North Lawrence Oil Dump
LAWRENCE (ST. LAWRENCE COUNTY), NEW YORK

Site Management Plan

NYSDEC Site Number: 645013

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Revision #	Submitted Date	Summary of Revision	DEC Approval Date

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LIST OF ABBREVIATIONS

BCP	Brownfield Cleanup Program
bgs	Below ground surface
CAMP	Community Air Monitoring Plan
cm/sec	Centimeters per second
COC	Contaminants of Concern
COC	Certificate of Completion
DER	Division of Environmental Remediation
DFWMR	Division of Fish, Wildlife, and Marine Resources
DNAPL	Dense non-aqueous phase liquids
DUSR	Data Usability Summary Report
EC	Engineering Controls
ELAP	Environmental Laboratory Approval Program
EWP	Excavation Work Plan
HASP	Health and Safety Plan
HRP	HRP Associates, Inc.
IC	Institutional Controls
LEL	Lower Explosive Limit
LNAPL	Light non-aqueous phase liquids
LTMP	Long Term Monitoring Plan
mg/kg	Milligram per kilogram = ppm
MW	Monitoring Well
LNOD	North Lawrence Oil Dump
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&MP	Operations, Maintenance and Monitoring Plan
OM&M	Operations and Maintenance
O2	Oxygen
PCB	Polychlorinated biphenyl
PID	Photoionization Detector
ppm	Parts per million = mg/kg
PRR	Periodic Review Report
PZ	Piezometer
ROD	Record of Decision

QAPP	Quality Assurance Project Plan
QA	Quality Assurance
QC	Quality Control
RA	Remedial Action
RAWP	Remedial Action Work Plan
RACR	Remedial Action Completion Report
RI	Remedial Investigation
ROD	Record of Decision
SCO	Soil cleanup objectives
Site	North Lawrence Oil Dump (Site # 645013) (NLOD)
SMP	Site Management Plan
S/S	Solidification / stabilization
SVI	Soil vapor intrusion
SVOC	Semi-Volatile Organic Compound
TOC	Total Organic Compound
TOGS	Technical and Operations Guidance Series
TPH	Total petroleum hydrocarbons
ug/L	Micro grams per liter or parts per billion
USEPA	U.S. Environmental Protection Agency
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compound
WA	Work Assignment

Site Management Plan

North Lawrence Oil Dump
McAuslen Road

For

Lawrence, (St. Lawrence County), New York
(Site Code # 645013)
(WA # D006130-21)

CERTIFICATION

I, Nancy Garry, certify that I am currently a NYS Registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER -10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Nancy Garry, P.E.
Project Manager

SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at North Lawrence Oil Dump (hereinafter referred to as the "Site") under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Site, located at McAuslen Road, Lawerence, St. Lawerence County, New York, was remediated in accordance with the signed Record of Decision (ROD), Site # 645013, which was executed on March 1993.

1.1.1 General

The NYSDEC remediated the 20.8 acre property located in Lawrence, St. Lawrence County, New York in Figures 1 and 1A. A figure showing the Site location and boundaries of the 2-acre disposal cell are provided in Figure 2. The boundaries of the site are more fully described in the Meters and Bounds site description that is part of the Environmental Deed Restriction and Environmental Notice(Appendix A). The Registry of Inactive Hazardous Waste Disposal Sites (the "Registry") lists two acres as the approximate size of the Site. These two acres lie on two parcels of land with institutional controls and are subject to an annual certification requirement. Cleanup has occurred on additional adjoining land which is the reason for citing the higher number.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at the Site, which is hereafter referred to as “remaining contamination”. The Site Management Plan (SMP) was prepared to manage remaining contamination at the Site until such a time as the NYSDEC determines that site management is no longer required. All reports associated with the Site can be viewed by contacting the NYSDEC, or its successor agency managing environmental issues in New York State.

This SMP was prepared by HRP Engineering, P.C. on behalf of the Division of Environmental Remediation (DER) in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the

guidelines provided by the NYSDEC. This SMP addresses the means for implementing the Institutional Control (ICs) and Engineering Controls (ECs) that are required by the Environmental Deed Restriction and Environmental Notice for the Site.

1.1.2 Purpose

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the remedial action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (4) defining criteria for termination of oversight operations.

It is important to note that this SMP details the Site-specific implementation procedures that are required by the Environmental Deed Restriction and Environmental Notice. Failure to properly implement the SMP is a violation of the Environmental Deed Restriction and Environmental Notice. Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the ROD (Index # 6-45-013; Site #645013) for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this SMP will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Deed Restriction and Environmental Notice for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

When first listed on the Registry, the Site consisted of a waste disposal lagoon approximately 600 feet long and 75 feet wide, located south of McAuslen Road approximately 1/3 mile east of Cemetery Road, in the Town of Lawrence, St. Lawrence County. The former lagoon area has been fully remediated. The facility which is maintained today is a fenced, capped and mounded disposal cell located a few hundred feet north of the remediated lagoon. This cell contains stabilized materials excavated from the former lagoon.

During the middle to late 1960s, the lagoon was operated as a gravel pit prior to being utilized as a disposal area and received waste oils and oil sludge. The northern section primarily contains oily sludge with little standing water. Evidence of oil deposits over the perimeter berm and on vegetation

in adjacent wetland areas at the southwestern end of the abandoned pit suggests the area was operates as a waste lagoon. The disposal area, closed by the NYSDEC prior to1979, has no current permissible use as a landfill.

Topography in the immediate vicinity is generally flat, sloping downward to the north and northwest with an approximate 1 percent grade. Regional surface drainage is north and northwest. Wetlands occupy much of the surrounding landscape. Drainage from the Site area is directly southwest by surface topography and enters a regulated wetland south of the Site. Drainage is then directed northward via tributaries of Redwater Brook, which discharges to Deer River approximately 5 miles downstream of the Site, which discharges to the St. Regis River, then into the St. Lawrence River and ultimately discharges into the Atlantic Ocean. Groundwater is the primary source of drinking water in the area.

The Site remains unimproved with structures. An unpaved access road, oriented in a north south direction, approximately 0.25 miles long exists connecting the Site to McAuslen Road. The area south of the disposal area, abutting the wetland area is maintained by the adjacent property owners. The surrounding area is undeveloped and characterized by stands of spruce, white pine, and mixed hardwoods. Two (2) homes are located 0.8 and one (1) mile from the Site.

In 1980, NYSDEC staff observed oil stains on vegetation 18 inches above the water in the southeastern end of the lagoon. At this time samples were collected and had elevated concentrations of polychlorinated biphenyls (PCBs) in the lagoon sediments. Since 1980, numerous inspections of the Site have occurred. A New York State Superfund Phase 1 Study for the Site was completed in August 1985. The NYSDEC contracted E. C. Jordan Co. in October 1988 to complete a Phased Remedial Investigation and Feasibility Study (RI/FS) to determine the extent of Site contamination and to recommend an appropriate remedial action. The first and second RI/FS, generated in 1989 and 1991 respectively, included a geophysical investigation, installation of eight (8) piezometers (five [5] shallow and three [3] deep) and the installation of 16 overburden monitoring wells (five [5] paired wells and six [6] single shallow wells), completion of 41 test borings in the lagoon, air monitoring, in-situ hydraulic conductivity testing in the 16 monitoring wells, collection of air, groundwater, surface water, surface and subsurface soils sediment, and biota tissue samples for laboratory analysis. In addition to total petroleum hydrocarbon analysis, samples were analyzed for other common components of waste oils, including PCBs, volatiles organic compounds (VOCs), semi-volatiles organic compounds (SVOCs) and inorganics.

The Final Remedial Investigation and Feasibility Study Reports were submitted in March 1993. A Summary of VOCs, SVOCs, PCBs and inorganics for both surface water samples and groundwater samples can be found in Tables 1-1 through 1-4 and Tables 2-1 through 2-4, respectively. The remedial investigation confirmed extensive contamination in the lagoon and wetlands, primarily with PCBs and lead. Based on the Feasibility Study Report, a Record of Decision (ROD) was issued in March 1993, which required on-site excavation of the lagoon and the adjacent impacted wetland areas and solidification/stabilization of the contaminants.

A pilot test for the solidification/stabilization of the contaminants occurred prior to lagoon excavation and favorable results were noted. Construction and maintenance of the soil cover system consisting of engineered disposal cell to prevent human exposure to remaining contaminated soil/fill remaining at the Site. Between 1996 and 1997, excavation and on-Site solidification/stabilization of the top 2 to 4 feet of soils in the lagoon contaminated with oil, PCBs, lead and volatile organic chemicals, and 12 inches of sediment from selected areas of the adjacent wetland contaminated with PCBs, mercury and lead occurred. The excavation of contaminated soil and sediment in the lagoon began in September 1996. A total of 7,400 cubic yards of contaminated soils and sediments were excavated, solidified, and placed in the on-Site disposal cell under the impermeable cap. The disposal cell was constructed to maintain at least 2 to 3 feet of separation between the high seasonal groundwater elevation and the bottom of the disposal cell. The excavated lagoon was refilled and the wetland areas were reestablished with clean soil and seeding of those areas. Of note, work was suspended during winter months due to weather conditions causing possible dangerous working conditions. A de-watering system was operated during the winter months. Finally, the disposal cell area was seeded and fenced.

Monitoring wells were located to intercept groundwater moving toward potential receptors such as the wetlands and domestic wells. Monitoring wells were located to determine the impact of the nearby town dump on receptors and the contribution of the dump to contamination at the Site.

Remediation activities were completed in 1997 and the Site was reclassified from Class 2 to Class 4 in 1998. The final remedy did not remove lead contamination above the threshold of tolerance of biological organisms throughout all contaminated areas in the wetlands. Therefore, the long-term monitoring program included a special pre- and post-construction monitoring program to evaluate the potential impacts of the remaining contamination on the wetland biota as compared to background wetland samples.

The NYSDEC prepared a Long Term Monitoring Plan in 2005 that addressed the monitoring frequency, detection limits, and contaminants monitored. According to the monitoring data presented

in the report, sampling was conducted for contaminants-of-concern using a detection limit that was too high. Results have been estimated at levels below groundwater standards. The report recommended that a detection limit of 0.05 ppb be used to confirm that contaminants definitely are below standards. Reconsidering the frequency of monitoring was also suggested.

A Final Biological Monitoring Report was completed in 2006 by MACTEC. The report summarized that the biologic remediation of the site has been a success from a biological standpoint and that additional post-remediation biomonitoring does not appear to be warranted. From the 2006 report, conclusions of this investigation are as follows:

1) Lead and PCB concentrations in remediated area sediments have been substantially reduced as a result of the remediation activities at the site.
2) PCB concentrations in small mammals in the unremediated wetland appear to be unchanged, but they are comparable to those from the reference location.
3) Results of the food chain model indicate that PCBs do not appear to pose a risk to ecological receptors.
4) The results of the food chain model indicate potential risks to small mammals such as the shrew, due to lead, with HQs greater than those from the reference location. There is uncertainty associated with the toxicity benchmarks used to calculate these HQs, with more recent benchmarks indicating that risks could be significantly lower than predicted.
5) In addition, lead concentrations in small mammal tissue are now lower than those from the reference location, indicating that regardless of the concentrations in sediment and earthworms, the small mammal body burden, and therefore overall exposures of the small mammals, are not significantly different from that at the reference wetland, and
6) These results indicate that additional post-remediation biomonitoring does not appear to be warranted.

1.2.1 Site Location and Description

This Site is located in the Town of Lawrence, St. Lawrence County, New York and is identified on the Lawrence Tax Maps. The Site is bound by woodlands and wetlands to the east, south and west, and McAuslen Road to the north (see Figure 2). The boundaries of the Site are more fully described in Appendix A - Metes and Bounds.

1.2.2 Site History

The Site is an inactive hazardous waste site located next to a regulated wetland and

the closed North Lawrence Town Landfill. The site occupies portions of two private properties.

The Site was identified during an October 1980 investigation of the abandoned York Oil Company waste oil site in the Town of Moira inFranklin County, New York. The York Oil site is located approximately 2 miles from the NLODS. Information obtained during interviews with Moira residents by U.S. Environmental Protection Agency (USEPA) personnel indicated the existence of a similar waste oil dump (i.e., NLODS) in North Lawrence, New York.

The NLOD reportedly was operated as a gravel pit before the disposal of waste oil. The excavation operation apparently shaped the site into a depression with a mounded perimeter. During the middle to late 1960s, the NLODS apparently was used for the disposal of waste oil and oil sludge. Evidence of oil deposits over the topographically low areas of the perimeter berm at the southwestern end of the Site and oil stains on vegetation in adjacent wetland areas suggests the dump also served as a lagoon.

The only known human uses of the site are for hunting or infrequent trespassing. Access to the site is limited by a dirt berm built across the lagoon access road. The closed North Lawrence Town Landfill is located along the lagoon access road. The landfill, closed by NYSDEC before 1979, has no current permissible use as a landfill.

A Phase I engineering investigation was conducted for the NYSDEC by RECRA Research in August 1985.

1.2.3 Geologic Conditions

Based on data collected from installation of soil boring, monitoring wells installation, and other activities, the upper 2 to 3 feet of material at the Site is fill. The underlying material consists of loose, unconsolidated and unsaturated surface soils which range from 5 to 17 feet below ground surface (bgs). Underlying the surface soil is a dense glacial till consisting of varying grain sizes, ranging from clay to gravel intermixed with cobbles and boulders. The thickness of the unit is estimated to range from 35 to 75 feet (Final Remediation Report; E.C. Jordan Co., March 1993). The Site bedrock ranges from 40 to 85 feet bgs and dips to the southeast. Other Geologic Cross Sections are included in Appendix A. Depth to groundwater at the Site is shallow (3 to 8 feet bgs). Based on observed groundwater measurements, groundwater flows to the southeast toward the regulated wetland area adjacent to the southern border, which drains to a tributary of Red Brook. Groundwater flow is represented in Figure 2.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following reports:

- North Lawrence Oil Dump Site, Final Remedial Investigation Report – March 1993, by E. C. Jordan Company;
- North Lawrence Oil Dump Site, Final Feasibility Study – March 1993, by E. C. Jordan Company;
- North Lawrence Oil Dump Site, Baseline Ecological and Public Health Risk Assessment – March 1993, by E. C. Jordan Company;
- Stabilization Treatability Study for NLDOS sediment materials – 1992, by E. C. Jordan Company; and
- DEC Fact Sheet, December 1997, Remedial Work Completed.

Generally, due to historic operations at the Site the sampling conducted during the first, second, and third phases of the RI revealed the presence of contaminants in both the lagoon sludge and soil, and lagoon surface water. Contaminants of concern detected in lagoon sludge and soil include PCBs, various volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), and lead. Groundwater contamination was limited to the one well down gradient from the lagoon (MW-104B). No VOCs were detected in any monitoring wells adjacent to or down gradient of the one that had VOCs (MW-104B). Indicating that migration of contaminants through groundwater is limited to the immediate lagoon area. The Baseline Ecological Risk Assessment, approved by NYSDEC in 1990, determined that lagoon sludge and soil would need to be remediated for PCB contamination. Since many contaminants within the lagoon are physically collocated with PCBs, it was determined that removal or treatment of PCB-contaminated lagoon materials would address the cleanup of remaining contaminants in the lagoon.

Below is a summary of Site conditions when the RI was performed from 1989 to 1993:

Soil Contamination in the Lagoon

A total of forty-one (41) soil borings were installed in the lagoon and fifty-two (52) soil samples were collected for analysis to determine the extent of contamination in the subsurface soils. The lagoon soils were found to be contaminated with varying concentrations of total petroleum hydrocarbons (TPHs), PCBs, volatile, semi-volatile, and inorganic (metals) contamination to a depth of 12 feet below the ground surface. Significant contamination is

located closer to the ground surface (2 to 4 feet bgs) with contaminant levels decreasing with depth.

Soil Contamination Lagoon – Total Petroleum Hydrocarbons (TPHs)

TPHs were detected in the lagoon soils in 84 of 214 samples with an average concentration of 5,945 ppm and a high of 71,000 ppm (which was detected 2 to 4 feet bgs). While TPH contamination was detected at 180 ppm at 14 to 16 feet bgs, the majority of significant TPH contamination was limited to a depth of 10 to 12 feet bgs.

Soil Contamination Lagoon – Volatile Organic Compounds (VOCs)

Ten VOCs were detected in the lagoon samples from the First Phase RI and nine VOCs were detected during the Second Phase RI. The four most frequently detected and most concentrated compounds are summarized in the following table:

Compound	**Number of Detections (52 samples)**	**High Concentration (ppm)**	**Average Concentration (ppm)**
Total Xylenes	35	130	28
Trichloroethylene	35	99	10
Tetrachloroehylene	27	21	3
Toluene	27	42	5

ppm = parts per million = mg/kg

As described earlier, higher concentrations were detected closer to the ground surface.

Soil Contamination Lagoon - Semi-volatile Organic Compounds (SVOCs)

The three most frequently detected SVOCs were Naphthalene, 2-Methylnaphthalene, and Phenanthrene. These compounds are listed in the following table:

Compound	Number of Detections (47 Samples)	High Concentration (ppm)	Average Concentration (ppm)
Naphthalene	13	110	13
2-Methylnaphthalene	17	210	19
Phenanthrene	6	11	3

ppm = parts per million= mg/kg

The deepest interval at which SVOCs were detected was at 6 to 8 feet bgs. The concentration of SVOCs at this depth was 3.4 ppm of 2-Methylnaphthalene. Higher levels of SVOC contaminants were detected closer to the lagoon surface.

Soil Contamination Lagoon – Polychlorinated Biphenyls (PCBs)

The initial discovery of PCBs by NYSDEC staff in 1980 indicated a high of 100 ppm PCB contamination in the lagoon soils. During the phased RI conducted by Jordan, PCBs were detected in 68 of 261 lagoon soil samples with concentrations ranging from 0.7 to 60 ppm. It should be noted that only one sample (60 ppm) was above the 50 ppm PCB TSCA requirement for off-site disposal. This detection was found at the 4 to 6 feet sample interval and is not representative of lagoon PCB contamination. The next two highest samples detected in the lagoon were 46 ppm and 34 ppm, which were both detected within 2 feet of the surface**.**

Soil Contamination Lagoon - Inorganics (metals)

The primary inorganic compound of concern found in the lagoon soils is lead, which was selected as an indicator compound for metals contamination. Significant lead contamination is located at the lagoon surface. Lead was detected in the 0-2 foot bgs sample

interval at levels of 75,900 ppm, 58,500 ppm and 10,900 ppm. Lead was also detected above background levels (17 to 30 ppm) at depth; a soil sample in the 8-10 foot bgs sample interval showed lead at 380 ppm. As of August 1999, no further monitoring of wetland vegetation was required as per the NYSDEC Division of Fish, Wildlife, and Marine Resources (DFWMR).

Wetland Sediments and Surface Water Contaminants

The nature of past disposal practices in the wetland area resulted in higher levels of contaminants near the lagoon, with levels decreasing with distance away from the lagoon. Surface water acts as the primary transport mechanism for the lead, distributing contamination throughout the wetland in the direction of natural surface drainage. Sediments within 300 feet of the former lagoon were contaminated with inorganics (particularly lead), PCBs, and VOCs. Mercury contamination was also detected in the lagoon in 12 of 20 samples. The average concentration was 0.98 ppm with a high of 1.9 ppm. All detections were above the NYSDEC guidance value of 0.11 ppm.

The following table summarizes the RI analytical results:

Compound	**Number of Detections / Number of Samples**	**High Concentration (ppm)**	**Average Concentration (ppm)**
Total PCBs	9/36	26	9.4
Total VOCs	5/14	3	1.5
Lead	16/16	10,900	1,960

ppm = parts per million = mg/kg

The RI analytical results indicate that contamination further than 300 feet from the lagoon berm was limited to lead. Lead contamination in excess of 1000 ppm was detected within approximately 700 feet of the lagoon. Lead contamination above measured background levels (17 to 30 parts per million [ppm]) was detected in wetland sediments as far as approximately 112 feet from the lagoon. Lead was detected in 12 of 18 surface water

samples with a highest concentration of 15,600 parts per billion (ppb). VOC and PCB results showed insignificant levels of contamination in the surface water.

Site-Related Groundwater

Groundwater contamination was limited to VOC in monitoring well MW-104B, which is located directly down-gradient from the lagoon. During the First Phase RI, TCE was detected at 93 ppb, PCE was detected at 42 ppb and Benzene was detected at 12 ppb. During the Second Phase RI, TCE was detected at 34 ppb and PCE was detected at 14 ppb. No VOCs were detected in any monitoring wells adjacent to or down-gradient of MW-104B, indicating that migration of contaminants through groundwater was limited to the immediate lagoon area.

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved Record of Decision dated March 1993, Construction Management Work Plan prepared by ABB Environmental services dated July 1996, Plan of Operations prepared by IEM Sealand dated August 1996, Winter Work Plan prepared by IEM Sealand dated December 1996, Winter Shutdown Plan prepared by IEM Sealand dated December 1996, and the Long Term Monitoring Plan prepared by Harding Lawson Associates dated August 1998.

The remedy selected for the contaminated lagoon's soils and wetland sediments at the North Lawrence Oil Dump Site is ... On-site Solidification/Stabilization. The major components of the remedy are as follows:

a. A pilot test of the solidification/stabilization process would be conducted.

b. The top 2 to 4 feet of soils in the lagoon contaminated with oil PCBs, lead and volatile organic chemicals and 6-12 inches of sediments from selected areas of the wetland near the lagoon contaminated with PCBs, mercury and lead would be excavated and treated on-site by a solidification/stabilization process.

The excavated lagoon area was refilled with clean soil.

A disposal cell was constructed to maintain at least 2 to 3 feet of separation between the high seasonal groundwater and the bottom of the disposal cell.

The treated materials were placed in the disposal cell and the cell, closed with a properly engineered low permeability (10 -7 cm/sec) cap (see cross section in Appendix B of the ROD) .

A wetland restoration plan was implemented to restore areas of the wetland damaged during construction.

A long term monitoring program including, but not limited to biota, surface water, and groundwater monitoring, has been implemented. Development and implementation of a SMP for long term management of remaining contamination as required by the Environmental Notice or Deed Restriction, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance, and (4) reporting.

The final remedy did not remove lead contamination above the threshold of tolerance of biological organisms. Therefore, the long-term monitoring program includes a special pre- and post-construction monitoring program to evaluate the potential impacts of the remaining contamination on the wetland biota as compared to a neighboring uncontaminated wetland.

This alternative reduced potential threats to the environment by reducing the toxicity, mobility and availability of site contaminants. Since treated and residual waste was left on-Site, the final remedy also includes:

1) Access Restrictions (i.e, fencing and warning signs);
2) Educational Programs (see health advisory in Appendix C);
3) Institutional Controls (to minimize land and groundwater use);
4) Environmental Monitoring; and
5) Five Year Review.

Under items 4 and 5 listed above, environmental monitoring data and the wetland biota monitoring data have been reviewed after five years to help evaluate the effectiveness of the remedy and to decide whether or not additional monitoring or actions are needed, and/or if the site may be delisted.

The ROD was implemented as follows:

a. The top 2 to 4 feet of soils in the lagoon were contaminated with oil PCB, lead, and volatile organic chemicals and 6 inches to 1 foot of sediments from selected areas of the wetland near the lagoon were contaminated with PCBs, mercury, and lead, were excavated and treated on-Site by a solidification stabilization process;
b. The excavation lagoon was backfilled to grade with clean soil. The disposal cell was constructed to ensure at least 2 to 3 feet separation between the bottom of the cell and seasonal high groundwater;
c. A disposal cell was constructed to house soils that had gone through the solidification /stabilization process was constructed mixing Portland cement to stabilize the excavated and treated soil and ensure that it would not leach out from the soil. The process included excavation, spreading, solidification, and compaction;
d. The treated material was placed in the disposal cell, closed with a properly engineered low permeability (10 cm/sec) cap constructed above the groundwater table. The cap consists of a 6-inch vegetative soil layer overlying 30 inches of barrier protection made of soils, a polyethylene liner, a geotextile fabric and a 12-inch gas venting layer with four (4) gas vents;
e. A wetland restoration plan was implemented to restore areas of the wetlands damaged during construction;
f. Constructed a chain link fence around the disposal cell;
g. Execution and recording of an Environmental Notice or Deed Restriction to restrict land use and prevent future exposure to any contamination remaining on site; and
h. Development and implementation of a SMP for long-term management of remaining contamination as required by the Environmental Notice or Deed Restrictions, which includes plans for: (1) IC and ECs, (2) monitoring, (3) operation and maintenance and (4) reporting.

1.4.1 Removal of Contaminated Materials from the Site

Soil Cleanup Objectives

A list of the soil cleanup objectives (SCOs) for the primary contaminants of concern and applicable land use for this site are listed in the sub-sections below. Due to the nature of the site, there were separate SCOs set for the lagoon sludge and the wetland sediments on-Site. For the groundwater and surface water on-Site the SCOs are those established in NYSDEC TOGS 1.1.1 (Division of Water Technical and Operational Guidance Series). Contaminants of concern detected in lagoon sludge and soil include PCBs, VOCs and SVOCs, and lead.

Lagoon Sludge SCOs

The Baseline Ecological RA, approved by the NYSDEC in 1990, determined that lagoon sludge and soil would need to be remediated for PCB contamination. Since many contaminants within the lagoon were physically collocated with PCBs, it was determined that removal or treatment of PCB-contaminated lagoon materials would address the cleanup of remaining contaminants in the lagoon. As a result, the Third Phase FS was developed based on a 2-mg/kg PCB target cleanup level that was established in the 1990 Baseline Ecological RA (E.C. Jordan Co., 1990b).

After submittal of the Third Phase FS, New York State issued TAGM 4046 - "Determination of Soil Cleanup Objectives and Cleanup Levels" (NYSDEC, 1992). This TAGM provided guidance for establishing target cleanup levels for contaminants that would be protective of groundwater quality.

