VOLUNTARY CLEANUP PROGRAM REMEDIAL WORK PLAN

for

SITE NO. V-00150-7

VOLUNTARY CLEANUP AGREEMENT NO. A7-0466-0702

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PLANS

1.0 INTRODUCTION AND PURPOSE

The project site is located at 7980-7984 Brewerton Road (US Route 11) in the Town of Cicero, Onondaga County, New York. The property is approximately 250 feet along the road, 300 feet deep and 1.7 acres in size. The attached *Site Plan* (Sheet SP-1) details the main features on the property. The property contains three abandoned buildings and a large paved and gravel-surfaced area for vehicle traffic and parking. The buildings were formerly used as dry cleaning, automotive and restaurant businesses. Only a small portion of the site is surfaced with grass, located along the eastern boundary. There are no residential properties located near the site. Route 11 borders the western side of the property and commercial lots, including an instant oil change facility to the south, a Wegman's grocery store to the east and a Dunn tire store to the north, border the rest of the property. No streams or wetland areas are located on the property. The nearest surface water features are wetland areas located approximately 400 hundred feet to the west and east of the property.

A dry cleaner operated on the site from approximately 1987 to 1999. Prior to that, the building was used as a car wash. Previous subsurface environmental site assessment work undertaken by others (refer to reference list) indicated there have been environmental impacts to soil and groundwater associated with dry cleaning compounds. The results of this work are summarized on the *Site Plan* and discussed in Section 2.0.

This Remedial Work Plan is for the remediation of the Site through the Voluntary Cleanup Program with the New York State Department of Environmental Conservation (DEC) by excavating the contaminated soils. The Volunteers will conduct pre-excavation confirmatory sampling of soils, as well as an assessment of current groundwater quality. The objective of the Volunteer Cleanup Program (VCP) is for the Volunteers to obtain a legally binding release from future environmental liability for the site. The intended future use of the site at this time will be restricted to commercial uses, subject to modification pending the results of the work. The *Site Plan* shows the outline of the property proposed for the VCP. This Work Plan has been prepared to outline the proposed sampling and remedial work for the project The remedial work will be consistent with NYCRR Part 375-1.10(c) to the extent feasible and authorized by law.

The primary objectives of this Work Plan are to:

1. Perform pre-excavation confirmatory soil sampling to define the limits of the soil exceeding the DEC's soil cleanup guidance values and requiring removal.

2. Assess the nature and extent groundwater contamination.

3. Complete source removal measures, anticipated to be excavation of contaminated soil exceeding the DEC's soil cleanup guidance values.

4. The work will consist of the following main tasks:

1. Demolishing the building and abandoning the subsurface utilities.

2. Backhoe investigation of subsurface utilities.

3. Soil boring and monitoring well installations.

4. Evaluating the results of the pre-excavation confirmatory sampling and groundwater data to define the limits of the excavation work.

5. Completing the remedial excavation.

6. Submitting a Final Report to the DEC, pursuant to the VCP, summarizing the remedial activities and proposing a scope of work for follow-up activities, if needed, as detailed in the Work Plan.

2.0 RESULTS OF PREVIOUS INVESTIGATIONS

The following reports summarize previous investigation work that has been completed on the Site:

- *Phase 2 Environmental Site Assessment*, Adirondack Environmental Services, January 1997.

- *Soil & Groundwater Investigation*, C&H Engineers, June 1998.

- *Preliminary Report*, C&H Engineers, July 1998.

- *Supplemental Subsurface Investigation*, CES, Inc., December 2000.

