/l):	NA

SUSL-22

APPROX. 1/2 MILE WEST OF SITE

SUSL-24

APPROX. 1/2 MILE EAST OFF SITE

SUSL-17

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	140.0*
TOTAL LEAD:	69.0
LEAD EP TOX (mg/l):	NA

SUSL-20 (0/0)

SUSL-21 (0/415W)

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	1,790.0*
TOTAL LEAD:	1,170.0*
LEAD EP TOX (mg/l):	0.527

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	803.0*
TOTAL LEAD:	9,920.0*
LEAD EP TOX (mg/l):	14.7**

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	649.0*
TOTAL LEAD:	3,080.0*
LEAD EP TOX (mg/l):	5.76**

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.092
TOTAL PAH:	1,000.0*
TOTAL BN:	1,100.0*
TOTAL AE:	1.2
TOTAL PHC	3,090.0*
TOTAL LEAD:	5,400.0*
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	130.0*
TOTAL LEAD:	87.9
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	0.049
TOTAL PAH:	0.97
TOTAL BN:	42.0*
TOTAL AE:	0.90
TOTAL PHC	82.4
TOTAL LEAD:	27.2
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	25,1
TOTAL LEAD:	155.0
LEAD EP TOX (mg/l):	NA

SUSL-23

APPROX. 1/2 MILE SOUTH OFF SITE

SOIL CLEANUP LEVEL GUIDELINES (mg/kg)

TOTAL VOC: 1.0
TOTAL PAH: 10.0
TOTAL BN: 10.0
TOTAL AE: 10.0
TOTAL PHC: 100.0
TOTAL LEAD: 250.0
LEAD EP TOXICITY LIMIT: 5.0 mg/l

NOTE:
SINCE LEAD EXCEEDED SOIL CLEANUP LEVEL GUIDELINES IN ALL, BUT ONE, SAMPLE MATRIX ANALYZED, IT IS SHOWN AS AN ANALYTE OF CONCERN. HOWEVER, IT IS NOTED THAT OTHER METALS, IE., ANTIMONY, ARSENIC, CHROMIUM, COPPER, NICKEL AND ZINC, WERE ALSO FOUND TO BE ANALYTES OF CONCERN IN A NUMBER OF MATRICES.

0 100 200

LEGEND	
DESIGNATION	DESCRIPTION
SUSL-21	SURFICIAL SOIL SAMPLE LOCATION
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
VOC	VOLATILE ORGANIC COMPOUNDS
BN	BASE NEUTRALS
AE	ACID EXTRACTABLES
PHC	PETROLEUM HYDROCARBONS

* EXCEEDS SOIL CLEANUP LEVEL GUIDELINES
** EXCEEDS LIMITS FOR CHARACTERIZATION AS A HAZARDOUS WASTE

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UNION ROAD SITE
LOCATIONS OF SURFICIAL SOIL SAMPLES AND ANALYTES OF CONCERN (mg/kg)

FIGURE NO. 4-12

4.5.3 Subsurface Soil/Fill Material/Buried Waste

4.5.3.1 Boreholes

Subsurface soil samples were obtained from monitoring well boreholes and soil/waste borings. The compound specific VOC analytical results for these samples are presented in Table No. 4-68. As shown in this table, total VOC concentrations (both known and known plus unknown) for subsurface soil samples fall below the NJDEP Soil Cleanup Level of 1 mg/kg.

The semi-VOC analytical results are shown in Table No. 4-69. As seen in this table, many unknown semi-VOC compounds were detected in the subsurface soil samples obtained. When considering total PAH, base neutral and acid extractable concentrations of known parameters only, the NJDEP Soil Cleanup Level for acid extractables were not exceeded for any of the samples. Sample nos. WB-24 (6-8') at 66 mg/kg, WB-24 (24-26') at 12 mg/kg, WB-45 (0-2') at 21 mg/kg and WB-40 (14-16') at 14 mg/kg exceeded the NJDEP Soil Cleanup Level for total PAHs of 10 mg/kg, although all sample concentrations of total known PAHs fell well below that found in urban and light industrial areas (100 mg/kg). Sample nos. WB-24 (6-8') at 67 mg/kg, WB-24 (24-26') at 12 mg/kg, WB-45 at 21 mg/kg and WB-40 at 14 mg/kg exceeded the NJDEP Soil Cleanup Level for total base neutral compounds of 10 mg/kg.

Table No. 4-70 lists semi-VOC parameters which exceeded NYSDEC Soil Cleanup Criteria (mg/kg).

When considering the analytical results of known and unknown parameters combined for total PAH, base neutral and acid extractable compounds, the following samples were found to exceed the NJDEP Soil Cleanup Level of 10 mg/kg:

Sample No.	Total PAH	Total BN	Total Acid Ext.
Disposal Area			
WB-16(10-12')	-	44.0	-
WB-18 (14-16')	-	-	-
WB-24 (6-8')	66.0	150.0	14.0
WB-24 (24-26')	12.0	340.0	-
WB-45 (24-26')	21.0	120.0	-
Roundhouse Area			
WB-40 (14-16')	15.0	80.0	-

PARAMETERS	CONCENTRATION(S)
DEPTH:	38–40 ft.
TOTAL VOC:	0.062
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	18.4
TOTAL LEAD:	3.8
LEAD EP TOX (mg/l):	0.038

PARAMETERS	CONCENTRATION(S)
DEPTH:	6–8 ft.
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	10,500.0*
TOTAL LEAD:	45.7
LEAD EP TOX (mg/l):	U

MW–7D (63.3')

PARAMETERS	CONCENTRATION(S)
DEPTH:	25–27 ft.
TOTAL VOC:	NA
TOTAL PAH:	0.065
TOTAL BN:	38.0*
TOTAL AE:	U
TOTAL PHC	169.0*
TOTAL LEAD:	17.8
LEAD EP TOX (mg/l):	NA

WB–32 (10.0')

WB–31 (12.0')

WB–34 (12.0')

WB–40 (18.0')

WB–51 (36.0')

PARAMETERS	CONCENTRATION(S)
DEPTH:	8–10 ft.
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	34.5
TOTAL LEAD:	9.7
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
DEPTH:	14–16 ft.
TOTAL VOC:	0.030
TOTAL PAH:	15.0*
TOTAL BN:	80.0*
TOTAL AE:	4.5
TOTAL PHC	2,660.0*
TOTAL LEAD:	1,060.0*
LEAD EP TOX (mg/l):	0.201

PARAMETERS	CONCENTRATION(S)
DEPTH:	6–8 ft.
TOTAL VOC:	NA
TOTAL PAH:	NA
TOTAL BN:	NA
TOTAL AE:	NA
TOTAL PHC	386.0*
TOTAL LEAD:	12.5
LEAD EP TOX (mg/l):	NA

PARAMETERS	CONCENTRATION(S)
DEPTH:	20–22 ft.
TOTAL VOC:	0.073
TOTAL PAH:	0.053
TOTAL BN:	27.0*
TOTAL AE:	U
TOTAL PHC	45.1
TOTAL LEAD:	12.5
LEAD EP TOX (mg/l):	NA

WB–52 (41.0')

SOIL CLEANUP LEVEL GUIDELINES (mg/kg)

TOTAL VOC: 1.0
TOTAL PAH: 10.0
TOTAL BN: 10.0
TOTAL AE: 10.0
TOTAL PHC: 100.0
TOTAL LEAD: 250.0
LEAD EP TOXICITY LIMIT: 5.0 mg/l

NOTE:
SINCE LEAD EXCEEDED SOIL CLEANUP LEVEL GUIDELINES IN ALL, BUT ONE, SAMPLE MATRIX ANALYZED, IT IS SHOWN AS AN ANALYTE OF CONCERN. HOWEVER, IT IS NOTED THAT OTHER METALS, IE., ANTIMONY, ARSENIC, CHROMIUM, COPPER, NICKEL AND ZINC, WERE ALSO FOUND TO BE ANALYTES OF CONCERN IN A NUMBER OF MATRICES.

0 100 200

LEGEND	
DESIGNATION	DESCRIPTION
● MW–7D (63.3')	MONITORING WELL LOCATION AND DEPTH OF WELL
⊕ WB–31 (12.0')	WASTE BORING LOCATION AND DEPTH OF WASTE BORING
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
VOC	VOLATILE ORGANIC COMPOUNDS
BN	BASE NEUTRALS
AE	ACID EXTRACTABLES
PHC	PETROLEUM HYDROCARBONS

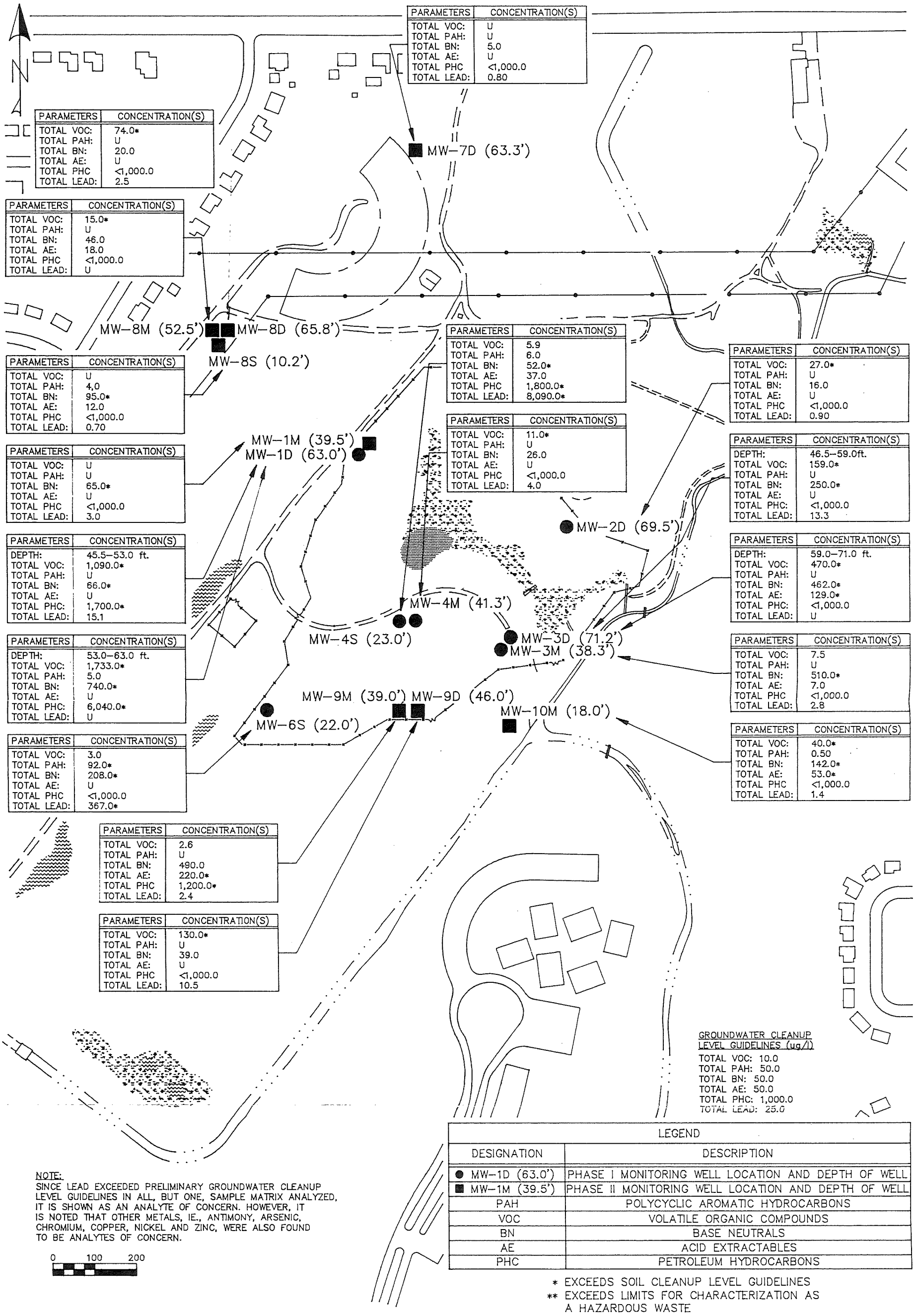
* EXCEEDS SOIL CLEANUP LEVEL GUIDELINES
** EXCEEDS LIMITS FOR CHARACTERIZATION AS A HAZARDOUS WASTE

UNION ROAD SITE

LOCATIONS OF SUBSURFACE SOIL SAMPLING POINTS AND ANALYTES OF CONCERN OUTSIDE OF THE DISPOSAL AREA (mg/kg)

Dvirka and Bartilucci CONSULTING ENGINEERS

FIGURE NO. 4–14



PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	U
TOTAL PAH:	U
TOTAL BN:	5.0
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	0.80

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	74.0*
TOTAL PAH:	U
TOTAL BN:	20.0
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	2.5

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	15.0*
TOTAL PAH:	U
TOTAL BN:	46.0
TOTAL AE:	18.0
TOTAL PHC	<1,000.0
TOTAL LEAD:	U

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	U
TOTAL PAH:	4,0
TOTAL BN:	95.0*
TOTAL AE:	12.0
TOTAL PHC	<1,000.0
TOTAL LEAD:	0.70

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	5.9
TOTAL PAH:	6.0
TOTAL BN:	52.0*
TOTAL AE:	37.0
TOTAL PHC	1,800.0*
TOTAL LEAD:	8,090.0*

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	27.0*
TOTAL PAH:	U
TOTAL BN:	16.0
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	0.90

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	11.0*
TOTAL PAH:	U
TOTAL BN:	26.0
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	4.0

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	U
TOTAL PAH:	U
TOTAL BN:	65.0*
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	3.0

PARAMETERS	CONCENTRATION(S)
DEPTH:	46.5–59.0ft.
TOTAL VOC:	159.0*
TOTAL PAH:	U
TOTAL BN:	250.0*
TOTAL AE:	U
TOTAL PHC:	<1,000.0
TOTAL LEAD:	13.3

PARAMETERS	CONCENTRATION(S)
DEPTH:	45.5–53.0 ft.
TOTAL VOC:	1,090.0*
TOTAL PAH:	U
TOTAL BN:	66.0*
TOTAL AE:	U
TOTAL PHC:	1,700.0*
TOTAL LEAD:	15.1

PARAMETERS	CONCENTRATION(S)
DEPTH:	59.0–71.0 ft.
TOTAL VOC:	470.0*
TOTAL PAH:	U
TOTAL BN:	462.0*
TOTAL AE:	129.0*
TOTAL PHC:	<1,000.0
TOTAL LEAD:	U

PARAMETERS	CONCENTRATION(S)
DEPTH:	53.0–63.0 ft.
TOTAL VOC:	1,733.0*
TOTAL PAH:	5.0
TOTAL BN:	740.0*
TOTAL AE:	U
TOTAL PHC:	6,040.0*
TOTAL LEAD:	U

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	7.5
TOTAL PAH:	U
TOTAL BN:	510.0*
TOTAL AE:	7.0
TOTAL PHC	<1,000.0
TOTAL LEAD:	2.8

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	3.0
TOTAL PAH:	92.0*
TOTAL BN:	208.0*
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	367.0*

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	40.0*
TOTAL PAH:	0.50
TOTAL BN:	142.0*
TOTAL AE:	53.0*
TOTAL PHC	<1,000.0
TOTAL LEAD:	1.4

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	2.6
TOTAL PAH:	U
TOTAL BN:	490.0
TOTAL AE:	220.0*
TOTAL PHC	1,200.0*
TOTAL LEAD:	2.4

PARAMETERS	CONCENTRATION(S)
TOTAL VOC:	130.0*
TOTAL PAH:	U
TOTAL BN:	39.0
TOTAL AE:	U
TOTAL PHC	<1,000.0
TOTAL LEAD:	10.5

GROUNDWATER CLEANUP LEVEL GUIDELINES (ug/l)

TOTAL VOC: 10.0
TOTAL PAH: 50.0
TOTAL BN: 50.0
TOTAL AE: 50.0
TOTAL PHC: 1,000.0
TOTAL LEAD: 25.0

NOTE:
SINCE LEAD EXCEEDED PRELIMINARY GROUNDWATER CLEANUP LEVEL GUIDELINES IN ALL, BUT ONE, SAMPLE MATRIX ANALYZED, IT IS SHOWN AS AN ANALYTE OF CONCERN. HOWEVER, IT IS NOTED THAT OTHER METALS, IE., ANTIMONY, ARSENIC, CHROMIUM, COPPER, NICKEL AND ZINC, WERE ALSO FOUND TO BE ANALYTES OF CONCERN.

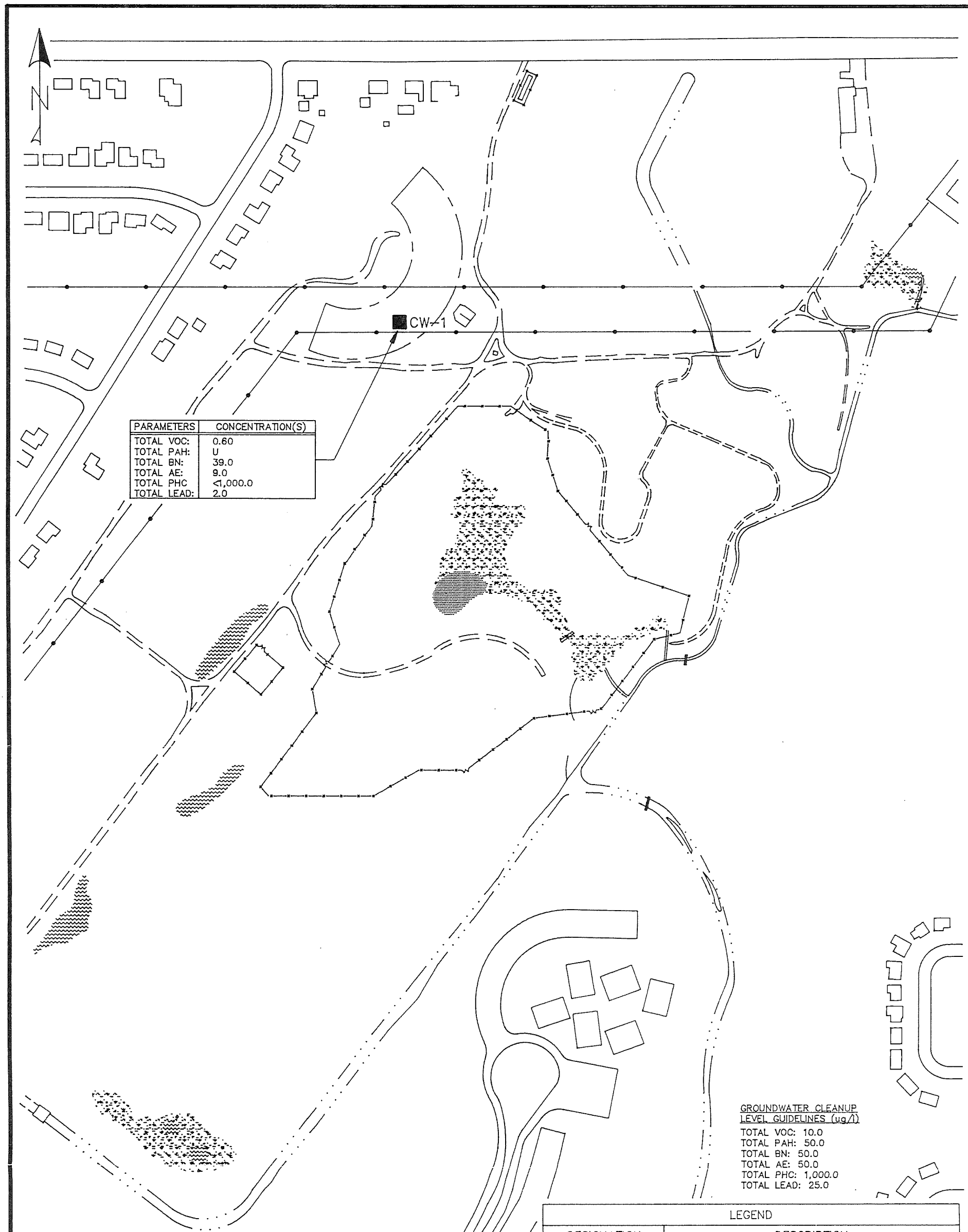
LEGEND	
DESIGNATION	DESCRIPTION
● MW–1D (63.0')	PHASE I MONITORING WELL LOCATION AND DEPTH OF WELL
■ MW–1M (39.5')	PHASE II MONITORING WELL LOCATION AND DEPTH OF WELL
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
VOC	VOLATILE ORGANIC COMPOUNDS
BN	BASE NEUTRALS
AE	ACID EXTRACTABLES
PHC	PETROLEUM HYDROCARBONS

* EXCEEDS SOIL CLEANUP LEVEL GUIDELINES
** EXCEEDS LIMITS FOR CHARACTERIZATION AS A HAZARDOUS WASTE

Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE
LOCATIONS OF WELL SAMPLING POINTS AND ANALYTES OF CONCERN (ug/l)

FIGURE NO. 4–15



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UNION ROAD SITE
LOCATION OF ROUNDHOUSE WATER SAMPLING POINT AND ANALYTES OF CONCERN (ug/l)

FIGURE NO. 4-16

EXHIBIT 10

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Unicorn Management Consultants, LLC

FORMER ROUNDHOUSE AREA INVESTIGATION REPORT (REV. 2)

UNION ROAD SITE
CHEEKTOWAGA, NEW YORK
INACTIVE HAZERDOUS WASTE DISPOSAL SITE NO. 915128

Prepared for:

AMERICAN PREMIER UNDERWRITERS

One East Fourth Street

Cincinnati, Ohio 45202

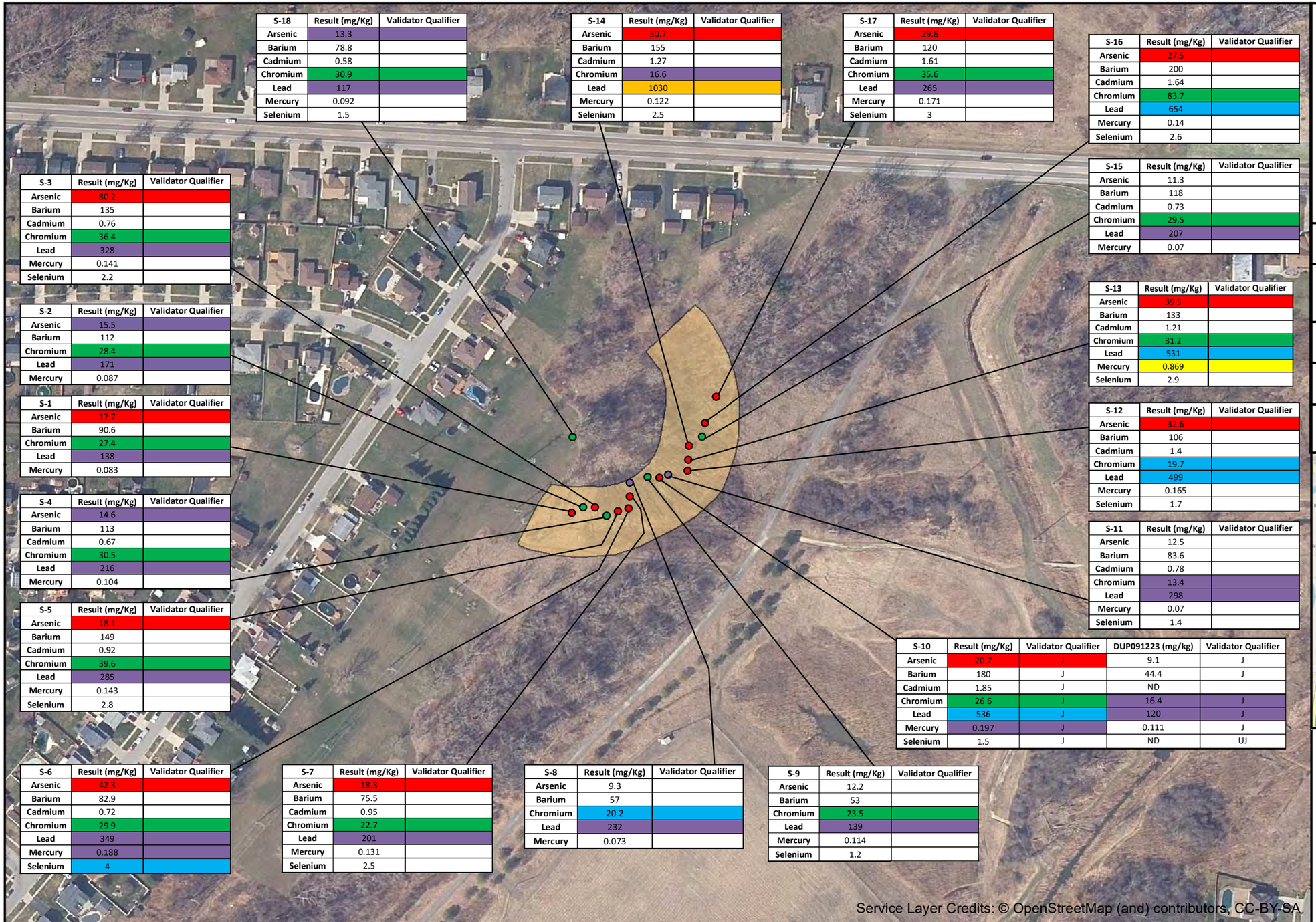
Prepared by:

UNICORN MANAGEMENT CONSULTANTS, LLC

52 Federal Road, Suite 2C

Danbury, CT 06810

May 20, 2024



S-18	Result (mg/Kg)	Validator Qualifier
Arsenic	13.3	
Barium	78.8	
Cadmium	0.58	
Chromium	30.9	
Lead	117	
Mercury	0.092	
Selenium	1.5	

S-14	Result (mg/Kg)	Validator Qualifier
Arsenic	30.7	
Barium	155	
Cadmium	1.27	
Chromium	16.6	
Lead	1030	
Mercury	0.122	
Selenium	2.5	

S-17	Result (mg/Kg)	Validator Qualifier
Arsenic	29.8	
Barium	120	
Cadmium	1.61	
Chromium	35.6	
Lead	265	
Mercury	0.171	
Selenium	3	

S-16	Result (mg/Kg)	Validator Qualifier
Arsenic	27.5	
Barium	200	
Cadmium	1.64	
Chromium	83.7	
Lead	654	
Mercury	0.14	
Selenium	2.6	

S-15	Result (mg/Kg)	Validator Qualifier
Arsenic	11.3	
Barium	118	
Cadmium	0.73	
Chromium	29.5	
Lead	207	
Mercury	0.07	

S-13	Result (mg/Kg)	Validator Qualifier
Arsenic	39.5	
Barium	133	
Cadmium	1.21	
Chromium	31.2	
Lead	531	
Mercury	0.869	
Selenium	2.9	

S-12	Result (mg/Kg)	Validator Qualifier
Arsenic	32.6	
Barium	106	
Cadmium	1.4	
Chromium	19.7	
Lead	499	
Mercury	0.165	
Selenium	1.7	

S-11	Result (mg/Kg)	Validator Qualifier
Arsenic	12.5	
Barium	83.6	
Cadmium	0.78	
Chromium	13.4	
Lead	298	
Mercury	0.07	
Selenium	1.4	

S-3	Result (mg/Kg)	Validator Qualifier
Arsenic	80.2	
Barium	135	
Cadmium	0.76	
Chromium	36.4	
Lead	328	
Mercury	0.141	
Selenium	2.2	

S-2	Result (mg/Kg)	Validator Qualifier
Arsenic	15.5	
Barium	112	
Chromium	28.4	
Lead	171	
Mercury	0.087	

S-1	Result (mg/Kg)	Validator Qualifier
Arsenic	17.7	
Barium	90.6	
Chromium	27.4	
Lead	138	
Mercury	0.083	

S-4	Result (mg/Kg)	Validator Qualifier
Arsenic	14.6	
Barium	113	
Cadmium	0.67	
Chromium	30.5	
Lead	216	
Mercury	0.104	

S-5	Result (mg/Kg)	Validator Qualifier
Arsenic	18.1	
Barium	149	
Cadmium	0.92	
Chromium	39.6	
Lead	285	
Mercury	0.143	
Selenium	2.8	

S-10	Result (mg/Kg)	Validator Qualifier	DUP091223 (mg/Kg)	Validator Qualifier
Arsenic	20.7	J	9.1	J
Barium	180	J	44.4	J
Cadmium	1.85	J	ND	
Chromium	26.6	J	16.4	J
Lead	536	J	120	J
Mercury	0.197	J	0.111	J
Selenium	1.5	J	ND	UJ

S-6	Result (mg/Kg)	Validator Qualifier
Arsenic	42.3	
Barium	82.9	
Cadmium	0.72	
Chromium	29.9	
Lead	349	
Mercury	0.188	
Selenium	4	

S-7	Result (mg/Kg)	Validator Qualifier
Arsenic	18.3	
Barium	75.5	
Cadmium	0.95	
Chromium	22.7	
Lead	201	
Mercury	0.131	
Selenium	2.5	

S-8	Result (mg/Kg)	Validator Qualifier
Arsenic	9.3	
Barium	57	
Chromium	20.2	
Lead	232	
Mercury	0.073	

S-9	Result (mg/Kg)	Validator Qualifier
Arsenic	12.2	
Barium	53	
Chromium	23.5	
Lead	139	
Mercury	0.114	
Selenium	1.2	

Notes:
-Analysis for Metals by 6010C, 7471B
-Metals analyzed include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver.
-Non-detect values not shown.
-Red highlighted result = exceedance of Industrial Soil Cleanup Objective (SCO)
-Blue highlighted result = exceedance of Protection of Groundwater SCO
-Purple highlighted result = exceedance of Protection of Ecological Resources SCO
-Green highlighted result = Residential exceedance
-Orange highlighted result = Commercial exceedance
Yellow highlighted result = Restricted - Residential exceedance
-Location markers are colored green if a residential exceedance exists, other markers are colored according to highest SCO exceedance.

Roundhouse Area Investigation
Analytical Results: Metals

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road Cheektowaga, NY

Figure 3

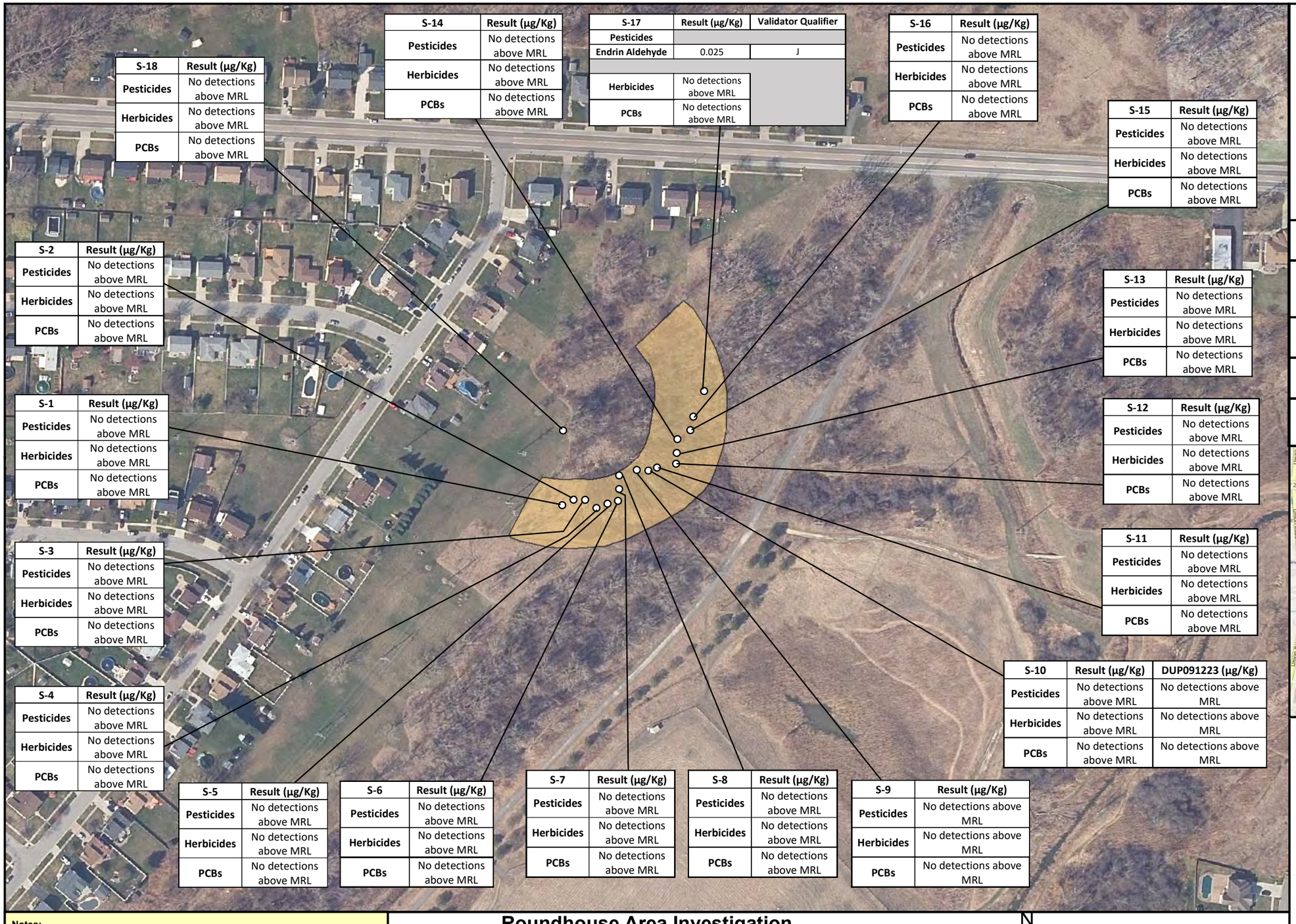
Author: NRH | **Checked By:**

Project #: 2011 | **Created:** 10/11/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_Metals

Legend

- Industrial SCO Exceedance
- Commerical SCO Exceedance
- Restricted-Residential SCO Exceedance
- Residential SCO Exceedance
- Ecological SCO Exceedance
- Groundwater SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location



S-18	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-14	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-17	Result (µg/Kg)	Validator Qualifier
Pesticides		
Endrin Aldehyde	0.025	J
Herbicides	No detections above MRL	
PCBs	No detections above MRL	

S-16	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-15	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-2	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-13	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-1	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-12	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-11	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-3	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-10	Result (µg/Kg)	DUP091223 (µg/Kg)
Pesticides	No detections above MRL	No detections above MRL
Herbicides	No detections above MRL	No detections above MRL
PCBs	No detections above MRL	No detections above MRL

S-4	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-5	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-6	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-7	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-8	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-9	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

Notes:
-Analysis for Pesticides by 8081B
-Analysis for Herbicides by 8151A
-Analysis for PCBs by 8082A
-No detections above Minimum Reporting Limit (MRL) for Herbicides and PCBs
- Location markers are colored according to highest SCO (Industrial, Protection of Groundwater, and Protection of Ecological Resources)
- Former roundhosue location georeferenced from Erie County, NY historical aerial imagery (1930).

Roundhouse Area Investigation
Analytical Results: Pesticides, Herbicides, and PCBs

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
Danbury, CT
06810
(203) 205-9000

Project Name: Union Road, Cheektowaga, NY

Figure 4

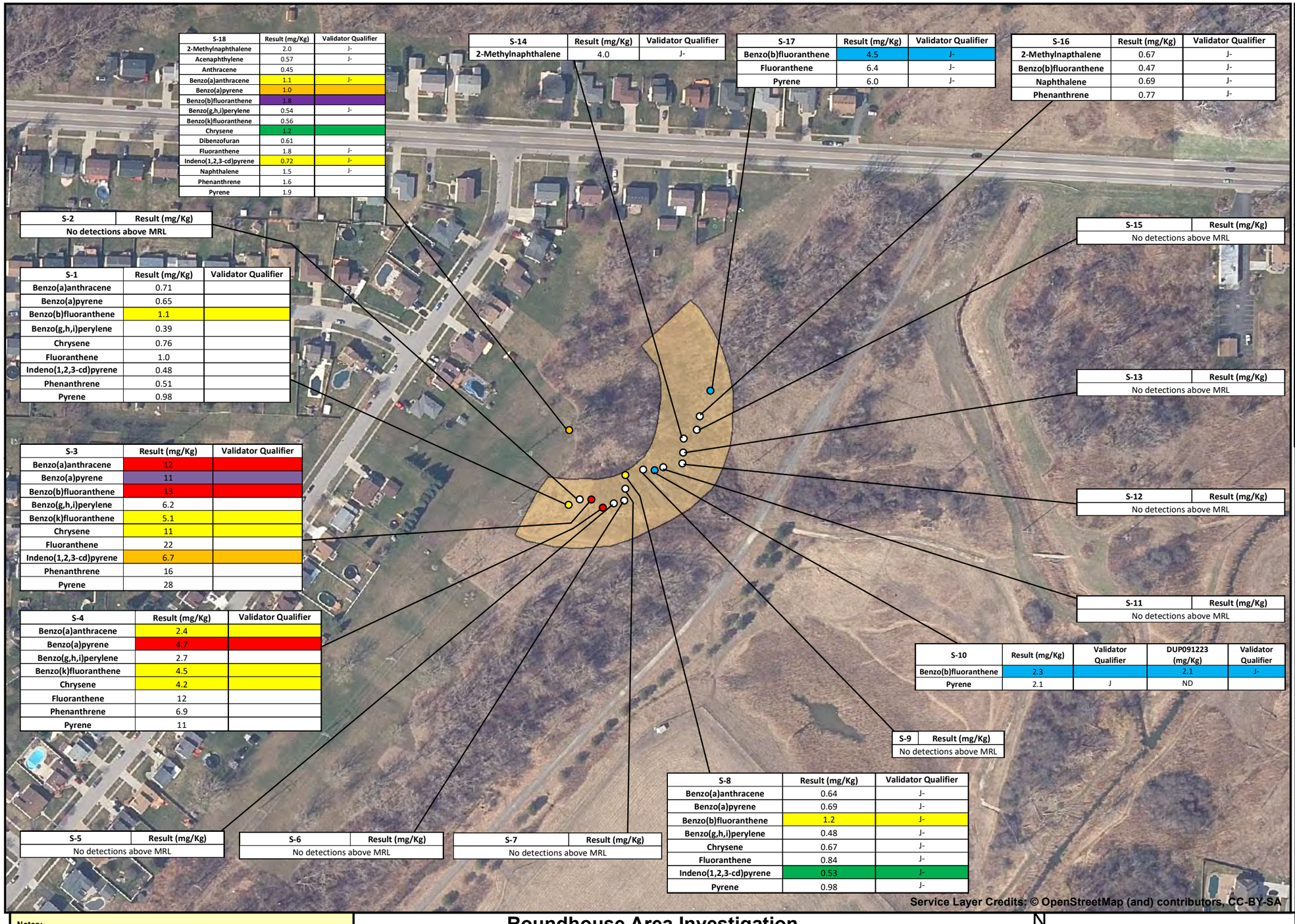
Author: NRH | **Checked By:** RM

Project #: 2011 | **Created:** 10/12/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_Pest_Herb

Legend

- No SCO Exceedance
- Former Roundhouse Location



S-18	Result (mg/Kg)	Validator Qualifier
2-Methylnaphthalene	2.0	J-
Acenaphthylene	0.57	J-
Anthracene	0.45	
Benzo(a)anthracene	1.1	J-
Benzo(a)pyrene	1.0	
Benzo(b)fluoranthene	1.8	
Benzo(g,h,i)perylene	0.54	J-
Benzo(k)fluoranthene	0.56	
Chrysene	1.2	
Dibenzofuran	0.61	
Fluoranthene	1.8	J-
Indeno(1,2,3-cd)pyrene	0.72	J-
Naphthalene	1.5	J-
Phenanthrene	1.6	
Pyrene	1.9	

S-14	Result (mg/Kg)	Validator Qualifier
2-Methylnaphthalene	4.0	J-

S-17	Result (mg/Kg)	Validator Qualifier
Benzo(b)fluoranthene	4.5	J-
Fluoranthene	6.4	J-
Pyrene	6.0	J-

S-16	Result (mg/Kg)	Validator Qualifier
2-Methylnapthalene	0.67	J-
Benzo(b)fluoranthene	0.47	J-
Naphthalene	0.69	J-
Phenanthrene	0.77	J-

S-2	Result (mg/Kg)
No detections above MRL	

S-15	Result (mg/Kg)
No detections above MRL	

S-1	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	0.71	
Benzo(a)pyrene	0.65	
Benzo(b)fluoranthene	1.1	
Benzo(g,h,i)perylene	0.39	
Chrysene	0.76	
Fluoranthene	1.0	
Indeno(1,2,3-cd)pyrene	0.48	
Phenanthrene	0.51	
Pyrene	0.98	

S-13	Result (mg/Kg)
No detections above MRL	

S-3	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	12	
Benzo(a)pyrene	11	
Benzo(b)fluoranthene	13	
Benzo(g,h,i)perylene	6.2	
Benzo(k)fluoranthene	5.1	
Chrysene	11	
Fluoranthene	22	
Indeno(1,2,3-cd)pyrene	6.7	
Phenanthrene	16	
Pyrene	28	

S-12	Result (mg/Kg)
No detections above MRL	

S-4	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	2.4	
Benzo(a)pyrene	4.7	
Benzo(g,h,i)perylene	2.7	
Benzo(k)fluoranthene	4.5	
Chrysene	4.2	
Fluoranthene	12	
Phenanthrene	6.9	
Pyrene	11	

S-11	Result (mg/Kg)
No detections above MRL	

S-10	Result (mg/Kg)	Validator Qualifier	DUP091223 (mg/Kg)	Validator Qualifier
Benzo(b)fluoranthene	2.3		2.1	J-
Pyrene	2.1	J	ND	

S-9	Result (mg/Kg)
No detections above MRL	

S-8	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	0.64	J-
Benzo(a)pyrene	0.69	J-
Benzo(b)fluoranthene	1.2	J-
Benzo(g,h,i)perylene	0.48	J-
Chrysene	0.67	J-
Fluoranthene	0.84	J-
Indeno(1,2,3-cd)pyrene	0.53	J-
Pyrene	0.98	J-

S-5	Result (mg/Kg)
No detections above MRL	

S-6	Result (mg/Kg)
No detections above MRL	

S-7	Result (mg/Kg)
No detections above MRL	

Notes:
-Analysis for SVOCs by 8270D
-J = Estimated concentration
range for that specific analysis
-Red highlighted result = exceedance of Industrial SCO
-Orange highlighted result = exceedance of Commercial SCO
-Yellow highlighted result = exceedance of Restricted-Residential SCO
-Green highlighted result = exceedance of Residential SCO
-Purple highlighted result = exceedance of Ecological SCO
-Blue highlighted result = exceedance of Protection of Groundwater SCO

Roundhouse Area Investigation
Analytical Results: Semivolatile Organic Compounds (SVOCs)

Union Road Site
Town of Cheektowaga, NY

N

0 200 400 800 Feet

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
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06810

(203) 205-9000

Project Name: Union Road Cheektowaga, NY

Figure 5

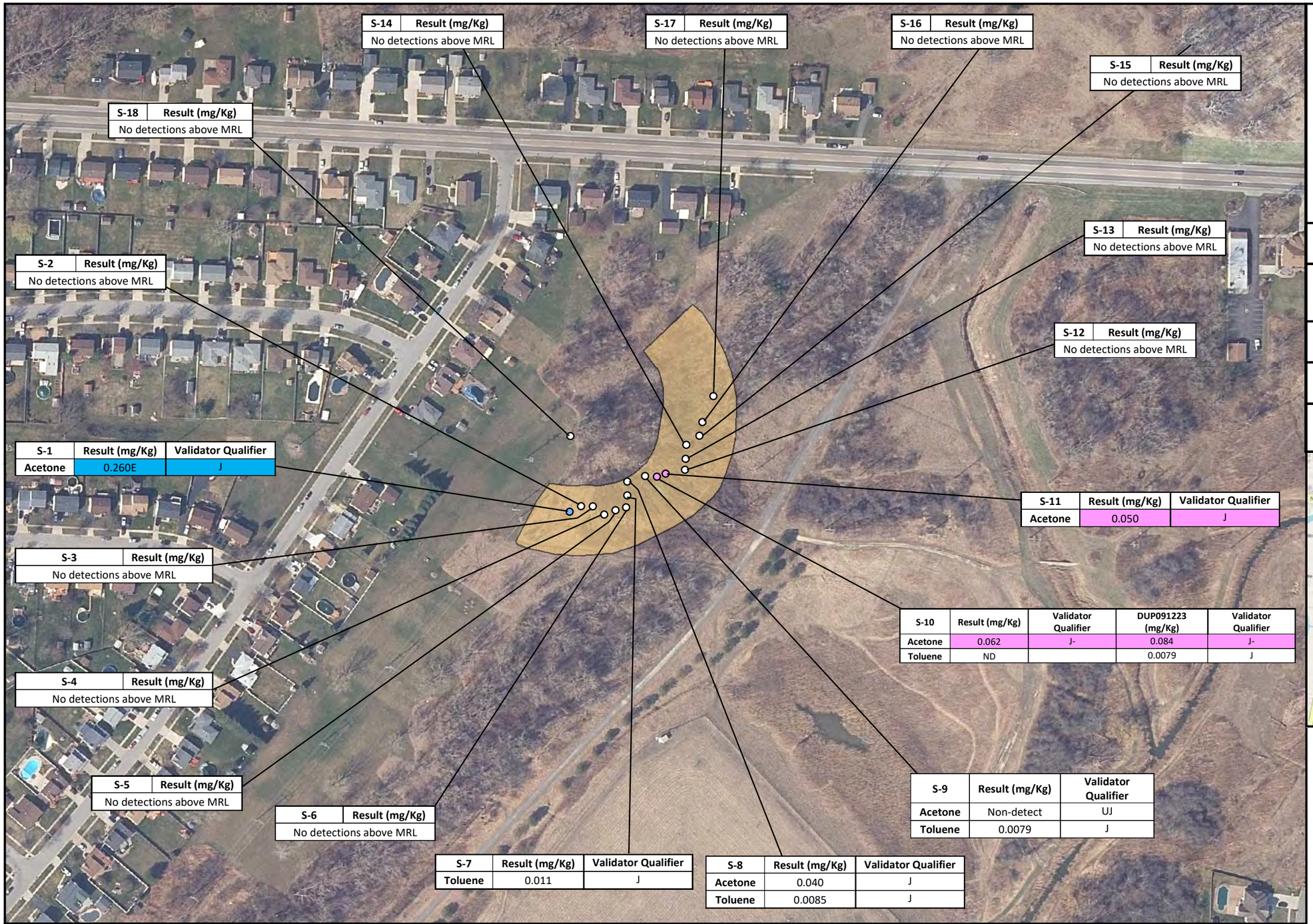
Author: NRH | **Checked By:** RM

Project #: 2011 | **Created:** 10/13/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_SVOCs

Legend

- Industrial SCO Exceedance
- Commerical SCO Exceedance
- Restricted-Residential SCO Exceedance
- Residential SCO Exceedance
- Ecological SCO Exceedance
- Groundwater SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location



Notes:
-Analysis for VOCs by 8260C
-RE = Re-extraction
-ND = Non-detect
-J = Estimated concentration
-E = Concentration exceeded the calibrationrange for that specific analysis
-Blue highlighted result = Groundwater SCO Exceedance
-Pink highlighted result = Unrestricted SCO Exceedance
- Location markers are colored according to highest SCO (Industrial, Protection of Groundwater, Protection of Ecological Resources).
- Former roundhouse location georeferenced from Erie County, NY aerial imagery (1930).