For the lagoon, soil-cleanup goals were established using NYSDEC TAGM 4046 "Technical Administrative Guidance Memorandum entitled, 'Determination of Soil Cleanup Levels", and they are:

PCBs – surface soils	1 ppm
PCBs - at depth	10 ppm
TCE – trichloroethylene	0.7 ppm
PCE – tetrachloroethylene	1.4 ppm
Xylene	1.2 ppm
Toluene	1.5 ppm
Lead	500 ppm

ppm = parts per million = mg/kg

Materials and Quantities removed

Approximately 8,635 cubic yards of sludge, soil, and sediments were treated using solidification/stabilization methods (S/S) and 20,000 gallons of ponded surface water were removed for off-site treatment and disposal. Solidified residuals were backfilled on-Site in the lagoon area. These residuals contained PCBs, lead, and other contaminants. A 20 percent volume increase occurred from S/S, approximately 10,400 cubic yards of treatment residuals were backfilled on-Site. This left residuals in a mounded area.

The areas where excavation was performed is shown in Figure 3.

1.4.2 Site Related Treatment Systems

No long-term treatment systems were installed as part of the Site remedy.

1.4.3 Remaining Contamination

According to the monitoring results from August 1999, October 2001, August 2002, and July 2011, the contamination levels for PCBs, lead and mercury are below the NYSDEC groundwater standards. The ROD for the site also outlined the following cleanup levels for PCBs and mercury in the wetland sediment: PCBs 0.5-1.0 milligram per kilogram (mg/kg), and Mercury 0.11 mg/kg.

The most recent organic and inorganic data from the groundwater water samples indicate that VOCs are continuing to degrade under natural conditions present at the Site. During the July 2011 monitoring event, four (4) VOCs (cis-1,2-Dichloroethene, methylene chloride, o-Xylene, and trichloroethene) were detected in groundwater at concentrations above their respective NYSDEC Class GA Criteria in eight (8) monitoring wells. Seven (7) metals (total aluminum, barium, cadmium, iron, magnesium, manganese and total sodium) were detected in groundwater at concentrations above their respective NYSDEC Class GA Criteria in six (6) monitoring wells. The source of soil and groundwater impact has been removed, and the impacts have been fully delineated. The substantial decrease in VOC concentration since the groundwater monitoring program began suggests that the excavation of affected soil from outside of the basin has been effective in improving Site groundwater quality and providing favorable conditions for natural degradation. Site management

continues to be required because residual contamination remains in the soil solidification and stabilization structure and lead contamination above the SCOs does remain in the wetland.

2.0 Engineering and Institutional Control Plan

2.1 INTRODUCTION

2.1.1 GENERAL

Since remaining contaminated soil, groundwater, sediment, surface water, and biota exist at the Site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by the NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Deed Restriction and Environmental Notice;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

2.2 Engineering Controls

2.2.1 Engineering Control Systems

2.2.1.1 Soil Cover

Potential exposure to remaining contamination in soil/fill at the Site is prevented by fencing/access controls and the monitoring well network, the monitoring well network utilized to monitor the groundwater and provide an EC and a soil cover system placed over the Site, which was also placed to limit erosion from surface water. The chain link fence blocks car access to the Site, while a separate locked fence surrounds the disposal cell. This cover system is comprised of a low permeability cap which was constructed over the treated material to minimize the effects of rain and snow melt on the treated material and to reduce leachate from the mound. The cap consists of a 6-inch vegetative soil layer overlying 30 inches of barrier protection made of soils, a polyethylene liner, a geotextile fabric, and a 12-inch gas venting layer. The goals of this multilayer cap design are to create an effective longterm barrier to infiltration, properly vent gases generated within the landfill, and protect the surrounding community from physical contact with landfill waste. The cap design meets the necessary requirements of 6NYCRR Part 360 and reflects discussions and agreements with the NYSDEC.

The Excavation Work Plan (EWP), which appears in Appendix B, outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, resulting in any underlying remaining contamination being disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2.2 Monitored Natural Attenuation

Groundwater monitoring activities to assess changes in contaminant levels, migration or attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards, or to have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source material removal, treatment and to control measures will be evaluated.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site. Adherence to these Institutional Controls on the Site is required by the Environmental Deed Restriction and the Environmental Notice and will be implemented under this Site Management Plan.

These Institutional Controls are:

- Compliance with the Environmental Deed Restriction and the Environmental Notice;
- Compliance with the Environmental Deed restriction and Environmental Notice and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management of the Site must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls identified in the Environmental Deed Restriction and Environmental Notice may not be discontinued without an amendment to or extinguishment of the Environmental Deed Restriction and Environmental Notice.

The Site has a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required by the Environmental Deed Restrictions or Environmental Notice. Site restrictions that apply to the Controlled Property are:

- The property may not be used for any activity other than for restricted commercial or industrial use;
- The property may not be improved or used for any prohibited activity listed in this SMP or the Environmental Deed Restriction and the Environmental Notice
- The property may not be used for a higher level of use, such as unrestricted and restricted residential use, without additional remediation and amendment of the Environmental Deed Restriction and the Environmental Notice as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited; and
- The Site owner or remedial party will submit to the NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access the Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The Site has been remediated for restricted commercial and industrial use. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP), approved by the NYSDEC in January 1996, attached as Appendix B to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in an Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. An HASP is attached as Appendix C to this SMP that

is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-l of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and disposal cell footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

As per the NYSDEC Soil Vapor intrusion Evaluation Determination: No Further Action memorandum issued on March 15, 2009, soil vapor intrusion evaluation is not required at the Site. The memorandum came to this determination based primarily on the following Site conditions.

No subsurface source of VOCs based on a review of post-remediation confirmatory soil sampling and groundwater monitoring data. In addition, structures do not exist on the Site, therefore no current or potential exposures to contaminated soil vapors are possible. In accordance with 7NYCRR Part 375, the Environmental Deed Restriction and Environmental Notice would regulate any buildings constructed in the future.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;

- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Deed restriction;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If Site records are complete and up-to-date; and
- Changes or needed changes to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Record of Decision, 6NYCRR Part 375, and/or Environmental Conservation Law;
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan;
- Notice within 48 hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect;
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public; and

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

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Record of Decision, Environmental Deed Restriction, and all approved work plans and reports, including this SMP; and

- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to a qualified environmental professional. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table 3 Emergency Contact Numbers

Medical, Fire, and Police:	911
Dig Safely NY:	(800) 962-7962 or 811 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 4 Contact Numbers

NYSDEC PM:
Debbie Gardell – (518) 402-9814

NYSDEC, Region 6 Office – Watertown Headquarters
Telephone: (315) 785-2511

* Note: Contact numbers subject to change and should be updated as necessary.

2.5.2 Map and Directions to Nearest Health Facility

Site Location:	North Lawrence Oil Dump
Nearest Hospital Name:	Canton-Potsdam Hospital
Hospital Location:	50 Leroy Street, Potsdam, New York 13676
Hospital Telephone:	(315) 265-3300

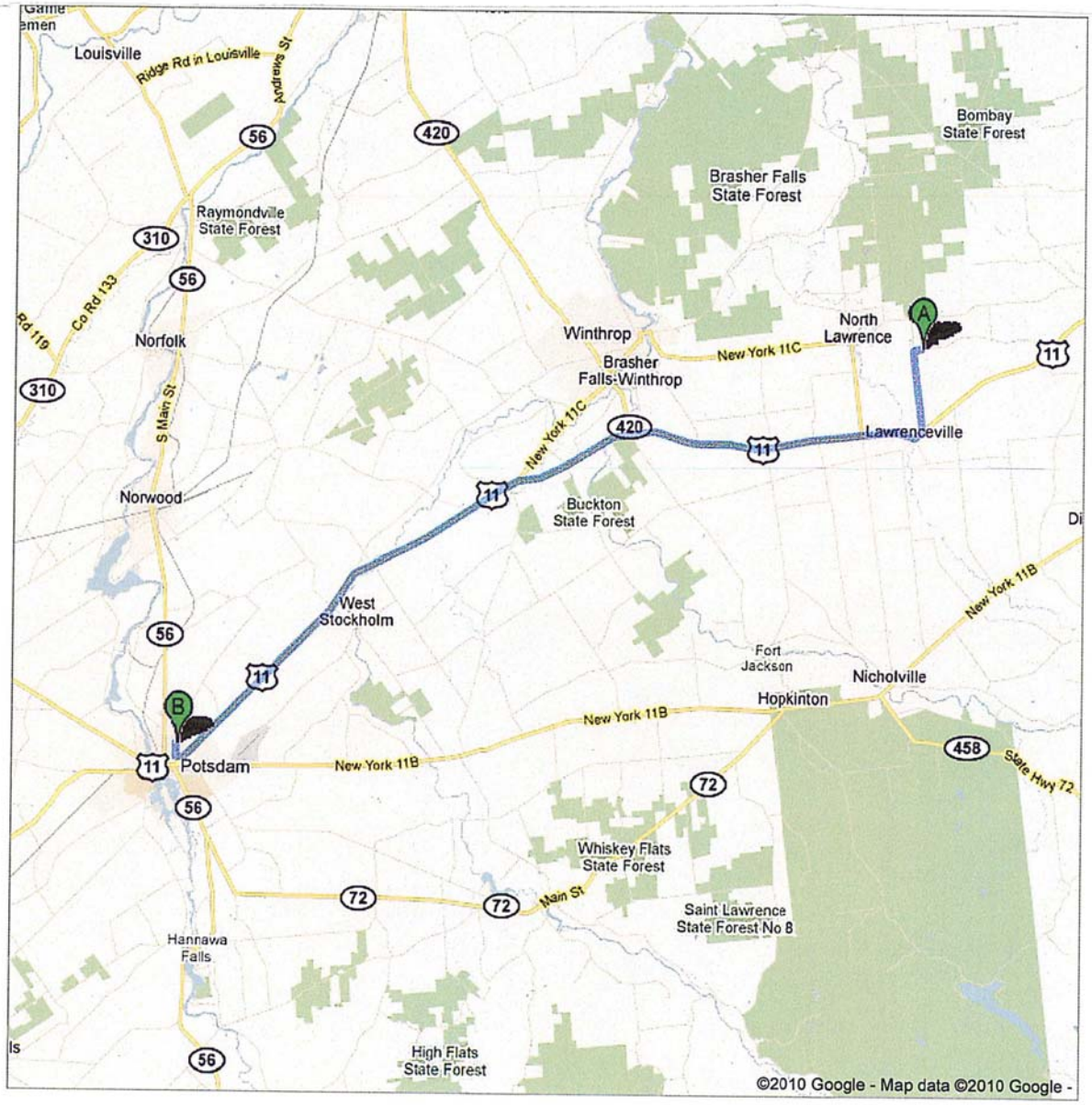
Directions to the Hospital:

1. Drive west on McAuslen Rd (towards Cemetery Rd).
2. Turn LEFT on Cemetery Rd and follow for 1.8 miles.
3. Turn RIGHT on US Route 11 S and follow for 19 miles.
4. Turn RIGHT on Clinton St. and RIGHT on Leroy St. and Canton-Potsdam Hospital will be on the left.

Total Distance: 21.5 miles

Total Estimated Time: 29 minutes

Figure 4 - Map Showing Route from the Site to the Hospital:


Louisville
Ridge Rd in Louisville
Andrews St
56
420
Bombay
State Forest
Brasher Falls
State Forest
Raymondville
State Forest
310
56
Co Rd 133
Rd 119
Norfolk
S Main St
310
Winthrop
New York 11C
North
Lawrence
A
11
Brasher
Falls-Winthrop
420
11
Lawrenceville
New York 11C
11
Norwood
Buckton
State Forest
West
Stockholm
56
11
New York 11B
Fort
Jackson
Nicholville
Hopkinton
B
New York 11B
458
State Hwy 72
11
Potsdam
New York 11B
72
56
Whiskey Flats
State Forest
72
72
Main St
Saint Lawrence
State Forest No 8
Hannawa
Falls
56
High Flats
State Forest
©2010 Google - Map data ©2010 Google -

2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Section 2.5, Table 1). The list will also be posted prominently at the Site and made readily available to all personnel at all times.

Personnel must take every necessary precaution to minimize the potential for spills during Site operations. On Site personnel are obligated to report immediately any discharge, no matter how small, to the Project Manager. Small incidental spills, i.e., those which cause no injury to personnel, environment or the public, may be cleaned up quickly and easily. For large spills, i.e., those that contaminate personnel or the environment: attend to first aid measures first, stop the source of the spill if possible, and then notify appropriate emergency response services.

Evacuation Procedures

In the event the Site must be evacuated, the following procedures should be followed:

- The General Supervisor will initiate evacuation procedures by signaling to leave the Site;
- Personnel in the work area should evacuate the area on a safe route and meet in the common designated area;
- Personnel suspected to be in or near the work area should be accounted for and the whereabouts of missing persons determined immediately; and
- Personnel will safely make their way to the predetermined Rally Point. The Rally Point location figure will be included in the Site specific HASP and is included in this SMP as Figure 4. Further instruction will then be given by the General Supervisor.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 GENERAL

The Site Management Plan (SMP) describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the soil cover system, and all affected Site media identified below. Monitoring of other Engineering Controls is described in Chapter 4: Operation, Monitoring and Maintenance Plan. This SMP may only be revised with the approval of the NSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well-decommissioning procedures; and
- Annual inspection and periodic certification.

Monitoring at several intervals of the performance of the remedy and overall reduction in contamination on-Site and off-Site will be conducted for the first thirty years. The frequency

thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 5 and outlined in detail in Sections 3 and 3.3 below.

Table 5: Monitoring/Inspection Schedule

Monitoring Program	**Frequency***	**Matrix**	**Analysis**
Groundwater Monitoring	Every 15 months	Groundwater	VOCs, Category A
Periodic Review Report	Annual	NA	NA
Inspection of Disposal Cell	Every 6 months	Visual Inspection	Visual Inspection
Wetlands Monitoring	Quarterly	Visual Inspection	Visual Inspection
Vegetation Mowing Program	Annual	NA	NA

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC

3.2 SOIL COVER SYSTEM MONITORING

3.2.1 Disposal Cell Monitoring

This subsection presents the Long Term Monitoring Plan (LTMP) for the disposal cell. The purposes of the LTMP for this Site are to monitor the performance of the disposal cell cover and appurtenances to confirm they perform as designed and that maintenance issues are identified and responded to appropriately.

Components of the LTMP for the disposal cell are:

- Visual inspection;
- Groundwater sampling and analysis;
- Gas monitoring;

- Data evaluation; and
- Report preparation.

Visual Inspection

Visual inspection of the cover system is performed to identify:

- Evidence of cap erosion;
- Differential settlement resulting in soil cracking or ponded water seeps;
- Animal burrows;
- Vegetative distress;
- Presence of perennial, woody species (trees and shrubs);
- Deteriorating equipment such as gas vents and monitoring wells;
- Monitoring of landfill appurtenances will include;
- Identifying deteriorating equipment such as fencing, gates, and drainage structures; and
- Identifying deterioration of access roads.

Site observations shall be made by a civil, environmental, or geotechnical engineer or a qualified environmental professional experienced in landfill inspection and familiar with the remedial design corrective measures, and maintenance and repair activities at the Site. Observations shall be recorded in writing is quantitatively as practical and photographs will be taken as a supplement if deemed appropriate by the inspector. The length, width, depth, and location of erosion channels, depressions, or seeps shall be recorded. The location, size, and numbers of animal burrows should be noted. Vegetative stress shall be described according to location, areal extent, species, and nature of distress. The presence and location of perennial, rooted species, such as trees and shrubs, shall be noted. Additionally, the condition of the security fence, posts, gates, locks, and signs shall be observed. Potential causes of any damage will be noted and repair and preventative measures shall be recommended. The condition of groundwater monitoring wells and gas vents will be assessed during the sampling rounds. Monitoring well identification labels shall be checked, covers and grouting inspected, and the general condition of the well and protective casing noted. The condition of the four (4) gas vents shall be noted. Evidence of clogging or instability (leaning over) shall require maintenance. Inspection forms can be found in Appendix E.

3.3 MEDIA MONITORING PROGRAM

Currently, the only media monitored on-Site is the groundwater, as well as the vapor from the disposal cap vents. For more information on monitoring the disposal cap vents, refer to Section 4.1 (Operation and Maintenance Plan – Maintenance of Gas vents and Post Closure Monitoring).

3.3.1 Groundwater Monitoring

Historic Groundwater Monitoring

The network of monitoring wells has historically been used to monitor both up-gradient and down-gradient groundwater conditions at the Site (Figure 2). The network of on-Site and off-Site wells has had the following history:

In March 1989, eight (8) Geoprobe® points (PZ-l through PZ-8) were installed for soil and groundwater sample collection to identify subsurface conditions to determine appropriate remedial measures. PZ-l, PZ-3 and PZ-7 were installed at 30 feet bgs (below ground surface), with PZ-2, PZ-4, PZ-5, PZ-6 and PZ-8 installed at 15 feet bgs. The eight (8) piezometers were each constructed of ¾-inch inner diameter, Schedule 80 polyvinyl chloride (PVC) well riser with 0.010-inch screen length of 10 feet at the bottom of each piezometer. The piezometers were installed under typical groundwater monitoring well construction.

In March and April 1989, twelve (12) groundwater monitoring wells were installed for soil and groundwater sample collection to identify subsurface conditions to determine appropriate remedial measures based on data collected during the installation of piezometers PZ-1 through PZ-8. Five (5) nested wells and two (2) individual monitoring wells were installed to confirm groundwater flow direction and collect groundwater samples for analysis to determine the contaminates of concern at the Site. Deep monitoring wells (MW-101A, MW-102A, MW-104A, MW-105A, and MW-107A) were installed to a depth of approximately 40 feet bgs, while their shallow counterparts (MW-101B, MW-102B, MW-104B, MW-105B, and MW-107B) were installed to a depth of approximately 10 feet bgs. Monitoring wells (MW-103 and MW-106) are shallow wells installed to a depth of 10 feet bgs. The deep wells were installed with a 10-foot screened interval, while the shallow wells were installed with a 5-foot screened interval. Soil samples were not collected for analysis during the installation of the monitoring wells.

In November 1991, four (4) single monitoring wells were installed on the Site. Monitoring wells (MW-201 through MW-204) were installed to provide preliminary hydrogeologic information at the closed North Lawrence Town Landfill. The fourth monitoring well (MW-204) was installed down-gradient of nested wells MW-104A/MW-104B to assess the extent of potential contaminate migration toward the wetland down-gradient of the former lagoon.

In July 1997, three (3) single monitoring wells were installed on the Site. Monitoring wells (MW-301 through MW-303) were installed to a depth of approximately 18 feet bgs, up-gradient, side-gradient, and down-gradient of the disposal cell to complete the horizontal profile of the disposal cell area. Monitoring well construction logs are included in Appendix D.

As part of the E.C. Jordan Co. Final Remediation Investigation Report (1993), geologic profiles were complied. The geologic profile of A to A' is oriented in a north-south direction with approximately 10 feet of relief chance across approximately 975 feet and includes monitoring wells MW-107A, B-107A, MW-101A, B-101A, PZ-3, B-3, PZ-4, and B-4. The geologic profile of B to B' is oriented in a north-south direction with approximately 8 feet of relief chance across approximately 800 feet and includes monitoring wells MW-105A, B-105A, MW-102A, B-102A, PZ-3, B-3, PZ-4, and B-4. The geologic profile of C to C' is oriented in a generally east-west direction with approximately 8 feet of relief chance across approximately 800 feet and includes monitoring wells PZ-1, B-l, MW-101A, B-101A, PZ-3, B-3, PZ-4, and B-4. An overview of the geologic profiles is presented in Figure 5. The geologic profiles from A to A', B to B' and C to C' are presented in Figures 6 through 8, respectively.

A total of twenty (20) on-Site permanent overburden groundwater monitoring wells (MW-102A, MW-102B, MW-301 through MW-303, MW-103, MW-104A, MW-104B, MW-105A, MW105B, MW-106, WM-107A, MW-107B, MW-202, MW-204, PZ-1, PZ-2, and PZ-4 through PZ-8) exist on Site. Of note, PZ-3 was destroyed when the disposal cell was constructed. Groundwater monitoring wells MW-101A, MW-101B, MW-201, MW-203, PZ-2, and PZ-4 could not be located on July 2011 and are assumed to have been destroyed.

Current Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

Groundwater monitoring from these installed wells occurs every 15 months and is sampled for VOCs via method 8260B. All samples will be sent to a NYSDOH Environmental Laboratory Approval Program (ELAP)-approved laboratory for analysis. Well decommissioning was carried out in December 2012. The remaining monitoring wells are MW-301 through MW-303m MW-102A, and MW-102B. The sampling frequency may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans as approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix E. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Groundwater sampling will occur at the scheduled sampling interval. Prior to collecting the samples, depth to groundwater will be measured. Depth to water measurements will be collected to the nearest 0.01 foot from the surveyed points identified on the well risers. Water levels will be measured using an interface probe capable of detecting a separate phase liquid. Until deemed unnecessary, in addition to measuring the water level, the wells will be checked for both light and dense non-aqueous phase liquids (LNAPLs and DNAPLs) using the interface probe.

The water level data, well diameter, and depth will be used to calculate the volume of water in each well. The wells will then be sampled following USEPA low-flow techniques. Groundwater will be monitored in the field for the presence of non-aqueous phase liquids, pH, temperature, conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential. The field data will be recorded on field logs.

Samples will be analyzed for volatile organic compounds (VOCs), via method 8260B, category A deliverable. All samples will be sent to a NYSDOH ELAP-certified laboratory.

The purge water generated from the groundwater sampling event will be discharged in accordance with DER-10. All sampling equipment will be appropriately decontaminated between sampling locations or properly disposed.

3.3.1.2 Monitoring Well Repair, Replacement, and Decommissioning

If biofouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per Monitoring Plan), if an event renders the wells unusable, in accordance with DER CP-43. Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement without replacement will be done only with the prior approval of the NYSDEC. Abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 Wetlands Monitoring

The main conclusion of the MACTEC February 2006 Final Biological Monitoring Report is that the remediation of the Site has been a success from a biological standpoint. The report concludes: "these results indicate that additional post-remediation biomonitoring does not appear to be warranted." Therefore, other than routine inspections, wetlands monitoring has ended

3.4 SITE-WIDE INSPECTION

Site-wide inspections were performed on a regular schedule at a minimum of once a year. The Site-wide inspections were stopped in July 1998 when the Site was reclassified from a classification 2 to a classification 4. However, Site-wide inspections will be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;

- General Site conditions at the time of the inspection;
- The Site Management activities being conducted including, where appropriate: confirmation sampling and a health and safety inspection; and
- Confirm that site records are up-to-date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analysis will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) and The Sampling and Analysis Plan prepared for the Site (Appendix F). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program;
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC ASP requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR) (if required), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary Packages;
- Assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method;
- Internal QC and Checks;

- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Photographic Log;
- Data sheets will not be supplied as part of the PRR. Data is to be summarized and assessed. Data will have been submitted in electronic format in accordance with requirements found at http://www.dec.ny.gov/chemical/62440.html; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 4 below.

Table 4: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency
Site Wide Inspection	Annual, for the PRR, unless specifically requested by the NYSDEC
Disposal cell Inspection	Every 6 months or as requested by the NYSDEC
Periodic Review Report (PRR)	Annually, groundwater sampling events occur every 15 months.
Mowing Event (disposal cell only)	Subcontracted moving event or as per the NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

The Site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect the public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP. The January 2005 Monitoring Plan (NYSDEC) and the August 1998 Final Long Term Monitoring Plan (Harding Lawson Associates) lists references for future work. Any maintenance that is significant may require a work plan to be submitted to the NYSDEC for approval prior to commencing work.

The below activities are required under the operation and maintenance plan.

Erosion Control Maintenance

Erosion of the cover system, identified during Site inspections, shall be repaired as needed in a manner that provides a long-term solution to such damage. The activities required to repair erosive damage to the cover system will depend on the extent of erosion into the cover. At a minimum, the eroded area will be excavated to the vertical and lateral extent of the lowest affected cover layer.

Erosion of the runoff control structures (drainage ditches), identified during Site inspections, shall be repaired as needed in a manner and schedule similar to that described above. The activities required to repair erosive damage to the ditches shall also depend on the extent of damage. The final grades of all repaired areas shall conform to the grades and slopes of the surrounding areas and comply with the limits of design grades and slopes.

Settlement and Subsidence Control Maintenance

The grades and slopes of the Site are expected to be sufficient to provide positive drainage slopes even after the anticipated subsidence. Should excessive post-closure settlement or damage to the cap as a result of settlement be identified during Site inspections, repair of the cap will be implemented as necessary to confirm that the cover system layers remain continuous, that a positive slope is maintained, and that ponding does not occur. Subsidence will typically occur gradually.

Maintenance of Gas Vents and Post Closure Monitoring

The gas vents will require maintenance consisting of inspection and possibly replacement of damaged vent riser pipe.

Vegetative Maintenance

The vegetative cover on the disposal cell and abutting areas as well as the area around the access gate for the disposal cell and the main gate will be mowed once a year in late summer or fall to prevent the growth of deep rooted, woody species, and to encourage the development of good grass growth. Areas noted during inspections to have poor vegetative growth shall be reseeded and the area maintained.

Fence Maintenance

Routine fence maintenance will include oiling gate hinges and replacing locks. Oiling of gate hinges is not to be conducted on the same day as groundwater sampling. Holes in the chain-link or siltation fence identified in the monitoring program will be repaired as needed. Minor erosion rills or animal burrows beneath the fence will be identified and repaired as necessary.

Roadway Maintenance

Periodic maintenance of the access road may be necessary. Drainage ditches will be kept free-draining, and the effects of any unauthorized use of the roadside, such as excavation, shall be repaired as necessary. Should the condition of the access road deteriorate to a state requiring more extensive maintenance than addition of materials and/or regrading, a repair plan and schedule will be prepared and submitted to NYSDEC for approval.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspections Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. At a minimum, a Site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspections Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective systems which are contained in Appendix E. These forms are subject to NYSDEC revision. Additionally, the general Site-wide condition will be noted during the Site-wide inspection.