A summary of the data from these reports is included in *Appendix A – Prior Analytical Data Tables* as follows:

- Phase 2 Environmental Site Assessment (January 1997)
  - Table A – Volatile Organic Compounds Soil Analytical Results
  - Table B – Volatile Organic Compounds Groundwater Analytical Results (November 1996)
  - Table C – Volatile Organic Compounds Groundwater Analytical Results (December 1996)

- Soil and Groundwater Investigation (June 1998)
  - Table 1 – Soil Sample Analysis Results
  - Table 2 - Groundwater Sample Analysis Results

- *Preliminary Report* (July 1998)
  - Sump Analytical Results

- Supplemental Subsurface Investigation (December 2000)
  - Table 1 – Summary of Soil Analytical Data
  - Table 2 – Summary of Groundwater Analytical Data

Monitoring well as-built drawings from the Supplemental Subsurface Investigation by CES are included in Appendix E.

The results of this work are briefly summarized below.

The groundwater flow direction of the water table aquifer, as determined during the supplemental subsurface investigation by CES, Inc., is northerly. The depth to groundwater in the area of the dry cleaner building ranges from approximately 3 to 6 feet below ground surface.

Soil borings indicate a fine-grained laminated and bedded silt deposit, with varying amounts of clay and fine sand, exists throughout the investigation area to the depths investigated (±18 feet). Based on its fine grain size and bedded nature, the unit is interpreted as a glacial lake deposit. This formation would be expected to have very low vertical permeability and hydraulic conductivity, with the vertical values distinctly less than the horizontal. The soil profile is generally as follows:

- 0 to 2 feet: Sand and gravel fill.
- 2 to 6 feet: Gray silt with little to some clay .
- 6 to 10 feet: Brown silt with no to little fine sand and little to some clay.
- 10 to 18 feet: Red/brown silt with some clay and trace of fine sand.

Based on the New York State overburden geology map for the area,[1] the site is located within an area of the Ontario Lowlands where fine-grained glacial lake deposits are mapped as a common surface geologic unit. The soil boring data discussed above is consistent with this mapping. Based on a review of drilling records in this part of the Ontario Lowland area,[2] an overburden thickness (depth to bedrock) of 30 feet is speculated. A till overlying the bedrock is a likely possibility. Based on the currently available information, the overburden sequence at the site is expected to have confining bed characteristics (soil units with very low permeability) that would serve to decrease the potential for vertical contaminant migration.

Total volatile organic compound (VOC) concentrations from soil samples in the area of the dry cleaner building ranged from non-detectable to 25 parts per billion (ppb). Contaminants with the highest concentrations included trichloroethene, tetrachloroethylene, methylene chloride, 1,1-dichloroethane and vinyl chloride. None of the compounds present exceeded the DEC's soil cleanup guidelines.[3] Analyses were performed by various methods during the different studies, including EPA Methods 8010 and 8020.

Groundwater samples from the area of the dry cleaner building were also tested for VOCs. Results of EPA Method 601 testing showed total VOC concentrations from non-detectable to approximately 3,600 ppb. The highest concentrations were in the area off the northeast corner of the building. The most prevalent compounds were trichloroethene, tetrachloroethylene, methylene chloride, 1,1-dichloroethane, t-1,2-dichloroethene and vinyl chloride. Testing was also performed using EPA Methods 8021 and 8260.

Samples of sludge and water from the sumps inside the dry cleaner building were analyzed for VOCs by EPA Method 8021. Compounds detected included halogenated and petroleum VOCs. Concentrations of total VOCs in the sludge were approximately 10,000 parts per million (ppm) and 350 ppm in the east and west sumps, respectively. Concentrations of total VOCs in the water

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[1]*Surficial Geologic Map of New York, Finger Lakes Sheet*; NYSGS; 1986

[2]*The Hydrogeology of Onondaga County*; Winkley, Syracuse University M.S. Thesis; 1989

[3]DEC Technical and Administrative Guidance Memorandum (TAGM) 4046, *Determination of Soil Cleanup Objectives and Cleanup Levels*, dated January 24, 1994 and DEC Memorandum dated April 10, 2001.

were approximately 55 ppm and 0.9 ppm in the east and west sumps, respectively. The halogenated VOCs with the highest concentrations included trichloroethene, tetrachloroethylene and cis-1,2-dichloroethene. The petroleum VOCs with the highest concentrations included isopropylbenzene, n-butylbenzene, sec-butylbenzene, p-isopropyltoluene, 1,2,4-trimethyl benzene, 1,3,5-trimethylbenzene and m,p-xylene.