Roundhouse Area Investigation
Analytical Results: Volatile Organic Compounds (VOCs)

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

Unicorn Management Consultants, LLC
52 Federal Road
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(203) 205-9000

Project Name: Union Road Cheektowaga, NY

Figure 6

Author: NRH	**Checked By:** RM
Project #: 2011	**Created:** 10/12/23 **Revised:** 5/3/24
Scale: 1:3,000	**File:** SoilResults_VOCs

Legend

- Groundwater SCO Exceedance
- Unrestricted SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location

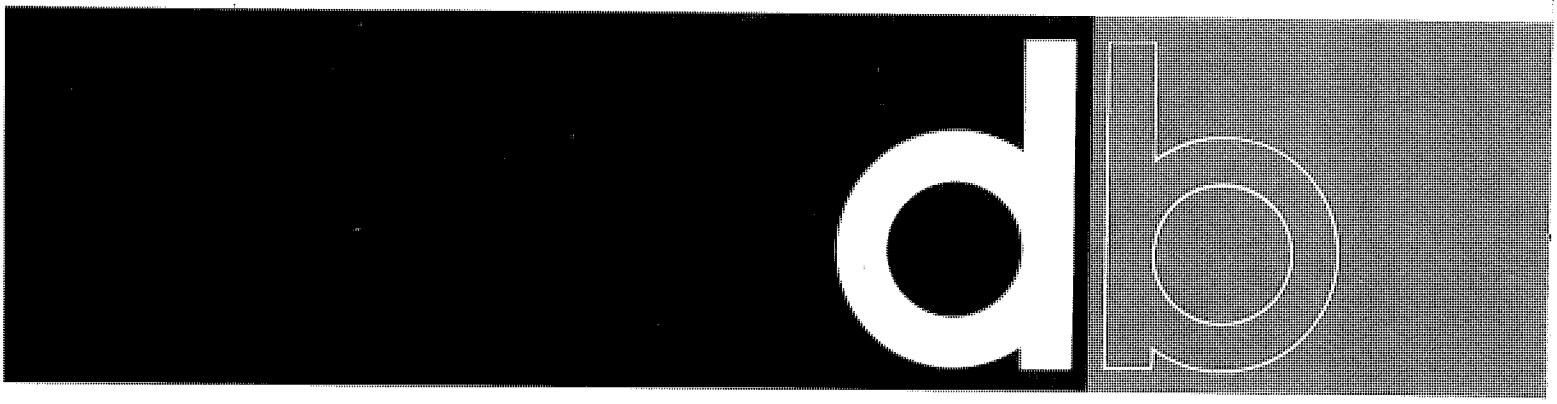
EXHIBIT 11

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

FINAL BASELINE HUMAN HEALTH RISK ASSESSMENT

Union Road Site
Town of Cheektowaga, Erie County, New York
(Site Registry No. 9-15-128)

VOLUME 1



Dvirka and Bartilucci

Consulting Engineers

IN ASSOCIATION WITH

SADAT ASSOCIATES

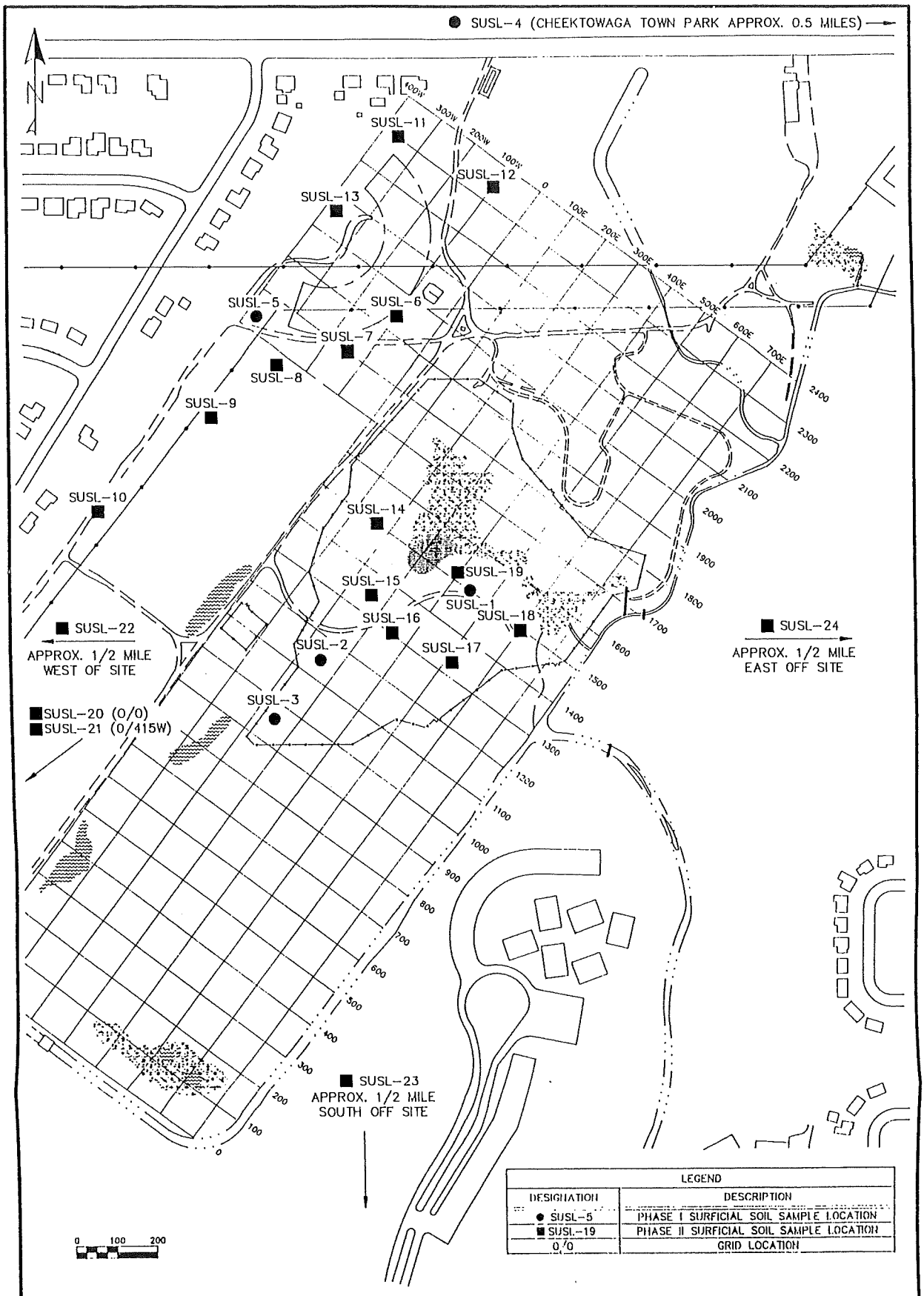
JUNE 1991

2.2.1 Surficial Soil

Analytical results of the surficial soil samples collected during the Phase I and II RI are included as Appendix A-1 to this report. Locations of the surficial soil samples are shown in Figure 2-5.

Surficial soil in the Disposal Area generally contains elevated concentrations of polycyclic aromatic hydrocarbons (PAHs), base/neutral extractable compounds, petroleum hydrocarbons (PHCs) and metals. Elevated levels of asbestos (2 - 10% chrysotile) were detected in several surficial soil samples from the Disposal Area. In addition, EP Toxicity limits for lead were exceeded in two of four samples analyzed for this parameter. It was noted in the RI Report that the high levels of lead detected in other Disposal Area samples indicate that perhaps up to one-half of the surficial soil in the Disposal Area could be characterized as hazardous waste due to lead.

Levels of antimony, arsenic, cadmium, copper, lead and zinc detected in the surficial soil of the Disposal Area all exceed the guidance values (New Jersey Department of Environmental Protection Soil Cleanup Levels), and are well in excess of background concentrations. In addition, a number of semi-volatile compounds exceed the New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Criteria/ Guidelines for the Protection of Groundwater, and the concentrations of lead generally exceed the New York State Department of Health (NYSDOH) and U.S. Environmental Protection Agency (EPA) soil cleanup guidelines.



UNION ROAD SITE

Dvirka and Bartilucci CONSULTING ENGINEERS

LOCATIONS OF SURFICIAL SOIL SAMPLING POINTS

FIGURE 2-5

Samples of surficial soil collected in the Roundhouse Area and south of the former roundhouse also exhibit contamination. In general, with the exception of PAHs, the degree of contamination in the Roundhouse Area is somewhat less than that of the Disposal Area. Levels of PAHs and PHCs detected in the surficial soil of the Roundhouse Area generally exceed guidance levels (NJDEP Soil Cleanup Levels). However, only two of six Roundhouse Area samples exceed the guidance values for lead, and one of six exceeds the NYSDOH and EPA cleanup guidelines for lead. Several surficial soil samples collected in the Roundhouse Area exceed the NJDEP Soil Cleanup Levels for arsenic and copper, and a number of semi-volatile compounds exceed the NYSDEC soil cleanup criteria/guidelines.

The RI Report indicates that the surficial soil encountered in the Roundhouse Area and south of the former roundhouse is largely comprised of cinder-like material. This Cinder Material is reportedly widespread in the vicinity of the Union Road Site, especially west and southwest of the site boundary. Apparently, this material is comprised of coal cinders (i.e., bottom ash) which were used as roadbed material throughout the railroad yard. Surficial soil samples SUSL-5, SUSL-10, SUSL-11, SUSL-20 and SUSL-21 (see Figure 2-5) comprise the Cinder Material samples collected during the Phase I and II RI. This material is found largely throughout Union Road Site, particularly the Roundhouse Area, as well as offsite. Therefore, in addition to being assessed within the Roundhouse Area, it is also evaluated separately in this assessment for risks due to ingestion and dermal contact.

Geometric mean concentrations of contaminants in the surficial soil of the Disposal Area and Roundhouse Area, Cinder Material and offsite samples are listed in Table 2-1. For each area sampled, the geometric mean concentration is calculated by the formula:

$$C_{ij} = \prod_{x=1}^{n} C_{ijx}^{n^{-1}}$$

where:

C_{ij}	=	geometric mean concentration of contaminant i in medium j
C_{ijx}	=	concentration of contaminant i sample x in medium j
n	=	total number of samples in medium j in which contaminant i was detected

Where a contaminant, which is otherwise confirmed to be present in an area of the site, is not detected in a particular sample, it cannot be assumed that the concentration of that contaminant is zero for that sample (EPA, 1989c). In fact, the chemical may be absent from the sample, or it may be present at a concentration just below the detection limit for that sample. Accordingly, EPA (1989c) recommends that a surrogate concentration, which is below the sample detection limit, be used in such instances.

Since, in the case of the Union Road Site, estimated values, designated with a "J", are provided for contaminants detected above 1 ppb prior to dilution, an assumed concentration of 1 ppb multiplied by the sample dilution factor is used for non-detected sample which are otherwise found to be present in an area. These assumed values are designated "UD" in the data summary tables in Appendix A to this report. Development and use of these assumed concentrations results in conservative estimates of geometric mean contaminant concentrations throughout this assessment.

TABLE 2-1

Geometric Mean Contaminant Concentrations in Surficial Soil

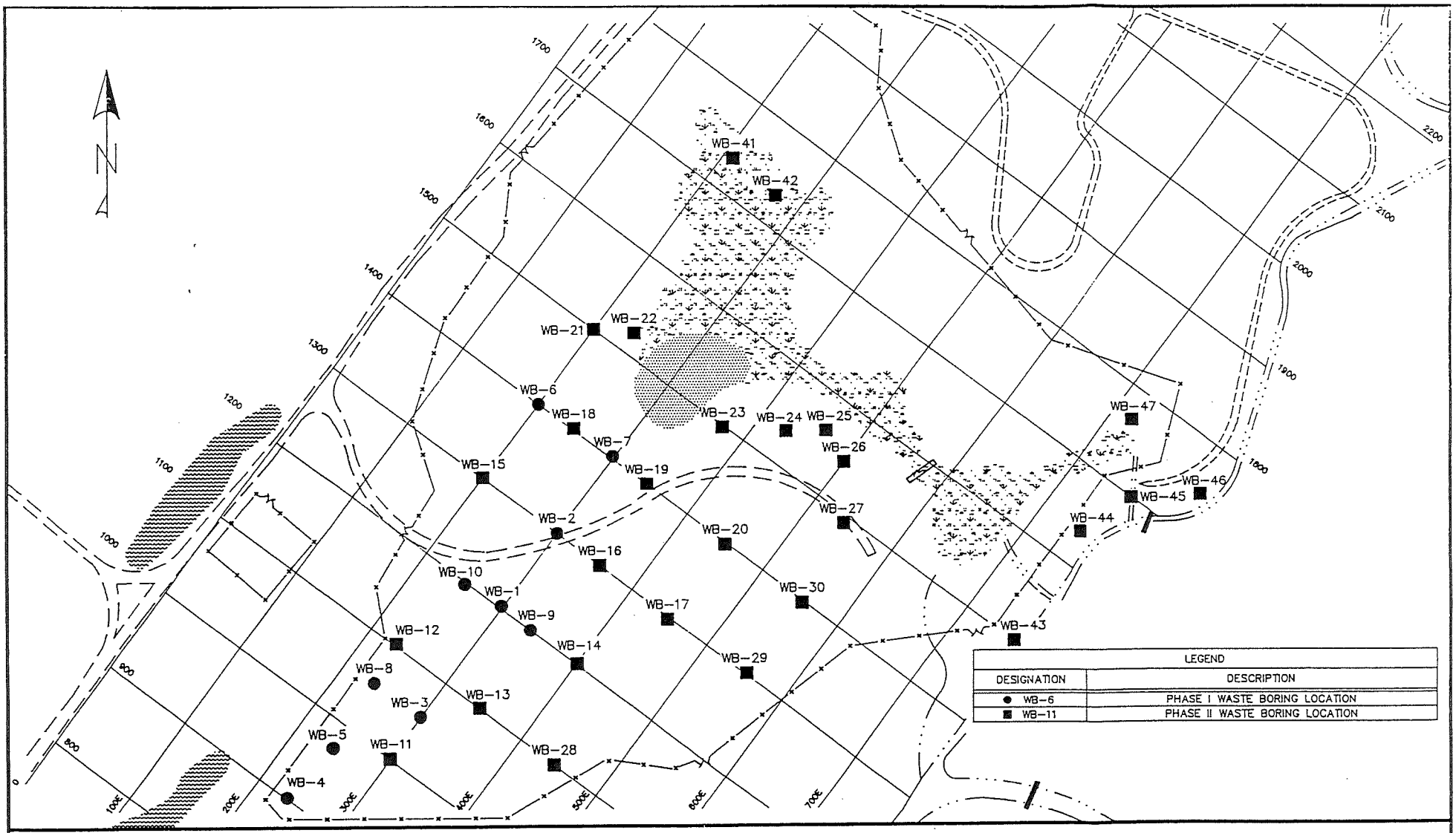
	Disposal Area (mg/kg)	Roundhouse Area (mg/kg)	Cinder Material (mg/kg)	Off-Site Samples (mg/kg)
Semi-Volatiles:				
Acenaphthene	2.62E-01	1.14E-02	5.29E-03	3.49E-03
Acenaphthylene	2.32E-01	2.71E-01	3.89E-01	4.12E-03
Anthracene	5.70E-01	2.85E-01	2.92E-01	-
Benzo(a)anthracene	2.68E+00	9.98E-01	9.59E-01	1.03E-02
Benzo(b)fluoranthene	2.69E+00	1.65E+00	2.01E+00	5.63E-02
Benzo(k)fluoranthene	5.10E-02	7.28E-01	5.08E-01	1.66E-02
Benzoic acid	9.81E-02	3.94E-02	5.51E-02	4.16E-03
Benzo(g,h,i)perylene	1.67E-01	1.39E-02	6.73E-03	1.98E-02
Benzo(a)pyrene	2.45E+00	3.77E-01	1.08E+00	2.93E-02
Butylbenzylphthalate	4.87E-03	-	-	9.70E-03
Chrysene	3.36E+00	1.29E+00	1.34E+00	7.70E-02
Dibenzo(a,h)anthracene	2.35E-02	3.08E-03	5.27E-03	-
Dibenzofuran	3.12E-01	3.17E-01	4.03E-01	-
Di-n-butylphthalate	7.03E-02	1.40E-02	4.12E-03	-
Diethylphthalate	9.60E-03	8.73E-03	7.35E-03	1.84E-02
Fluoranthene	5.17E+00	1.58E+00	1.34E+00	1.06E-01
Fluorene	1.33E-01	1.40E-02	7.54E-03	2.33E-03
Indeno(1,2,3-cd)pyrene	5.29E-01	5.37E-02	6.14E-02	1.03E-02
2-Methylnaphthalene	5.25E-02	7.09E-01	1.05E+00	4.03E-03
Naphthalene	1.44E-01	5.58E-01	7.02E-01	4.18E-03
Phenanthrene	3.79E+00	1.43E+00	1.30E+00	2.38E-02
Pyrene	4.07E+00	1.34E+00	1.17E+00	8.79E-02
Total CaPAHs	1.18E+01	5.10E+00	5.96E+00	2.00E-01
Inorganics:				
Aluminum	8.01E+03	5.49E+03	3.84E+03	1.14E+04
Antimony	5.76E+01	5.13E+00	4.53E+00	5.28E+00
Arsenic	1.48E+01	2.07E+01	2.46E+01	6.92E+00
Barium	2.71E+02	8.89E+01	7.32E+01	4.14E+01
Beryllium	1.82E-01	1.45E-01	1.23E-01	2.75E-01
Cadmium	4.46E+00	9.56E-01	9.42E-01	8.53E-01
Calcium	1.71E+04	1.68E+04	1.39E+04	3.23E+03
Chromium	5.36E+01	2.02E+01	1.89E+01	1.31E+01
Cobalt	8.05E+00	6.20E+00	4.66E+00	6.16E+00
Copper	2.64E+02	1.43E+02	1.60E+02	2.35E+01
Cyanide	1.64E+00	7.07E-01	6.24E-01	6.77E-01
Iron	4.04E+04	2.89E+04	3.27E+04	1.67E+04
Lead	1.41E+03	1.55E+02	1.53E+02	1.05E+02
Magnesium	2.20E+03	3.20E+03	1.87E+03	3.26E+03
Manganese	9.75E+02	2.41E+02	2.11E+02	2.13E+02
Mercury	4.46E-01	1.23E-01	1.19E-01	7.74E-02
Nickel	4.20E+01	1.62E+01	1.35E+01	1.53E+01
Potassium	1.18E+03	8.39E+02	5.92E+02	1.88E+02
Selenium	1.46E+00	1.73E+00	1.86E+00	4.40E-01
Silver	8.28E-01	4.55E-01	4.65E-01	4.86E-01
Sodium	3.18E+02	2.41E+02	2.36E+02	2.31E+02
Thallium	2.44E-01	5.02E-01	5.05E-01	3.21E-01
Vanadium	2.46E+01	1.52E+01	1.23E+01	2.02E+01
Zinc	1.15E+03	1.16E+02	8.66E+01	7.63E+01
E.P. Toxicity Lead (mg/l)	1.68E+00	4.18E-02	3.30E-02	-
Asbestos	4.58E+04	5.57E+00	-	-
Pesticides/PCBs:				
beta-BHC	5.03E-03	-	-	-
alpha-Chlordane	7.01E-03	-	-	1.88E-03
gamma-Chlordane	6.92E-03	-	-	-
4,4'-DDE	7.01E-03	-	-	-
4,4'-DDT	5.79E-03	-	-	-
Dieldrin	9.97E-03	2.10E-03	1.15E-03	2.18E-03
Endosulfan Sulfate	5.25E-03	-	-	-
Endrin-Ketone	2.11E-03	5.39E-03	3.88E-03	-
Heptachlor Epoxide	5.65E-03	-	-	-
Total Pesticides	6.09E-01	6.24E-02	4.80E-02	2.64E-02

2.2.2 Subsurface Soil

Approximately 25,000 yd^3 of waste material and highly contaminated soil are buried approximately 15 feet below ground surface within the Disposal Area. Analytical results of samples collected from this area are presented in Appendix A-2. The locations of subsurface samples collected in the Disposal Area and Roundhouse Area are shown in Figures 2-6 and 2-7, respectively. The test pit and trench locations are shown in Figure 2-8. This buried material contains levels of semi-volatile organic compounds above the NYSDEC Soil Cleanup Criteria/Guidelines, including PAHs and PHCs. In addition, levels of antimony, arsenic, chromium, copper, lead and zinc all exceed the NJDEP Soil Cleanup Levels, which are identified as guidance values for the Union Road RI/FS. Lead concentrations in this material also exceed NYSDOH and EPA guidelines.