All applicable inspections forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the report period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, and performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activates are being conducted properly; and, based on the above items; and
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 CERTIFICATION OF ENGINEERING AND INTUITIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at the Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the Environmental Deed Restriction and Environmental Notice;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program;
- The information presented in this report is accurate and complete;
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal law. I, [Enter Name Here], of [Enter Business Address], am certifying as Owner's Designated Site Representative [I have been authorized and designated by all site owners to sign this certificate] for the Site; and

- No new information has come to my attention, including groundwater monitoring data from wells located at the Site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-Site contamination are no longer valid.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every year or at a period otherwise requested by the NYSDEC. Because the Site is subdivided into separate parcels with different ownership, a single Periodic review Report will be prepared that addresses the Site described in Appendix A (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of the certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual Site inspection and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminate concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in the NYSDEC-approved format; and
- A Site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the Site-specific Remedial Action Work Plan (RAWP), ROD or Decision Document;

- The operation and effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in digital format, to the NYSDEC Central Office and Regional Office in which the Site is located and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan may be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

LIST OF TABLES

TABLE1-1

SUMMARY OF VOLATILE ORGANIC DATA FOR FIRST PHASE SURFACE WATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

SAMPLE LOCATION	PARAMETER (µg/L)		
	CARBON DISULFIDE	2-BUTANONE	1,1,1-TRICHLOROETHANE
CRQL	5	10	5
SW-1	-	R	-
SW-2	-	R	-
SW-3	-	-	-
SW-4	-	-	-
SW-5	-	-	-
SW-6	-	-	-
SW-7	-	-	-
SW-8	-	-	-
SW-9	-	-	-
SW-10	-	-	-
SW-11	-	-	-
SW-12	26	-	-
SW-13	-	-	-
SW-14	-	-	-
SW-14 (DUP)	-	R	-
SW-15	-	R	-
SW-15 (DUP)	-	R	-
SW-16	-	R	5

Notes:

- = Not detected

CRQL = Contract Required Quantitation Limit

DUP = Duplicate sample was collected.

R = Data are unusable because quality control criteria were not met.

µg/L = micrograms per liter

SEMIVOLATILE ORGANIC COMPOUNDS IN SURFACE WATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE1-2

SUMMARY OF SEMIVOLATILE ORGANIC DATA FOR FIRST PHASE SURFACE WATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

SAMPLE LOCATION	PARAMETER (µg/L)	
	BENZOIC ACID	BIS(2-ETHYLHEXYL)PHTHALATE
CRQL	50	10
SW-1	R	-
SW-2	R	-
SW-3	R	-
SW-4	R	180
SW-5	R	-
SW-6	-	-
SW-7	-	-
SW-8	-	-
SW-9	-	-
SW-10	-	-
SW-11	-	-
SW-12	-	-
SW-13	-	-
SW-14	-	-
SW-14 (DUP)	-	-
SW-15	-	-
SW-15 (DUP)	-	1500 D
SW-16	-	-

Notes:

- = Not detected
CRQL = Contract Required Quantitation Limit
D = Sample concentration was obtained by dilution to bring result within calibration range
DUP = Duplicate sample was collected
R = Data are unusuable because quality control criteria were not met
µg/L = micrograms per liter

POLYCHLORINATED BIPHENYLS (PCBS) IN SURFACE WATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE 1-3

SUMMARY OF PCB DATA FOR FIRST PHASE SURFACE WATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

LOCATION	PARAMETER (µg/L) AROCLOR-1254
CRQL	1
SW-1	NR
SW-2	–
SW-3	3.6 J
SW-4	NR
SW-5	NR
SW-6	NR
SW-7	NR
SW-8	NR
SW-9	NR
SW-10	NR
SW-11	NR
SW-12	NR
SW-13	NR
SW-14	NR
SW-14 DUP	NR
SW-15	NR
SW-15 DUP	NR
SW-16	NR

Notes:

– = Not detected

DUP = Duplicate sample

J = Indicates an estimated concentration because results are either below the contract required detection level or quality control criteria were not met.

NR = Not requested

µg/L = micrograms per liter

INORGANIC COMPOUNDS IN SURFACE WATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE 1-4

SUMMARY OF INORGANIC DATA FOR FIRST PHASE SURFACE WATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

PARAMETER (µg/L)	CRQL (µg/L)	SAMPLE LOCATION										
		SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10	SW-11
Aluminum	200	–	–	–	–	3340	7100	–	–	–	–	–
Barium	200	–	1420	1550	980J	9510J	1320J	950J	–	–	–	–
Beryllium	5	5	6	5	–	–	6	5	5	–	6	6
Calcium	5000	14600	20900	26900	41500	32400	102000	25300	18900	16100	25600	23400
Cobalt	50	–	–	60	60	–	–	–	–	–	–	–
Copper	25	–	–	–	–	253J	–	–	–	–	–	–
Iron	100	–	–	–	11300J	3590J	13600J	1650J	–	–	–	1720J
Lead	5	–	99.6	1730	1070	15600	2120	1320	22.4	8.1	24.5	260
Magnesium	5000	5950	5210	5740	12300	5540	16200	7110	8310	6940	10600	7540
Manganese	15	41	83	124	6200J	294J	689J	659J	67J	45J	95J	178J
Silver	10	–	–	–	–	–	–	13	–	–	–	–
Sodium	5000	8000	9000	8000	–	8000	18000	10000	14000	14000	5000	11000
Zinc	20	–	72J	246J	321	769	359	230	–	–	–	122

(continued)

TABLE 1-4

SUMMARY OF INORGANIC DATA FOR FIRST PHASE SURFACE WATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

PARAMETER (µg/L)	CRQL (µg/L)	SAMPLE LOCATION						
		SW-12	SW-13	SW-14	SW-14 DUP	SW-15	SW-15 DUP	SW-16
Aluminum	200	4810	–	–	–	–	–	–
Barium	200	630J	–	–	–	–	–	–
Beryllium	5	5	5	–	–	5	–	–
Calcium	5000	48200	21800	12200	14600	14400	14800	15100
Cobalt	50	–	–	–	–	–	–	–
Copper	25	–	–	–	–	–	–	–
Iron	100	7300J	–	–	–	1110J	1800J	–
Lead	5	740	14	–	–	–	–	–
Magnesium	5000	10000	9160	–	–	–	5390	5160
Manganese	15	350J	20J	21J	–	180J	252J	17J
Silver	10	–	–	–	–	–	–	–
Sodium	5000	9000	–	–	6000	–	6000	6000
Zinc	20	174	–	–	–	–	–	–

Notes:

– = Not detected

CRQL = Contract Required Quantitation Limit

DUP = Duplicate sample

J = Estimated concentration because quality control criteria were not met.

µg/L = micrograms per liter

VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE 2-1

SUMMARY OF VOLATILE ORGANIC DATA FOR FIRST PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

SAMPLE LOCATION	PARAMETER (µg/L)				
	ACETONE	2-BUTANONE	TRICHLOROETHENE	BENZENE	TETRACHLOROETHENE
CRQL	10	10	5	5	5
MW-101A	-	R	-	-	-
MW-101B	-	36 J	-	-	-
MW-102A	-	-	-	-	-
MW-102B	-	-	-	-	-
MW-102B DUP	-	-	-	-	-
MW-103	-	R	-	-	-
MW-103 DUP	-	R	-	-	-
MW-104A	-	R	-	-	-
MW-104B	-	-	93	12	42
MW-105A	-	R	-	-	-
MW-105B	-	-	-	-	-
MW-106	32	-	-	-	-
MW-107A	-	4000 JD	-	-	-
MW-107B	-	-	-	-	-

Notes:

- - = Not detected
- CRQL = Contract Required Quantitation Limit
- D = Sample concentration was obtained by dilution to bring result within calibration range.
- J = Estimated value due to non-compliant quality control criteria.
- R = Rejected value due to non-compliant quality control criteria.
- µg/L = micrograms per liter

TABLE 2-2

SUMMARY OF VOLATILE ORGANIC DATA FOR SECOND PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

SAMPLE LOCATION	PARAMETER (µg/L)		
	ACETONE	TRICHLOROETHENE	TETRACHLOROETHENE
CRQL	10	5	5
MW-101A	-	-	-
MW-101B	-	-	-
MW-102A	10B	-	-
MW-102B	-	-	-
MW-103	-	-	-
MW-104A	-	-	-
MW-104B	-	34	14
MW-105A	-	-	-
MW-105B	24B	-	-
MW-106	-	-	-
MW-107A	-	-	-
MW-107B	-	-	-
MW-201	-	-	-
MW-202	-	-	-
MW-203	11B	-	-
MW-203 (DUP)	-	-	-
MW-204	-	-	-

Notes:

- = Not detected

B = Analyte was detected in both the sample and the associated laboratory method blank.

CRQL = Contract Required Quantitation Limit

µg/L = micrograms per liter

SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE 2-3

SUMMARY OF SEMIVOLATILE ORGANIC DATA FOR SECOND PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

SAMPLE LOCATION	PARAMETER (µg/L)
	bis(2-Ethylhexyl)phthalate
MDL	10
MW-201	10
MW-202	-
MW-203	-
MW-203 (DUP)	-

Notes:

DUP = duplicate sample was collected

MDL = method detection limit

µg/L = micrograms per liter

INORGANIC COMPOUNDS IN GROUNDWATER DATA

Source: E.C. Jordan Co., 1993, Final Remedial Investigation Report, Volume 1, North Lawrence Oil Dump Site, March 1993.

TABLE 2-4

SUMMARY OF INORGANIC DATA FOR FIRST PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

PARAMETER (µg/L)	CRQL (µg/L)	MW-101A	MW-101B	MW-102A	MW-102B	MW-102B DUP	MW-103	MW-103 DUP	MW-104A	MW-104B	MW-105A	MW-105B	MW-106	MW-107A	MW-107B
Aluminum	200	–	–	–	–	–	–	–	–	–	–	–	1100	–	–
Barium	200	–	–	–	–	–	–	–	–	–	–	–	–	–	520
Beryllium	5	–	–	–	–	–	–	–	5	–	–	–	–	5	–
Calcium	5000	43000	43600	17500	39100	39800	46100	50100	50600	49100	48600	54900	29100	27000	33200
Chromium	10	–	–	–	–	–	–	–	10	–	–	–	–	–	–
Cobalt	50	–	–	–	–	–	–	70	–	–	–	–	–	–	50
Iron	100	–	–	–	–	–	–	–	1490 J	–	2120 J	–	720 J	–	730 J
Magnesium	5000	17700	21000	5570	10500	10200	18000	20300	20800	27400	20700	24700	9640	23900	15100
Manganese	15	71	33	–	92	103	408	447	1210	62	47	253	44	46	190
Potassium	5000	–	–	34000 J	–	–	–	–	–	–	–	–	5980 J	6400 J	–
Sodium	5000	14000	7000	27000	–	–	5000	5000	53000	15000	9000	12000	14000	18000	73000
Zinc	20	–	–	–	–	65 J	–	–	–	7390 J	–	–	–	–	–

Notes:

CRQL = Contract Required Quantitation Limit

J = Indicates an estimated concentration because quality control criteria were not met.

µg/L = micrograms per liter

KRN/SIDGS/NLT1

TABLE 2-4

SUMMARY OF INORGANIC DATA FOR SECOND PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

PARAMETER (µg/L)	CRQL (µg/L)	MW-101A	MW-101B	MW-102A	MW-102B	MW-103	MW-104A	MW-104B	MW-105A	MW-105B	MW-106	MW-107A
Aluminum	200	8780	15400	–	586	985	10000 E*	347 E*	–	45300	8810 E*	65900 E*
Arsenic	10	–	–	–	–	–	–	–	–	–	–	19.7 N
Barium	200	–	283	–	–	–	–	261	–	986	–	894
Calcium	5000	77500	109000	30000	49600	79000	85600	68800	47500	274000	91000	253000
Chromium	10	43	53	–	–	–	49.1*	10.4*	–	77.8	34.6*	146*
Copper	25	29.9	77.8	–	–	–	–	–	–	73.3	–	392
Iron	100	12700	22200	338	775	1730	17200	2590	1060	73700	14400	101000
Lead	3	13	17.8	–	–	–	11.9 S	–	–	41.6 S	8.4	47.1
Magnesium	5000	31100	46700	13300	21200	30200	44800	26400	22200	101000	24000	106000
Manganese	15	275	884	18.7	28.9	84.2	347	1320	27.2	1620	439	2590
Mercury	0.2	–	–	–	–	–	–	–	–	–	–	0.56
Nickel	40	45.6	45.6	–	–	–	–	–	–	87.9	–	321
Potassium	5000	–	–	–	–	–	5830	–	–	12000	–	25100
Silver	10	–	–	–	–	–	–	–	–	–	–	–
Sodium	5000	8600	8290	–	–	–	15000	47600	6650	11000	9020	19700
Vanadium	50	–	–	–	–	–	–	–	–	87.7	–	102
Zinc	20	853	82.1	–	49.1	–	24200*	–	41.4	355	42.3*	2830*

(continued)

TABLE 2-4

SUMMARY OF INORGANIC DATA FOR SECOND PHASE GROUNDWATER SAMPLES

NORTH LAWRENCE OIL DUMP SITE

REMEDIAL INVESTIGATION

PARAMETER (µg/L)	CRQL (µg/L)	MW-107B	MW-201	MW-202	MW-203	MW-203 DUP	MW-204
Aluminum	200	2460 E*	–	–	1710	800	25700 E*
Arsenic	10	–	–	–	–	–	–
Barium	200	506	–	–	–	–	518
Calcium	5000	38900	53500	88500	73900	88500	89400
Chromium	10	9.1	–	–	43.6	38.9	67.1*
Copper	25	–	–	–	29.9	28.4	58.6
Iron	100	4480	143	191	2990	1760	32000
Lead	3	3.1	–	–	–	–	12.5
Magnesium	5000	19000	23200	43700	29500	27400	44100
Manganese	15	225	341	370	101	61.3	887
Mercury	0.2	–	–	–	–	–	–
Nickel	40	–	–	–	–	–	124
Potassium	5000	–	–	–	–	–	10500
Silver	10	–	29.9	–	–	–	–
Sodium	5000	81000	–	14100	–	–	43600
Vanadium	50	–	–	–	–	–	58.8
Zinc	20	–	–	23.2	22.7	–	110*

Notes:

* = Duplicate analysis was not within control limits.

CRQL = Contract Required Quantitation Limit

E = The reported concentration is estimated because of the presence of an interference.

S = The reported concentration was determined by the method of standard additions.

µg/L = micrograms per liter

N = Spike sample recovery not within criteria

LIST OF FIGURES

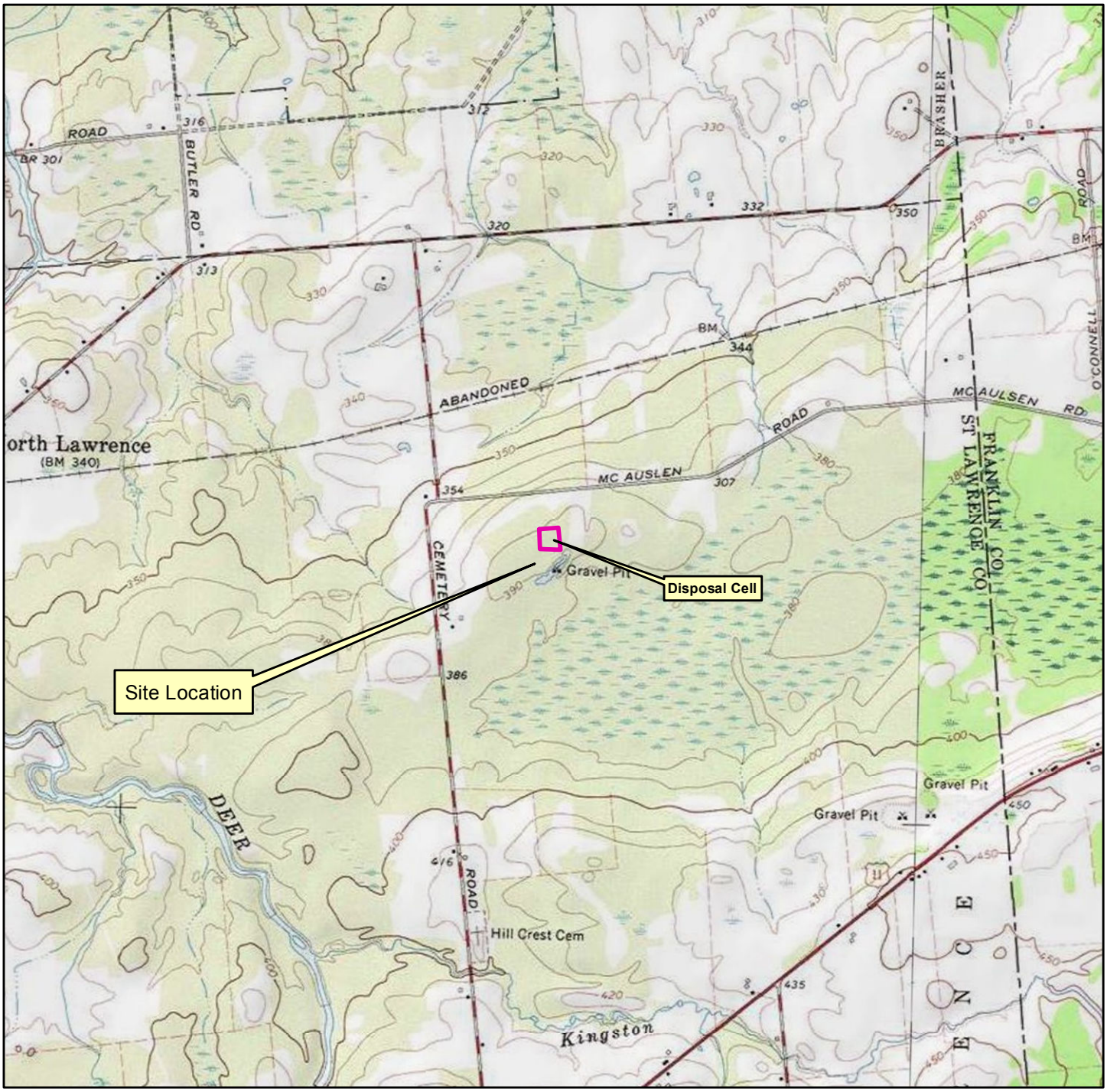


Figure 1
Site Location
North Lawrence Oil Dump Site
North Lawrence, New York
Site Number 645013
Scale 1"=2,000'

HRP Associates, Inc.
Environmental/Civil Engineering & Hydrogeology
Creating the Right Solutions Together
Offices in CT, SC, NY, FL, MA, TX and PA
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
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www.hrpassociates.com

0 150 300 600 900 1,200

Feet

1 inch = 300 feet

N

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Figure 1a
Aerial View
North Lawrence Oil Dump Site
Lawrence, New York
Site #645013
Scale 1"=300'

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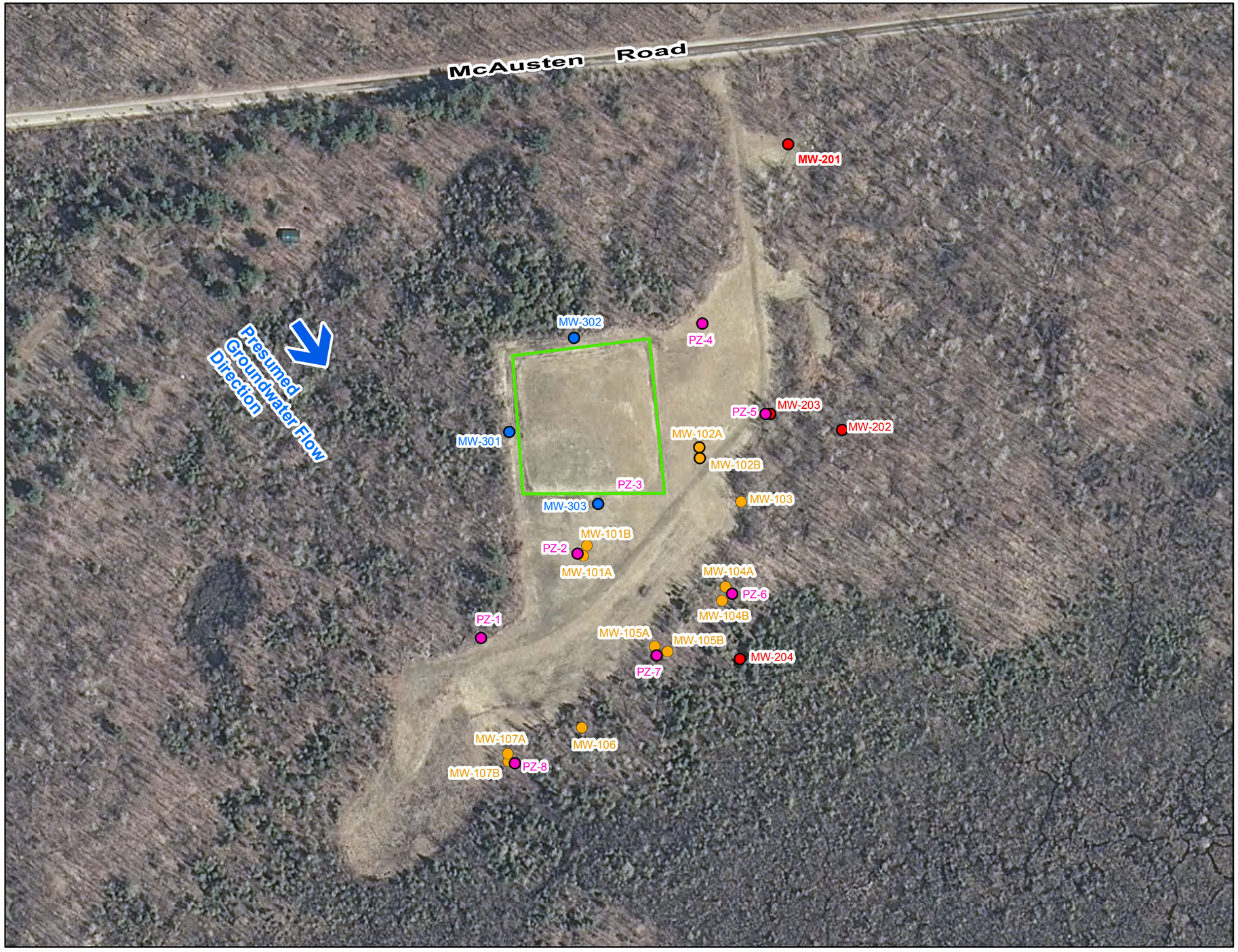

0 100 200 400 600 800 1,000 1,200

Feet

1 inch = 200 feet

N

Legend

- 1992 Phase 1 Piezometer
- 1992 Phase 1 Monitoring Well
- 1992 Phase 2 Monitoring Well
- 1998 Monitoring Well
- Disposal Cell

Figure 2
Former Sampling Locations
North Lawrence Oil Dump Site
Lawrence, New York
Site # 645013
Scale 1"=200'

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0 150 300 600 900 1,200

Feet

1 inch = 300 feet

N

Aerial Data: (c) 2010 Microsoft Corporation and its data suppliers

Figure 3
Former Excavation Area
North Lawrence Oil Dump Site
Lawrence, New York
Site #645013
Scale 1"=300'

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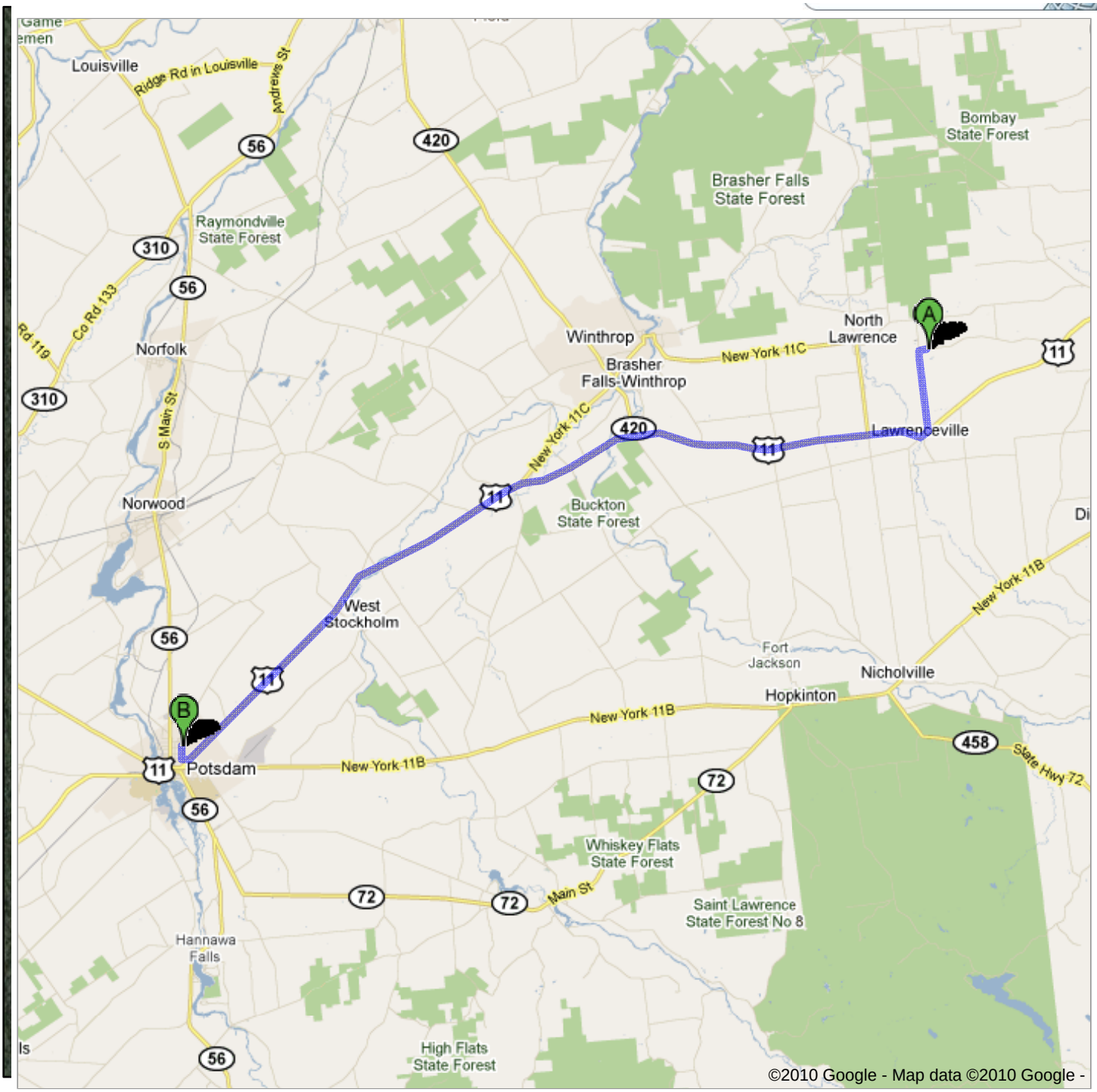
Offices in CT, SC, NY, FL, MA, TX and PA
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
Ph:(518)877-7101 Fax:(518)877-8561
www.hrpassociates.com