Testing per EPA Method 8021 performed by CES on the Site detected no methyl-tertiary-butyl ether (MTBE) exceeding soil cleanup objectives or groundwater standards,[4] although the off-site investigation showed concentrations of MTBE in groundwater samples up to 107 ppb.

Testing of soil and groundwater for semi-volatile organic compounds (SVOCs) per EPA Method 8270 was completed by CES as part of their supplemental subsurface investigation. The results from the nine soil borings and six monitoring wells tested were below detection limits for all samples. The locations where these samples were collected were widespread across the site.

CES also tested for polychlorinated biphenyls (PCBs) per EPA Method 8082 in nine soil samples and five groundwater samples. The results were below detection limits for all samples.

Testing for lead in soil was also completed in the same nine soil borings. Results ranged from 6.7 to 25 parts per million (ppm). These levels are below typical background levels.

A leach field that reportedly served the car wash is located on the adjacent property to the east. This area was investigated by CES. No indication of solvent or petroleum contamination was found in the former leach field area.

3.0 SCOPE OF WORK AND RATIONALE

The overall purpose of the Work Plan is to excavate contaminated soils. A pre-excavation confirmatory sampling program will be conducted to properly characterize the horizontal and

[4]DEC Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limits*, dated June 1998, and April 2002 Addendum.

vertical extent of soil contamination at the Site and establish the limits of soil contamination requiring removal before excavation work commences. By defining the limits of the excavation prior to commencing the work, the excavation will be able to proceed quickly, once started. This will minimize the need for dewatering, reduce vapor releases during the excavation work and generally improve the planning for all aspects of the project. During the pre-excavation confirmatory sampling work, the current groundwater quality will also be assessed. To accomplish the pre-excavation work, a sampling program is proposed, comprised of soil borings and monitoring well installations and test pit investigation of subsurface utilities.

3.1 Chemicals of Concern (COCs)

3.1.1 *Identification:*

A review of the historical information and available soil and groundwater analytical data from prior investigations in the area has been completed to form the basis of deriving an analytical list of COCs for testing to be used for the investigation of the various site media. Since the Site was used as a dry cleaning facility, the proposed primary COCs are the halogenated VOCs.

Halogenated VOCs: Available sampling and analysis data from prior investigation work at the Site indicated halogenated VOCs were present in some of the soil and/or groundwater samples (*Appendix A*). The following selected halogenated VOCs are proposed as the primary site COCs:

- 1,1,1- trichloroethane
- 1,1,2-trichloroethane
- 1,1-dichloroethane
- 1,1-dichloroethene
- c-1,2-dichloroethene
- chloroethane
- chloroform (trichloromethane)
- chloromethane

- 1,2,3-trichlorobenzene
- 1,2,3-trichloropropane
- 1,2,4-trichlorobenzene
- 1,2,4-trimethylbenzene
- 1,2-dichlorobenzene
- 2,2-dichloropropene
- methylene chloride
- t-1,2-dichloroethene
- tetrachloroethylene
- trichloroethene
- trichlorofluoromethane
- vinyl chloride

Petroleum VOCs: None of the historical research has provided any evidence that petroleum VOC products were an integral part of the former dry cleaning operation. Compared with the potential for halogenated compounds, petroleum VOCs are not expected to be prevalent COCs at the site. However, there was probably some ancillary use of these materials. Prior sampling and analysis data for soil and groundwater from the Site revealed the presence of petroleum VOCs. Therefore, the following are proposed as "secondary" COCs with a relatively lower risk of occurrence at the Site, as outlined in *Table 1 – Analytical Plan*:

- benzene
- 1,3,5-trimethylbenzene
- ethylbenzene
- isopropylbenzene
- m&p-xylene
- naphthalene
- n-butylbenzene
- n-propylbenzene
- o-xylene
- p-isopropyltoluene
- sec-butylbenzene
- tert-butylbenzene
- toluene

MTBE: MTBE is not proposed as a COC, since none has been detected in the area of the dry cleaning building on the Site. Analysis for MTBE has been included at the request of the DEC.