EP Toxicity limits for lead are exceeded in approximately one-half of the samples analyzed. However, based upon the high levels of total lead found throughout the buried waste and soil, the RI Report estimates that nearly all of this material would likely be characterized as a hazardous waste due to lead.

In addition to the buried waste material in the Disposal Area, samples of the fill material overlying the buried waste exhibit elevated concentrations of PAHs, PHCs and lead. Concentrations of chromium, copper and nickel above the NJDEP Soil Cleanup Levels as well as concentrations of semi-volatile organic compounds above the NYSDEC Soil Cleanup Criteria/ Guidelines are also detected in the fill material. The RI Report noted that the fill material is partly comprised of cinders and oil-stained soil.

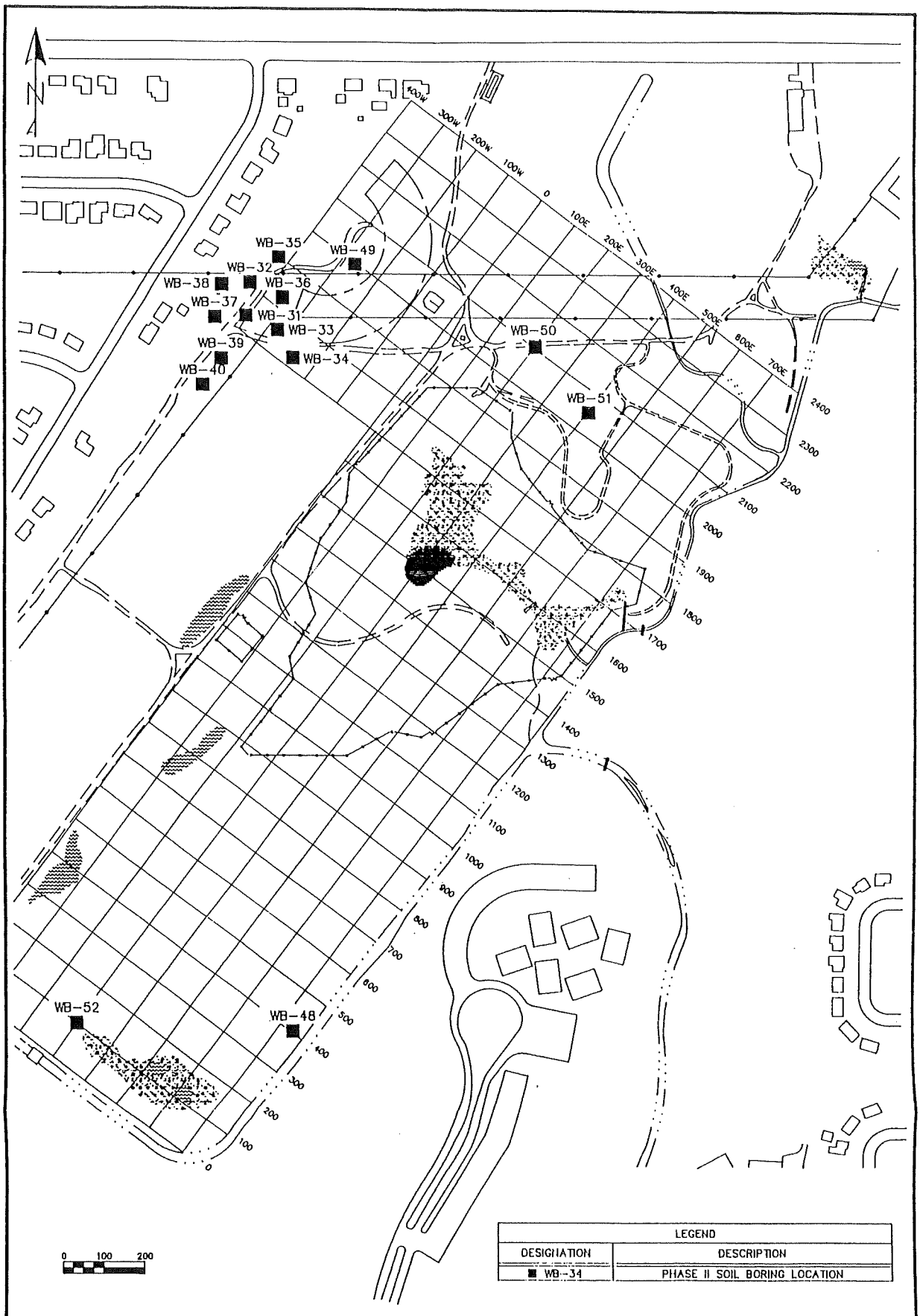


UNION ROAD SITE

LOCATIONS OF WASTE BORINGS IN DISPOSAL AREA

Dvirka and Bartilucci CONSULTING ENGINEERS

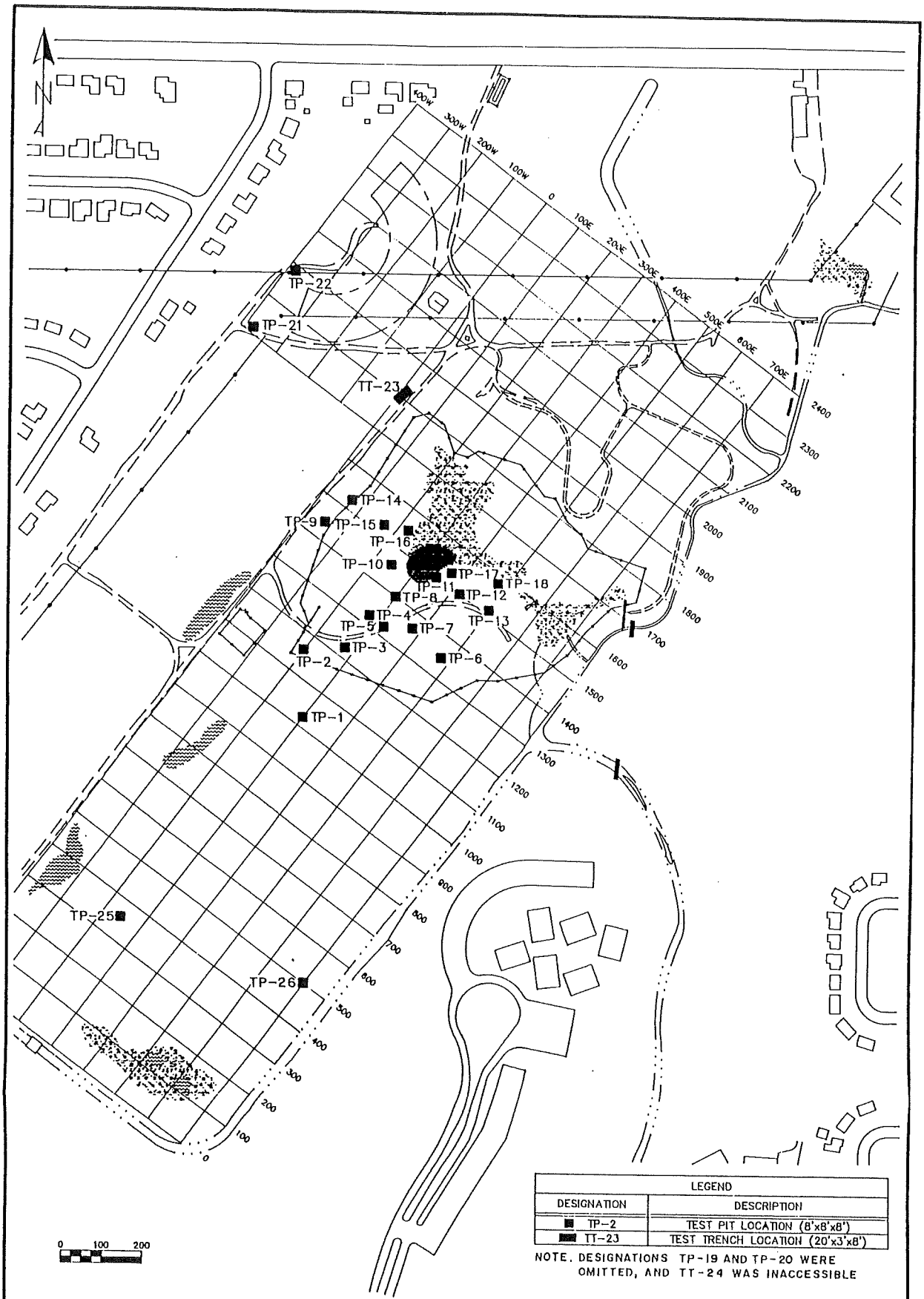
FIGURE 2-6



UNION ROAD SITE

Dvirka and Bartilucci CONSULTING ENGINEERS

LOCATIONS OF BORINGS IN ROUNDHOUSE AREA, NORTHERN AREA AND SOUTHERN AREA **FIGURE 2-7**



Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE

LOCATIONS OF TEST PITS AND TEST TRENCH

FIGURE 2-8

Pockets of waste and highly contaminated soil were also found within the fill material in close proximity to the Tar Pit. Analytical results of samples collected in these areas are presented in Appendix A-2. In general, this material exhibits elevated levels of semi-volatile compounds, PHCs and lead. Concentrations of antimony, arsenic, cadmium, copper and zinc also exceed the NJDEP guidelines. In addition, the concentrations of lead substantially exceed the NYSDOH and EPA soil cleanup guidelines.

Subsurface soil in an area immediately southwest of the former roundhouse was found to be contaminated with fuel oil. Samples collected from this area exhibit levels of semi-volatile compounds, PHCs, arsenic, copper and lead which exceed the NJDEP Soil Cleanup Levels. One soil sample collected from this area contains concentrations of lead above the NYSDOH and EPA guidelines, as well as levels of semi-volatile organic compounds which exceed the NYSDEC Soil Cleanup Criteria/Guidelines for the Protection of Groundwater.

Geometric mean contaminant concentrations in subsurface soil are presented in Table 2-2. Individual results for the Northern and Southern Area samples are presented in the table. These samples are not included in the geometric mean contaminant concentrations calculated for the Disposal Area or Roundhouse Area.

TABLE 2-2
Geometric Mean Contaminant Concentrations in Subsurface Soil
Phase I and II RI, Union Road Site

	Geom. Mean Disposal Area (mg/kg)	Geom. Mean Roundhouse Area (mg/kg)	Northern Area SLBH-WB51 (mg/kg)	Southern Area SLBH-WB52 (mg/kg)
Volatiles:				
2-Butanone	3.04E-03	-	-	1.00E-03
Carbon Disulfide	1.77E-03	-	-	9.00E-03
Ethylbenzene	1.95E-03	-	-	-
Toluene	2.04E-03	-	-	-
trans-1,3-Dichloropropene	-	1.23E-03	-	8.00E-04
Xylene (total)	2.68E-03	1.50E-03	-	-
Semi-Volatiles:				
Acenaphthene	9.22E-03	1.65E-02	-	-
Acenaphthylene	5.80E-03	2.21E-02	-	-
Anthracene	1.09E-02	1.89E-02	-	-
Benzo(a)anthracene	2.58E-02	8.12E-01	-	-
Benzo(b)fluoranthene	2.16E-02	2.37E-01	-	-
Benzo(k)fluoranthene	1.73E-02	7.34E-01	-	-
Benzoic acid	8.54E-03	-	-	-
Benzo(g,h,i)perylene	1.27E-02	-	-	-
Benzo(a)pyrene	2.50E-02	5.87E-01	-	-
Chrysene	3.86E-02	1.14E+00	4.10E-02	5.30E-02
Dibenzo(a,h)anthracene	8.09E-03	-	-	-
Dibenzofuran	1.29E-02	1.69E-02	-	-
Fluoranthene	6.93E-02	1.79E+00	-	-
Fluorene	1.64E-02	2.29E-02	-	-
Indeno(1,2,3-cd)pyrene	1.40E-02	-	-	-
2-Methylnaphthalene	3.01E-02	3.19E-01	-	-
Naphthalene	3.08E-02	3.04E-01	-	-
Phenanthrene	1.38E-01	4.22E-02	-	-
Pyrene	1.06E-01	1.88E+00	-	-
Total CaPAHs	1.50E-01	3.51E+00	4.10E-02	5.30E-02
Inorganics:				
Aluminum	5.17E+03	5.46E+03	2.15E+04	1.18E+04
Antimony	3.11E+01	9.71E+00	3.20E+00	6.30E+00
Arsenic	5.28E+00	8.83E+00	5.90E+00	5.60E+00
Barium	1.15E+02	5.72E+01	1.55E+02	8.20E+01
Beryllium	2.76E-01	3.70E-01	1.20E+00	5.20E-01
Cadmium	8.07E-01	6.24E-01	9.20E-01	8.50E-01
Calcium	1.37E+04	5.18E+04	2.28E+04	7.18E+04
Chromium	3.51E+01	1.58E+01	3.09E+01	1.78E+01
Cobalt	6.57E+00	6.24E+00	1.67E+01	1.17E+01
Copper	1.10E+02	2.80E+02	3.67E+01	2.09E+01
Cyanide	1.00E+00	7.70E-01	6.90E-01	6.20E-01
Iron	2.52E+04	2.16E+04	3.55E+04	2.07E+04
Lead	1.10E+03	3.76E+01	1.78E+01	1.25E+01
Magnesium	3.34E+03	1.10E+04	1.54E+04	2.08E+04
Manganese	3.59E+02	2.24E+02	5.13E+02	3.85E+02
Mercury	2.01E-01	6.21E-02	1.20E-01	1.10E-01
Nickel	2.43E+01	1.74E+01	3.63E+01	2.27E+01
Potassium	6.43E+02	8.67E+02	4.89E+03	2.70E+03
Selenium	3.95E-01	6.95E-01	3.70E-01	3.30E-01
Silver	8.97E-01	5.46E-01	4.90E-01	4.50E-01
Sodium	3.83E+02	3.20E+02	5.42E+02	4.30E+02
Thallium	2.08E-01	2.56E-01	3.70E-01	3.30E-01
Vanadium	1.37E+01	1.37E+01	4.22E+01	2.42E+01
Zinc	1.28E+02	6.13E+01	8.70E+01	5.49E+01
E.P. Toxicity Lead (mg/l)	9.96E-01	2.00E-02	-	-
Asbestos	4.80E+04	1.78E+01	-	-
Pesticides/PCBs				
Heptachlor	-	-	-	1.70E-02

EXHIBIT 12a

UNION ROAD SITE
ERIE COUNTY, NEW YORK
SITE No. 9-15-128

RECORD OF DECISION

MARCH 1992

PREPARED BY
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

site. In addition, the surface water in the marsh area is found to be contaminated by the disposal activities. Therefore, the contaminated groundwater from the site (estimated to be 1.8 mg to 5.4 mg) will be extracted and contaminated surface water (app. 0.6 mg) will be collected. These contaminated waters will require treatment before discharge. If the water is discharged to the sewer system, it will be treated to meet Buffalo Sewer Authority (BSA) effluent criteria. If the treated water is discharged to the Creek, the treatment will have to meet the effluent limitations and monitoring requirements provided by the NYSDEC Division of Water under surface water SPDES program. The effluent limitations are developed based on the technology assessment (which can be achieved based on the available technology) and which are protective of the quality of the receiving water. Therefore, the treatment will be done to meet the effluent limitations as the case may be. The groundwater Class GA standards will be used for end-point sampling of the groundwater to ensure that groundwater at the site has been restored to at least Class "GA" standards.

Remediation of Soils in the Roundhouse Area

Comment 1: Selection of these soils for remediation was based on an improbable and therefore inappropriate risk calculation for arsenic (see Table 8-2 in Appendix to PRAP). This calculation was based on an exposure scenario that a child would be on-site in the roundhouse area 2.6 hr/day, 365 days/year for 12 years. Exposure to arsenic was calculated via ingestion of dust. The calculated risk level was 2.10×10^{-6}; this value is slightly greater than the NYSDEC target risk goal of 1.0×10^{-6}. Considering the very unreasonable exposure scenario evaluated and the very slight exceedence of the target risk goal, it is unreasonable to require remediation in this area.

Furthermore, arsenic is a natural component of the human diet and studies have indicated that the human body can detoxify low levels of arsenic. The US Agency for Toxic Substances and Disease Registry (ATSDR, 1987) has estimated average daily human intakes to be 20-70 ug/day, most of which comes from food. According to Moseby's Medical and Nursing Dictionary (1986), the average daily intake of arsenic is 900 ug/day.

The USEPA's Science Advisory Board (1989) concluded that arsenic risk assessments should account for the ability of the human body to detoxify low levels of arsenic. These studies indicates that daily doses of 250-1,000 ug/day are largely metabolized into non-toxic substances.

The risk calculations for this site included in the HRA determined a daily intake of approximately 0.0011 ug/day arsenic (2.59 E-08 mg/kg/day from Table 5-24 x 41.2 kg average body weight for child). Based on this very low intake and the unreasonable exposure scenario described above, it appears that

the calculated risk value for arsenic is overly conservative and not represenative of the actual toxicity of arsenic. Therefore, because the calculated target risk level only very slightly exceeded the target risk level, remediation of the roundhouse area is not fully justified and should not be considered necessary.

Response 1: Due to the proximity of the area to residents and contamination in the surficial soil which could present an elevated incremental health risk it was proposed to cover the area with clean fill. This will prevent wind erosion of soils eliminating inhalation pathway and will protect from exposure by contact. The final HRA is based on less conservative exposure scenario as compared to the more conservative assumptions given in the USEPA guidance documents. This less conservative exposure scenario was developed in consultation with NYSDOH and is considered appropriate for the site conditions. The frequency of exposure to ingestion is 74 days/year for children (page 5-28 of HRA), the frequency of exposure to fugitive dust from wind erosion is 365 days/year and to children from recreational vehicles at the site is 74 days/year (page 5-50 of HRA). Based on the incremental health risk remediation of roundhouse area is justified. Covering the area with clean fill was considered cost effective and was preferred over removing the contaminated soil.

Comment 2: The Conceptual Design Report (September 1991, page 2-9) indicates that oil-contaminated soil at depths ranging from 6-9 feet will be excavated (approximately 7,500 cubic yards). This excavated material will be deposited in the waste disposal area to be capped. However, the Phase III Feasibility Study (August 1991, page 5-12) does not include this area in the discussion of the preferred alternative. In addition, the HRA did not identify an elevated risk associated with subsurface soil in the roundhouse area (see Summary Table of Elevated Risks, Final Baseline Health Risk Assessment, Table 7-1).

The Phase I/II RI Report (June 1991, page 6-6) states that the level of contamination in this area could cause possible groundwater contamination but does not appear to pose a direct threat to human or environmental health because it is below ground surface. The oil-contaminated soil is indicated to be 1-5 foot below ground surface with an estimated volume of 1,800 cubic yards. These numbers do not agree with the numbers presented for this material in the Conceptual Design Report discussed above.

Adequate justification has not been provided concerning why excavation of this material is required. Justification should be provided or this remedial measure should be removed from the PRAP. If remediation is deemed necessary, the appropriate volume of material should be more clearly identified.

Response 2: The initially estimated quantity of the oil-contaminated soil

and one foot of underlying soil in the roundhouse area was approximately 1,800 c.y. and 500 c.y. This has been identified in the Phase III FS Report (August 1991) in Table 1-1 on page 1-19 and in Phase I/Phase II RI Report (June 1991) on pages 6-6 and 6-12. During the Conceptual Design the quantity of this oil contaminated soil was recalculated to 7,500 c.y. and is identified on pages 2-10 and 4-2 of the Conceptual Report. This is a "hot-spot" and there is a potential of groundwater contamination from this waste. Remediation of this hot-spot is justified along with the rest of the site. If not treated at this time, this area could become a separate site in the future and will not be cost effective to treat it at a later date.

Discrepancies in Remedial Cost Estimates and Description of the Preferred Alternative

The PRAP contains several discrepancies concerning the estimated costs for implementing the preferred alternative. Specific examples of these discrepancies are as follows:

Comment 1: Concrete lining of bed and banks, Deer Lik and Slate Bottom Creeks: Table C1 in the PRAP indicates an estimated capital cost for this remedial measure of $2,884,000. Section 7.1 of the PRAP (page 24) indicates that this remedial measure is described in Section 6.5.2 (page 18). Section 6.5.2 discusses three alternative designs for the construction of the concrete channel. The cost estimates associated with these three designs range from $3,500,000 to $8,700,000. The discrepancy between these values and the value of $2,884,000 needs to be explained.

Response 1: Preliminary estimates were developed for all the alternatives during development of the Feasibility Study Report. An attempt was made in the Conceptual Design Report to refine the cost estimate for the preferred alternative (Section 4.0 of the Conceptual Report). Table C1 is based on the cost estimate given in the Conceptual Report. Footnotes on Table C1 explains the discrepancy pointed out in this comment.

Comment 2: Marsh water and shallow groundwater extraction and treatment: Table C1 in the PRAP indicates an estimated total present worth cost for this remedial measure of $864,000. Section 7.1 of the PRAP (page 24) indicates that this remedial measure consists of extraction, treatment and disposal of contaminated shallow groundwater. However, Table C1 identifies the selected alternative as extraction and treatment of marsh water and shallow groundwater. The discussion of the recommended remedial action (Section 7.1, page 24) addresses shallow groundwater only. There is no mention of marsh water, which is included on the cost estimate on Table C1. This discrepancy needs to be explained.

Response 2: The cost of the treatment is for both the marsh water and the shallow groundwater. The quantity of contaminated marsh water

EXHIBIT 12b

INTEGRATED ENVIRONMENTAL SERVICES

Final Remedial Action Work Plan

Union Road Site
Town of Cheektowaga
Erie County, New York
Site No. 9-15-128

Prepared by:

Integrated Environmental Services
A Division of NES, Inc.
44 Shelter Rock Road
Danbury, CT 06810

Document Number IES-017-007, Rev. 1

June 15, 1993

A Division of nes
44 Shelter Rock Road
Danbury, CT 06810
Tel No. (203) 796-5268 FAX No. (203) 792-3168

plan as discussed in Section 3.3. A cap will be placed over the area encompassed by the containment wall.

2.2.3 Difference Between This Remedial Measure and the ROD. There is no difference between this remedial measure and the one described in the ROD.

2.3 CONSTRUCTION OF CAP AND CONTAINMENT WALL

2.3.1 Background Information. The overall approach to remediation of this site is consolidation of contaminated material from various locations beneath a cap. The objective of the cap is to isolate the waste material to prevent human and environmental exposure. A containment wall will be constructed around the waste material beneath the cap to prevent contaminated material from leaching into groundwater.

2.3.2 Description of the Remedial Measure. The remedial measure will consist of excavation of a trench around the waste disposal area and tar pit, construction of a containment wall around this area and dewatering of the area inside the containment wall. Contaminated soil and sediment from the marsh, Slate Bottom Creek, Deer Lik Creek and the roundhouse area will be excavated and placed inside the containment wall. Additional non-contaminated material may need to be excavated from elsewhere on the site in order to provide sufficient material to construct the cap and maintain required slopes and grades.