Path: S:\Data\NNEWEN - NY STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\NORTH LAWERENCE OIL DUMP, LAWERENCE, NY\NEW9620OM\GIS\Figure 3 - Former Excavation Area.mxd



N

Figure 4
Route from the Site to the Hospital
North Lawrence Oil Dump Site
North Lawrence, New York
HRP # NEW9620.OM
Scale 1"=500'

HRP Associates, Inc.
dBA HRP Engineering, P.C.
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1 Fairchild Square, Suite 110
Clifton Park, New York 12065
(518) 877-7101 FAX: (518) 877-8561
www.hrpassociates.com

Path: S:\Data\NEW\EN - NY STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\NORTH LAWRENCE OIL DUMP, LAWRENCE, NY\NEW9620\GIS\Aerial view.mxd

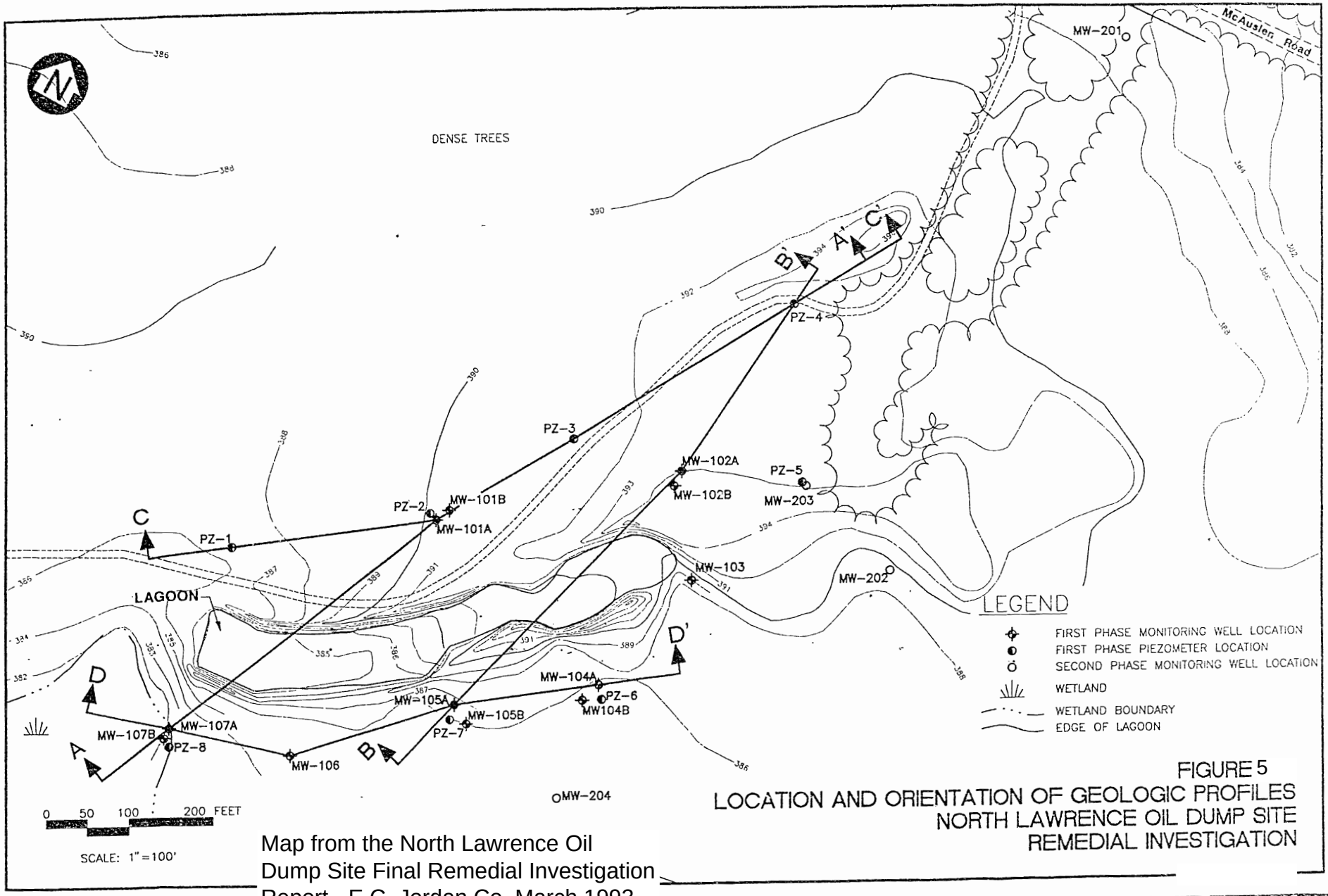
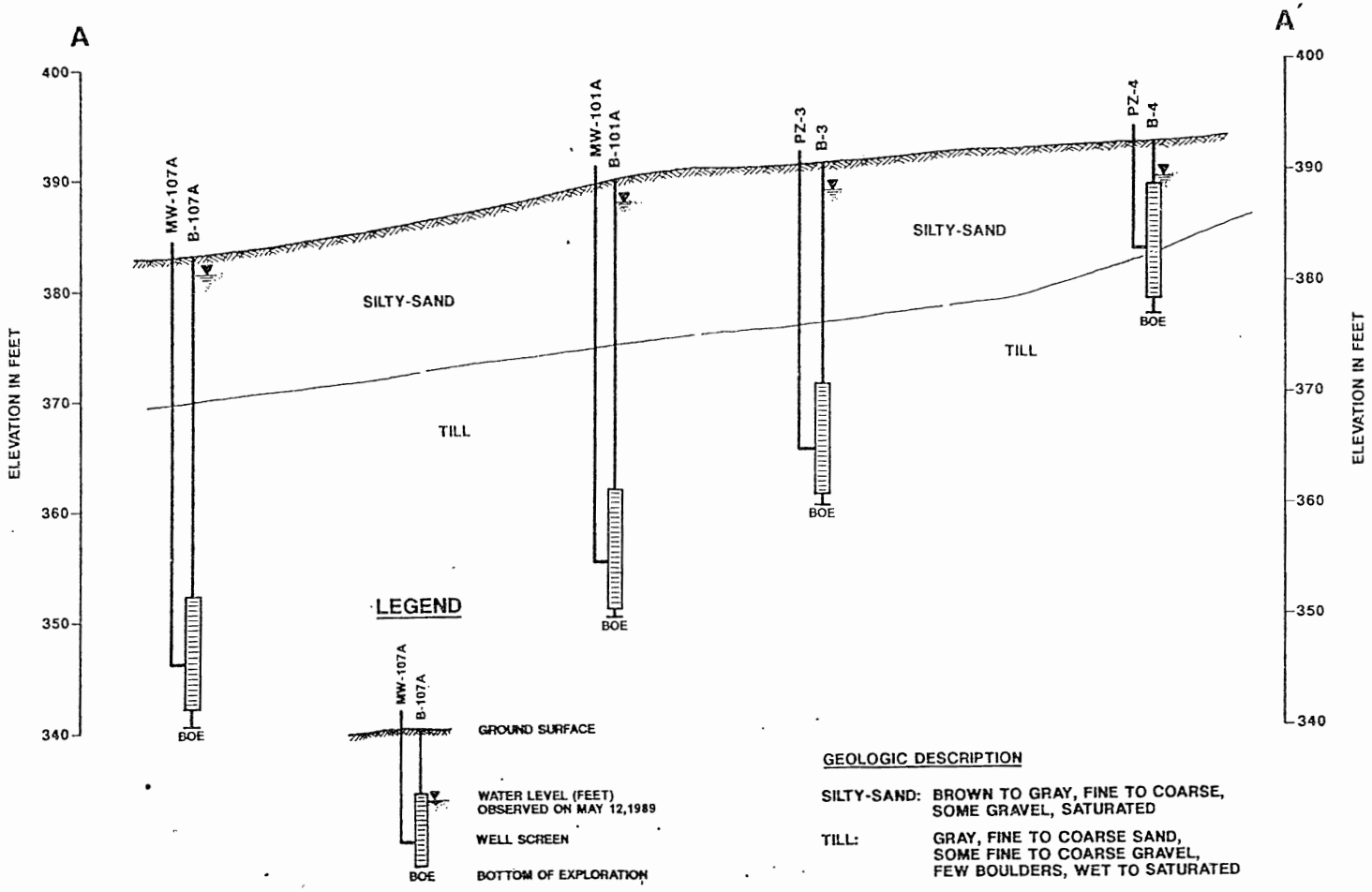


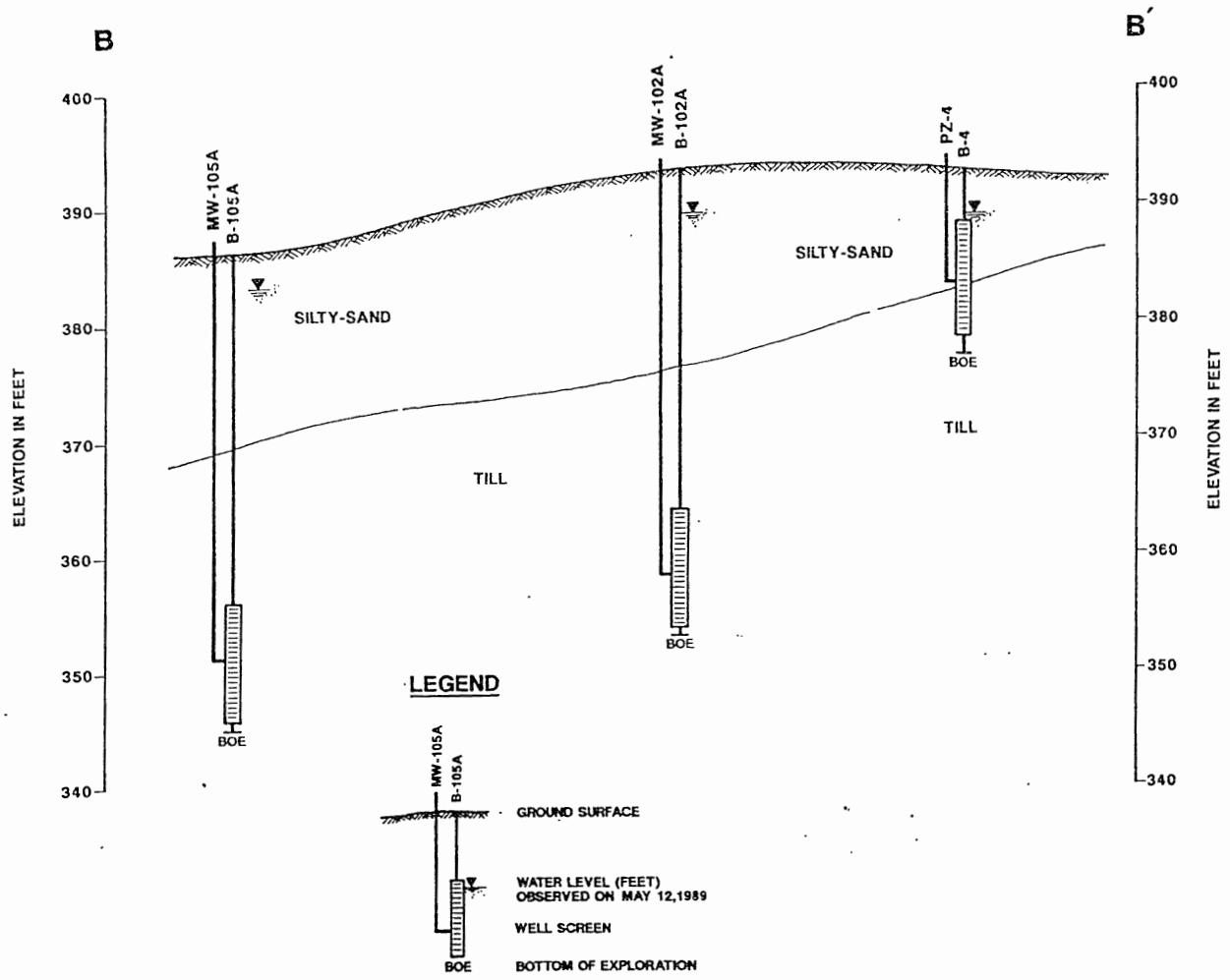
FIGURE 5
LOCATION AND ORIENTATION OF GEOLOGIC PROFILES
NORTH LAWRENCE OIL DUMP SITE
REMEDIAL INVESTIGATION

Map from the North Lawrence Oil Dump Site Final Remedial Investigation Report - E.C. Jordan Co. March 1993



Map from the North Lawrence Oil Dump Site Final Remedial Investigation Report - E.C. Jordan Co. March 1993

FIGURE 6
GEOLOGIC PROFILE A-A´
NORTH LAWRENCE OIL DUMP SITE
REMEDIAL INVESTIGATION



GEOLOGIC DESCRIPTION

SILTY-SAND: BROWN TO GRAY, FINE TO COARSE, SOME GRAVEL, SATURATED

TILL: GRAY, FINE TO COARSE SAND, SOME FINE TO COARSE GRAVEL, FEW BOULDERS, WET TO SATURATED

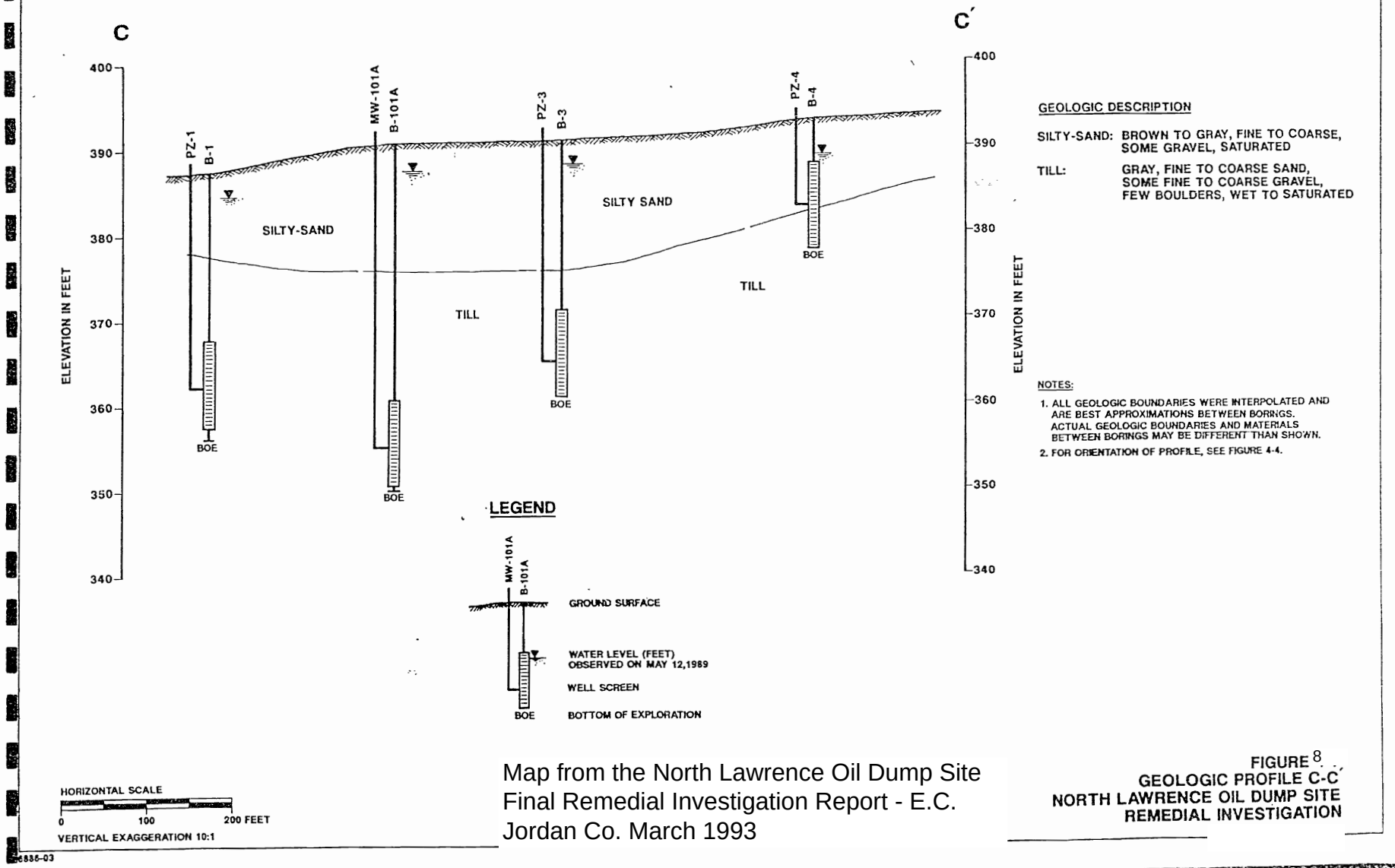
NOTES:

1. ALL GEOLOGIC BOUNDARIES WERE INTERPOLATED AND ARE BEST APPROXIMATIONS BETWEEN BORINGS. ACTUAL GEOLOGIC BOUNDARIES AND MATERIALS BETWEEN BORINGS MAY BE DIFFERENT THAN SHOWN.
2. FOR ORIENTATION OF PROFILE, SEE FIGURE 4-4.

6856-03

Map from the North Lawrence Oil Dump Site Final Remedial Investigation Report - E.C. Jordan Co. March 1993

FIGURE 7
GEOLOGIC PROFILE B-B'
NORTH LAWRENCE OIL DUMP SITE
REMEDIAL INVESTIGATION



Map from the North Lawrence Oil Dump Site Final Remedial Investigation Report - E.C. Jordan Co. March 1993

FIGURE 8
GEOLOGIC PROFILE C-C´
NORTH LAWRENCE OIL DUMP SITE
REMEDIAL INVESTIGATION

APPENDIX A - Environmental Deed Restriction and Environmental Notice/ Metes and Bounds

ST LAWRENCE COUNTY – STATE OF NEW YORK

MARY LOU RUPP, COUNTY CLERK
48 COURT STREET, CANTON, NEW YORK 13617

COUNTY CLERK'S RECORDING PAGE
THIS PAGE IS PART OF THE DOCUMENT – DO NOT DETACH

INSTRUMENT #: R-2013-00014422

Receipt#: 2013411237
Clerk: SS
Rec Date: 09/09/2013 12:14:00 PM
Doc Grp: RP
Descrip: MISCELLANEOUS RECORDING
Num Pgs: 6

Party1: NEW YORK STATE DEPT ENVIRONMENTAL CONSERVATION
Party2: NORTH LAWRENCE OIL DUMP
Town: LAWRENCE

Recording:

Pages	30.00
Recording Fee	20.00
Cultural Ed	14.25
Records Management - Coun	1.00
Records Management - Stat	4.75
Total:	70.00

**** NOTICE: THIS IS NOT A BILL ****

Record and Return To:

AECOM-TAMARA RABY
100 CORPORATE PARKWAY
SUITE 341
AMHERST, NEW YORK 14226
ENV

Marylou Rupp

Mary Lou Rupp
St Lawrence County Clerk

North Lawrence Oil Dump
Site No. 645013
McAuslen Road
St. Lawrence County, NY
Tax Map ID: 36.003-4-10

ENVIRONMENTAL NOTICE

THIS ENVIRONMENTAL NOTICE is made the 8th day of August 2013, by the New York State Department of Environmental Conservation (Department), having an office for the transaction of business at 625 Broadway, Albany, New York 12233

WHEREAS, a parcel of real property indentified as North Lawrence Oil Dump (Site 645013), located on McAuslen Road in the Town of Lawrence, County of St. Lawrence, State of New York, which is part of lands conveyed by the County of St. Lawrence to The Family Trust of James R. & Nora Covell by deed dated October 6, 1998 and recorded in the St. Lawrence County Clerk's Office on December 3, 1998 in Book 1112 of Deeds at Page 320 and being more particularly described in Appendix "A", attached to this noticed and made a part hereof, and hereinafter referred to as " the Property" is the subject of a remedial program executed by the Department as part of the Department's State Superfund Program; and

WHEREAS, the Department approved a cleanup to address contamination disposed at the Property and such cleanup was conditioned upon certain limitations.

NOW, THEREFORE, the Department provides notice that:

FIRST, the Property subject to this Environmental Notice is as shown on a map attached to this Notice as Appendix "B" and made a part hereof.

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the Sate and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Operation and Maintenance ("O&M"), there shall be no disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results or may result in a significantly increased threat of harm or damage at any site as a result of exposure to soils. A violation of this provision is a violation of 6 NYCRR 375-1.11(b)(2).

THIRD, no person shall disturb, remove, or otherwise interfere with the installation, use, operations, and maintenance of engineering controls required for the Remedy, including but not limited to those engineering controls described in the O&M Plan and listed below, unless in each instance they first obtain a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the remedy was designed to be protective for the following uses: Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) . Therefore, any use for purposes other than Commercial and Industrial without the express written waiver of such prohibition by the Relevant Agency may result in a significantly increased threat of harm or damage at any site.

FIFTH, no person shall use the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency. Use of the groundwater without appropriate treatment may result in a significantly increased threat of harm or damage at any site. groundwater without appropriate treatment may result in a significantly increased threat of harm or damage at any site.

SIXTH, it is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with this environmental notice.

IN WITNESS WHEREOF, the undersigned, acting by and though the Department of Environmental Conservation as Designee of the Commissioner, has executed this instrument the day written below.

By: _____
Michael J. Ryan, P.E.
Assistant Director
Division of Environmental Remediation

STATE OF NEW YORK)
) ss:
COUNTY OF Albany)

On the 8th day of August, in the year 2013, before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his signature on the instrument, the individual, or the person upon behalf of which individual acted, executed the instrument.

_____
Notary Public – State of New York

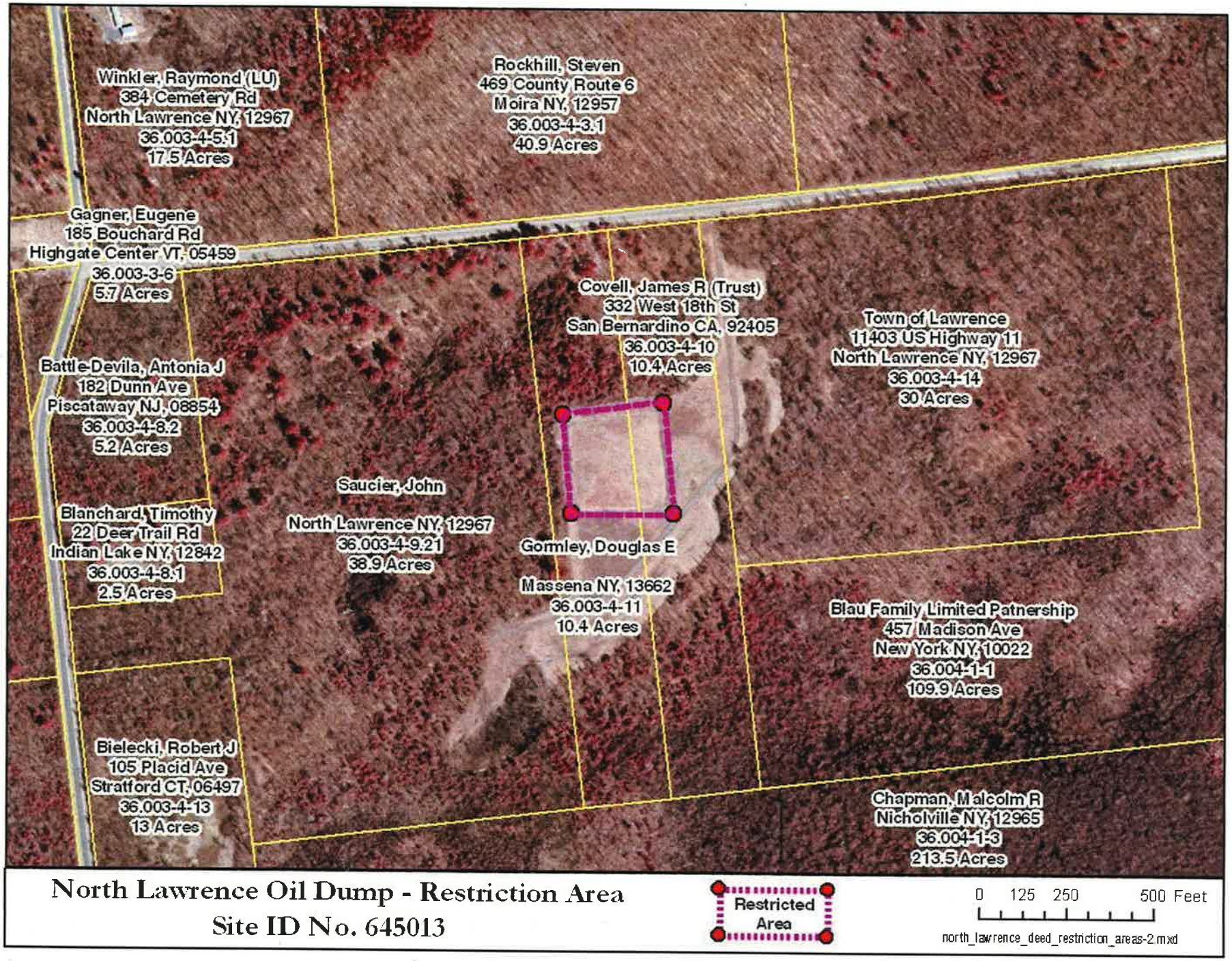
David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

Appendix A

Metes and Bounds Description

All that tract or parcel of land situate, lying and being in the Township of Lawrence, County of St. Lawrence, State of New York, bounded and described as follows: McAuslen Rd., SCH 402001, Rural Vacant, 9.7 ac. +/-, Tax Map #404800 #36.003-4-10.