SVOCs: SVOCs are not proposed as COCs, since none have been detected in the area of the dry cleaning building on the Site. However, SVOC analyses will be included for selected soil samples in the source area (Section 3.1.3) to verify the previous results

3.1.2 *General Fate and Transport Characteristics:*

The fate and transport properties of the site COCs chemical classes are briefly generalized in order to evaluate their expected potential occurrence at the site.

Halogenated VOCs: The general chemical properties for the most prevalent halogenated VOCs are summarized as follows:

- The compounds have specific densities greater than water.
- The compounds have moderate to high vapor pressures and are considered volatile.
- The compounds are moderately soluble in water.
- Vapor densities for these compounds are greater than that of air.
- Sorption coefficient data suggests these compounds are not highly sorptive to soil.
- The physical properties of the site contaminants suggest they partition readily into the groundwater and soil vapor phases.

Petroleum VOCs: These compounds tend to have relatively high values of solubility in water and are more easily leached in the soil column. Their relatively high vapor pressures tend to increase their occurrence in the vapor phase.

3.1.3 *General Analytical Plan*

The general analytical plan is summarized in *Table 1 – Analytical Plan*. All proposed samples collected will be analyzed for primary and secondary COCs (halogenated and petroleum VOCs) plus MTBE by EPA Method 8260.

Selected soil samples from the source area will be analyzed for SVOCs per EPA Method 8270 (base/neutrals). Selection of SVOC samples from the source area will be guided by the results of the field observations and PID data obtained, specifically from locations with a greater potential of being contaminated (possible staining, high odor and/or PID readings). A grab sample of potential source soil ("high level" based on field indicators) with different field characteristics and/or spatial distribution (if more than one potential source area is found) would also be submitted. The DEC will be consulted in making the choices.

3.2 Relevant Guidance and Regulatory Criteria

The following guidance or regulatory criteria will be used to evaluate the analytical results obtained from the investigation activities:

Soil ....DEC Technical Administrative Guidance Memorandum (TAGM) No. 4046, *Determination of Soil Cleanup Objectives and Cleanup Levels*, dated January 1994 and revised April 10, 2001.

Groundwater ....DEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values*, dated June 1998 and 6NYCRR Part 703 – Groundwater Quality Standards, dated June 1998.

The specific standards and guidance values for each of the COCs are listed in *Table 4 – Sampling and Analysis Matrix*.

3.3 Delineation of Potential Source Areas and Investigation Area

A review of the results of previous investigations and field inspection work indicates the dry cleaner building is the general source of the soil and groundwater contamination. The exact source is unknown, but the interior sumps are suspected as a primary source. Subsurface utility bedding (natural gas, water, sanitary sewer, former leach field line) may also be acting as a sink for contamination.

Prior to completing the sampling work, the building will be demolished and subsurface utilities excavated, disconnected and properly abandoned. A backhoe investigation of the subsurface utility bedding will be completed to assess the extent of contamination along subsurface utilities.

The investigation area is shown on the *Site Plan.*

3.4 Building Demolition and Utility Abandonment

Prior to completing the sampling work, the dry cleaner building will be demolished to facilitate access to the main suspected source areas. This work will be completed by an environmental/ demolition contractor and will be performed in accordance with the Town of Cicero requirements. It is anticipated that an asbestos survey will be required and a permit must be obtained from the Town for this work. The interior sumps will be vacuumed and cleaned as part of the demolition.

Subsurface utilities serving the building include a natural gas line, water line, municipal sanitary sewer service and an abandoned line from the sump to the leach filed on the adjacent property. The utilities lines will be disconnected at the building and at the property line, and properly capped and abandoned in place. The contractor will be required to follow the requirements of the utility company in capping and abandoning the utility lines at the property line.