2.3.3 Difference Between This Remedial Measure and the ROD. This remedial measure is the same as described in the ROD.

2.4 SURFACE SOILS IN THE FORMER ROUNDHOUSE AREA

2.4.1 Background Information. Surface soil samples collected in the former roundhouse area indicated the presence of organic and inorganic parameters. According to Table 8-2 in the HHRA, which presents a summary of elevated risks, inhalation by children of soil that is airborne due to wind erosion was calculated to present a carcinogenic risk (2.10E-06) greater than the target risk level (1.0E-06) for arsenic. The calculated risk level for arsenic is the driving factor behind the proposed remediation of this area as described in the ROD.

However, the risk calculations which indicated a risk level greater than the target value (HHRA, Table 5-29, Wind Erosion, Roundhouse Area, Inhalation Exposure Doses and Risks, Onsite Exposures) contain several overly conservative assumptions which serve to overestimate actual site risks. These assumptions are not consistent with USEPA risk assessment policy which existed at the time that the HHRA was performed. The *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)*, Interim Final, December, 1989 (EPA document Number EPA/540/1-89-002) states that actions at Superfund sites should be based on an estimate of reasonable maximum exposure (RME) expected to occur at a a site (p. 6-4). The HHRA for this site contains the following overly conservative assumptions which provide evaluation of worst case conditions rather than RME:

- EPA's default value for exposure duration of residents is 30 years, not 70 years as used in the HHRA, because 30 years represents the 90th percentile value for years living in the same home based on Bureau of the Census data (*Exposure Factors Handbook*, July 1989, EPA document number EPA/600/8-89/043, p. 5-34); the 90th percentile is considered to represent a reasonable worst case. 70 years is appropriate for use as the averaging time for evaluating carcinogenic risks but is not appropriate for use as an exposure duration;

- EPA's default value for frequency of exposure for residents is 350 days, not 365 days as used in the HHRA;

- Figure 5-2 in the HHRA (attached) indicates that the estimated slope from the emission rate with respect to wind speed does not fit the data because the line is drawn such that all of the site-specific data lies below the line. The HHRA selected an estimated emission rate for wind erosion (0.14 grams/second; HHRA, p. 5-10) at the maximum observed wind speed (8 m/second; HHRA, p. 5-10) which does not reflect actual site conditions. The actual site-specific emission rate measured at a wind speed of 8 m/s is approximately 0.095 grams/second.

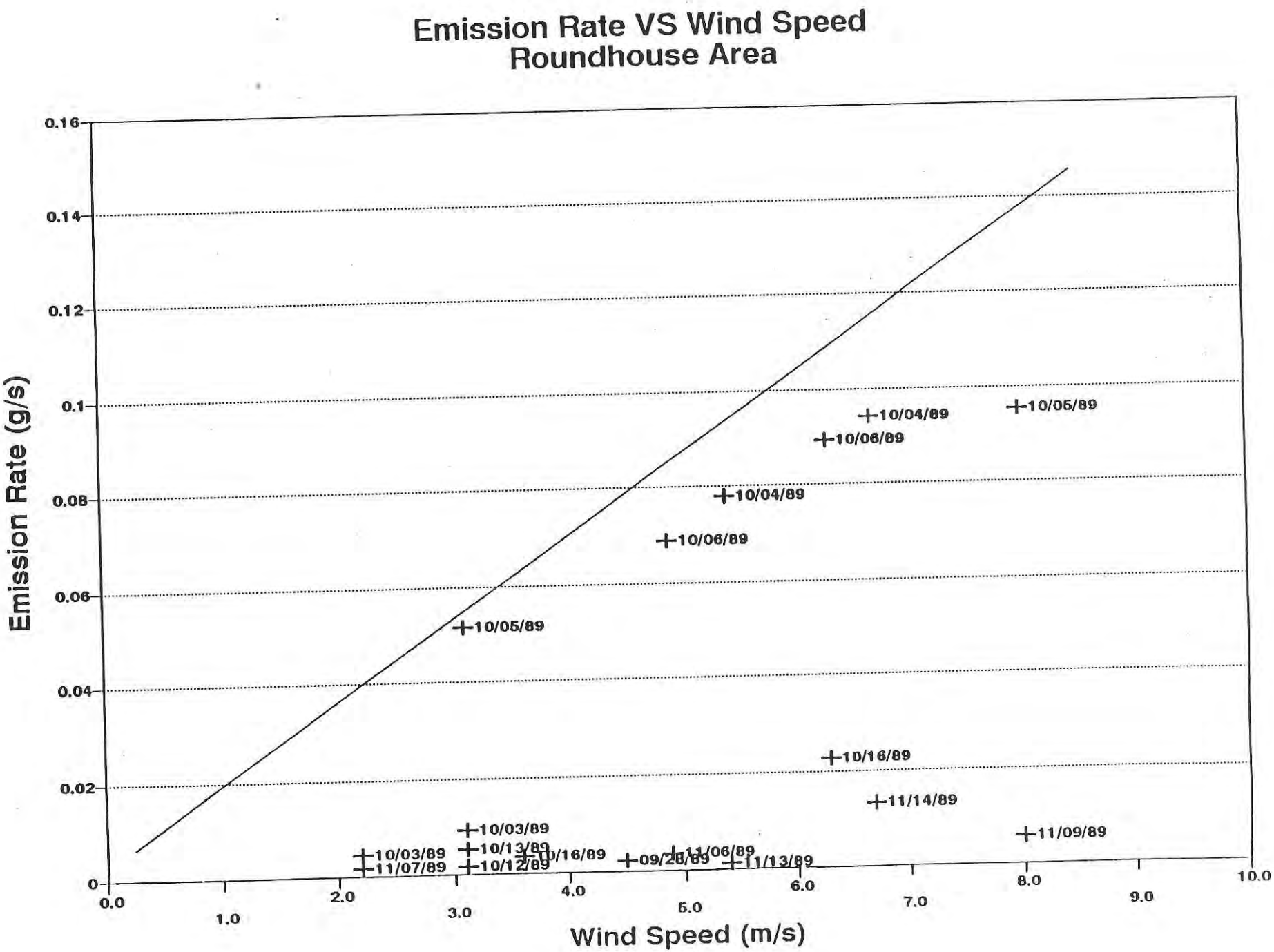
  On page 5-7 of the HHRA, it is stated that "As can be seen in the figures, all of the site-specific readings result in emission rates fall in the area of the graph below the estimated slope" (emphasis added). This is clearly a worst case assumption which is inconsistent with the accepted risk assessment practice of evaluating RME. The site-specific readings should have been evaluated to determine a "best fit" line through the actual data; based on this line, a more representative value, perhaps the 90th percentile value, should have been used to determine the emission rate;and

- the air model used to evaluate inhalation assumed that receptors are standing outdoors at ground level; therefore, the receptor height above ground is 0 meters (HHRA, p. 5-7). It is unclear why a receptor standing would be 0 meters above ground; a more realistic value for an exposed child would be 1 meter.

The net effect of these overly conservative assumptions is an over-estimate of actual site risks. As indicated in a letter from Mr. Michael Rivera of the New York State Department of Health (NYSDOH) to Mr. Shive Mittal of the NYSDEC dated June 18, 1991, "While the calculated carcinogenic total risk associated with inhalation in the roundhouse area is greater than 1X10-6 with arsenic as the primary contaminant of concern the risk levels are within EPA's range of acceptable risk of 10-4 - 10-7. It would, however, be preferable to restrict future use of this area or at a minimum, prior to any future change in land use in the roundhouse area, require further evaluation of soils in this portion of the former rail yard."

2.4.2 Description of the Remedial Measure. Although the risk assessment for this area overestimated actual site risks, restoration of this area via revegetation is included as a remedial goal. Remediation proposed for this area involves placement of six inches of clean fill over approximately five acres and re-vegetation. As discussed in Section 3.11, soil fertility testing

Figure 5-2


Emission Rate VS Wind Speed
Roundhouse Area
Emission Rate (g/s)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Wind Speed (m/s)
10/04/89
10/05/89
10/06/89
10/04/89
10/06/89
10/05/89
10/16/89
11/14/89
11/09/89
10/03/89
10/13/89
10/03/89
11/07/89
10/12/89
09/28/89
11/13/89

will be performed to evaluate re-vegetation requirements The area proposed to be remediated is shown on Figure 2-6.

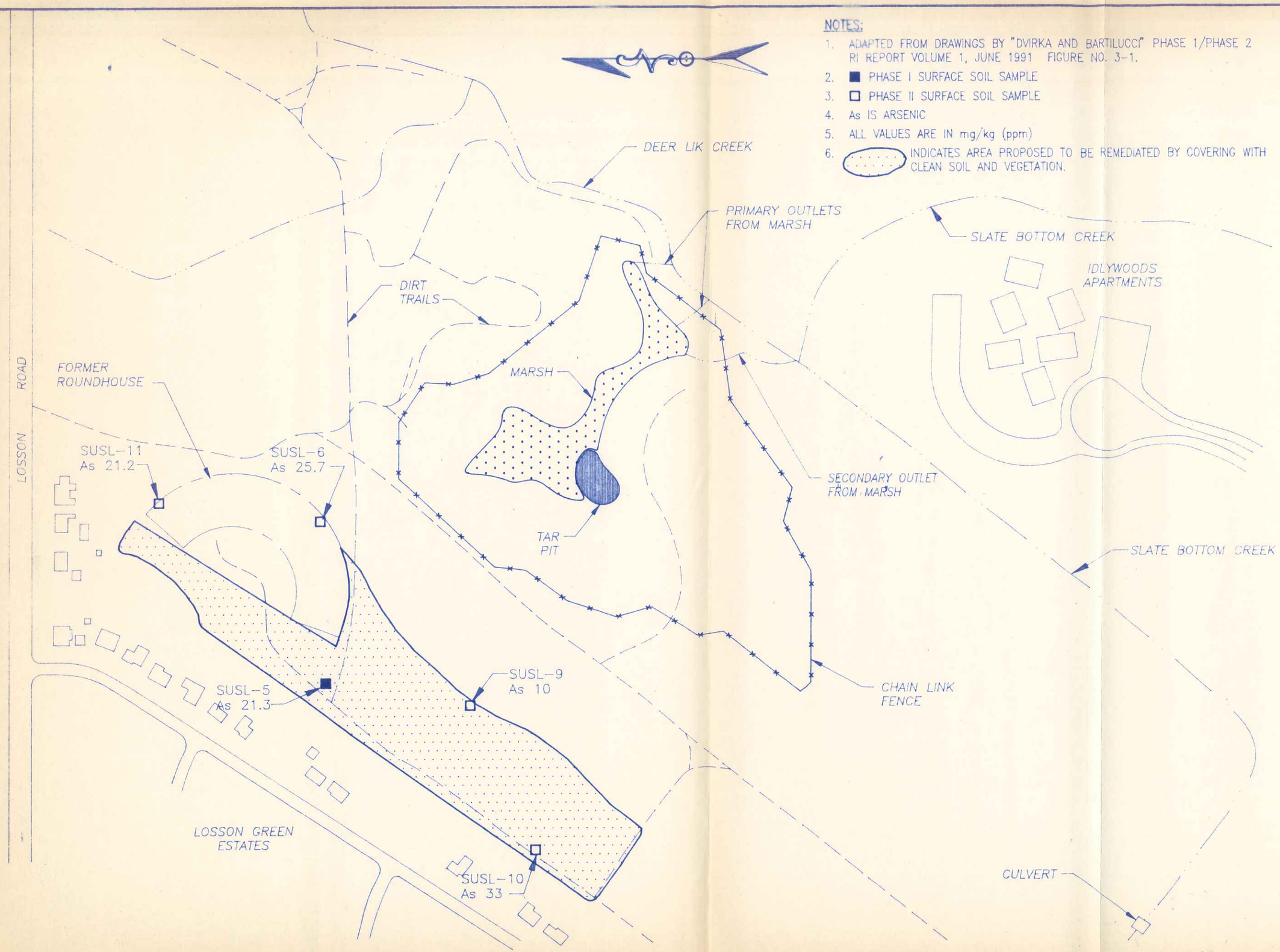
2.4.3 Difference Between This Remedial Measure and the ROD. Remediation of this area discussed in the ROD involved placement of one foot of clean soil cover over approximately 7.5 acres. This area would then be vegetated. Additionally, land use restrictions would be cited in the deed and access restrictions will be considered.

The remedial proposal for this area contained herein involves a smaller area (approximately 5 acres) and placement of six inches of clean fill prior to re-vegetation.

The reduction in area is due to the presence of the structures of the former roundhouse which remain on site. These structures includes large concrete foundations and walls; several large holes and openings to underground portions of the former roundhouse are present. Due to these structures and openings, this area is not amenable to covering with a layer of clean soil i.e. the openings would need to be filled and the concrete removed in order to provide a base to cover with soil.

NOTES:

1. ADAPTED FROM DRAWINGS BY "DVIRKA AND BARTILUCCI" PHASE 1/PHASE 2 RI REPORT VOLUME 1, JUNE 1991 FIGURE NO. 3-1.
2. ■ PHASE I SURFACE SOIL SAMPLE
3. □ PHASE II SURFACE SOIL SAMPLE
4. As IS ARSENIC
5. ALL VALUES ARE IN mg/kg (ppm)
6. INDICATES AREA PROPOSED TO BE REMEDIATED BY COVERING WITH CLEAN SOIL AND VEGETATION.



REVISIONS	
NO.	DATE

AREA OF PROPOSED REMEDIATION IN THE ROUNDHOUSE AREA AND RESULTS OF SURFACE SOIL SAMPLES FOR ARSENIC

UNION ROAD
CHEEKTOWAGA, NEW YORK

PROJECT

DRAWING

INTEGRATED ENVIRONMENTAL SERVICES

PROJECT # 2308-101
FILENAME: 2308101D
SCALE: 1" = 200'
DATE: 6/26/92
BY: AD
CK: RJW

FIGURE # 2-6

EXHIBIT 3

52 Federal Road, Suite 2C
Danbury, CT 06810
Tele: (203) 205-9000
Fax: (203) 205-9011
www.unicornmgt.com

Unicorn Management Consultants, LLC

FORMER ROUNDHOUSE AREA INVESTIGATION REPORT (REV. 2)

UNION ROAD SITE
CHEEKTOWAGA, NEW YORK
INACTIVE HAZERDOUS WASTE DISPOSAL SITE NO. 915128

Prepared for:

AMERICAN PREMIER UNDERWRITERS

One East Fourth Street

Cincinnati, Ohio 45202

Prepared by:

UNICORN MANAGEMENT CONSULTANTS, LLC

52 Federal Road, Suite 2C

Danbury, CT 06810

May 20, 2024

Control (QA/QC). The laboratory analytical reports and data validation report are included as **Appendix 1**.

4.2.1 METALS

Several metals were detected in all 18 samples that were collected. Arsenic was detected above industrial SCOs in 11 of the sampling locations. Chromium was also detected in a majority of the sampling locations. Chromium exceeded the Residential SCO in 14 of the sampling locations. Lead was detected in a majority of the sampling locations and exceeded the Commercial SCO in sampling location S-14. Mercury was detected in a majority of the samples, but was only detected above the SCO for the Protection of Ecological Resources at two sampling locations and above the Restricted-Residential SCO at one location. Selenium was detected in a majority of sampling locations but was only detected above the SCO for the Protection of Groundwater at sampling location S-6. Barium was detected at every sampling location but none of the concentrations exceeded the NYSDEC SCOs. A summary of the soil metal detections is presented in the following table:

Analyte	Highest Detection (µg/Kg)	Highest Location	SCO Exceedance	Lowest Detection (µg/Kg)	Lowest Location	SCO Exceedance	Avg of Detections (µg/Kg)
Arsenic	80.2	S-3	Industrial	9.1	S-9 (Dup)	None	23.9
Barium	200	S-16	None	44.4	S-9 (Dup)	None	109.8
Cadmium	1.85	S-10	None	0.58	S18	None	1.08
Chromium	83.7	S-16	Residential	13.4	S11	Ecological	29.6
Lead	1030	S-14	Commercial	117	S18	Ecological	332.4
Mercury	0.869	S-13	Restricted-Residential	0.070	S11, S15	None	0.161
Selenium	4	S-6	Groundwater	1.2	S9	None	2.29

4.2.2 SEMI-VOLATILE ORGANIC COMPOUNDS

Semi-volatile Organic Compounds (SVOCs) were detected in some of the sampling locations but few were above any of the NYSDEC SCOs. Benzo(a)pyrene concentrations were above the Industrial SCO in two of the sampling locations. Benzo(a)anthracene was detected above the Industrial SCO at sampling location S-3. Benzo(b)fluoranthene was detected above the Industrial SCO at sampling location S-3. Chrysene was detected above the Residential-Restricted SCO at two sampling locations. Benzo(k)fluoranthene was detected above the Residential-Restricted SCO for groundwater in two sampling locations. Indeno(1,2,3-cd)pyrene was detected above the Commercial SCO at sampling location S-3 and above the Residential-Restricted SCO at sampling location S-18. Indeno(1,2,3-cd)pyrene was also detected above the Residential SCO at sampling location S-8. Other SVOCs were detected below the NYSDEC SCOs. The following table presents a summary of SVOC data:

Analyte	Highest Detection (µg/Kg)	Highest Location	SCO Exceedance	Lowest Detection (µg/Kg)	Lowest Location	SCO Exceedance	Avg of Detections (µg/Kg)
2-Methylnaphthalene	4	S14	None	0.67	S16	None	2.22
Acenaphthylene	0.57	S-18	None	0.57	S-18	None	0.57
Anthracene	0.45	S-18	None	0.45	S-18	None	0.45
Benzo(a)anthracene	12	S3	Industrial	0.64	S8	None	3.37

Benzo(a)pyrene	11	S3	Ecological	0.65	S1	None	3.61
Benzo(b)fluoranthene	13	S3	Industrial	0.47	S16	None	3.31
Benzo(g,h,i)perylene	6.2	S3	None	0.39	S1	None	2.06
Benzo(k)fluoranthene	5.1	S3	Restricted-Residential	0.56	S18	None	3.38
Chrysene	11	S3	Restricted-Residential	0.67	S8	None	3.56
Dibenzofuran	0,61	S-18	None	0.61	S-18	None	0.61
Fluoranthene	22	S3	None	0.84	S8	None	7.34
Indeno(1,2,3-cd)pyrene	6.7	S3	Commercial	0.48	S1	None	2.1
Naphthalene	1.5	S18	None	0.69	S16	None	1.09
Phenanthrene	16	S3	None	0.51	S1	None	5.15
Pyrene	28	S3	None	0.98	S1, S8	None	7.28

4.2.3 VOLATILE ORGANIC COMPOUNDS

VOCs were detected in six of the sampling locations. Acetone was the most frequently detected VOC and was detected above the SCO for the Protection of Groundwater at one sampling location. Toluene was detected in three of the sampling locations. Toluene was not detected above any of the NYSDEC SCOs. The following table summarizes VOC detections in soil:

Analyte	Highest Detection (µg/Kg)	Highest Location	SCO Exceedance	Lowest Detection (µg/Kg)	Lowest Location	SCO Exceedance	Avg of Detections (µg/Kg)
Acetone	0.260	S1	Groundwater	0.040	S8	None	0.099
Toluene	0.011	S7	None	0.0079	S9	None	0.0088

4.2.4 PESTICIDES

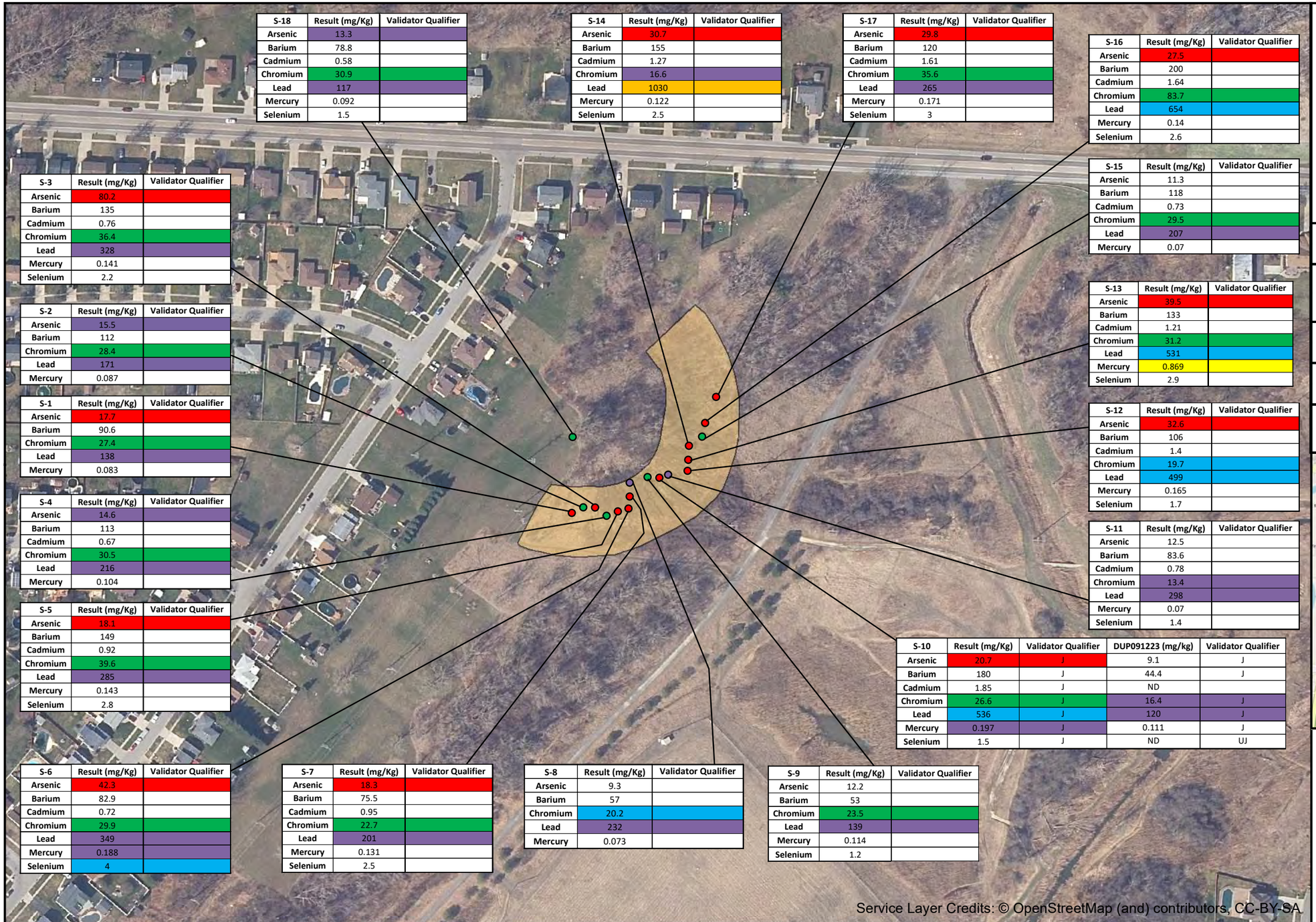
Pesticides were only detected in one sampling location. Endrin Aldehyde was detected at sampling location S-17 at a concentration of 0.025 ug/kg, which is below the NYSDEC SCOs. The following table summarizes the pesticide detection in soil:

Analyte	Highest Detection (µg/Kg)	Highest Location	SCO Exceedance	Lowest Detection (µg/Kg)	Lowest Location	SCO Exceedance	Avg of Detections (µg/Kg)
Endrin Aldehyde	0.025	S17	None	0.025	S17	None	0.025

4.2.5 POLYCHLORINATED BIPHENYLS AND HERBICIDES

PCBs and herbicides were not detected in any of the sampling locations above the specified laboratory method reporting limits (MRLs). Further delineation and sampling efforts are likely required to confirm that no pesticides and herbicides are present at the Site.