Appendix B
Map


Winkler, Raymond (LU)
384 Cemetery Rd
North Lawrence NY, 12967
36.003-4-5.1
17.5 Acres
Rockhill, Steven
469 County Route 6
Moira NY, 12957
36.003-4-3.1
40.9 Acres
Gagner, Eugene
185 Bouchard Rd
Highgate Center VT, 05459
36.003-3-6
5.7 Acres
Covell, James R (Trust)
332 West 18th St
San Bernardino CA, 92405
36.003-4-10
10.4 Acres
Town of Lawrence
11403 US Highway 11
North Lawrence NY, 12967
36.003-4-14
30 Acres
Battle-Devila, Antonia J
182 Dunn Ave
Piscataway NJ, 08854
36.003-4-8.2
5.2 Acres
Saucier, John
North Lawrence NY, 12967
36.003-4-9.21
38.9 Acres
Blanchard, Timothy
22 Deer Trail Rd
Indian Lake NY, 12842
36.003-4-8.1
2.5 Acres
Gormley, Douglas E
Massena NY, 13662
36.003-4-11
10.4 Acres
Blau Family Limited Patnership
457 Madison Ave
New York NY, 10022
36.004-1-1
109.9 Acres
Bielecki, Robert J
105 Placid Ave
Stratford CT, 06497
36.003-4-13
13 Acres
Chapman, Malcolm R
Nicholville NY, 12965
36.004-1-3
213.5 Acres
North Lawrence Oil Dump - Restriction Area
Site ID No. 645013
Restricted Area
0 125 250 500 Feet
north_lawrence_deed_restriction_areas-2.mxd

13/6-9496

Frontier Abstract & Research Services, Inc.

30 West Broad Street Suite 100
Old City Hall/ Irving Place
Rochester, NY 14614

585-955-6111

Accounting@FrontierAbstract.com

www.FrontierAbstract.com

Invoice

DATE	INVOICE #
3/4/2013	333261

BILL TO
AECOM 100 Corporate Parkway Suite 341 Amherst, New York 14226

NET 30	COUNTY
NET 10	StLaw

ITEM	DESCRIPTION	AMOUNT
Fees Advanced	5039641 North Lawrence Oil Dump, McAuslen Road, Lawrence	80.00
Filing	Dec. of Cov.	75.00
	Sales Tax	0.00

Thank you. This invoice is due and payable 30 days from invoice date.

Invoice Total	$155.00
Open Balance Due	$155.00

ST LAWRENCE COUNTY CLERK

MARY LOU RUPP

Receipt

** Reprint **
Receipt Date: 03/01/2013 12:20:00 PM
RECEIPT # 2013388900

Recording Clerk: SS
Cash Drawer: CASH4
Rec'd Frm: FRONTIER ABSTRACT & RESEARCH SERVICES
Rec'd By Mail

Instr#: R-2013-00003128
DOC: MISCELLANEOUS RECORDING
OR Party: GORMLEY DOUGLAS E

MISC_REC	
Pages	$40.00
Recording Fee	$20.00
Cultural Ed	$14.25
Records Management - County	$1.00
Records Management - State	$4.75
DOCUMENT TOTAL: ---->	$80.00

Receipt Summary

TOTAL RECEIPT: ---->	$80.00
TOTAL RECEIVED: ---->	$80.00
CASH BACK: ---->	$0.00

PAYMENTS
Check # 3760 -> $80.00
FRONTIER ABSTRACT & RESEARCH SERVICES

County: St. Lawrence NYSDEC Site No. 645013

RECEIVED AT ST. LAW. CO. CLERKS OFC.

DUPLICATE ORIGINAL FILED

DECLARATION of COVENANTS and RESTRICTIONS

2013 MAR -1 P 12:28

THIS COVENANT is made the 27th day of November 2012 by Douglas E. Gormley, a natural person residing at 7 Brighton Street, Massena, NY and having an address for the transaction of business at P.O. Box 6 Massena, NY 13662.

WHEREAS, North Lawrence Oil Dump is the subject of a remedial program performed by the New York State Department of Environmental Conservation (the "Department") , namely that parcel of real property located on McAuslen Road in the Town of Lawrence, County of St. Lawrence, State of New York, which is part of lands conveyed by County of St. Lawrence to Douglas E. Gormley by deed dated September 23, 1994 and recorded in the St. Lawrence County Clerk's Office in Liber and Page 1083/613, and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Douglas E. Gormley, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233.

Third, the owner of the Property shall not prevent access by the Department or its agents to the property nor disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.

20133988900

R-2013-00003128
03/01/2013 12:20:00 PM
MISCELLANEOUS RECORDING
8 Pages
Mary Lou Rupp, St Lawrence County Clerk

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for Commercial or Industrial use and as a maintained and capped landfill without the express written waiver of such prohibition by the Department or Relevant Agency.

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

Sixth, the owner of the Property, upon request, shall provide a periodic certification, to the Department or Relevant Agency, which will certify that: the institutional controls put in place are unchanged from the previous certification, that the owner has complied with the provisions of this restrictive covenant, including compliance with the SMP, that there has been no change in use of the property, unless the Department has been properly notified, and that the engineering controls have not been impaired.

Seventh, the owner of the Property shall continue in full force and effect any institutional controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

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

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

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

By: _____

Print Name: Doug Gormley

Title: Owner Date: 11/28/12

STATE OF NEW YORK)

) s.s.:

COUNTY OF ST-LAWC)

On the 28 day of NOV, in the year 2013, before me, the undersigned, personally appeared Douglas Gourley, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public State of New York

MARK F. SNIDER
Notary Public, State Of New York
St. Lawrence County #01SN5754
Commission Expires 01/31/14

McAuslen Rd. (North Lawrence Oil Dump)
Site No. 645013
McAuslen Road
St. Lawrence County, NY
Tax Map: 36.003-4-11

APPENDIX A
Metes and Bounds

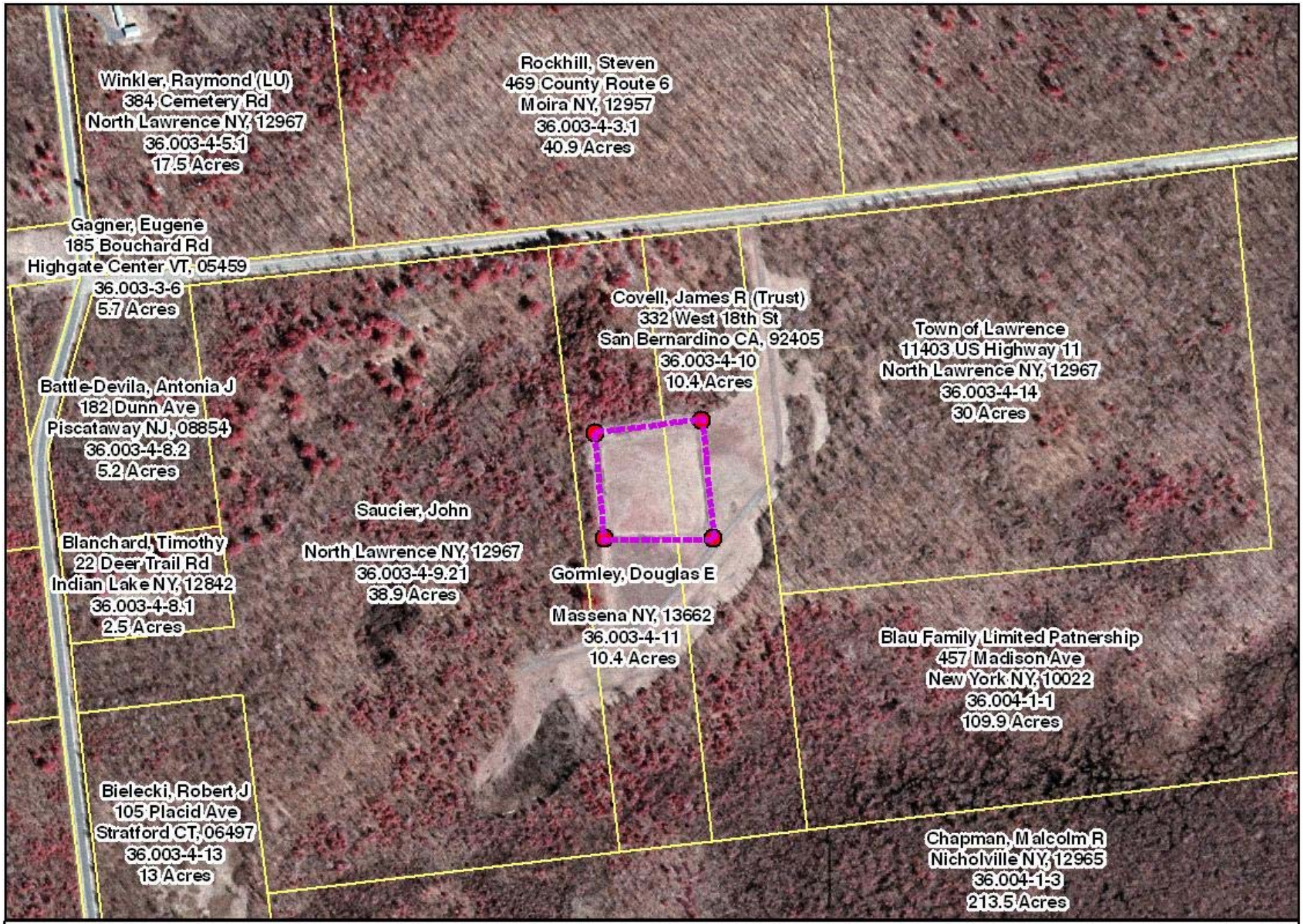
McAuslen Rd. (North Lawrence Oil Dump)
Site No. 645013
McAuslen Road
St. Lawrence County, NY
Tax Map: 36.003-4-11

METES and BOUNDS Description

All that tract or parcel of land situate, lying and being in the Township of Lawrence, County of St. Lawrence, State of New York, bounded and described as follows: Cheney Rd., SCH 402001, Vacant Land, 10.40 +/-, TM #36.003-4-11, Formerly Carey, Anthony A.

McAuslen Rd. (North Lawrence Oil Dump)
Site No. 645013
McAuslen Road
St. Lawrence County, NY
Tax Map: 36.003-4-11

APPENDIX B



North Lawrence Oil Dump - Restriction Area

Site ID No. 645013

Restricted Area

0 125 250 500 Feet

north_lawrence_deed_restriction_areas-2.mxd

APPENDIX B - Excavation Work Plan (EWP)

EXCAVATION WORK PLAN (EWP)

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

William Welling
NYSDEC Albany Central Office
625 Broadway
Albany, New York 12233-0001
Telephone: (518) 402.9638

Regional Hazardous Waste Remediation Engineer

NYSDEC, Region 6 office
317 Washington Street
Watertown, New York 13601-3787
Telephone: (315) 265-3090

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,

Simple excavations may only require compliance with a portion of the EWP. For example, excavation of a small volume of soil from above the water table that is

directly loaded for off-site disposal would not require the stockpiling or fluids management provisions of this excavation work plan

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix C of this document,
- Identification of disposal facilities for potential waste streams, and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

A-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

A-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

A-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

A-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Truck transport routes will be determined upon final scheduling of work and determination of soil destination and truck routes will be included with the notification of start work for NYSDEC approval. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]].

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

A-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

A-7 MATERIALS REUSE ON-SITE

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in Table 5.4(e)4 Reuse of Soil found in DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

A-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported

and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

A-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Record of Decision (ROD). The demarcation layer, consisting of orange snow fencing material or equivalent material will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

A-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 6NYCRR 375-6.8(a): Unrestricted Use Soil Cleanup Objectives found in 6NYCRR 375Environmental Remediation Programs. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover

soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

A-11 STORMWATER POLLUTION PREVENTION

For larger excavations, procedures for stormwater pollution prevention should be specified. For construction projects exceeding 1 acre, this is required. A summary of the Stormwater Pollution Prevention Plan that conforms to the requirements of NYSDEC Division of Water guidelines and NYS regulations should be completed at the time it is determined that it is needed.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

A-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

A-13 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. Guidance can be obtained in Appendix 1A of DER-10, Generic Community Air Monitoring Plan. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work

shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods maybe required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to,
soil waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified,

corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring. Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

A figure showing the location of air sampling stations based on generally prevailing wind conditions will be shown when the initial 15-day notification of work is given to the NYSDEC. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

A-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site . Specific odor control methods to be used on a routine basis will have not been identified as required based on site specific conditions. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

A-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved though the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX C – Health and Safety Plan

PROJECT SPECIFIC HEALTH AND SAFETY PLAN FOR THE SITE MANAGEMENT OF NORTH LAWRENCE OIL DUMP

McAuslen Rd. and Cemetery Rd.
North Lawrence, St. Lawrence County, New York
(DEC WA #D006130-21)

April 2011

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

Prepared by:

HRP Engineering, P.C.
1 Fairchild Square Suite 110
Clifton Park, NY 12065

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LIST OF ATTACHMENTS

SITE SPECIFIC HEALTH & SAFETY PLAN
FOR THE SITE MANAGEMENT OF NORTH LAWRENCE OIL DUMP, NORTH LAWRENCE, NEW YORK

St. Lawrence County

NYSDEC WA#D006130-21

CERTIFICATION

This Addendum to HRP's Generic Health and Safety Plan has been prepared under the supervision of, and has been reviewed by, a Certified Industrial Hygienist (CIH) certified by the American Board of Industrial Hygiene.

_____

Jeffrey R. Sotek, CIH
ABIH No. 9086

"I Jeffrey Sotek certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Work Plan was prepared in accordance with all applicable statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER 10)."

HRP ASSOCIATES, INC.

SITE SPECIFIC HEALTH AND SAFETY PLAN FOR:

PROJECT:	**Site Management**
ADDRESS:	**McAuslen Rd. and Cemetery Rd. Lawrence, NY 12967**
DEC SITE ID:	#**645013**
COMPANY:	**NYSDEC Standby Contract, D006130-21**
HRP JOB#:	**NEW9620.OM**

1.0 PURPOSE AND SCOPE

HRP has developed this addendum to address the safety of site workers during on-site (field) work covered under OSHA's Hazardous Waste Operations and Emergency Response regulation (29 CFR 1910.120). As per the NYSDEC work assignment issuance/notice to proceed (Attachment 1), HRP is directed to perform site management activities at the North Lawrence Oil Dump in St. Lawrence County under the direction of the NYSDEC. Based on the scope of work (Attachment 1), HRP will follow HRP's Generic Health and Safety Plan, Field Activities Plan, and Quality Assurance Project Plan. HRP's Generic Health and Safety plan addresses hazard analysis, general safety practices, PPE, site control, work zones & decontamination, site monitoring, and accident prevention & contingency plan. This plan will also be on-site at all times and administered by HRP Associates employees.

2.0 GENERIC SITE INFORMATION & EMERGENCY PHONE NUMBERS

GENERIC SITE INFORMATION

Facility Name: North Lawrence Oil Dump Phone No. N/A

Address: McAuslen Road, Lawrence, St. Lawrence County

Site Contact(s): NYSDEC Project Manager, William B. Welling

Site Description (including unique physical hazards): The North Lawrence Oil Dump is a former waste disposal lagoon in the Township of Lawrence, St. Lawrence County, NY. It is located adjacent to McAuslen Road (on the south side) approximately 1/3 mile east of Cemetery Road, in a sparsely populated, rural area. There is a regulated 150-acre wetland area adjacent to the southern border which drains to a tributary of Redwater Brook, and the nearest water supply is a private well less than one mile away. There is also a regulated municipal dump adjacent to the site.

The site consists primarily of a waste disposal lagoon, approximately 600 ft. long and 75 ft. wide. The site latitude is 44°48' 0", the site longitude is 74°38' 39". This area was used for disposing waste oils and oil sludge in the mid- to late-1960s. Information provided by local residents indicates that this site was operated in conjunction with the nearby York Oil dump in Moira, just over the Franklin County line (Site ID No. 517002).

NYSDEC found that the top 2 to 4 feet of soils in the lagoon were contaminated with oil, PCBs, lead, and VOCs. NYSDEC also found significant levels of PCBs, mercury, and lead on-site in the top 6 to 12 inches of wetland sediments, which were later excavated. To mitigate these problems, the site was put on the Registry of Hazardous Waste Sites and remedial actions were conducted.

A Remedial Investigation/Feasibility Study (RI/FS) was completed in the spring of 1993. A Record Of Decision (ROC) was signed on March 29, 1993. The ROD called for the on-site stabilization and solidification (S&S) of the contaminated soils, which were excavated from the lagoon, and the PCB-contaminated sediments form the wetlands. Pilot testing of the S&S of the contaminated soil was completed in December 1994. Design of the selected remedy was completed in January of 1996, and all remedial work was completed by October 1997. The site is a registered hazardous waste site. The site is now is the Site Management Phase. Yearly groundwater monitoring summarized in a Periodic Review Report (PRR),

A Site Management Plan will be prepared for the site to outline future activities, including groundwater, soil, surface water, and sediment sampling, wetlands monitoring, and the maintenance of the ground cover and disposal cell. A 0344 keys have been obtained by HRP to gain access to the site.

<u>Site management (SM) will consist of…</u>

A. Attachment 1 is the scope of work given to HRP from the NYSDEC.

B. Contaminants of Concern:

   The principal contaminants of concern include the following volatile organic compounds: Acetone, Benzene, 2-Butanone, Carbon Disulfide, PCE, 1,1,1-TCA, and TCE. The following Semi-volatile organic compounds are included at low levels as contaminants of concern: Benzoic Acid and Bis (2-ethylhexyl)phthalate. The following inorganic compounds in surface and groundwater. have been detected at the site: arsenic, aluminum, barium, beryllium, chromium, cobalt, copper, lead, mercury, magnesium, manganese, silver, vanadium, and zinc. The following PCB has also been detected at lower levels in the media at the site: Aroclor-1254.

C. List the known and/or potential on-site release areas.

   Petroleum and oil releases from disposal lagoon to nearby wetland

EMERGENCY PHONE NUMBERS

Site personnel should familiarize themselves with the location of the nearest telephones (i.e. in a site building or cellular) and how to obtain an outside line.

Fire Department, Ambulance, Police Department: Dial 9-1-1

Note: An ambulance should be contacted for emergency cases. When contacting the local authorities, be sure to give:

your name;
facility name;
full address;
telephone number; and
nature of the emergency.

Poison Control Center: 1-(800) 222-1222

NY DEC Spill Hotline: 1-(800) 457-7362

National Grid: 1-(800) 892-2345 [all sites electric][gas in Jefferson County]

NYSEG: 1-(800) 572-1131

NYSDEC Project Manager: William B Welling - (518) 402-9638

HRP Office HSO: Jeff Sotek - office # (518) 877-7101 x107
Cell phone # - (518) 441-4811

3.0 SPECIFIC SITE & HOSPITAL INFORMATION

Local Hospital Name and Address:

CANTON-POTSDAM HOSPITAL

50 Leroy St., Potsdam, NY13676

Phone Number 315.265.3300

Travel time to the local Hospital is approximately 29 minutes.

Map showing routes to Hospital (Attachment 3)

Description of route: Drive west on McAuslen Rd (towards Cemetery Rd). Turn left on Cemetery Rd and follow for 1.8 miles. Turn right on US Route 11 S and follow for 19 miles. Turn right on Clinton St. and right on Leroy St. and Canton-Potsdam Hospital will be on the left.

Emergency Evacuation Signal: Loud Hail

Rally Point: Depending on the site activities being performed at the time, the Rally Point will be at the property boundary edge that is closest to a side road (McAuslen Rd.) away from traffic.

4.0 PERSONNEL

The site Health and Safety Officer (HSO) will be responsible for administering the procedures set forth in this plan in the case of a fire, spill or other emergency/contingency. The Project Manager, General Supervisor, or a designated alternate shall be on-site at all times. The Project Manager or General Supervisor should determine the number of workers that are on-site so that all personnel can be accounted for in an emergency. Since the sites are divided between HRP and Op-Tech, there are multiple project personnel assigned to each role.

On-site General Supervisor: Jamey Charter - HRP

Alternates: Mark Wright - HRP

HRP Work Assignment / Project Manager: Jennifer Kotch - HRP

HRP Site Health and Safety Officer (HSO): Mark Wright or Jennifer Kotch - HRP

HRP Office Health and Safety Officer: Jeffrey Sotek, CIH

Project QA/QC manager: Zoe Belcher - HRP

Zebra Environmental Corp Project Manager: Jared Plank

Zebra Environmental Corp Alternates: Ethan or other

Companies present on-site:

COMPANY	FOREMAN	NUMBER OF PERSONS
HRP Engineering P.C.	1	1 or 2
Zebra Environmental Corp.	1	1 or 2
Lawn Care Company (TBD)	1	1 or 2

5.0 PERSONAL PROTECTIVE EQUIPMENT

The overall health and safety risk associated with chemical hazards for HRP and HRP's subcontractors is considered low. This is primarily due to the low concentrations of chemical contaminants expected based on the results of previous environmental investigations as well as the expected minimal contact personnel will have with any potentially contaminated media. Therefore, the minimal level of protection for HRP and HRP's subcontractors during the conduct of all the environmental work performed at the site, and described in the Work Plan, will be Level D. If site conditions warrant, an upgrade to Level C PPE may be required. If it is determined protection beyond Level C is required, HRP will re-evaluate the HASP as well as the site conditions and will revise the HASP as required. The requirements for PPE at level D and C are outlined in Attachment 4. Also, a description of the personal protective equipment required for each work task, at Level D, is detailed in Attachment 4.

Other Physical hazards associated with the work assignment (heat and/or cold stress, adverse weather) will follow the steps outlined in section 3.4 "physical hazards" of HRP's generic health and safety plan.

6.0 AIR MONITORING

Volatile organic compounds (VOCs) and particulates will be monitored periodically at the site during field activities. Parameters such as VOCs and total particulates will be monitored periodically at the breathing zone following the protocols established in Table 3 of the Generic Health and Safety Plan and Table 1 seen below. The table following this section outlines the samples that need to be taken.

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

Table 1 Activity Response Chart

Type of activity	Type of sample	Location of sample	Parameter	Reading	Response
Intrusive activities	Periodic	Worker breathing zone	Total Organic Vapors	0 ppm to <1 ppm	Normal operations; record breathing zone monitoring measurements every hour.
				>1 ppm to 5 ppm	Increase recording frequency to at least every 15 minutes, and use benzene Drager tube to screen for the presence of benzene.
				>5 ppm to <50 ppm	Upgrade to Level C personal protective equipment, continue screening for benzene.
				>50 ppm	Stop work; evacuate confined spaces/work area; investigate cause of reading; contact Program Safety and Health Officer.
			Total Particulate	0 to 0.100 mg/m^3 above Background	Normal operations; if >0, investigate source; monitor continuously.
				>0.100 mg/m^3 above Background	Initiate wetting of work area to control dust; upgrade to Level C if dust control measures do not control dust within 15 minutes; monitor downwind impacts.
				>0.15 mg/m^3 in breathing zone or at downwind perimeter of work area	Stop work; investigate cause of reading; contact HRP Project Manager and Program Safety and Health Officer.
Intrusive activities	Continuous	Upwind perimeter of work area Average every 15 minutes	VOC / Particulates		Establish background concentrations
Intrusive activities	Continuous	Downwind perimeter of work area Average every 15 minutes	VOC	Reading 5 ppm > background	Stop work activities, if instaneous decrease in readings, continue work
			VOC	Reading 5 ppm > background, and <25 ppm background	Stop work activities, identify source of vapors, corrective actions
			VOC	Reading 25 ppm > background	Stop all work activities
Intrusive activities	Continuous	Downwind perimeter of work area Average every 15 minutes	Particulates	100 mg/m3 > background	employ dust suppression techniques
			Particulates	150 mg/m3 > background after dust suppression techniques are employed	Stop work activities, re-evaluate the activity, use corrective actions to reduce particulates below 150 mg/m3

7.0 CONTINGENCY

During any work on-site (sampling, grounds maintenance etc.), if an unknown substance is detected (sludge, unlabelled containers of liquid, etc.), HRP will suspend work immediately. The HSO will assess the situation (in conjunction with NYSDEC project manager, and [if needed] HRP Office HSO) and decide on a course of action.

If the situation warrants emergency response, the following company can be contacted:

Primary :

Op-Tech Environmental Services, Inc.
14 Old River Road, Massena, New York (315) 769-3825

Secondary:

Clean Harbors
Syracuse, NY Field office (315) 463-9901

ATTACHMENT 1

SCOPE OF WORK

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Program Management, 12th Floor
625 Broadway, Albany, New York 12233-7012
Phone: (518) 402-9764 • **Fax:** (518) 402-9722
Website: www.dec.ny.gov

Peter M. Iwanowicz
Acting Commissioner

December 8, 2010

Mr. Jeffery Sotek, P.E.
HRP Associates, Inc
1 Fairchild Square
Clifton Park, NY 12065

RE: WA Issuance/Notice to Proceed

Dear Mr. Sotek:

The New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) is issuing to your firm and authorizing your firm to proceed with the work assignment (WA) identified below and in the enclosed work plan template and/or costing tool report for the performance of Site Management to include regular inspections, long term monitoring, and period review reports at North Lawrence Oil Dump, St. Lawrence County.

Please contact DER's Project Manger (PM) immediately to discuss the WA, including staffing, time critical work, and any site-specific concerns.

Contract/WA No.:	D006130-21
Site/Spill No./PIN:	645013
Site/Spill Name:	North Lawrence Oil Dump
Program Element:	SM
Est. Total WA Budget:	$40,000
Project Manager:	Sue Lasdin Momberger
PM Phone No.:	(518) 402-9813
PM E-mail:	sxlasdin@gw.dec.state.ny.us
Contract Manager:	Patricia Kappeller
CM Phone No.:	(518) 402-9572
CM E-mail:	plkappel@gw.dec.state.ny.us
M/WBE Contact:	Juan Abadia
M/WBE Phone No.:	(518) 402-9311
M/WBE E-mail:	mbe@gw.dec.state.ny.us

Please review your firm's relationship with the Potential Responsible Parties (PRPs) listed on the attachment to the enclosed Conflict of Interest Certification form. Complete the form, accept or reject the WA, and return the form to the Contract Manager (CM) within **5 calendar days** of the date of this letter.