3.5 Backhoe Utility Investigation Program

A backhoe will be used to dig shallow test pits or excavations to investigate the depth and nature of the utility bedding materials. Soil samples will be collected from the bedding material for analysis of COCs. Samples will be collected from:

- Representative areas of any "hot spots" encountered (see Section 3.6), to characterize contaminant chemistry of contamination source materials.

- Representative areas believed to be uncontaminated to confirm "clean" conditions.

3.6 Pre-Excavation Confirmatory Soil Sampling

The soil boring program will provide geologic information of the soils (approximately 0 to 15 feet deep) underlying the Site and information regarding the absence or presence of source area contamination, based on routine field observations during the drilling work. Based on the currently available data indicating the presence of fine-grained glacial lake soil at the site, the surficial hydrogeologic unit at the site is considered a potential confining bed with low expected hydraulic conductivity that may have limited vertical migration to a relatively shallow depth below the water table. The findings from the soil boring investigation will be evaluated as the work proceeds to verify this hypothesis. The possible need for selectively screening deeper zones below the water table ("deep wells") will be considered as information from the subsurface borings is obtained and evaluated with the Department. The shallow soil boring program will consist of the following main tasks:

- Perform an initial upgradient boring to assess the geologic conditions, particularly related to obtaining deeper soil data and to assess the potential for downward migration of the primary COCs.

- Perform a high density of shallow soil borings in the investigation area.

- Characterize the geologic conditions and collect systematic field observations regarding potential source area contamination of the unsaturated zone at each location.

- All borings will also be advanced several feet into the saturated zone to characterize the geologic conditions and to collect systematic field observations regarding potential source area contamination of the shallow water table zone (approximately 2 feet above and 4 feet below the water table). The final depth of investigation below the water table will be guided by site geologic conditions encountered and information regarding the vertical extent of contamination as the investigation proceeds.

- Soil samples from the unsaturated zone will be collected for analysis of COCs at the proposed analytical locations. Samples will be:

  - Collected from representative areas of any "hot spots" encountered to characterize contaminant chemistry of contamination source materials. The determination of a "hot spot" will be based on field indicator data suggesting significant contamination (elevated PID readings, visual observations of soil staining, sheen or free product and odor characteristics). As experience is gained observing subsurface conditions during the investigation, PID thresholds and visual and olfactory characteristics of what constituents a "hot spot" will be continually evaluated in consultation with the DEC. Soil samples collected for analysis to characterize hot spots will be selected from intervals believed to be more highly contaminated based on the field indicators.

  - Samples collected from areas "mildly" or "maybe" contaminated, based on field indicators, would also be submitted for comparison with the project guidance and regulatory criteria to assist in delineating potential remedial excavation areas.

  - Collected from representative areas believed based on field indicators to be uncontaminated to confirm "clean" conditions.

  - Samples collected in the source area will be inspected for evidence of declining field indications of contamination with increased depth, expected based on current knowledge of anticipated hydrogeologic conditions. Selected samples from deeper zones will be submitted for VOC analysis to confirm the limit of downward migration of contamination.

- Selected samples of impacted soils will also be analyzed for disposal characterization.

3.7 Groundwater Sampling

The purpose of the groundwater sampling program will be to determine the nature and extent of impacts to the water table underlying the site. Previous investigation information indicates that some impairment has occurred. The groundwater flow direction, gradient and chemical quality of the water table will be investigated by installing monitoring wells and sampling for COCs. Site topographic information and prior groundwater elevation data from previous investigations indicate the uppermost water table slopes to the north-northwest at a gradient of approximately 5%. Depth to the water table is shallow, ranging from about 3 to 6 feet, depending on location and local site grade conditions. The proposed groundwater sampling program includes the following main tasks:

- Determine the groundwater quality at the upgradient margin of the using the existing monitoring well CES-MW-2.

- Determine the groundwater quality at the western margin of the investigation area using the existing monitoring well CES-MW-1.