The soil sampling results are presented in **Table 2** and depicted on **Figures 3-6** of this report.



S-18	Result (mg/Kg)	Validator Qualifier
Arsenic	13.3	
Barium	78.8	
Cadmium	0.58	
Chromium	30.9	
Lead	117	
Mercury	0.092	
Selenium	1.5	

S-14	Result (mg/Kg)	Validator Qualifier
Arsenic	30.7	
Barium	155	
Cadmium	1.27	
Chromium	16.6	
Lead	1030	
Mercury	0.122	
Selenium	2.5	

S-17	Result (mg/Kg)	Validator Qualifier
Arsenic	29.8	
Barium	120	
Cadmium	1.61	
Chromium	35.6	
Lead	265	
Mercury	0.171	
Selenium	3	

S-16	Result (mg/Kg)	Validator Qualifier
Arsenic	27.5	
Barium	200	
Cadmium	1.64	
Chromium	83.7	
Lead	654	
Mercury	0.14	
Selenium	2.6	

S-15	Result (mg/Kg)	Validator Qualifier
Arsenic	11.3	
Barium	118	
Cadmium	0.73	
Chromium	29.5	
Lead	207	
Mercury	0.07	

S-13	Result (mg/Kg)	Validator Qualifier
Arsenic	39.5	
Barium	133	
Cadmium	1.21	
Chromium	31.2	
Lead	531	
Mercury	0.869	
Selenium	2.9	

S-12	Result (mg/Kg)	Validator Qualifier
Arsenic	32.6	
Barium	106	
Cadmium	1.4	
Chromium	19.7	
Lead	499	
Mercury	0.165	
Selenium	1.7	

S-11	Result (mg/Kg)	Validator Qualifier
Arsenic	12.5	
Barium	83.6	
Cadmium	0.78	
Chromium	13.4	
Lead	298	
Mercury	0.07	
Selenium	1.4	

S-3	Result (mg/Kg)	Validator Qualifier
Arsenic	80.2	
Barium	135	
Cadmium	0.76	
Chromium	36.4	
Lead	328	
Mercury	0.141	
Selenium	2.2	

S-2	Result (mg/Kg)	Validator Qualifier
Arsenic	15.5	
Barium	112	
Chromium	28.4	
Lead	171	
Mercury	0.087	

S-1	Result (mg/Kg)	Validator Qualifier
Arsenic	17.7	
Barium	90.6	
Chromium	27.4	
Lead	138	
Mercury	0.083	

S-4	Result (mg/Kg)	Validator Qualifier
Arsenic	14.6	
Barium	113	
Cadmium	0.67	
Chromium	30.5	
Lead	216	
Mercury	0.104	

S-5	Result (mg/Kg)	Validator Qualifier
Arsenic	18.1	
Barium	149	
Cadmium	0.92	
Chromium	39.6	
Lead	285	
Mercury	0.143	
Selenium	2.8	

S-10	Result (mg/Kg)	Validator Qualifier	DUP091223 (mg/Kg)	Validator Qualifier
Arsenic	20.7	J	9.1	J
Barium	180	J	44.4	J
Cadmium	1.85	J	ND	
Chromium	26.6	J	16.4	J
Lead	536	J	120	J
Mercury	0.197	J	0.111	J
Selenium	1.5	J	ND	UJ

S-6	Result (mg/Kg)	Validator Qualifier
Arsenic	42.3	
Barium	82.9	
Cadmium	0.72	
Chromium	29.9	
Lead	349	
Mercury	0.188	
Selenium	4	

S-7	Result (mg/Kg)	Validator Qualifier
Arsenic	18.3	
Barium	75.5	
Cadmium	0.95	
Chromium	22.7	
Lead	201	
Mercury	0.131	
Selenium	2.5	

S-8	Result (mg/Kg)	Validator Qualifier
Arsenic	9.3	
Barium	57	
Chromium	20.2	
Lead	232	
Mercury	0.073	

S-9	Result (mg/Kg)	Validator Qualifier
Arsenic	12.2	
Barium	53	
Chromium	23.5	
Lead	139	
Mercury	0.114	
Selenium	1.2	

Notes:
-Analysis for Metals by 6010C, 7471B
-Metals analyzed include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver.
-Non-detect values not shown.
-Red highlighted result = exceedance of Industrial Soil Cleanup Objective (SCO)
-Blue highlighted result = exceedance of Protection of Groundwater SCO
-Purple highlighted result = exceedance of Protection of Ecological Resources SCO
-Green highlighted result = Residential exceedance
-Orange highlighted result = Commercial exceedance
Yellow highlighted result = Restricted - Residential exceedance
-Location markers are colored green if a residential exceedance exists, other markers are colored according to highest SCO exceedance.

Roundhouse Area Investigation
Analytical Results: Metals

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road Cheektowaga, NY

Figure 3

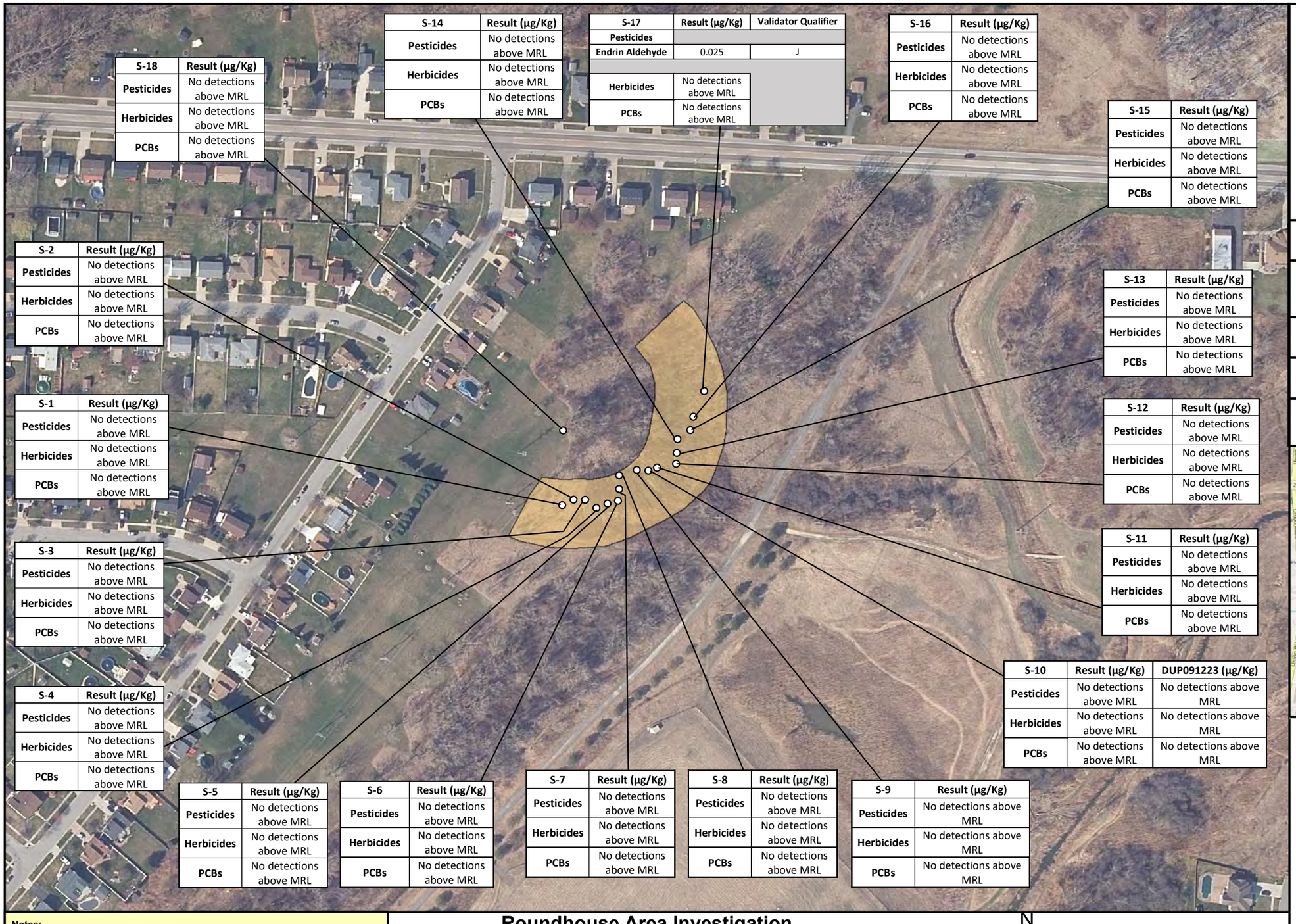
Author: NRH | **Checked By:**

Project #: 2011 | **Created:** 10/11/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_Metals

Legend

- Industrial SCO Exceedance
- Commerical SCO Exceedance
- Restricted-Residential SCO Exceedance
- Residential SCO Exceedance
- Ecological SCO Exceedance
- Groundwater SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location



S-18	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-14	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-17	Result (µg/Kg)	Validator Qualifier
Pesticides		
Endrin Aldehyde	0.025	J
Herbicides	No detections above MRL	
PCBs	No detections above MRL	

S-16	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-15	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-2	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-13	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-1	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-12	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-11	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-3	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-10	Result (µg/Kg)	DUP091223 (µg/Kg)
Pesticides	No detections above MRL	No detections above MRL
Herbicides	No detections above MRL	No detections above MRL
PCBs	No detections above MRL	No detections above MRL

S-4	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-5	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-6	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-7	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-8	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

S-9	Result (µg/Kg)
Pesticides	No detections above MRL
Herbicides	No detections above MRL
PCBs	No detections above MRL

Notes:
-Analysis for Pesticides by 8081B
-Analysis for Herbicides by 8151A
-Analysis for PCBs by 8082A
-No detections above Minimum Reporting Limit (MRL) for Herbicides and PCBs
- Location markers are colored according to highest SCO (Industrial, Protection of Groundwater, and Protection of Ecological Resources)
- Former roundhosue location georeferenced from Erie County, NY historical aerial imagery (1930).

Roundhouse Area Investigation
Analytical Results: Pesticides, Herbicides, and PCBs

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
Danbury, CT
06810
(203) 205-9000

Project Name: Union Road, Cheektowaga, NY

Figure 4

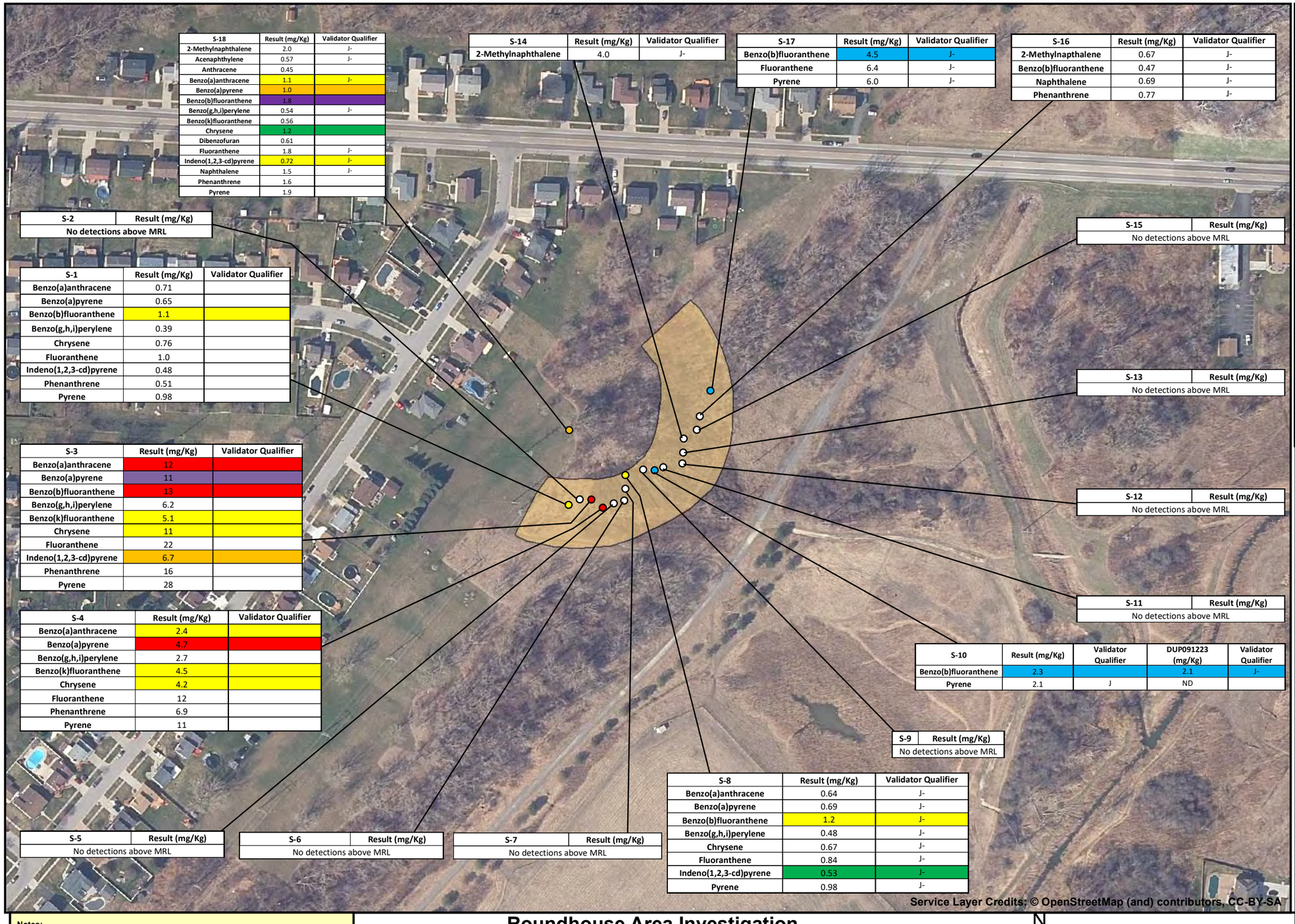
Author: NRH | **Checked By:** RM

Project #: 2011 | **Created:** 10/12/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_Pest_Herb

Legend

- No SCO Exceedance
- Former Roundhouse Location



S-18	Result (mg/Kg)	Validator Qualifier
2-Methylnaphthalene	2.0	J-
Acenaphthylene	0.57	J-
Anthracene	0.45	
Benzo(a)anthracene	1.1	J-
Benzo(a)pyrene	1.0	
Benzo(b)fluoranthene	1.8	
Benzo(g,h,i)perylene	0.54	J-
Benzo(k)fluoranthene	0.56	
Chrysene	1.2	
Dibenzofuran	0.61	
Fluoranthene	1.8	J-
Indeno(1,2,3-cd)pyrene	0.72	J-
Naphthalene	1.5	J-
Phenanthrene	1.6	
Pyrene	1.9	

S-14	Result (mg/Kg)	Validator Qualifier
2-Methylnaphthalene	4.0	J-

S-17	Result (mg/Kg)	Validator Qualifier
Benzo(b)fluoranthene	4.5	J-
Fluoranthene	6.4	J-
Pyrene	6.0	J-

S-16	Result (mg/Kg)	Validator Qualifier
2-Methylnapthalene	0.67	J-
Benzo(b)fluoranthene	0.47	J-
Naphthalene	0.69	J-
Phenanthrene	0.77	J-

S-2	Result (mg/Kg)
No detections above MRL	

S-15	Result (mg/Kg)
No detections above MRL	

S-1	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	0.71	
Benzo(a)pyrene	0.65	
Benzo(b)fluoranthene	1.1	
Benzo(g,h,i)perylene	0.39	
Chrysene	0.76	
Fluoranthene	1.0	
Indeno(1,2,3-cd)pyrene	0.48	
Phenanthrene	0.51	
Pyrene	0.98	

S-13	Result (mg/Kg)
No detections above MRL	

S-3	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	12	
Benzo(a)pyrene	11	
Benzo(b)fluoranthene	13	
Benzo(g,h,i)perylene	6.2	
Benzo(k)fluoranthene	5.1	
Chrysene	11	
Fluoranthene	22	
Indeno(1,2,3-cd)pyrene	6.7	
Phenanthrene	16	
Pyrene	28	

S-12	Result (mg/Kg)
No detections above MRL	

S-4	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	2.4	
Benzo(a)pyrene	4.7	
Benzo(g,h,i)perylene	2.7	
Benzo(k)fluoranthene	4.5	
Chrysene	4.2	
Fluoranthene	12	
Phenanthrene	6.9	
Pyrene	11	

S-11	Result (mg/Kg)
No detections above MRL	

S-10	Result (mg/Kg)	Validator Qualifier	DUP091223 (mg/Kg)	Validator Qualifier
Benzo(b)fluoranthene	2.3		2.1	J-
Pyrene	2.1	J	ND	

S-9	Result (mg/Kg)
No detections above MRL	

S-8	Result (mg/Kg)	Validator Qualifier
Benzo(a)anthracene	0.64	J-
Benzo(a)pyrene	0.69	J-
Benzo(b)fluoranthene	1.2	J-
Benzo(g,h,i)perylene	0.48	J-
Chrysene	0.67	J-
Fluoranthene	0.84	J-
Indeno(1,2,3-cd)pyrene	0.53	J-
Pyrene	0.98	J-

S-5	Result (mg/Kg)
No detections above MRL	

S-6	Result (mg/Kg)
No detections above MRL	

S-7	Result (mg/Kg)
No detections above MRL	

Notes:
-Analysis for SVOCs by 8270D
-J = Estimated concentration
range for that specific analysis
-Red highlighted result = exceedance of Industrial SCO
-Orange highlighted result = exceedance of Commercial SCO
-Yellow highlighted result = exceedance of Restricted-Residential SCO
-Green highlighted result = exceedance of Residential SCO
-Purple highlighted result = exceedance of Ecological SCO
-Blue highlighted result = exceedance of Protection of Groundwater SCO

Roundhouse Area Investigation
Analytical Results: Semivolatile Organic Compounds (SVOCs)

Union Road Site
Town of Cheektowaga, NY

N

0 200 400 800 Feet

Unicorn Management Consultants, LLC
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Project Name: Union Road Cheektowaga, NY

Figure 5

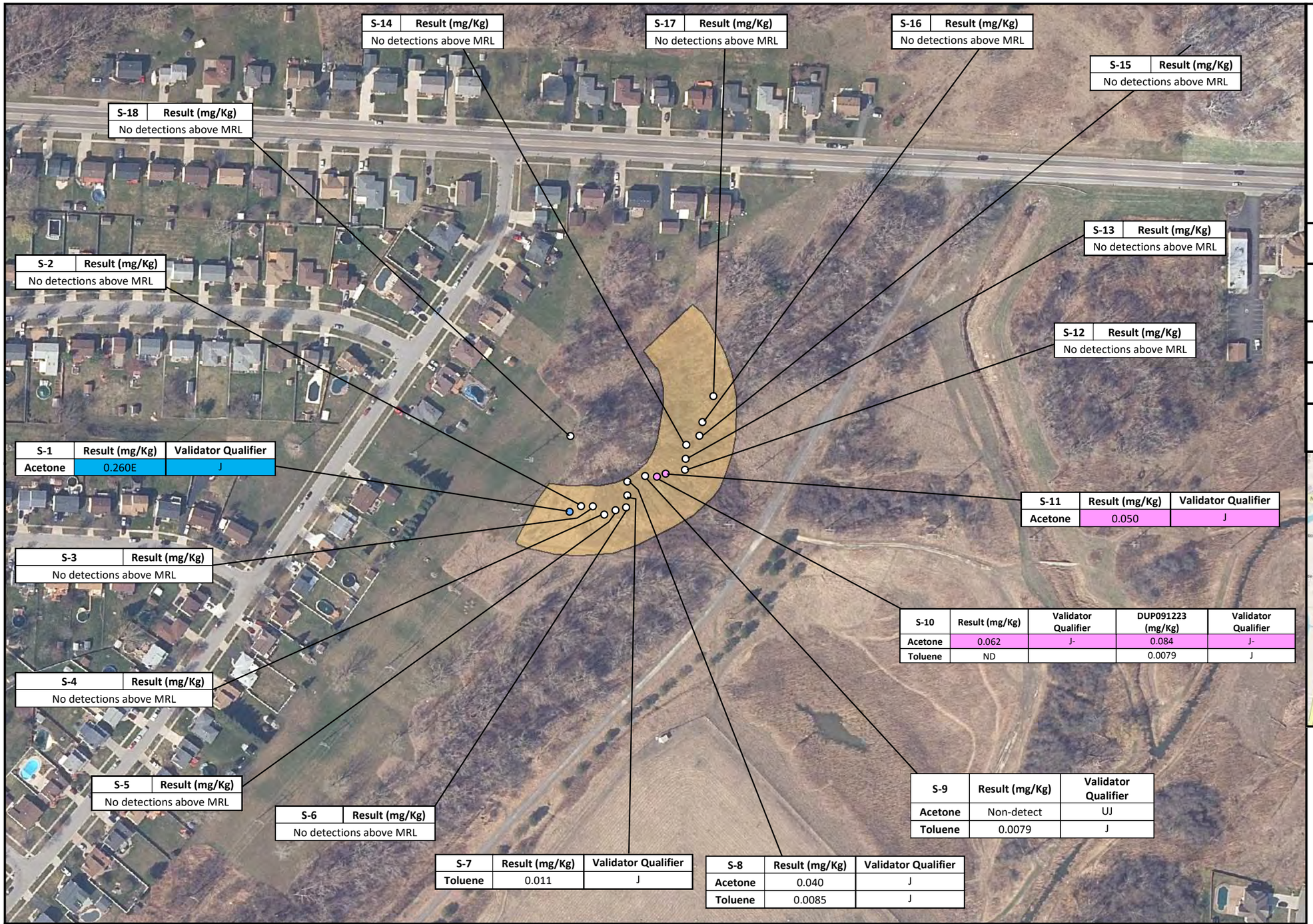
Author: NRH | **Checked By:** RM

Project #: 2011 | **Created:** 10/13/23 | **Revised:** 5/3/24

Scale: 1:3,000 | **File:** SoilResults_SVOCs

Legend

- Industrial SCO Exceedance
- Commerical SCO Exceedance
- Restricted-Residential SCO Exceedance
- Residential SCO Exceedance
- Ecological SCO Exceedance
- Groundwater SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location



Notes:
-Analysis for VOCs by 8260C
-RE = Re-extraction
-ND = Non-detect
-J = Estimated concentration
-E = Concentration exceeded the calibrationrange for that specific analysis
-Blue highlighted result = Groundwater SCO Exceedance
-Pink highlighted result = Unrestricted SCO Exceedance
- Location markers are colored according to highest SCO (Industrial, Protection of Groundwater, Protection of Ecological Resources).
- Former roundhouse location georeferenced from Erie County, NY aerial imagery (1930).