The Schedule 2.11s and M/WBE Utilization Plan for the WA must be completed and sent electronically in a single Adobe® PDF document to the CM within **21 calendar days** of the date of this letter. If multiple sites are included in the WA, Schedule 2.11s must be provided for each site and the total WA. The Schedule 2.11s must be in accordance with the executed standby contract. The Schedule 2.11s should identify areas of work requiring subcontracting and the certified M/WBE firms to be utilized, if known. If the M/WBE Utilization Plan for the WA does not meet the M/WBE goals set forth in the standby contract, an explanation must be provided at the time the M/WBE Utilization Plan is submitted. Standby subcontractors should be utilized to the extent practical. Project-specific subcontracts must be procured in accordance with the overall schedule (i.e., a reasonably estimated placeholder cost can be included for services not yet procured). The Schedule 2.11s should reflect the scope of work outlined in the Work Plan Template and/or Costing Tool Report. A cover letter accompanying the submittal of the Schedule 2.11s should include a brief justification of the budget supported by the Schedule 2.11s, the anticipated completion date(s) for the work, and the anticipated billings by State fiscal year. Additional justification should be included if work is proposed for multiple years. Adobe® PDFs are to be submitted in an electronic format that complies with DER's Electronic Document Standards.

If you have any questions regarding the WA's scope of work (work plan template), and/or budget (Schedule 2.11s), please contact the PM. Requests for reimbursement for the WA should not be submitted and will not be processed prior to the approval of the Schedule 2.11s.

If work is not initiated in a timely manner or the Schedule 2.11s are not approved by DER within **60 calendar days** of the date of this letter, the WA may be terminated and reimbursement will be limited to a negotiated amount based on work performed to date of termination.

Sincerely,

Steve Karwiel
Acting Chief
Contracts and Payments Section
Bureau of Program Management
Division of Environmental Remediation

Attachments

ec: S. Lasdin Momberger
P. Kappeller
D. Desnoyers
R. Schick
D. Weigel
M. Cruden
S. Edwards
P. Taylor
D. Finlayson
T. Wolosen
M/WBE Unit

UIS Site Description

The North Lawrence Oil Dump is located adjacent to McAuslen Road (on the south side) approximately 1/3 mile east of Cemetery Road, in a sparsely populated, rural area in Lawrence, St. Lawrence County. There is a regulated 150-acre wetland area adjacent to the southern border which drains to a tributary of Redwater Brook, and the nearest water supply is a private well less than 1 mile away. There is also a regulated municipal dump adjacent to the site.

The site consists primarily of a waste disposal lagoon, approximately 600 ft. long and 75 ft. wide. This area was used for disposing waste oils and oil sludges in the mid- to late-1960s. Information provided by local residents indicates that this site was operated in conjunction with the nearby York Oil dump in Moira, just over the Franklin County line (Site ID No. 517002).

A State-funded Remedial Investigation/ Feasibility Study (RI/FS) was completed in the spring of 1993. A Record of Decision (ROD) was signed on March 29, 1993. The ROD called for the on-site stabilization and solidification (s & s) of the contaminated soils, which were excavated from the lagoon, and the PCB-contaminated sediments from the wetland. Pilot testing of the s & s of the contaminated soils was completed in December 1994. Design of the selected remedy was completed in January of 1996, and all remedial work was completed by October 22, 1997. The site is now in the Site Management phase. A recent round of groundwater monitoring was conducted in November 2004. The last round of bio-monitoring was conducted in November 2002.

Regular inspections, LTM, and PRRs will be scheduled regularly and conducted through a work assignment.

ATTACHMENT 2

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Level D Personal Protective Equipment

Level D will be worn for initial entry onsite and initially for all activities and will consist of the following:

- Coveralls or appropriate work clothing
- Steel-toe, steel-shank safety boots/shoes
- Hard hats (when overhead hazards are present or as required by the Site Health and Safety Officer)
- Chemical resistant gloves (nitrile/neoprene) when contact with potentially contaminated soil or water is expected
- Safety glasses with side shields
- Hearing protectors (during drilling or other operations producing excessive noise)
- Boot covers (optional unless in contact with potentially contaminated soil or water)
- Polycoated coveralls (when contact with contaminated soil and water is anticipated, e.g., when surging/pumping wells and pressure-washing equipment).
- Insulated clothing, hats, etc. must be worn when temperatures or wind chill fall below 40°F.

Level C Personal Protective Equipment

Based upon the preliminary information concerning the site, contaminant concentrations are not expected to require the use of Level C PPE. However, should the following conditions be identified, the Site Health and Safety Officer, in conjunction with the NYSDEC PM, is authorized to increase the level of PPE to be worn.

Level C protection consists of:

- Full-facepiece, air purifying respirator equipped with combination organic vapor and high efficiency particulate cartridges
- Polycoated or other water resistant coveralls
- Steel-toe, steel-shank neoprene safety boots/shoes
- Chemical-resistant boot covers
- Hard hat
- Hearing protectors (during drilling or other operations producing excessive noise)
- Chemical resistant inner (latex/nitrile) and outer gloves (nitrile/neoprene).

WORK TASK	MINIMUM PROTECTIVE EQUIPMENT											
	Work Clothes	Steel Toe Shoes	Work Gloves	Chem. Resistant Gloves[1]	Saf ety Glasses	Hearing Protection	Tyvek	Apron	Hard Hat	Face Shield	Fall Protection[2]	Visibility Vest
SAMPLING/ROUTINE TASKS												
Air Sampling	X	X		X								
Bridge Inspection/Const. Supervision	X	X				X			X			X
Drilling	X	X		X	X	X			X			
Drum Sampling & Moving	X	X	X	X	X				X	X		
Groundwater Sampling (MW,RW)	X	X		X	X							
Hand Sampling (shovel, auger)	X	X	X	X								
Landfill Sampling (soil, sediment, gw, sw, leachate)	X	X		X	X		X					
Phase 1 Site Inspection	X	X										
Probing	X	X		X	X	X			X			
Product Sampling (RW)	X	X		X	X		X					
Remediation Monitoring (air systems)	X	X		X	X	X						
Remediation Monitoring (water systems)	X	X	X	X	X	X						
Soil Gas Sampling	X	X		X	X							
Stack Testing	X	X		X					X		X	
Stormwater Sampling	X	X		X								
Surface Water Sampling	X	X		X	X							
Surveying	X	X										X
Wastewater Sampling	X	X		X	X							
Wastewater Benchmark Test	X	X		X	X			X		X		
CHEMICAL HANDLING												
Filling Decon Bottles	X	X			X			X				
Soil Sample Disposal	X	X		X	X							
POWER EQUIPMENT												
Circular Saw	X	X			X	X						
Concrete Core Machine	X	X	X		X	X						
Drill Press	X	X			X	X						
Generators	X	X	X		X	X						
Industrial Vacuum	X	X	X		X	X						
Pavement Saw	X	X	X		X	X						
Power Equipment (lawn equipment, lhandrills, etc.)	X	X	X		X	X						
Power Washer	X	X		X	X	X						
Regenerative Blowers/Air Compressors	X	X	X		X	X						
Rotary Percussion Hammer	X	X	X		X	X						
Sawzall	X	X			X	X						

Notes: Minimum protective equipment means the minimally acceptable protective gear to be donned when performing or using the equipment listed above. Additional protective equipment (i.e. respirators) may be required as described in the site specific health and safety plan or based on the anticipated hazards associated with the project. Work clothes include long pants, short or long sleeve shirt and other winter clothing. If upgrade to level C respiratory protection is necessary the appropriate respirator cartridges will provide protection against hydrogen sulfide and volatile organics, but not oxygen deficient atmospheres due to methane gas displacement of ambient air.

[1]The type of chemical resistant glove (i.e. disposable rubber, nitrile, other) must be selected based on the anticipated chemical hazards.

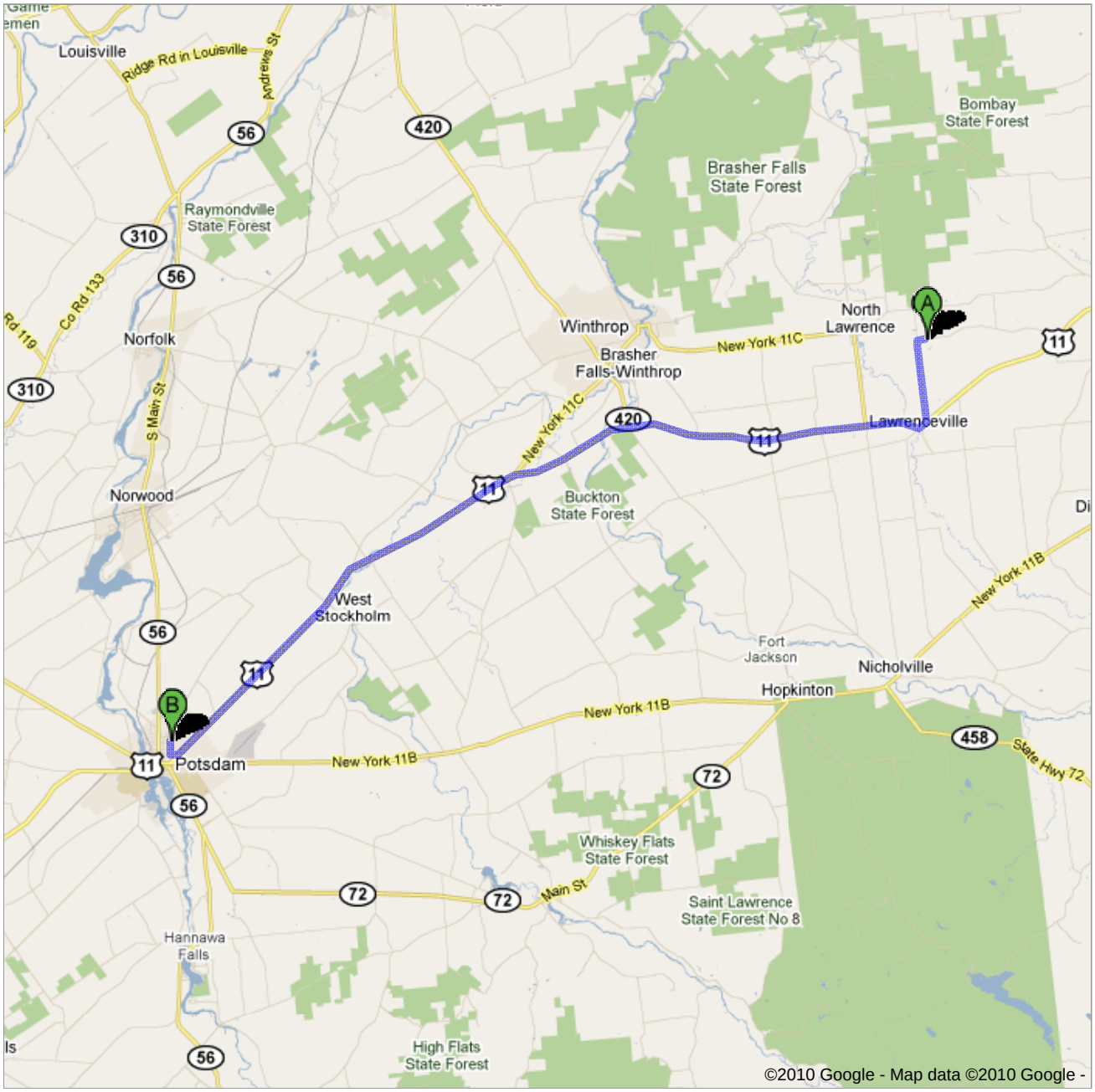
[2]Must be reviewed on a case by case basis.

ATTACHMENT 3

SITE SPECIFIC HOSPITAL ROUTES

Google maps

Directions to Canton-Potsdam Hospital
50 Leroy Street, Potsdam, NY 13676 - (315) 265-3300
21.5 mi – about **29 mins**



Mcauslen Rd, North Lawrence, NY 12967

1.	Head **west** on **Mccauslin Rd** toward **Cemetery Rd**	go 0.2 mi total 0.2 mi
2.	Turn left at **Cemetery Rd** About 5 mins	go 1.8 mi total 2.0 mi
3.	Turn right at **US-11 S** About 22 mins	go 19.0 mi total 21.0 mi
4.	Turn right at **Clinton St**	go 0.2 mi total 21.2 mi
5.	Turn right at **Leroy St** Destination will be on the left About 1 min	go 0.3 mi total 21.5 mi

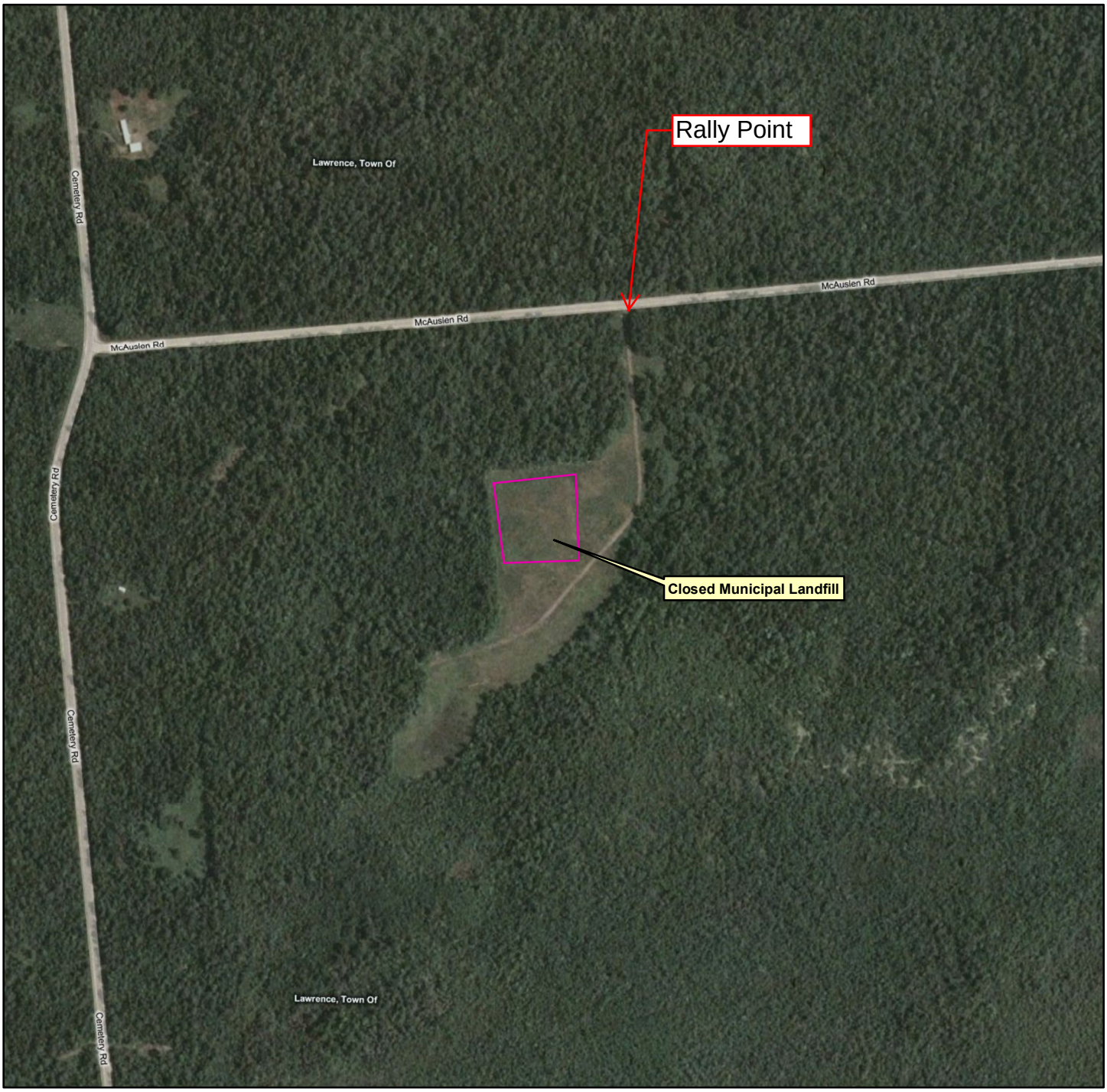
Canton-Potsdam Hospital
50 Leroy Street, Potsdam, NY 13676 - (315) 265-3300

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

ATTACHMENT 4

SITE SPECIFIC RALLY POINT



N

0 250 500 1,000 1,500 2,000

Feet

1 inch = 500 feet

Path: S:\Data\NNEWEN - NY STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\NORTH LAWERENCE OIL DUMP, LAWERENCE, NY\NEW9620OM\GIS\Aerial view.mxd

Figure 1
Aerial View
North Lawrence Oil Dump Site
North Lawrence, New York
HRP # NEW9620.OM
Scale 1"=500'

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APPENDIX D - Monitoring Well Construction Logs

N S NORTHERN TECHNICAL SERVICES
8 East Main Street, Malone NY 12953

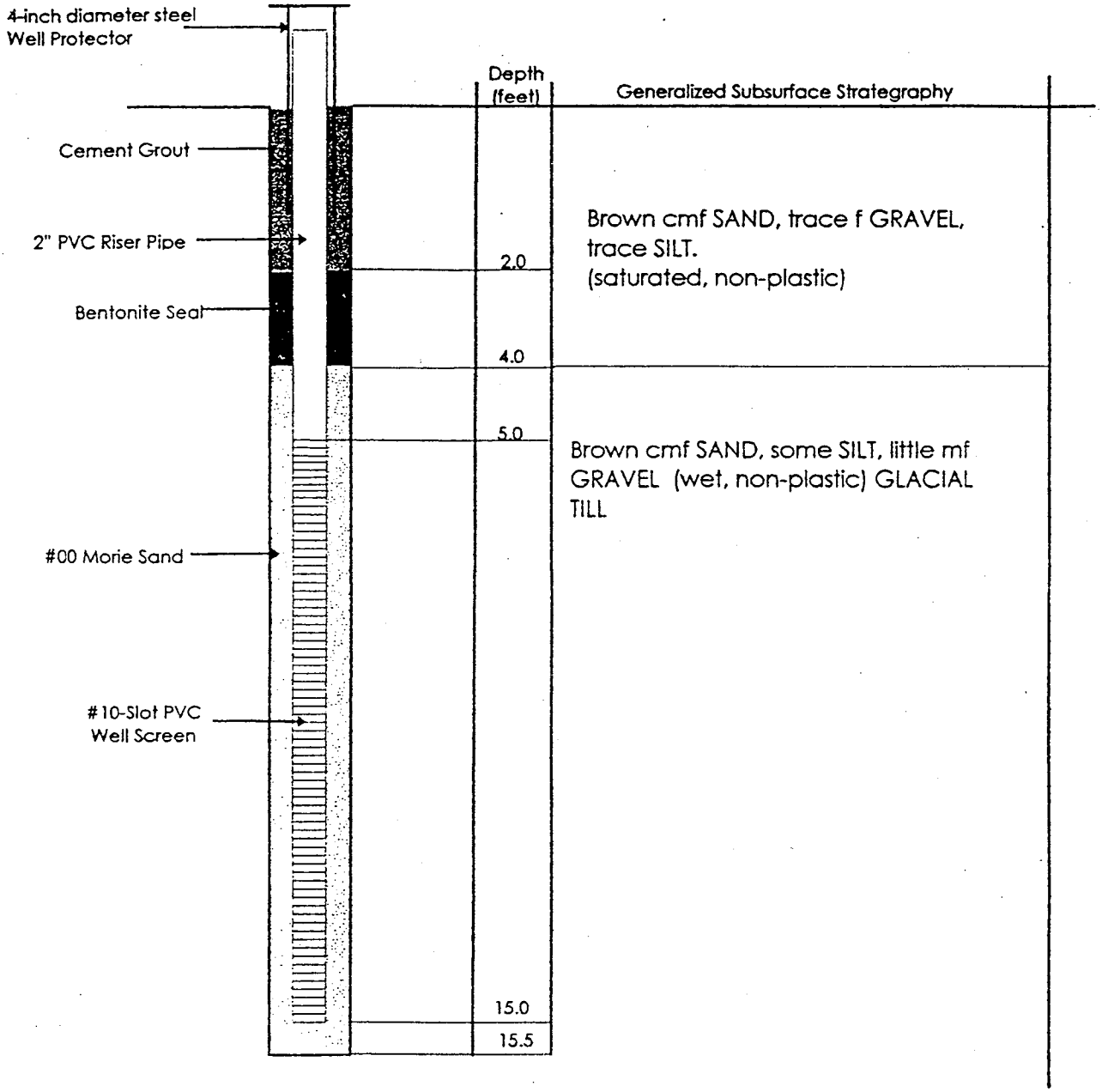
MONITOR WELL INSTALLATION DETAIL

CLIENT: IEM Sealand Corporation
North Lawrence, New York

Well No.: MW-301
NTS Report No.: JN103-3-7-97

PROJECT: North Lawrence Oil Dump Site
North Lawrence, New York

Date: 7/1/97
DRILLERS: C. Wheeler, L. DeBuque



7/21/07 JGI

NTS
8 East Main Street, Malone, New York 12953
Phone (518) 481-5008, Fax 483-2932

FIELD DATA SHEET
MONITOR WELL EVACUATION AND SAMPLING

HISTORICAL:

Project: North Lawrence Oil Dump — Well Number: MW-301
North Lawrence, N.Y. — NTS Project No.: JN103-3-7-97

Client: IEM Seiland Corp — Well Depth: 15.0 Feet
North Lawrence, N.Y. — Well Diameter: 2.0 Inches

EVACUATION:

Development method: Pump & Surge — Date: 7/3/97

Initial Static Water Level: 1.41 Feet B.G.S. — Developer(s): C. Wheeler

Event	Water Level (Ft.) B.G.S.	Time	Cum. amt. rem.	Temp. (°F)	pH (S.U.)	Cond. (MHOS)	Turbidity (NTU)	COMMENTS (color, odor, turbidity, recovery)
one	1.41	8:00	5 gal	53		690	129	No odor very turbid
two	2.23	10:20	10 gal	56			120	Slow Recovery
three	1.91	13:40	20 gal	55		660	101	
four	2.12	15:45	30 gal	56		680	51	
five								
six								

Well Volume Calculations

diameter	volume
1 1/2"	0.092 gal/feet
2"	0.163 gal/feet
3"	0.367 gal/feet
6"	1.47 gal/feet

Volume ≈ 2.2 gal

SAMPLING:

Date: _____ Time: _____ Sampled by: _____

Weather: _____ Field refrigeration: yes no

COMMENTS:

7/21/97 TEW

NORTHERN TECHNICAL SERVICES
8 East Main Street, Malone NY 12953

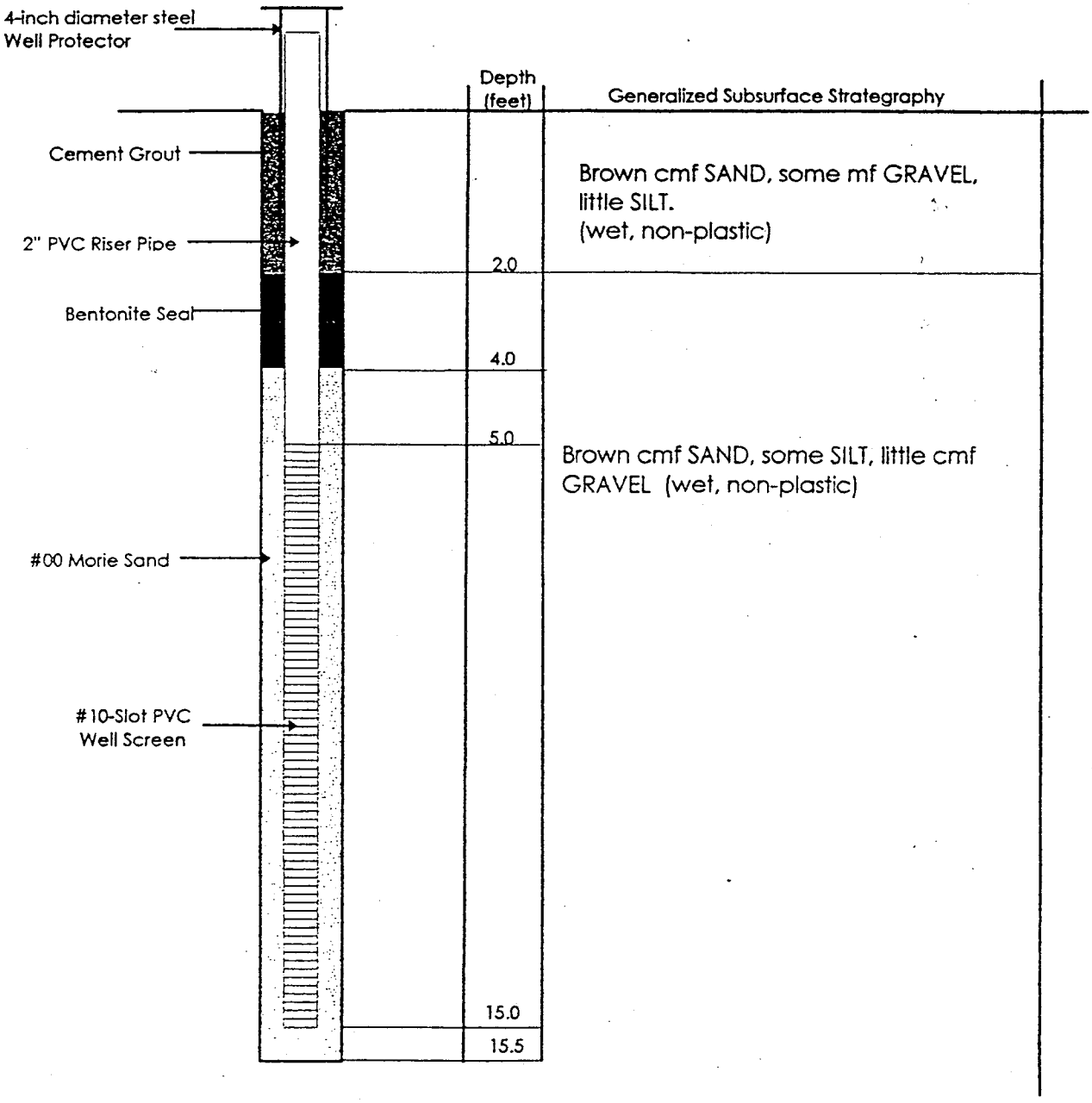
MONITOR WELL INSTALLATION DETAIL

CLIENT: IEM Sealand Corporation
North Lawrence, New York

Well No.: MW-302
NTS Report No.: JN103-3-7-97

PROJECT: North Lawrence Oil Dump Site
North Lawrence, New York

Date: 7/2/97
DRILLERS: C. Wheeler, L. DeBuque



NORTHERN TECHNICAL SERVICES
8 East Main Street, Malone NY 12953

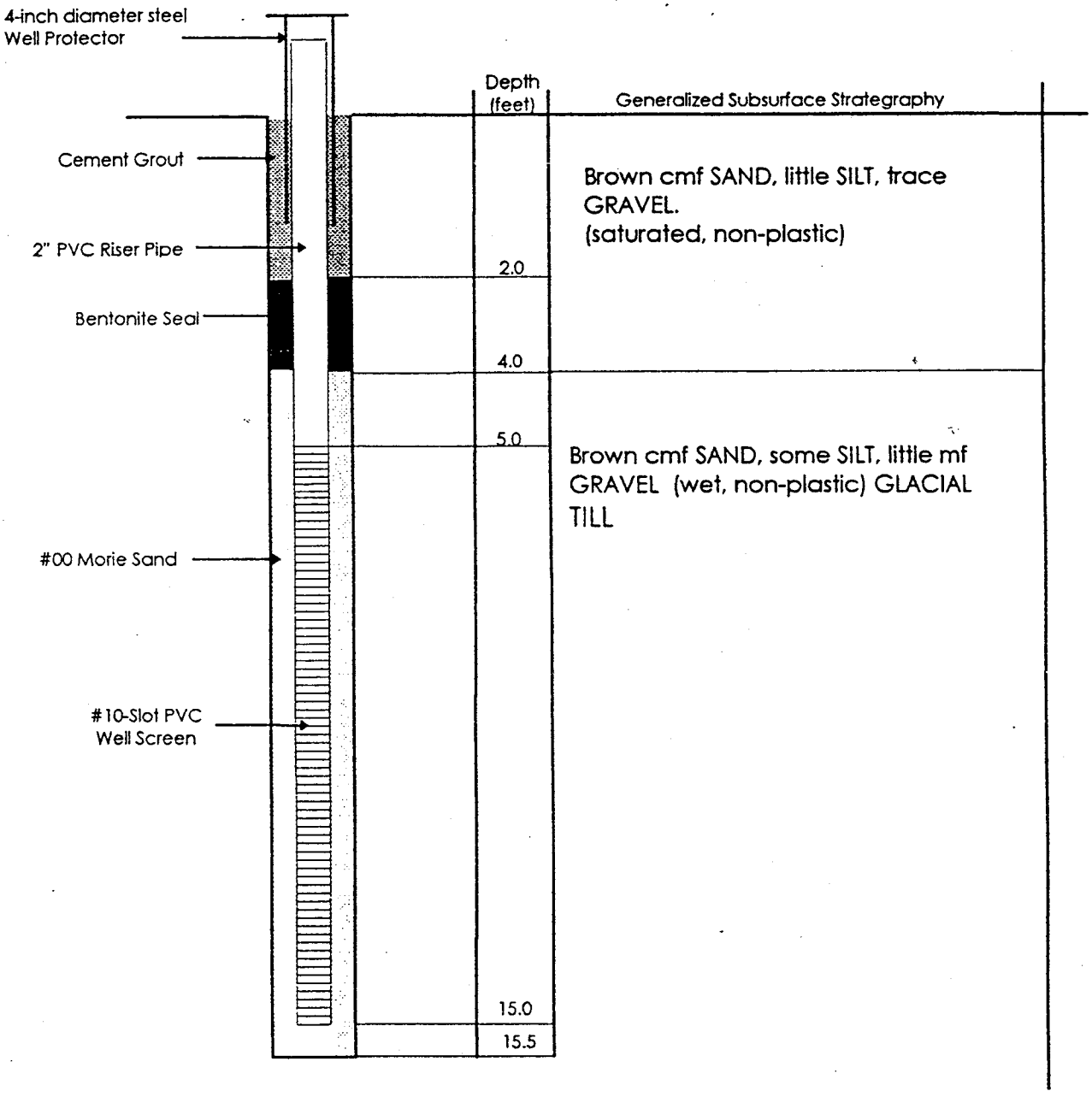
MONITOR WELL INSTALLATION DETAIL

CLIENT: IEM Sealand Corporation
North Lawrence, New York

Well No.: MW-303
NTS Report No.: JN103-1-7-97

PROJECT: North Lawrence Oil Dump Site
North Lawrence, New York

Date: 7/2/97
DRILLERS: C. Wheeler, L. DeBuque



7/21/97 JEQ

BORING NO. 102A

CLIENT NORTH LAWRENCE OIL DUMP SITE — PROJECT NO. 5809-02

CONTRACTOR AMERICAN AUGER AND DITCHING, INC. — DATE STARTED 3-27-89 COMPLTD. 3-28-89

METHOD Wireline	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 40.4'	ROCK DRILLED 0'	BELOW GROUND
LOGGED BY M.J. Woodruff	CHECKED BY Cianchetto	DATE 4-29-89	Page 1 of 2

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
0		S-1	✓				1.5/2.0	0.4' organics, grass, roots, mat, frozen. 0.6' silty-sand, brown, some coarse gravel, dry, frozen. 0.2' Gravel, fine, dry. 0.3' Sand, orange-brown, fine to medium dry.		7 8 9 9		0 Concrete
5		S-2	✓				1.4/2.0	Sand, light brown, fine to coarse, some fine gravel, trace cobbles, dry to moist.		31 22 23 29		5
0		S-3	✓				1.4/2.0	Sand, light brown, fine to coarse, some medium gravel, trace silt, trace cobble, moist.		33 30 47 70		10
15		S-4	✓				1.1/1.1	Till, sand and silt, gray, fine, moist.		35 110 50(1")		15 Grout
20		S-5	✓				1.4/1.9	Till, silty-sand, gray, fine, trace small to medium gravel, saturated.		21 30 43 100(4.5")		20
25		S-6	✓				1.1/1.4	Till, sand, gray, fine to coarse, some small to medium gravel, saturated.		38 75 100(5")		25 seal
30		S-7	✓				0.4/0.9	Till, silty-sand, gray, fine, little fine gravel, few boulders, wet.		96 100(4")		30 silica sand
35		S-8					0/0.2	Boulder - no sample.		50(4")		35
40												40

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

			BORING NO. 102A
CLIENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-27-89	COMPLTD. 3-28-89
METHOD WIRELINE	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 40.4'	ROCK DRILLED 0	BELOW GROUND
LOGGED BY M.J. Woodruff	CHECKED BY Gianchetto	DATE 4-29-89	Page 2 of 2

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
40		S-9	✓		✓		0.3/0.4	Till, silty-sand, fine to medium, some medium gravel, moist.		103 (5")		40.4
								B.O.E. at 40.4 feet				
45												

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

BORING NO. 102B

IENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
ONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-28-89	COMPLTD. 3-29-89
IETHOD Wireline	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 10'	ROCK DRILLED 0'	BELOW GROUND
LOGGED BY M.J. Woodruff	CHECKED BY Gianchetto	DATE 4-29-89	Page 1 of 1

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
		S-1					0/0.4	NO RECOVERY		58 (5")		0 concrete
												3 seal
5												4 5 silica sand
		S-2	✓		✓		0.3/0.9	Silty-sand, brown, little medium gravel, saturated.		65 125 (5")		
10								Boulders				10
								B.O.E. at 10 feet				

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date N/A / /**03**
ltmpoint	character		16	**Well ID (name)** MW-102B
damage	character		1	Is well damaged or destroyed? Y or (N)
nytm_x	numeric		6	NYTM_X write below: 528214 — NYTM_Y write below: 4960994
nytm_y	numeric		7	
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 2.3 7.5m?
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd/ (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well 102B
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Yellow
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter 4
std_lock	character		1	Standard SCS lock present? (Y) es *(N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date 11/6 / /**03**
ltmpoint	character		16	**Well ID (name)** MW-102A
damage	character		1	Is well damaged or destroyed? *Y or N*
nytm_x	numeric		6	NYTM_X write below 528214 / NYTM_Y write below 4960998
nytm_y	numeric		7	
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 2.3 7 Sat.
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well 102A
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter 4"
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments Photos 2, 3, 4 + 5
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person P
insp_by	character		20	Inspector W
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** NORTH LAWRENCE OIL DUMP
s_code	character		7	Site ID 645013
inv_date	date		8	Date 11/6 / /03
ltmpoint	character		16	**Well ID (name)** MW-203
damage	character		1	Is well damaged or destroyed? Y or (N)
nytm_x	numeric		6	NYTM_X write below 528235
nytm_y	numeric		7	NYTM_Y write below 4630970
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 2.7
gps_meth	character		1	GPS Method circle: *(T) rimble (A) nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well MW-203
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Red
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date 11/6/03 / /**03**
ltmpoint	character		16	**Well ID (name)** MW-303
damage	character		1	Is well damaged or destroyed? Y or (N)
nytm_x	numeric		6	NYTM_X write below 983155 / NYTM_Y write below 760770
nytm_y	numeric		7	
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 2.4 6 Sat.
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well MW-303
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: (S) *tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments we named at 303. We couldn't find name
trim_per	character		20	Trimble Instr. person H
mag_per	character		20	Magellan instr. person P
insp_by	character		20	Inspector W
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date / /**03**
ltmpoint	character		16	**Well ID (name)** MW 30 I
damage	character		1	Is well damaged or destroyed? *Y or N*
nytm_x	numeric		6	NYTM_X write below 525108
nytm_y	numeric		7	NYTM_Y write below 4961011
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well MW 30 I
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Black
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter "
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments Plug # 3 I
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date 9/6 / /**03**
ltmpoint	character		16	**Well ID (name)** MW-302
damage	character		1	Is well damaged or destroyed? *Y* or *N*
nytm_x	numeric		6	NYTM_X write below 528136 / NYTM_Y write below 4746107
nytm_y	numeric		7	
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 3.0 6 Sat.
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well MW 302
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Blue = Paint
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: (S) *tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter 2"
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments Flush Mount.
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** NORTH LAWRENCE OIL DUMP
s_code	character		7	Site ID 645013
inv_date	date		8	Date / /03
ltmpoint	character		16	**Well ID (name)**
damage	character		1	Is well damaged or destroyed? Y or N
nytm_x	numeric		6	NYTM_X write below
nytm_y	numeric		7	NYTM_Y write below
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder
gps_meth	character		1	GPS Method circle: *(T) rimble (A)rd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: (S) *tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date / /**03**
ltmpoint	character		16	**Well ID (name)** 203
damage	character		1	Is well damaged or destroyed? *Y or* (N)
nytm_x	numeric		6	NYTM_X write below: 528253 | NYTM_Y write below: 4961021
nytm_y	numeric		7	
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder
gps_meth	character		1	GPS Method circle: *(T) rimble (A) nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well 203
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material: *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter 4
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** NORTH LAWRENCE OIL DUMP
s_code	character		7	Site ID 645013
inv_date	date		8	Date 11 / 6 / 03
ltmpoint	character		16	**Well ID (name)** PZ 5
damage	character		1	Is well damaged or destroyed? Y or N
nytm_x	numeric		6	NYTM_X write below 528253
nytm_y	numeric		7	NYTM_Y write below 4961318
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 3.2
gps_meth	character		1	GPS Method circle: *(T) rimble (A) nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well PZ 5
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Robin egg blue
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter ~2
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person L
mag_per	character		20	Magellan instr. person P
insp_by	character		20	Inspector W
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date 11/6 / /**03**
ltmpoint	character		16	**Well ID (name)** P2 S
damage	character		1	Is well damaged or destroyed? *Y or N*
nytm_x	numeric		6	NYTM_X write below 528253
nytm_y	numeric		7	NYTM_Y write below 4760318
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 3.2
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well P2 S
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Robin egg blue
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: *(S) tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter ~3
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

FIELD	TYPE	DECIMAL	LENGTH	EXPLANATION AND ACCEPTABLE KEYED ENTRIES
name	character		32	**Site name** **NORTH LAWRENCE OIL DUMP**
s_code	character		7	Site ID **645013**
inv_date	date		8	Date 11/6 / /**03**
ltmpoint	character		16	**Well ID (name)** MW - 202
damage	character		1	Is well damaged or destroyed? *Y or* (N)
nytm_x	numeric		6	NYTM_X write below 528293
nytm_y	numeric		7	NYTM_Y write below 4651012
pdop	numeric	1	4	PDOP Reading from Trimble Pathfinder 3.3 6 Sat
gps_meth	character		1	GPS Method circle: *(T) rimble (A)nd / (O)r (M) agellan*
visible	character		1	Well visible? Circle one: *(V) ery (F) airly (S) lightly (N) ot*
name_v	character		1	Well ID (name) visible? *(V) ery (F) airly (S) lightly (N) ot*
name_a	character		20	Well ID as it appears on well MW-202
conc_seal	character		1	Concrete surface seal present? *(Y) es or (N) o*
seal_cond	character		1	Surface seal condition *(G) ood (F) air (C) racked (R) aised (S) unken (P) oor (A) bsent*
pro_cond	character		1	General pro. casing condition *(E) xcellant (G) ood (F) air (P) oor (A) bsent*
paint_col	character		20	Paint color Rusty + yellow
paint_con	character		1	Paint condition (E) xcellant (G) ood (F) air (P) oor (A) bsent
welltype	character		1	Type of protective casing, circle one: (S) *tick-up (F) lush-mount*
pro_ht	character		3	Height of stickup in feet: <1, 1-2, 2-3, 3+
pro_mtl	character		5	Pro casing material: *(I) ron (S) teel (O) ther*
pro_shp	character		9	Pro casing shape: *(R) ound (S) quare (O) ctagonal*
cov_type	character		32	Cover type & material: *Steel slip, Steel flap, Alum. slip, Curb box non-locking, Hex. bolted*
pro_dia	numeric	1	4	Pro casing outside diameter 4
std_lock	character		1	Standard SCS lock present? *(Y) es (N) o (R) eplaced by us today*
dia	numeric	1	4	Well diameter if known *1.5", 2", 4", 6", 8", Larger or Sump*
haz	character		1	Biological hazards: *(W) asps (B) ees (P) oison Ivy (N) one*
prob	memo		4	Notable problems or comments
trim_per	character		20	Trimble Instr. person
mag_per	character		20	Magellan instr. person
insp_by	character		20	Inspector
sam_type	numeric		1	(1) MW for chemical analysis, (2) MW, GW elevation only, (3) SW/SED, chemical analysis, (4) SED chem analysis, (5) Other, (6) Not presently in use.

inventory_inspection_form.wb3

BORING NO. PZ-2

CLIENT NORTH LAWRENCE OIL DUMP SITE	PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.	DATE STARTED 3-13-89 COMPLTD. 3-13-89
METHOD Wireline / CASING SIZE 4" / HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL / SOIL DRILLED 15' / ROCK DRILLED 0'	BELOW GROUND
LOGGED BY L. Healey / CHECKED BY Gianchette / DATE 5-1-89	Page 1 of 1

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER Grain Size	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL (FT)
0	0	S-1	✓				2.0/2.0	0.8' organic loam, dark brown, roots, woodstump, frozen. 1.2' Silty-sand, orange-brown, fine, some fine to coarse gravel, moist.	Pt SM	12 30 21 10 Very Dense	concrete 3 seal 4	0
5	0.1	S-2	✓			X	1.2/1.8	Sand, yellow-brown, fine to medium, some fine gravel, trace silt, wet.	SM	31 44 44 100(4") Very Dense	silica sand	5
10	0	S-3	✓		✓	X	2.0/2.0	Sand, yellow-brown, fine, some silt, little to trace fine to medium gravel, saturated.	SM	8 7 7 11 Medium Dense		10
15								Boulder B.O.E. at 15 feet				15
20												20
25												25
30												30
35												35
40												40

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

			BORING NO. PZ-3
CLIENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-11-89	COMPLTD. 3-12-89
METHOD Wireline	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 31.4'	ROCK DRILLED 0'	BELOW GROUND
LOGGED BY L. Healey	CHECKED BY Gianchetto	DATE 5-2-89	Page 1 of 1

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
0	0	S-1	✓				1.8/20	0.7' Topsoil, roots, frozen. 1.1' Sand, yellow-brown, fine to coarse and fine to coarse gravel, trace silt, moist.	Pt SM	15 22 19 18 Dense		0 concrete
5	Tip Broke	S-2	✓		✓		10/1.1	Gravel, medium, some silt, little yellow-brown fine sand, dry to moist.	GM	23 24 100(2") Very Dense		5 6 Grout
10	Tip Broke	S-3	✓				0.4/0.6	Sand, light brown, some silt, some fine to medium gravel, saturated.	SM	70 100(2") Very Dense		10
15	Tip Broke	S-4					0/0.4	Boulder - no recovery		80(4")		14.5 15
	Tip Broke	S-5	✓				0.4/0.5	Till, sand, brown to gray-brown, fine to coarse, some fine to coarse gravel trace silt.	SM	50(2") 100(3) Very Dense		17
20	Tip Broke	S-6	✓				0.4/1.1	Till, silty-sand, gray, some fine gravel, moist.	SM	82 90 50(2") Very Dense		20
25	Tip Broke	S-7	✓				0.1/0.5	Washed angular coarse gravel, sand.		90(6") Very Dense		25
30	Tip Broke	S-8	✓	✓		X	1.0/1.4	Till, silty-sand, gray, fine, little fine to medium gravel, moist.	SM	34 52 100(4") Very Dense		30
								B.O.E. at 31.4'				
35												35

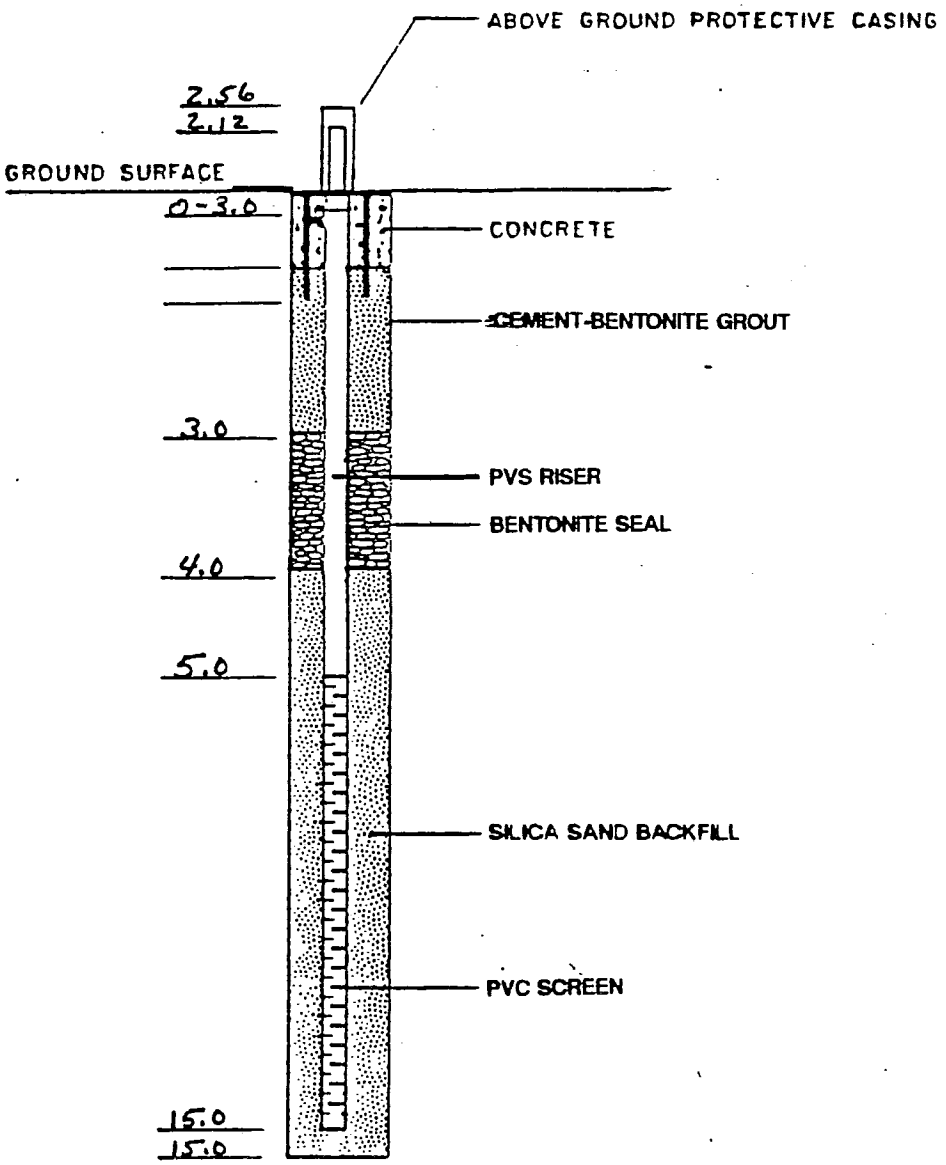
* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

PIEZOMETER AND MONITORING WELL INSTALLATION DIAGRAM

PROJECT NO.	PROJECT NAME	WELL NO.
5809-02	NLODS	PZ-2
INSTALLED BY	**DATE INSTALLED**	**BORING DIAMETER**
AA&D	8-13-89	3 7/8 INCH
WELL DIAMETER	**WELL MATERIAL**	**BACKFILL MATERIAL**
3/4 INCH	PVC	SILICA SAN

ELEV., FT. DEPTH, FT.



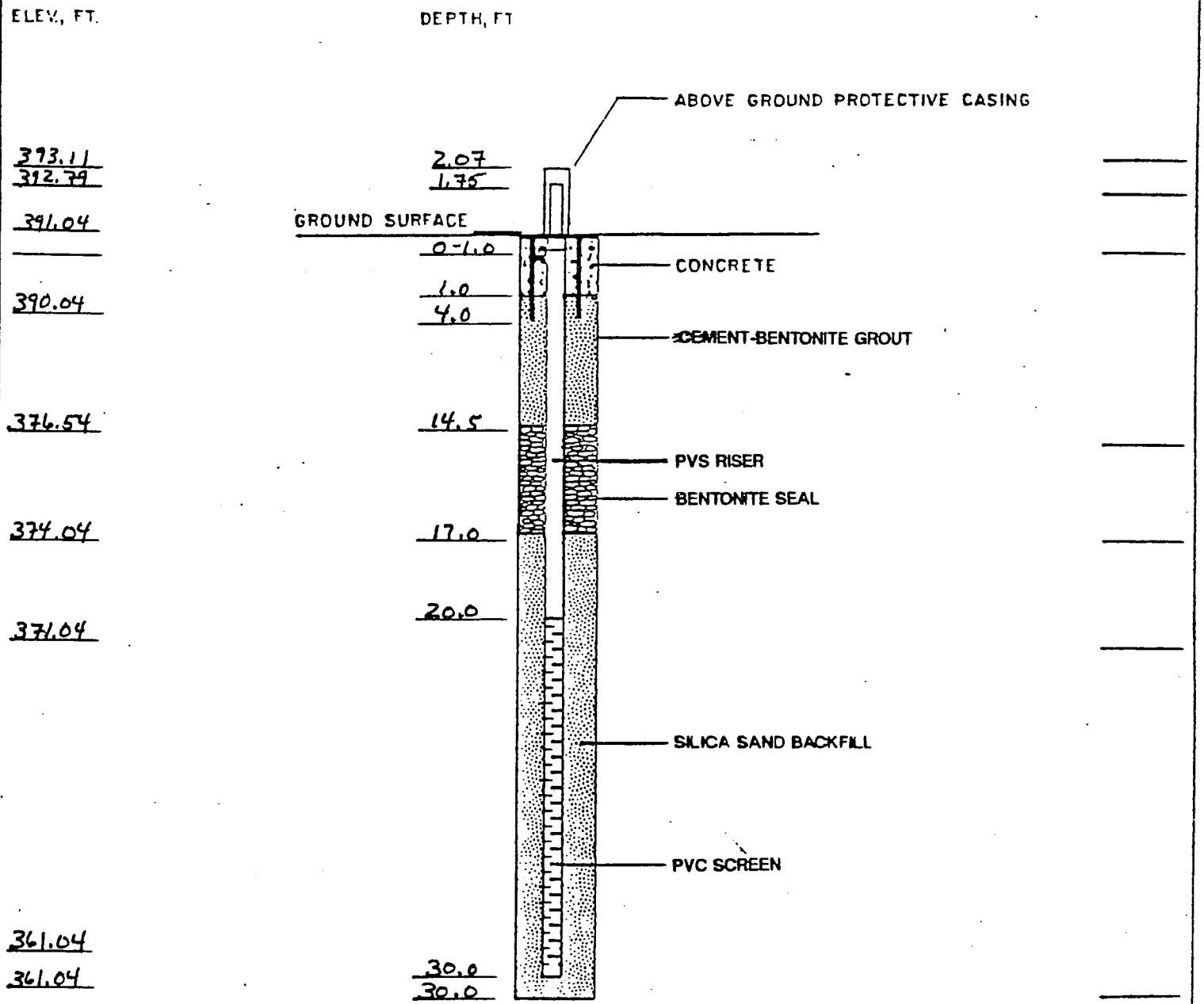
PIEZOMETER DETAIL

EC JORDAN CO

4087-00

PIEZOMETER AND MONITORING WELL INSTALLATION DIAGRAM

PROJECT NO.	PROJECT NAME	WELL NO.
5809-02	NLODS	PZ-3
INSTALLED BY	**DATE INSTALLED**	**BORING DIAMETER**
AA&D	3-12-89	3 7/8 INCH
WELL DIAMETER	**WELL MATERIAL**	**BACKFILL MATERIAL**
3/4 INCH	PVC	SILICA SAND



PIEZOMETER DETAIL

EC JORDAN CO

4DB7-00

BORING NO. 101A

CLIENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-29-89	COMPLTD. 3-30-89
METHOD WIRELINE	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 40.8'	ROCK DRILLED 0	BELOW GROUND
LOGGED BY M.J. Woodruff	CHECKED BY Cianchette	DATE 4-29-89	Page 1 of 2

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL (FT)
											Concrete	0
5								Because this well is located close to the existing PZ-2, reference samples were not needed until a depth of 15 feet was reached. However, at 15 feet boulders were encountered which made sampling impossible until a depth of 23 feet was reached.			Grout	5
10												10
15												15
20												20
25		S-1					0/0.2	BOULDERS - NO RECOVERY		17 (3.5")		25
		S-2	✓				0.2/0.2	Till, sand, gray, fine to medium, some medium gravel, trace silt, moist.		90 (4")		25.5
30											Seal	30
		S-3	✓				0.3/0.4	Till, sand, gray, fine to medium, some medium gravel, trace silt, saturated.		100 (5")	Silica Sand	
35												35
		S-4	✓				0.3/0.3	Till, sand, gray, fine to coarse, little medium gravel, trace silt, saturated.		60 (4")		
40												40

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

BORING NO. 101 A

CLIENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-29-89	COMPLTD. 3-30-89
METHOD Wireline	CASING SIZE 4"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 40.8'	ROCK DRILLED 0	BELOW GROUND
LOGGED BY M.J. Woodruff	CHECKED BY Gianchette	DATE 4-29-89	Page 2 of 2

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
40		S-5	✓				0.8/0.9	Till, sand, gray, fine to medium, some medium gravel, saturated.		43 50 (4")	40 silica sand	40
								B.O.E. at 40.8'				
45												45

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

BORING NO. 101 B

CLIENT NORTH LAWRENCE OIL DUMP SITE			PROJECT NO. 5809-02
CONTRACTOR AMERICAN AUGER AND DITCHING, INC.		DATE STARTED 3-30-89	COMPLTD. 3-30-89
METHOD HSA	CASING SIZE 4.25"	HNU 11.7/10.2	PROTECTION LEVEL MOD. D
GROUND EL	SOIL DRILLED 10'	ROCK DRILLED 0	BELOW GROUND
LOGGED BY Gianchette/Arnold	CHECKED BY	DATE	Page 1 of 1

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	OTHER	FEET RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL (FT)
0											Concrete	0
											3 seal 4	
5	0	S-1	✓		✓		1.5/1.9	Sand, brown, fine and medium to large gravel, saturated.		16 24 39 50(5")	silica sand	5
10								B.O.E. at 10 feet				10

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

APPENDIX E - Groundwater Sample Log

HRP Engineering, P.C. 1 Fairchild Square, Suite 110 Clifton Park, NY 12065 (518) 877-7101	GROUNDWATER WELL SAMPLING FORM	

Project:	WAS #:	Field Personnel:
Location:	Well ID.:	Weather:
Sounding Method:	Gauge Date:	Measurement Ref:
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):

Purge Date:	Purge Time:
Purge Method:	Field Technician:

1) Well Depth (ft):	4) Well Diameter (in):	7) Five Well Volumes (gal):
2) Depth to Water (ft):	5) Well Volume / Foot (gal) (d^2x.0408):	Depth/Height of Top of PVC:
3) Height of H_2O Column (1-2) (ft):	6) Total Well Volume (gal) (3x5):	Pump Type:

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (mL/m)	pH (pH units)	ORP (mV)	remperatur (oC)	Gonductivit: (uS/cm)	DO (ug/L)	Turbidity (ntu)

Total Quantity of Water Removed (gal):		Sampling Time:	
Samplers:		Split Sample With:	
Sampling Date:		Sample Type:	

COMMENTS AND OBSERVATIONS:	

Post-Closure Site Inspection Checklist
North Lawrence Oil Dump Site

Date: _____
Weather: _____
Personnel (Organization): _____
Instructions: Complete the checklist of visual evaluation items and then complete specific data items. Field measurements should be made with a cloth tape and noted on a site plan. Estimated measurements should be so noted. Attach hand sketches or photographs to the site plan to further define conditions or problems.