Roundhouse Area Investigation
Analytical Results: Volatile Organic Compounds (VOCs)

Union Road Site
Town of Cheektowaga, NY

N

0 150 300 600 Feet

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52 Federal Road
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Project Name: Union Road Cheektowaga, NY

Figure 6

Author: NRH	**Checked By:** RM
Project #: 2011	**Created:** 10/12/23 **Revised:** 5/3/24
Scale: 1:3,000	**File:** SoilResults_VOCs

Legend

- Groundwater SCO Exceedance
- Unrestricted SCO Exceedance
- No SCO Exceedance
- Former Roundhouse Location

Tables

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Soil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
Arsenic	13[c]	16[g]	16[g]	16[g]	16[g]	13[g]	16[c]	**17.7**			**15.5**			**80.2**			**14.6**			**18.1**			**42.3**		
Barium	350[c]	350[g]	400	400	10000	433	820	**90.6**			**112**			**135**			**113**			**149**			**82.9**		
Cadmium	2.5[c]	2.5[g]	4.3	9.3	60	4	7.5	<0.56	U	U	<0.56	U	U	**0.76**			**0.67**			**0.92**			**0.72**		
Chromium*	1[b]	22	110	400	800	1[c]	19	**27.4**			**28.4**			**36.4**			**30.5**			**39.6**			**29.9**		
Lead	63[c]	400	400	1000	3900	63[g]	450	**138**			**171**			**328**			**216**			**285**			**349**		
Mercury	.18[c]	.81[g]	.81[g]	2.8[g]	5.7[g]	.18[g]	0.73	**0.083**			**0.087**			**0.141**			**0.104**			**0.143**			**0.188**		
Selenium	3.9[c]	36	180	1500	6800	3.9[g]	4[c]	<1.1	U	U	<1.1	U	U	**2.2**			<1.1	U	U	**2.8**			**4**		
Silver	2	36	180	1500	6800	2	8.3	<1.1	U	U	<1.1	U	U	<1.3	U	U	<1.1	U	U	<1.1	U	U	<1.2	U	U

Legend:

Industrial

Commercial

Restricted-Residential

Residential

Ecological

Groundwater

Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.
J-	Result is an estimated quantity, may be biased low.

Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
J	Result is an estimated quantity.

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Soil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
Arsenic	13[c]	16[E]	16[E]	16[F]	16[E]	13[F]	16[F]	**18.3**			**9.3**			**12.2**			**9.1**		J	**20.7**		J	**12.5**			**32.6**		
Barium	350[c]	350[E]	400	400	10000	433	820	**75.5**			**57**			**53**			**44.4**		J	**180**		J	**83.6**			**106**		
Cadmium	2.5[c]	2.5[E]	4.3	9.3	60	4	7.5	**0.95**			<0.58	U	U	<0.54	U	U	<0.57	U	UJ	**1.85**		J	**0.78**			**1.40**		
Chromium*	1[b]	22	110	400	800	1[E]	19	**22.7**			**20.2**			**23.5**			**16.4**		J	**26.6**		J	**13.4**			**19.7**		
Lead	63[c]	400	400	1000	3900	63[E]	450	**201**			**232**			**139**			**120**		J	**536**		J	**298**			**499**		
Mercury	.18[c]	.81[E]	.81[E]	2.8[E]	5.7[E]	.18[E]	0.73	**0.131**			**0.073**			**0.114**			**0.111**		J	**0.197**		J	**0.070**			**0.165**		
Selenium	3.9[c]	36	180	1500	6800	3.9[E]	4[E]	**2.5**			<1.2	U	U	**1.2**			<1.1	U	UJ	**1.5**		J	**1.4**			**1.7**		
Silver	2	36	180	1500	6800	2	8.3	<1.1	U	U	<1.2	U	U	<1.1	U	U	<1.1	U	U	<1.2	U	U	<1.1	U	U	<1.3	U	U

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.
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Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Soil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
Arsenic	13[c]	16[g]	16[g]	16[g]	16[g]	13[g]	16[g]	**39.5**			**30.7**			**11.3**			**27.5**			**29.8**			**13.3**		
Barium	350[c]	350[g]	400	400	10000	433	820	**133**			**155**			**118**			**200**			**120**			**78.8**		
Cadmium	2.5[c]	2.5[g]	4.3	9.3	60	4	7.5	**1.21**			**1.27**			**0.73**			**1.64**			**1.61**			**0.58**		
Chromium*	1[b]	22	110	400	800	1[g]	19	**31.2**			**16.6**			**29.5**			**83.7**			**35.6**			**30.9**		
Lead	63[c]	400	400	1000	3900	63[g]	450	**531**			**1030**			**207**			**654**			**265**			**117**		
Mercury	.18[c]	.81[g]	.81[g]	2.8[g]	5.7[g]	.18[g]	0.73	**0.869**			**0.122**			**0.070**			**0.140**			**0.171**			**0.092**		
Selenium	3.9[c]	36	180	1500	6800	3.9[g]	4[g]	**2.9**			**2.5**			<1.1	U	U	**2.6**			**3.0**			**1.5**		
Silver	2	36	180	1500	6800	2	8.3	<1.3	U	U	<1.1	U	U	<1.1	U	U	<1.3	U	U	<1.2	U	U	<1.1	U	U

Legend:

Industrial
Commercial
Restricted-Residential
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Ecological
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Unrestricted

Qualifiers	Definitions
U	Non-detect.
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
4,4'-DDD	.0033[b]	2.6	13	92	180	.0033[E]	14	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
4,4'-DDE	.0033[b]	1.8	8.9	62	120	.0033[E]	17	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
4,4'-DDT	.0033[b]	1.7	7.9	47	94	.0033[E]	136.0	<0.01	U	U	<0.0098	U	UJ	<0.024	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ
Aldrin	.005[c]	0.019	0.097	0.68	1.4	0.14	0.19	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Dieldrin	.005[c]	0.039	0.2	1.4	2.8	0.006	0.1	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Endosulfan I	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Endosulfan II	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Endosulfan Sulfate	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	1000[C]	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Endrin	0.014	2.2	11	89	410	0.014	0.1	<0.01	U	UJ	<0.0098	U	UJ	<0.024	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ
Endrin Aldehyde	NS	NS	NS	NS	NS	NS	NS	<0.01	U	UJ	<0.0098	U	UJ	<0.024	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ
Endrin Ketone	NS	NS	NS	NS	NS	NS	NS	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Heptachlor	0.042	0.42	2.1	15	29	0.14	0.38	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Heptachlor Epoxide	NS	NS	NS	NS	NS	NS	NS	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	<0.01	U	U	<0.0098	U	UJ	<0.024	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	<0.2	U	UJ	<0.19	U	UJ	<0.46	U	UJ	<0.2	U	UJ	<0.2	U	UJ	<0.41	U	UJ
alpha-BHC	0.02	0.097	0.48	3.4	6.8	.04[G]	0.02	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
alpha-Chlordane	0.094	0.91	4.2	24	47	1.3	2.9	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
beta-BHC	0.036	0.072	0.36	3	14	0.6	0.09	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
delta-BHC	0.04	100[A]	100[A]	500[B]	1000[C]	.04[G]	0.25	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
gamma-BHC (Lindane)	0.1	0.28	1.3	9.2	23	6	0.1	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	<0.01	U	U	<0.0098	U	U	<0.024	U	UJ	<0.01	U	U	<0.01	U	UJ	<0.021	U	U

Legend:

Industrial

Commercial

Restricted-Residential

Residential

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Unrestricted

Qualifiers	Validation Definitions	Qualifiers	Validation Definitions
U	Non-detect.	U	Non-detect.
J	Estimated value. Lies between MDL and MRL.	UJ	Non-detect. Quantitation limit is approximate.
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
4,4'-DDD	.0033[b]	2.6	13	92	180	.0033[E]	14	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
4,4'-DDE	.0033[b]	1.8	8.9	62	120	.0033[E]	17	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
4,4'-DDT	.0033[b]	1.7	7.9	47	94	.0033[E]	136.0	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Aldrin	.005[c]	0.019	0.097	0.68	1.4	0.14	0.19	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Dieldrin	.005[c]	0.039	0.2	1.4	2.8	0.006	0.1	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endosulfan I	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endosulfan II	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endosulfan Sulfate	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	1000[C]	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endrin	0.014	2.2	11	89	410	0.014	0.1	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endrin Aldehyde	NS	NS	NS	NS	NS	NS	NS	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Endrin Ketone	NS	NS	NS	NS	NS	NS	NS	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Heptachlor	0.042	0.42	2.1	15	29	0.14	0.38	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Heptachlor Epoxide	NS	NS	NS	NS	NS	NS	NS	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	<0.41	U	UJ	<0.19	U	UJ	<0.19	U	UJ	<0.2	U	UJ	<0.42	U	UJ	<0.19	U	UJ	<0.43	U	UJ
alpha-BHC	0.02	0.097	0.48	3.4	6.8	.04[G]	0.02	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
alpha-Chlordane	0.094	0.91	4.2	24	47	1.3	2.9	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
beta-BHC	0.036	0.072	0.36	3	14	0.6	0.09	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
delta-BHC	0.04	100[A]	100[A]	500[B]	1000[C]	.04[G]	0.25	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
gamma-BHC (Lindane)	0.1	0.28	1.3	9.2	23	6	0.1	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	<0.021	U	UJ	<0.01	U	UJ	<0.01	U	UJ	<0.01	U	U	<0.021	U	UJ	<0.0097	U	UJ	<0.022	U	UJ

Legend:

Industrial

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U	Non-detect.
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Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
4,4'-DDD	.0033[b]	2.6	13	92	180	.0033[E]	14	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
4,4'-DDE	.0033[b]	1.8	8.9	62	120	.0033[E]	17	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
4,4'-DDT	.0033[b]	1.7	7.9	47	94	.0033[E]	136.0	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Aldrin	.005[c]	0.019	0.097	0.68	1.4	0.14	0.19	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Dieldrin	.005[c]	0.039	0.2	1.4	2.8	0.006	0.1	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Endosulfan I	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Endosulfan II	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	102.0	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Endosulfan Sulfate	2.4	4.8[I]	24[I]	200[I]	920[I]	NS	1000[C]	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Endrin	0.014	2.2	11	89	410	0.014	0.1	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Endrin Aldehyde	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	**0.025**		J	<0.0095	U	UJ
Endrin Ketone	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Heptachlor	0.042	0.42	2.1	15	29	0.14	0.38	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Heptachlor Epoxide	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	<0.22	U	UJ	<0.2	U	UJ	<0.19	U	UJ	<0.23	U	UJ	<0.22	U	UJ	<0.19	U	UJ
alpha-BHC	0.02	0.097	0.48	3.4	6.8	.04[G]	0.02	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
alpha-Chlordane	0.094	0.91	4.2	24	47	1.3	2.9	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
beta-BHC	0.036	0.072	0.36	3	14	0.6	0.09	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
delta-BHC	0.04	100[A]	100[A]	500[B]	1000[C]	.04[G]	0.25	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
gamma-BHC (Lindane)	0.1	0.28	1.3	9.2	23	6	0.1	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.01	U	UJ	<0.0097	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.0095	U	UJ

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.

Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
J	Result is an estimated quantity.
J-	Result is an estimated quantity, may be biased low.

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
2,4,5-T	NS	NS	NS	NS	NS	NS	NS	<0.012	U	UJ	<0.012	U	UJ	<0.014	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ
2,4,5-TP	3.8	58	100[A]	500B	1000C	NS	3.8	<0.012	U	UJ	<0.012	U	UJ	<0.014	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ
2,4-D	NS	NS	NS	NS	NS	NS	NS	<0.012	U	UJ	<0.012	U	UJ	<0.014	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ
Dicambra	NS	NS	NS	NS	NS	NS	NS	<0.012	U	UJ	<0.012	U	UJ	<0.014	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ

Legend:

- Industrial
- Commercial
- Restricted-Residential
- Residential
- Ecological
- Groundwater
- Unrestricted

Qualifiers	Definitions
U	Non-detect.
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E	Concentration exceeds calibration range.
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
2,4,5-T	NS	NS	NS	NS	NS	NS	NS	<0.12	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.013	U	UJ	<0.012	U	UJ	<0.13	U	UJ
2,4,5-TP	3.8	58	100[A]	500B	1000C	NS	3.8	<0.12	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.013	U	UJ	<0.012	U	UJ	<0.13	U	UJ
2,4-D	NS	NS	NS	NS	NS	NS	NS	<0.12	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.013	U	UJ	<0.012	U	UJ	<0.13	U	UJ
Dicambra	NS	NS	NS	NS	NS	NS	NS	<0.12	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.012	U	UJ	<0.013	U	UJ	<0.012	U	UJ	<0.13	U	UJ

Legend:

- Industrial
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Qualifiers	Definitions	Validation Qualifiers	Definitions
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
2,4,5-T	NS	NS	NS	NS	NS	NS	NS	<0.13	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.014	U	UJ	<0.013	U	UJ	<0.011	U	UJ
2,4,5-TP	3.8	58	100[A]	500B	1000C	NS	3.8	<0.13	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.014	U	UJ	<0.013	U	UJ	<0.011	U	UJ
2,4-D	NS	NS	NS	NS	NS	NS	NS	<0.13	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.014	U	UJ	<0.013	U	UJ	<0.011	U	UJ
Dicambra	NS	NS	NS	NS	NS	NS	NS	<0.13	U	UJ	<0.012	U	UJ	<0.011	U	UJ	<0.014	U	UJ	<0.013	U	UJ	<0.011	U	UJ

Legend:

Industrial
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Qualifiers	Definitions	Validation Qualifiers	Definitions
U	Non-detect.	U	Non-detect.
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Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
Aroclor 1016	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U
Aroclor 1221	0.1	1	1	1	25	1	3.2	<0.08	U	U	<0.077	U	U	<0.093	U	UJ	<0.081	U	UJ	<0.079	U	UJ	<0.083	U	U
Aroclor 1232	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U
Aroclor 1242	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U
Aroclor 1248	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U
Aroclor 1254	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U
Aroclor 1260	0.1	1	1	1	25	1	3.2	<0.039	U	U	<0.038	U	U	<0.046	U	UJ	<0.04	U	UJ	<0.039	U	UJ	<0.041	U	U

Legend:

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Qualifiers	Definitions
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
Aroclor 1016	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ
Aroclor 1221	0.1	1	1	1	25	1	3.2	<0.083	U	UJ	<0.079	U	UJ	<0.079	U	UJ	<0.081	U	U	<0.085	U	UJ	<0.077	U	UJ	<0.088	U	UJ
Aroclor 1232	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ
Aroclor 1242	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ
Aroclor 1248	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ
Aroclor 1254	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ
Aroclor 1260	0.1	1	1	1	25	1	3.2	<0.041	U	UJ	<0.039	U	UJ	<0.039	U	UJ	<0.04	U	U	<0.042	U	UJ	<0.038	U	UJ	<0.043	U	UJ

Legend:

Industrial

Commercial

Restricted-Residential

Residential

Ecological

Groundwater

Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.

Validation Qualifiers	Definitions
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Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
Aroclor 1016	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ
Aroclor 1221	0.1	1	1	1	25	1	3.2	<0.088	U	UJ	<0.082	U	UJ	<0.077	U	UJ	<0.094	U	UJ	<0.089	U	UJ	<0.075	U	UJ
Aroclor 1232	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ
Aroclor 1242	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ
Aroclor 1248	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ
Aroclor 1254	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ
Aroclor 1260	0.1	1	1	1	25	1	3.2	<0.043	U	UJ	<0.04	U	UJ	<0.038	U	UJ	<0.046	U	UJ	<0.044	U	UJ	<0.037	U	UJ

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.
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Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
J	Result is an estimated quantity.

Table 2
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
1,2,4,5-Tetrachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2,3,4,6-Tetrachlorophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	<2	U	UJ	<10	U	UJ	<24	U	UJ	<10	U	UJ	<21	U	UJ	<20	U	UJ
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2-Methylphenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<2	U	U	<10	U	U	<24	U	U	<10	U	U	<21	U	UJ	<20	U	UJ
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
3,3'-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
3- and 4-Methylphenol Coelution	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	2	U	UJ	<10	U	UJ	<24	U	UJ	<10	U	UJ	<21	U	UJ	<20	U	UJ
4,6-Dinitro-2-methylphenol	NS	NS	NS	NS	NS	NS	NS	2	U	UJ	<10	U	UJ	<24	U	UJ	<10	U	UJ	<21	U	UJ	<20	U	UJ
4-Bromophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
4-Chloro-3-methylphenol	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
4-Chlorophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<2	U	U	<10	U	U	<24	U	U	<10	U	U	<21	U	UJ	<20	U	UJ
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<2	U	U	<10	U	UJ	<24	U	UJ	<10	U	U	<21	U	UJ	<20	U	UJ
Acenaphthene	20	100[A]	100[A]	500[B]	1,000[C]	20	98.0	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Acenaphthylene	100[a]	100[a]	100[a]	500[b]	1000[c]	NS	107	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Acetophenone	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Anthracene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	J	UJ
Atrazine	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Benzo(a)anthracene	1[c]	1[F]	1[F]	6	11	NS	1[F]	**0.71**			<2	U	U	**12**			**2.4**			<4	U	UJ	<4	J	UJ
Benzaldehyde	NS	NS	NS	NS	NS	NS	NS	<2	U	U	<10	U	U	<24	U	U	<10	U	U	<21	U	UJ	<20	U	UJ
Benzo(a)pyrene	1[c]	1[F]	1[F]	1[F]	1.1	2.6	22.0	**0.65**			<2	U	U	**11**			**4.7**			<4	U	UJ	<4	J	UJ
Benzo(b)fluoranthene	1[c]	1[F]	1[F]	6	11	NS	1.7	**1.1**			<2	U	U	**13**			<2	U	U	<4	U	UJ	<4	J	UJ
Benzo(g,h,i)perylene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	**0.39**			<2	U	U	**6.2**			**2.7**			<4	U	UJ	<4	J	UJ
Benzo(k)fluoranthene	.8[c]	1	3.9	56	110	NS	1.7	<0.38	U	U	<2	U	U	**5.1**			**4.5**			<4	U	UJ	<4	J	UJ
Biphenyl	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
2,2'-Oxybis(1-chloropropane)	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Bis(2-chloroethyl) Ether	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Bis(2-ethylhexyl) Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.58	U	U	<2	U	U	<7	U	U	<3	U	U	<6	U	UJ	<6	U	UJ
Butyl Benzyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Caprolactam	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Carbazole	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Chrysene	1[c]	1[F]	3.9	56	110	NS	1[F]	**0.76**			<2	U	U	**11**			**4.2**			<4	U	UJ	<4	J	UJ
Di-n-butyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Di-n-octyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Dibenz(a,h)anthracene	.33[b]	0.33[E]	0.33[E]	0.56	1.1	NS	1,000[C]	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Dibenzofuran	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Diethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Dimethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U'	<2	U	U	<4	U	UJ	<4	U	UJ
Fluoranthene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	**1**			<2	U	U	**22**			**12**			<4	U	UJ	<4	J	UJ
Fluorene	30	100[A]	100[A]	500[B]	1,000[C]	30	386	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Hexachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Indeno(1,2,3-cd)pyrene	.5[c]	0.5[F]	0.5[F]	5.6	11	NS	8.2	**0.48**			<2	U	U	**6.7**			<2	U	U	<4	U	UJ	<4	J	UJ
Isophorone	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
N-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
N-Nitrosodiphenylamine	NS	NS	NS	NS	NS	NS	NS	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Naphthalene	12	100[A]	100[A]	500[B]	1,000[C]	NS	12	<0.38	U	U	<2	U	U	<4.6	U	U	<2	U	U	<4	U	UJ	<4	U	UJ
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	<0.38	U	UJ	<2	U	UJ	<4.6	U	UJ	<2	U	UJ	<4	U	UJ	<4	U	UJ
Pentachlorophenol (PCP)	.8[b]	2.4	6.7	6.7	55	0.8[E]	0.8[E]	<2	U	UJ	<10	U	UJ	<24	U	UJ	<10	U	UJ	<21	U	UJ	<20	U	UJ
Phenanthrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	**0.51**			<2	U	U	**16**			**6.9**			<4	U	UJ	<4	U	UJ
Phenol	.33[b]	100[A]	100[A]	500[B]	1,000[C]	30	0.33[E]	<0.38	U	U	<2	U	UJ	<4.6	U	UJ	<2	U	U	<4	U	UJ	<4	U	UJ
Pyrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	**0.98**			<2	U	U	**28**			**11**			<4	U	UJ	<4	J	UJ

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions	Validation Qualifiers	Definitions
U	Non-detect.	U	Non-detect.
J	Estimated value. Lies between MDL and MRL.	UJ	Non-detect. Quantitation limit is approximate.
E	Concentration exceeds calibration range.	J	Result is an estimated quantity.
		J-	Result is an estimated quantity, may be biased low.