I. VISUAL EVALAUTION ITEMS

	CONDITION: (Check)				
		Not	Action Required?		
	Acceptable	Acceptable	Yes	No	REMARKS
1) Vegetative Cover					
a) Disposal Cell	_____	_____	_____	_____	
b) Lagoon	_____	_____	_____	_____	
c) Wetland	_____	_____	_____	_____	
2) Site Drainage					
a) Sediment Build-Up	_____	_____	_____	_____	
b) Pooling or Ponding	_____	_____	_____	_____	
c) Slope Integrity	_____	_____	_____	_____	
d) Erosion Protection (Riprap, grout, vegetation)	_____	_____	_____	_____	
e) Obstruction of Culverts	_____	_____	_____	_____	
3) Condition of Access					
a) Road Condition	_____	_____	_____	_____	
b) Gates/Locks/Signs	_____	_____	_____	_____	
4) Integrity of Ground Water Monitoring Wells	_____	_____	_____	_____	
5) Integrity of Cap					
a) Erosion Damage	_____	_____	_____	_____	
b) Leachate Break-through	_____	_____	_____	_____	
c) Settlement	_____	_____	_____	_____	
6) Gas Venting System					
a) Vents free of obstructions	_____	_____	_____	_____	
b) Gas readings (measure)	_____	_____	_____	_____	
7) Other (e.g., Litter, Unauthorized Dumping, etc.)	_____	_____	_____	_____	

II. SPECIFIC DATA ITEMS (Write N.A. if not applicable)

A. Erosion and Settlement:

1) Approximate size in feet of eroded cap area(s). (List Separately)

a. _____ feet by _____ feet
b. _____ feet by _____ feet
c. _____ feet by _____ feet

2) How deep is the most extreme point of erosion when measured from the adjacent surface. (List Separately)

a. _____ feet
b. _____ feet
c. _____ feet

Figure 3-1

Post-Closure Site Inspection Checklist
North Lawrence Oil Dump Site
(continued)

3) Approximate size in feet of eroded areas outside the soil cap area such as drainage ditches, roads or slopes._____
4) Attach a hand sketch or photograph to be attached to this report, showing location(s) of the eroded area(s). Identify each area by using the letter a, b, c, etc. from Question 1.
5) Approximate size in feet of leachate breakout(s). (List Separately)
a. _____ feet by _____ feet
b. _____ feet by _____ feet
c. _____ feet by _____ feet
6) Approximate size in feet of any settlement area within the soil cap area. (List Separately)
a. _____ feet by _____ feet
b. _____ feet by _____ feet
c. _____ feet by _____ feet
7) Approximate depth of each settlement area when measured from the adjacent surface. (List Separately)
a. _____ feet
b. _____ feet
c. _____ feet
8) Attach a hand sketch or photograph to the attached site plan showing the location of the settlement area(s). Identify each area by using letter a, b, or c, etc. from Question 6.

_____

_____
Signature of Inspector(s)

Attachments

_____ Yes _____ No

APPENDIX F - Quality Assurance Project Plan (QAPP)

SITE SPECIFIC QUALITY ASSURANCE PROJECT PLAN
FOR
NORTH LAWRENCE OIL DUMP REMEDIAL INVESTIGATION/ FEASIBILITY STUDY

McAuslen Rd. and Cemetery Rd.
North Lawrence, St. Lawrence County, New York
(DEC WA #D006130-21)

July 2011

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

Prepared by:
HRP Engineering P.C.
1 Fairchild Square Suite 110
Clifton Park, NY 12065

SITE SPECIFIC QUALITY ASSURANCE PROJECT PLAN

for

North Lawrence Oil Dump, McAuslen Rd and Cemetery Rd, North Lawrence, NY

D006130-21

CERTIFICATION

This site specific Quality Assurance Project Plan (QAPP) has been prepared under the supervision of, and has been reviewed by, HRP's Quality Assurance Officer.

I, Zoé A. Belcher, certify that I am currently a Qualified Environmental Professional as defined at 6 Part NYCRR Part 375 and that this report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER -10).

Zoé A. Belcher, L.G., LEP
HRP Quality Assurance Officer / Project Manager

HRP ENGINEERING, P.C.

SITE SPECIFIC QUALITY ASSURANCE PROJECT PLAN FOR:

PROJECT:	**Site Management**
ADDRESS:	**North Lawrence Oil Dump**
	McAuslen Road and Cemetery Road
	North Lawrence, New York
DEC SITE ID:	**# 645013**
	NYSDEC Standby Contract, D006130-21
HRP JOB#:	**NEW9620.OM**

PURPOSE

This site specific Quality Assurance Project Plan (QAPP) has been prepared as a companion document to accompany the generic QAPP for the standby subcontract issued to HRP Engineering, P.C. (HRP) by the New York State Department of Environmental Conservation (NYSDEC) under Standby Contract No. D006130. The principal purpose of this document is to specify quality assurance/quality control (QA/QC) procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible. Details regarding the site specific scope of work are documented in the FAP.

QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

The generic QAPP provides general information and references standard operating procedures (SOPs) applicable to the analytical sampling program detailed in the site-specific work assignment contained in the addendum to the generic Health and Safety Plan for the above referenced site. This information includes definitions and generic goals for data quality and required types and quantities of QA/QC samples. The procedures address field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting specific to the analyses performed by the laboratories under subcontract to HRP.

PROJECT ORGANIZATION AND RESPONSIBILITIES

The work assignment will be managed through an organized effort of scientific and engineering personnel and technical resources. These efforts will employ pre-approved field procedures, sampling techniques, and analytical methods to accomplish the project objectives. Effective program organization will accommodate these requirements while maintaining a manageable degree of control over these activities.

OVERALL PROJECT ORGANIZATION

The project-specific organizational and management plan is detailed in the site-specific Health and Safety Plan.

TABLE 1 in this QAPP lists the sample containers, preservation, and holding time requirements for the parameters specific to this site. These tables will be referenced by field personnel.

TABLE 1
SAMPLE CONTAINERS, PRESERVATION, AND HOLDING TIME REQUIREMENTS
North Lawrence Oil Dump Site, McAuslen Road and Cemetery Road, North Lawrence, New York (D006130-21)

					Containers per Sample			Preservation Requirements			
Parameter	Matrix	Number of Samples (including Field QC)	Preparation Method	Analytical Method*	No.	Size	Type	Temp.	Light Sensitive	Chemical	Maximum Holding Time
GROUNDWATER											
VOCs by GC/MS	Aqueous	Refer to site specific FAP	5035	SW-846 Method 624A	2	40 ml	Glass vial	2-6º C	No	HCL to pH<2	14 days
VOCs by GC/MS	Aqueous	Refer to site specific FAP	5035	SW-846 Method 8260B	2	40 ml	Glass vial	2-6º C	No	HCL to pH<2	14 days
SVOCs by GC/MS	Aqueous	Refer to site specific FAP	3510C	SW-846 Method 8270C	2	1 liter	amber bottle	4º C	Yes	NA	7 days
Lead	Aqueous	Refer to site specific FAP	3050B	SW-846 Method 6010B	1	1-liter	plastic bottle	4º C	No	Nitric Acid	180 days
Mercury	Aqueous	Refer to site specific FAP	SM-846 Method 7471A	SW-846 Method 7471A	1	500 ml	plastic bottle	4º C	No	Nitric Acid	28 days

Acronym List:
FAP: Field Action Plan
CV: Cold Vapor
NA: Not Applicable
HCL: Hydrochloric Acid
GC: Gas Chromatography
MS: Mass Spectroscopy
VOCs: Volatile Organic Compounds
ml: milliliters
oz: ounces
C: Celcius
NA: Not Applicable
SVOCs: Semi Volatile Organic Compounds

New York State Department
of Environmental Conservation

NORTH LAWRENCE OIL DUMP SITE
ST. LAWRENCE CO. NYSDEC SITE NO. 6-45-013

CONTRACT NO. D003472

SAMPLING AND ANALYSIS PLAN

prepared by

IEM SEALAND Corporation

7921 Jones Branch Drive
Third Floor
McLean, Virginia 22102
(703) 448-6665

August 14, 1996

SAMPLING AND ANALYSIS PLAN

NORTH LAWRENCE DUMP SITE
ST. LAWRENCE CO. NYS DEC SITE NO. 6-45-013
CONTRACT NO. D003472

TABLE OF CONTENTS

SECTION 1.0

INTRODUCTION

1.1 GENERAL

This Sampling and Analysis Plan is intended for use by all personnel associated with New York State Department of Environmental Conservation (NYSDEC), North Lawrence Oil Dump site, located in the Town of Lawrence, New York, under the referenced contract. The plan was prepared in accordance with Section 01410 of the contract specification and for the exclusive use of IEM SEALAND Corporation for use on the project. The use of this plan by others and for purposes other than for which it is intended is strictly prohibited.

1.1.1 Reference Standards

A. Test Methods for Evaluating Solid Waste (EPA SW-846)

B. Soil Sampling Quality Assurance User Guide, Second Edition (EPA/600/8-89/046).

C. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA- (EPA/548/G-89/004).

D. Analytical Services Protocol (ASP), NYSDEC, December, 1991.

1.1.2 Key Personnel Responsible for Administration of the SAP

Ms. Linda Quackenbush is the Quality Assurance Officer (QAO) for this project. Her sole responsibilities for this project include development of the sampling and analytical portions of the Contractor Quality Control Plan and this SAP. The QAO or her designee will conduct periodic field and sampling audits, interface with the analytical laboratory to make requests and resolve problems, interface with the data validator and develop a project specific data usability report.

Ms. Quackenbush is proficient in analytical methodology, data interpretation and validation, the development of sampling plans, quality control procedures and auditing techniques. A copy of her resume and OSHA safety training certifications, including CPR and First Aid are located in **Appendix A.**

1.2 SITE LOCATION AND BACKGROUND INFORMATION

The work to be carried out under these specifications is located in St. Lawrence County, in the Town of Lawrence, New York.

The Site Number of this project is No. 6-45-013. Access to the site is via McAuslen Road in the Town of Lawrence, New York.

1.3 CURRENT CONDITIONS AND SCOPE OF WORK

The scope of Work for the project, as described in the specification, is as follows:

1. Excavation and treatment of sludge, soil and wetland sediments by solidification/stabilization.

2. Construction of an on-site disposal cell and placement of solidified/stabilized materials within the disposal cell.

3. Construction of a cap on the disposal cell.

4. Restoration of affected wetlands and filling and grading of the excavated lagoon.

1.4 PURPOSE

The purpose of the Sampling and Analysis Plan is to outline special procedures for sampling and analytical activities including:

- Characterization of the site prior to any construction activities;
- Characterization of the site after the completion of construction activities and site cleanup;
- Characterization of wetland sediment and lagoon soil following excavation to document residual concentrations and to determine if additional excavation is warranted;
- Characterization of each batch of stabilized material;
- Sampling documentation in compliance with technical specification Section 01410.

SECTION 2.0

SAMPLING PROCEDURES AND REQUIREMENTS

2.1 PRE-CONSTRUCTION SAMPLING

Prior to the commencement of site activities (grubbing and clearing), ten (10) soil samples will be collected from areas of expected operations. The locations of these samples will be approved by the NYSDEC Project Engineer. The targeted contaminants to be analyzed for in these samples will consist of total mercury ((EPA Method 7471), lead (EPA Method 200.7 CLP-M), and PCBs (EPA Method 8080). Sampling procedures will comply with USEPA and NYSDEC standards referenced in this document.

2.2 POST-CONSTRUCTION SAMPLING

Upon completion of all construction activities and site cleanup, ten (10) surface soil samples will be collected from the operations areas at the site. The locations of these samples will be approved by the NYSDEC Project Engineer. The targeted contaminants to be analyzed for in these samples will consist of total mercury (EPA Method 7471), lead (EPA Method 200.7 CLP-M), and PCBs (EPA Method 8080). Sampling procedures will comply with USEPA and NYSDEC standards referenced in this document.

2.3 WETLAND SEDIMENT/LAGOON SOIL SAMPLING

Upon completion of the initial excavation to a depth of one foot and to the limits established on the contract drawings, twelve (12) samples will be collected from the bottom of the excavation at locations determined by the NYSDEC Project Engineer. These samples will be collected utilizing one of several options:

Option 1: Excavator is utilized to create small sampling pit from which sample is then collected utilizing disposable sampling apparatus. If conditions are such that personnel are not able to enter the floor area, the excavator bucket will scoop material from the targeted area and the sample will be collected from the center of the bucket.

Option 2: Stainless steel hand augers or other sampling device is utilized to collect the samples. Sampling device is decontaminated prior to reuse.

Sediment samples will also be collected along the sidewalls of the wetland excavation and from the inner berm face of the surface water containment berm. These samples will be collected at a maximum horizontal interval of 100 feet and at locations determined by the NYSDEC Project

Director. Based upon the depth of the excavation and suitability of the wall material, the samples will be collected with disposable sampling apparatus. Where this is not feasible, the excavator bucket will be utilized to remove a portion of the wall. The sample will then be collected from the center of the material in the excavator bucket.

Following receipt and review of the above analytical results, the NYSDEC Project Engineer will determine whether additional excavation in the lagoon in warranted. For excavations greater than 4 feet in depth, one (1) sample will be collected for every 40 cubic yards of sediment. Sample locations will be determined by the NYSDEC Project Engineer. Sampling procedures will comply with USEPA and NYSDEC standards referenced in this document. The collection of samples by site personnel will be performed by the method most appropriate for the material and which does not violate the HASP.

2.4 STABILIZED MATERIAL SAMPLING

Excavated sediment that has been stabilized will be sampled prior to final on-site disposal. A minimum of three (3) samples will be collected from each batch of stabilized material. These samples will be composited to produce one sample for TCLP analysis. The samples will be cured for four (4) days prior to producing a TCLP (EPA Method 1311). Sampling procedures will comply with USEPA and NYSDEC standards referenced in this document. A single "batch" of material will consist of approximately 300 yards of stabilized material. Stabilization of the material will be accomplished by mixing excavated material with the stabilizing agent on a 5:1 ratio.

2.5 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

The quality of analytical data generated in the laboratory will be monitored by the analysis of method blanks, laboratory control sample method blank spikes, EPA performance samples and laboratory control standards. For this project, laboratory duplicate samples, fortified samples (matrix spikes) and fortified duplicate samples will be analyzed. These analyses generate matrix-dependent data and will be used to assess analytical precision and accuracy. Trip blanks will be analyzed only for volatile water samples.

Field quality control samples (field duplicates) will be collected on a ratio of 1:20 (one per twenty field samples collected.) These field duplicates will be indicated in the field notebook and will be a blind to the laboratory. Should nondedicated/nondisposable sampling apparatus be utilized which must be decontaminated, field blanks will be collected on a daily basis. Field blanks will be collected to ensure that the sampling apparatus has been adequately cleaned and that there is no cross-contamination between samples.

SECTION 3.0

SAMPLE DOCUMENTATION

3.1 SAMPLE HANDLING AND CHAIN OF CUSTODY

A field sampling log (field notebook) will be maintained during the course of the project. This log will document the sample number, collection date, sample location, and analytical parameters. Chain-of-custody forms will be generated for each shipment of samples submitted to the contract lab for analysis. In addition, copies of the shipping forms shall also be kept on file. These forms will correlate with the shipment/arrival of samples to the contract lab. Laboratory receipt and/or laboratory chain-of-custody forms will also be kept on file.

These documents will provide a record of each samples' date of collection, date of shipment, and the individual(s) responsible for sample collection, shipment and receipt.

The collected samples will be staged for batching and paperwork checks. Labels, tags and log information will be checked to ensure proper identification. Samples analyzed off-site will be packaged to prevent breakage or leakage, and labeled according to Department of Transportation (DOT) regulations for transport. Copies of all chain-of-custody forms will be maintained for the project record.

3.2 FIELD COLLECTION AND SHIPMENT

Prior to sample collection, labels will be affixed to sample containers with transparent tape, if necessary. Indelible, waterproof ink will be used for all logbook and sample label entries. Sample logbook entries will include information on the sample label and additional information as appropriate.

Samples will be placed in containers compatible with the intended analysis and properly preserved. USEPA and NYSDEC requirements for various analytical parameters with respect to the type of container, preservation method and maximum holding time between collection and analysis will be followed. **Table 3-1** outlines sample container preservative and holding time requirements.

The following will be the containers utilized in the sampling of the site materials:

Soils: VOCs - two 60-ml clear wide mouth full glass jar with Teflon/Teflon coated lid.

Metals and PCBs - one 8 ounce clear glass wide mouth jar with Teflon/Teflon coated lid.

TABLE 3-1

Sample Container Requirements

Parameter	Container	Preservative	Holding Time
Soil Testing (Conformance)			
Metals Lead (Pb)	One 8 oz (100 g) clear glass, wide-mouth bottle, 3/4 full with Teflon cap liner.	Cool to 4°C	Analyze within 180 days VTSR.
Metals Mercury (Hg)	One 8 oz. (100 g) glass, wide mouth bottle, 3/4 full with Teflon cap liner.	Cool to 4°C	Analyze within 26 days VTSR.
Volatile Organics	Two 60 ml wide mouth glass bottles, full with Teflon-liner lid.	Cool to 4°C	Analyze within 10 days VTSR
PCBs	One 8 oz (100 g) clear glass, wide-mouth bottle, 3/4 full with Teflon cap liner.	Cool to 4°C	Extract within 10 days VTSR and analyze within 40 days of extraction.
Air Testing			
Metals Mercury (Hg) Lead (Pb)	Glass fiber filter.	Not Applicable	Analyze within 180 days VTSR, except mercury within 26 days VTSR.
PCBs	Polyurethane foam ("Puff cartridge")	Cool to 4°C	Analyze within 7 days from collection.

VTSR = Verified Time of Sample Receipt

Water: VOCs - three (3) 40 ml vials with Teflon septum lids, preserved with HCL to pH of less than 2.0.

Metals - two (2) 50 ml plastic containers with plastic lids, preserved with H_2SO_4 to pH of less than 2.0.

PCBs - two (2) one (1) liter amber glass jars, no preservative.

Each sample container will be individually labeled. The container label will contain the following information:

- Project number and site name;
- Unique sample number;
- Sample description;
- Sample date and time;
- Initials of sampling technician; and
- Description/method of sample preservation

3.3 RECORDKEEPING

Data related to all sample preparation and analysis and observations by sampling technicians will be recorded in bound field notebooks. Field notebook pages will be signed and dated daily. Information to be included in the field notebook will consist of the time, date and location of sample collection, sample description/type (i.e., sediment/excavation, soil/pre-construction), sample depth, drum number when applicable, type of sample preservation, sample container identification number, analysis requested and the name of the laboratory to which the samples were sent. Upon completion of the project, all field notebooks will be transmitted to the NYSDEC Project Engineer as part of the project record.

SECTION 4.0

ANALYTICAL REQUIREMENTS

4.1 ANALYTICAL PROCEDURES

All analytical procedures used by the laboratory for this sampling program will comply with the NYSDEC Analytical Services Protocol (December, 1991). Samples will be analyzed and results procured from the laboratory within seven (7) working days as outlined in Section 01410 of the Technical Specifications to prevent project delays. The analytical procedures will achieve the detection limits listed in the same section.

4.2 ANALYTICAL METHODS

Analytical methods for this project are presented in **Table 4-1**. A summary of sampling and analysis procedures, including remedial goals for clean up, is shown in **Table 4-2**.

4.3 LABORATORY SERVICES

IEM SEALAND Corporation has retained the services of IEA, Inc. The laboratory is New York State certified and is able to meet the method detection limits as specified in Section 01410 of the Technical Specifications. The laboratory will provide sample analytical reports with NYSDEC ASP Category B level QA/QC documentation. IEA, Inc. is NYSDOH ELAP CLP certified. A copy of their certification is located in **Appendix B**.

TABLE 4-1

Reference Analytical Methods for Soil and Air Analysis

REFERENCED METHOD	METHOD DESCRIPTION
Inorganics	
EPA Method 200.7 CLP-M	Lead (Pb) for Soil
EPA Method 6010	Lead (Pb) by TCLP for Soil
EPA Method 7471	Mercury (Hg) for Soil
EPA Method 7471	Mercury (Hg) by TCLP for Soil
EPA Method 40 CFR Part 50.6	Mercury (Hg)/Lead (Pb) Utilizing a High Volume Sampler for Air
Volatile Organic Compounds	
NYSDEC 91-1	Organic Analysis for Soil
Polychlorinated Biphenyls (PCBs)	
EPA Method 8080	For Soil
EPA Method 8080	By TCLP for Soil
EPA Method TO-4	Determination of Organic Chlorine Pesticides and PCBs in Ambient Air from "EPA Compendium of Methods for Determination of Toxic Organic Compounds in Ambient Air."

TABLE 4-2

Summary of Sampling and Analysis Procedures

Media	Parameter	EPA Method	Remedial Goals
Soil	Organics		
	VOCs	91-1 (NYSDEC)	Total TCE 0.7 mg/kg Total PCE 1.4 mg/kg Total Xylenes 1.2 mg/kg Total Toluene 1.5 mg/kg
	Metals		
	Lead (Pb)	200.7 CLP-M	500 mg/kg
	Mercury (Hg)	7471	0.11 mg/kg
	TCLP Lead (Pb)	6010	0.37 mg/L
	TCLP Mercury (Hg)	7471	0.20 mg/L
	Polychlorinated Biphenyls		
	PCBs	8080	Wetland - 0.11 mg/kg Lagoon - 1.0 mg/kg for Surface Soil Lagoon - 10 mg/kg at Bottom of Excavation
	TCLP PCBs	8080	No Remedial Goal, Detection Limit - Maximum of 1 mg/L
Air	Polychlorinated Biphenyls		
	PCBs	TO-4	
	Metals		
	Mercury (Hg)/Lead (Pb)	40 CFR Part 50.6	

SECTION 5.0

SAMPLING EQUIPMENT/DECONTAMINATION

5.1 SAMPLING EQUIPMENT

Sampling equipment which meets the requirements of the specified sampling techniques and achieves reliable and representative samples will be used. Consideration will be given to the compatibility of the material sampled with the composition of the sampler.

All sampling equipment used in collecting environmental samples will be either polytetrafluoroethylene (PTFE) or stainless steel. Sample equipment for the project will include:

- Stainless steel trowel and/or hand auger;
- Stainless steel mixing bowl;
- Sample jars and labels;
- Clean bucket to carry samples and equipment;
- Field log book;
- Field screening equipment;
- Latex/surgical gloves; and
- Decontamination equipment.

All sample containers will be obtained unused and precleaned from the laboratory with appropriate documentation regarding their precleaned state.

5.2 EQUIPMENT DECONTAMINATION

All sampling equipment will be decontaminated prior to use and at the end of the day. Decontamination procedures are as follows:

1. Remove all solids from the equipment using a brush and deionized water.
2. Wash the equipment in a solution of deionized water and Alconox (or similar).
3. Rinse sampling equipment with pesticide grade isopropanol.
5. Rinse sample equipment with deionized water.
6. Allow equipment to air dry in an area outside of the exclusion zone.

Wastewater generated during decontamination procedures will be collected and disposed of in an appropriate manner. Samples of the collected wastewater will be analyzed for the site contaminants to determine the appropriate method of disposal.