Table 2
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
1,2,4,5-Tetrachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
2,3,4,6-Tetrachlorophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<0.39	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2-Methylphenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<2	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	U	<9.7	U	UJ	<110	U	UJ
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
3,3'-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
3- and 4-Methylphenol Coelution	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<2	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
4,6-Dinitro-2-methylphenol	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<2	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
4-Bromophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
4-Chloro-3-methylphenol	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
4-Chlorophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<2	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	U	<9.7	U	UJ	<110	U	UJ
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<2	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
Acenaphthene	20	100[A]	100[A]	500[B]	1,000[C]	20	98.0	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Acenaphthylene	100[a]	100[a]	100[a]	500[b]	1000[F]	NS	107	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Acetophenone	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Anthracene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Atrazine	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Benzo(a)anthracene	1[c]	1[F]	1[F]	6	11	NS	1[F]	<3.9	U	UJ	**0.64**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Benzaldehyde	NS	NS	NS	NS	NS	NS	NS	<20	U	UJ	<20	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
Benzo(a)pyrene	1[c]	1[F]	1[F]	1[F]	1.1	2.6	22.0	<3.9	U	UJ	**0.69**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Benzo(b)fluoranthene	1[c]	1[F]	1[F]	6	11	NS	1.7	<3.9	U	UJ	**1.2**		J-	<3.8	U	UJ	**2.1**		J-	**2.3**			<1.9	U	UJ	<21	U	UJ
Benzo(g,h,i)perylene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<3.9	U	UJ	**0.48**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Benzo(k)fluoranthene	.8[C]	1	3.9	56	110	NS	1.7	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Biphenyl	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
2,2'-Oxybis(1-chloropropane)	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Bis(2-chloroethyl) Ether	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Bis(2-ethylhexyl) Phthalate	NS	NS	NS	NS	NS	NS	NS	<5.9	U	UJ	<0.6	U	UJ	<5.8	U	UJ	<2.9	U	UJ	<3.1	U	U	<2.9	U	UJ	<32	U	UJ
Butyl Benzyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Caprolactam	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Carbazole	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Chrysene	1[c]	1[F]	3.9	56	110	NS	1[F]	<3.9	U	UJ	**0.67**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Di-n-butyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Di-n-octyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Dibenz(a,h)anthracene	.33[b]	0.33[E]	0.33[E]	0.56	1.1	NS	1,000[C]	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Dibenzofuran	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Diethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Dimethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Fluoranthene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<3.9	U	UJ	**0.84**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Fluorene	30	100[A]	100[A]	500[B]	1,000[C]	30	386	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Hexachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Indeno(1,2,3-cd)pyrene	.5[C]	0.5[E]	0.5[E]	5.6	11	NS	8.2	<3.9	U	UJ	**0.53**		J-	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Isophorone	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
N-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
N-Nitrosodiphenylamine	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Naphthalene	12	100[A]	100[A]	500[B]	1,000[C]	NS	12	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Pentachlorophenol (PCP)	.8[b]	2.4	6.7	6.7	55	0.8[E]	0.8[E]	<20	U	UJ	<20	U	UJ	<20	U	UJ	<9.7	U	UJ	<10	U	UJ	<9.7	U	UJ	<110	U	UJ
Phenanthrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	U	<1.9	U	UJ	<21	U	UJ
Phenol	.33[b]	100[A]	100[A]	500[B]	1,000[C]	30	0.33[E]	<3.9	U	UJ	<0.39	U	UJ	<3.8	U	UJ	<1.9	U	UJ	<2	U	UJ	<1.9	U	UJ	<21	U	UJ
Pyrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<3.9	U	UJ	**0.98**		J-	<3.8	U	UJ	<1.9	U	UJ	**2.1**		J	<1.9	U	UJ	<21	U	UJ

Legend:

Industrial

Commercial

Restricted-Residential

Residential

Ecological

Groundwater

Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.

Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
J	Result is an estimated quantity.
J-	Result is an estimated quantity, may be biased low.

Table 2
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Qualifier	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
1,2,4,5-Tetrachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,3,4,6-Tetrachlorophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	**4**		J-	<0.39	U	UJ	**0.67**		J-	<4.3	U	UJ	**2**		J-
2-Methylphenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
3,3'-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
3- and 4-Methylphenol Coelution	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
4,6-Dinitro-2-methylphenol	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
4-Bromophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
4-Chloro-3-methylphenol	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
4-Chlorophenyl Phenyl Ether	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
Acenaphthene	20	100[A]	100[A]	500[B]	1,000[C]	20	98.0	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Acenaphthylene	100[a]	100[a]	100[a]	500[b]	1000[c]	NS	107	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.57**		J-
Acetophenone	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Anthracene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.45**		
Atrazine	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Benzo(a)anthracene	1[c]	1[F]	1[F]	6	11	NS	1[F]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**1.1**		J-
Benzaldehyde	NS	NS	NS	NS	NS	NS	NS	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	U
Benzo(a)pyrene	1[c]	1[F]	1[F]	1[F]	1.1	2.6	22.0	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**1**		
Benzo(b)fluoranthene	1[c]	1[F]	1[F]	6	11	NS	1.7	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	**0.47**		J-	**4.5**		J-	**1.8**		
Benzo(g,h,i)perylene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.54**		J-
Benzo(k)fluoranthene	.8[c]	1	3.9	56	110	NS	1.7	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.56**		
Biphenyl	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
2,2'-Oxybis(1-chloropropane)	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Bis(2-chloroethyl) Ether	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Bis(2-ethylhexyl) Phthalate	NS	NS	NS	NS	NS	NS	NS	<6.6	U	UJ	<5.9	U	UJ	<0.59	U	UJ	<0.68	U	UJ	<6.6	U	UJ	<0.58	U	U
Butyl Benzyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Caprolactam	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Carbazole	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Chrysene	1[c]	1[F]	3.9	56	110	NS	1[F]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**1.2**		
Di-n-butyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Di-n-octyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Dibenz(a,h)anthracene	.33[b]	0.33[E]	0.33[E]	0.56	1.1	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Dibenzofuran	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.61**		UJ
Diethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Dimethyl Phthalate	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Fluoranthene	100[a]	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	**6.4**		J-	**1.8**		J-
Fluorene	30	100[A]	100[A]	500[B]	1,000[C]	30	386	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Hexachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Indeno(1,2,3-cd)pyrene	.5[c]	0.5[F]	0.5[F]	5.6	11	NS	8.2	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	**0.72**		J-
Isophorone	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
N-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
N-Nitrosodiphenylamine	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	U
Naphthalene	12	100[A]	100[A]	500[B]	1,000[C]	NS	12	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	**0.69**		J-	<4.3	U	UJ	**1.5**		J-
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Pentachlorophenol (PCP)	.8[b]	2.4	6.7	6.7	55	0.8[E]	0.8[E]	<23	U	UJ	<20	U	UJ	<2	U	UJ	<2.3	U	UJ	<22	U	UJ	<2	U	UJ
Phenanthrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	**0.77**		J-	<4.3	U	UJ	**1.6**		
Phenol	.33[b]	100[A]	100[A]	500[B]	1,000[C]	30	0.33[E]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	<4.3	U	UJ	<0.38	U	UJ
Pyrene	100	100[A]	100[A]	500[B]	1,000[C]	NS	1,000[C]	<4.4	U	UJ	<3.9	U	UJ	<0.39	U	UJ	<0.45	U	UJ	**6**		J-	**1.9**		

Legend:	Qualifiers	Definitions	Validation Qualifiers	Definitions
Industrial	U	Non-detect.	U	Non-detect.
Commercial	J	Estimated value. Lies between MDL and MRL.	UJ	Non-detect. Quantitation limit is approximate.
Restricted-Residential	E	Concentration exceeds calibration range.	J	Result is an estimated quantity.
Residential			J-	Result is an estimated quantity, may be biased low.
Ecological				
Groundwater				
Unrestricted				

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S1			S2			S3			S4			S5			S6		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-001			R2308370-002			R2308370-003			R2308370-004			R2308370-005			R2308370-006		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
1,1,1-Trichloroethane (TCA)	0.68	100[A]	100[A]	500[B]	1,000[C]	NS	0.68	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,1-Dichloroethane (1,1-DCA)	0.27	19	26	240	480	NS	0.27	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,1-Dichloroethene (1,1-DCE)	0.33	100[A]	100[A]	500[B]	1,000[C]	NS	0.33	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2-Dichlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	NS	1.1	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2-Dichloroethane	.02[C]	2.3	3.1	30	60	10	0.02[F]	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,3-Dichlorobenzene	2.4	17	49	280	560	NS	2.4	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,4-Dichlorobenzene	1.8	9.8	13	130	250	20	1.8	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
1,4-Dioxane	.1[b]	9.8	13	130	250	0.1[E]	0.1[E]	<0.12	U	UJ	<0.1	U	UJ	<0.14	U	UJ	<0.16	U	UJ	<0.16	U	UJ	<0.17	U	UJ
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Acetone	0.05	100[A]	100[B]	500[B]	1,000[C]	2.2	0.05	0.260	**E**	J	<0.025	U	U	<0.035	U	UJ	<0.039	U	UJ	<0.041	U	UJ	<0.042	U	UJ
Benzene	0.06	2.9	4.8	44	89	70	0.06	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Bromoform	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Bromomethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	UJ	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Carbon Tetrachloride	0.76	1.4	2.4	22	44	NS	0.76	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Chlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	40	1.1	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Chloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Chloroform	0.37	10	49	350	700	12	0.37	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Chloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Cyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Dichlorodifluoromethane (CFC 12)	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Dichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Ethylbenzene	1	30	41	390	780	NS	1.0	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Isopropylbenzene (Cumene)	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Methyl Acetate	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	UJ	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Methyl tert-Butyl Ether	0.93	62	100[A]	500[B]	1,000[C]	NS	0.93	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Methylcyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Styrene	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	2	1.3	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Toluene	0.7	100[A]	100[A]	500[B]	1,000[C]	36	0.7	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Trichloroethene (TCE)	0.47	10	21	200	400	2	0.47	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Trichlorofluoromethane (CFC 11)	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
Vinyl Chloride	0.02	0.21	0.9	13	27	NS	0.02	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
cis-1,2-Dichloroethene	0.25	59	100[A]	500[B]	1,000[C]	NS	0.25	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
m,p-Xylenes	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.012	U	UJ	<0.01	U	U	<0.014	U	UJ	<0.016	U	UJ	<0.016	U	UJ	<0.017	U	UJ
o-Xylene	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
trans-1,2-Dichloroethene	0.19	100[A]	100[A]	500[B]	1,000[C]	NS	0.19	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.0062	U	UJ	<0.005	U	U	<0.0069	U	UJ	<0.0079	U	UJ	<0.0082	U	UJ	<0.0085	U	UJ

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions	Validation Qualifiers	Definitions
U	Non-detect.	U	Non-detect.
J	Estimated value. Lies between MDL and MRL.	UJ	Non-detect. Quantitation limit is approximate.
E	Concentration exceeds calibration range.	J	Result is an estimated quantity.
		J-	Result is an estimated quantity, may be biased low.

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S7			S8			S9			Dup091223			S10			S11			S12		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308370-007			R2308370-008			R2308370-009			R2308370-011			R2308370-010			R2308416-001			R2308416-002		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																												
1,1,1-Trichloroethane (TCA)	0.68	100[A]	100[A]	500[B]	1,000[C]	NS	0.68	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,1-Dichloroethane (1,1-DCA)	0.27	19	26	240	480	NS	0.27	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,1-Dichloroethene (1,1-DCE)	0.33	100[A]	100[A]	500[B]	1,000[C]	NS	0.33	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2-Dichlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	NS	1.1	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2-Dichloroethane	.02[C]	2.3	3.1	30	60	10	0.02[F]	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,3-Dichlorobenzene	2.4	17	49	280	560	NS	2.4	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,4-Dichlorobenzene	1.8	9.8	13	130	250	20	1.8	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
1,4-Dioxane	.1[b]	9.8	13	130	250	0.1[E]	0.1[E]	<0.16	U	UJ	<0.13	U	UJ	<0.13	U	UJ	<0.13	U	UJ	<0.16	U	UJ	<0.14	U	UJ	<0.19	U	UJ
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Acetone	0.05	100[A]	100[B]	500[B]	1,000[C]	2.2	0.05	<0.041	U	UJ	**0.040**		J	<0.031	U	UJ	**0.084**		J-	**0.062**		J-	**0.050**		**J**	<0.048	U	UJ
Benzene	0.06	2.9	4.8	44	89	70	0.06	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Bromoform	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Bromomethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Carbon Tetrachloride	0.76	1.4	2.4	22	44	NS	0.76	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Chlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	40	1.1	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Chloroethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Chloroform	0.37	10	49	350	700	12	0.37	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Chloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Cyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Dichlorodifluoromethane (CFC 12)	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Dichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Ethylbenzene	1	30	41	390	780	NS	1.0	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Isopropylbenzene (Cumene)	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Methyl Acetate	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Methyl tert-Butyl Ether	0.93	62	100[A]	500[B]	1,000[C]	NS	0.93	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Methylcyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Styrene	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	2	1.3	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Toluene	0.7	100[A]	100[A]	500[B]	1,000[C]	36	0.7	**0.011**		J	**0.0085**		J	**0.0079**		J	**0.0079**		J	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Trichloroethene (TCE)	0.47	10	21	200	400	2	0.47	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Trichlorofluoromethane (CFC 11)	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
Vinyl Chloride	0.02	0.21	0.9	13	27	NS	0.02	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
cis-1,2-Dichloroethene	0.25	59	100[A]	500[B]	1,000[C]	NS	0.25	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
m,p-Xylenes	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.016	U	UJ	<0.013	U	UJ	<0.013	U	UJ	<0.013	U	UJ	<0.016	U	UJ	<0.014	U	UJ	<0.019	U	UJ
o-Xylene	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
trans-1,2-Dichloroethene	0.19	100[A]	100[A]	500[B]	1,000[C]	NS	0.19	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.0081	U	UJ	<0.0067	U	UJ	<0.0063	U	UJ	<0.0067	U	UJ	<0.0082	U	UJ	<0.0068	U	UJ	<0.0096	U	UJ

Legend:		Qualifiers	Definitions	Validation Qualifiers	Definitions
Industrial		U	Non-detect.	U	Non-detect.
Commercial		J	Estimated value. Lies between MDL and MRL.	UJ	Non-detect. Quantitation limit is approximate.
Restricted-Residential		E	Concentration exceeds calibration range.	J	Result is an estimated quantity.
Residential				J-	Result is an estimated quantity, may be biased low.
Ecological					
Groundwater					
Unrestricted					

Table 1
Former Roundhouse Area Soil Sample Analytical Results
09/13/2023
Union Road Site
Cheektowaga, New York
NYSDEC, Site Registry #9-15-128

Sample Name	Unrestricted Use Soil Cleanup Objective	Protection of Public Health Spoil Cleanup Objectives				Protection of		S13			S14			S15			S16			S17			S-18		
Labratory ID		Residential	Restricted Residential	Commercial	Industrial	Ecological Resources	Groundwater	R2308416-003			R2308416-004			R2308416-005			R2308416-006			R2308416-007			R2308416-008		
								Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier		Result	Qualifier	Validator	Result	Qualifier	Validator	Result	Qualifier	Validator
Analyte																									
1,1,1-Trichloroethane (TCA)	0.68	100[A]	100[A]	500[B]	1,000[C]	NS	0.68	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,1-Dichloroethane (1,1-DCA)	0.27	19	26	240	480	NS	0.27	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,1-Dichloroethene (1,1-DCE)	0.33	100[A]	100[A]	500[B]	1,000[C]	NS	0.33	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2-Dichlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	NS	1.1	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2-Dichloroethane	.02[C]	2.3	3.1	30	60	10	0.02[F]	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,3-Dichlorobenzene	2.4	17	49	280	560	NS	2.4	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,4-Dichlorobenzene	1.8	9.8	13	130	250	20	1.8	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
1,4-Dioxane	.1[b]	9.8	13	130	250	0.1[E]	0.1[E]	<0.21	U	UJ	<0.2	U	UJ	<0.14	U	UJ	<0.28	U	UJ	<0.19	U	UJ	<0.14	U	UJ
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Acetone	0.05	100[A]	100[B]	500[B]	1,000[C]	2.2	0.05	<0.053	U	UJ	<0.049	U	UJ	<0.034	U	U	<0.071	U	UJ	<0.048	U	UJ	<0.035	U	UJ
Benzene	0.06	2.9	4.8	44	89	70	0.06	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Bromoform	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Bromomethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Carbon Tetrachloride	0.76	1.4	2.4	22	44	NS	0.76	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Chlorobenzene	1.1	100[A]	100[A]	500[B]	1,000[C]	40	1.1	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Chloroethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Chloroform	0.37	10	49	350	700	12	0.37	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Chloromethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Cyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Dichlorodifluoromethane (CFC 12)	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Dichloromethane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Ethylbenzene	1	30	41	390	780	NS	1.0	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Isopropylbenzene (Cumene)	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Methyl Acetate	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Methyl tert-Butyl Ether	0.93	62	100[A]	500[B]	1,000[C]	NS	0.93	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Methylcyclohexane	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Styrene	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	2	1.3	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Toluene	0.7	100[A]	100[A]	500[B]	1,000[C]	36	0.7	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Trichloroethene (TCE)	0.47	10	21	200	400	2	0.47	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Trichlorofluoromethane (CFC 11)	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
Vinyl Chloride	0.02	0.21	0.9	13	27	NS	0.02	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
cis-1,2-Dichloroethene	0.25	59	100[A]	500[B]	1,000[C]	NS	0.25	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
m,p-Xylenes	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.021	U	UJ	<0.02	U	UJ	<0.014	U	U	<0.028	U	UJ	<0.019	U	UJ	<0.014	U	UJ
o-Xylene	0.26	100[A]	100[A]	500[B]	1,000[C]	0.26	1.6	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	U	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
trans-1,2-Dichloroethene	0.19	100[A]	100[A]	500[B]	1,000[C]	NS	0.19	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	<0.011	U	UJ	<0.0098	U	UJ	<0.0069	U	UJ	<0.014	U	UJ	<0.0095	U	UJ	<0.007	U	UJ

Legend:

Industrial
Commercial
Restricted-Residential
Residential
Ecological
Groundwater
Unrestricted

Qualifiers	Definitions
U	Non-detect.
J	Estimated value. Lies between MDL and MRL.
E	Concentration exceeds calibration range.

Validation Qualifiers	Definitions
U	Non-detect.
UJ	Non-detect. Quantitation limit is approximate.
J	Result is an estimated quantity.
J-	Result is an estimated quantity, may be biased low.

Notes:

All Soil Cleanup Objectives (SCOs) are in parts per million (ppm)

* Using Hexavalent Chromium SCOs for conservative estimates

[a] The SCOs for unrestricted use were capped at a maximum value of 100ppm

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value

[c] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the NYSDEC and NYSDOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site

[d] SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate

[e] The SCO for the specific compound (or family of compounds) is considered to be met if the analysis of the total species of this contaminant is below the specific SCO

[f] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the department to calculate a protection for ecological resources SCO according to the TSD

[A] The SCOs for residential, restricted-residential and ecological resource use were capped at a maximum value of 100ppm

[B] The SCOs for commercial use were capped at a maximum value of 500ppm

[C] The SCOs for industrial use were capped at a maximum value of 1000ppm

[D] The SCOs for metals were capped at a maximum value of 10,000ppm

[E] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value

[F] For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the NYSDEC and NYSDOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site

[G] This SCO is derived from data on mixed isomers of BHC

[H] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO

[I] This SCO is for the sum of endosulfan I, endosulfan II and endosulfan sulfanate

[J] This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts)

NS: No Standard

The results from the laboratory analytical report were converted to ppm to remain consistent with NYS SCOs.

EXHIBIT 14

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

PHASE I/PHASE II REMEDIAL INVESTIGATION REPORT

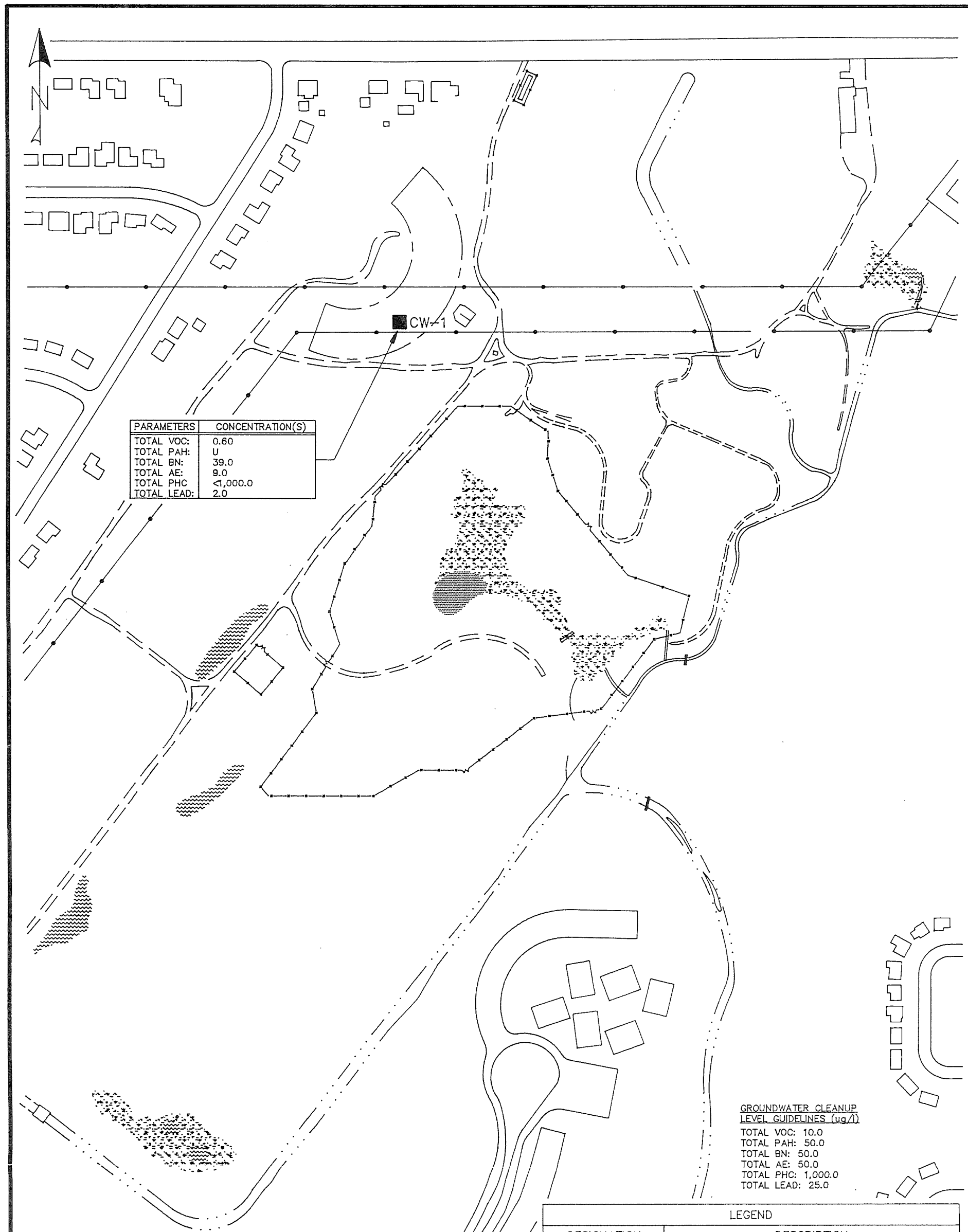
Union Road Site
Town of Cheektowaga, Erie County, New York
(Site Registry No. 9-15-128)

Volume II

Dvirka and Bartilucci

Consulting Engineers

JUNE 1991



Dvirka and Bartilucci CONSULTING ENGINEERS

UNION ROAD SITE
LOCATION OF ROUNDHOUSE WATER SAMPLING POINT AND ANALYTES OF CONCERN (ug/l)

FIGURE NO. 4-16