- Install two temporary monitoring wells (TMW-4 and TMW-5) within the suspected source areas to evaluate the groundwater conditions. A hollow stem auger drilling method will be used at these locations to reduce the likelihood of vertical cross-contamination. Groundwater grab samples would be collected from these locations to verify source area conditions. It is anticipated that deeper soil samples to verify the vertical limits of contamination and digging depths for the remedial excavation program will also be undertaken at these sites.

- Determine the groundwater quality at or near the downgradient boundary of the site. Three permanent monitoring wells are proposed (MW-1, MW-2 and MW-3).

- Sample all wells for COCs to evaluate groundwater quality.

- Survey the tops of the wells and collect depth to water data to evaluate the groundwater flow direction and gradient. Groundwater contours will be prepared and reported to help evaluate the suitability of the groundwater monitoring well network in regards to monitoring potential source areas. Additional groundwater contour data may also be obtained early in the investigation program by the use of temporary monitoring wells placed during the soil boring program. A permanent groundwater observation well (OBW-1) will be installed in the vicinity of the "proposed leach field" to assist in determining groundwater contours.

- As an option, the Volunteer may elect to collect a final round of post-remedial groundwater samples for analysis of the full TCL parameter lists to broaden the scope of the VCP release issued by the Department. The Department would be given prior notice of such a decision in order to verify sampling and analytical requirements.

3.8 Determination of Excavation Limits

At the completion of the sampling work outlined above, the data will be tabulated and summarized to show the proposed limits of the soil excavation work. This information will be used to delineate the area where soil concentrations exceed the DEC's soil cleanup guidelines, as set forth in Table 4, and that will be excavated as the source removal remedial measures. The boundaries of the remedial excavation will be mapped and located in the field. The map showing the proposed limits of the excavation and supporting data will be submitted to the DEC for review and acceptance prior to commencing the remedial work. No field confirmation sampling will be performed during the remedial excavation work.

3.9 Remedial Excavation

Once the data from the above sampling work is evaluated and the DEC agrees with the delineation of limits of the remedial excavation, an environmental contractor will be mobilized perform the excavation work. The main task included will be excavation of the soils to the horizontal and vertical limits established during the pre-excavation confirmatory sampling, as reviewed and accepted by the DEC. Contaminated soil will be staged on-site for future disposal or directly hauled to a landfill, depending on the findings of the sampling work and other logistics. This work may also involve dewatering of the excavation during the excavation process. The excavation will be backfilled with uncontaminated soil immediately following completion of the excavation. No confirmation samples will be collected during the excavation work.

The project engineer or geologist will be on-site during the excavation work to inspect the work and direct dewatering, if required.

4.0 FIELD ACTIVITIES PLAN

4.1 Task Sequence Overview

The completion of the pre-excavation confirmatory sampling and remedial program will involve the following anticipated sequence of main tasks:

- Mobilize an environmental/demolition contractor to demolish the building and properly disconnect and abandon the subsurface utilities.
- Perform a backhoe investigation of subsurface utility bedding materials.
- Complete drilling logistics.

- Implement a site Health and Safety Plan (HASP) for the investigation activities.

- Complete the soil boring program, including obtaining the required samples for analysis, and submit to the project laboratory.

- Complete the groundwater sampling program, including mobilizing the groundwater samplers to sample the monitoring wells, and submit to the project laboratory for analysis.

- Establish the limits of the remedial excavation.

- Implement a site HASP for the remedial activities.

- Complete the remedial excavation.

4.2 Building Demolition and Utility Abandonment

Mobilize an environmental/demolition contractor to:

- Vacuum and clean the sumps. Waste materials (water and sediment) will be drummed up and samples collected to characterize them for proper disposal.

- Perform an asbestos survey of the dry cleaner building. If asbestos materials are determined present, an asbestos abatement program will be undertaken prior to the demolition using a contractor licensed pursuant to NYS Code Rule 56 and applicable OSHA regulations.

- Obtain permits for building demolition.

- Determine subsurface utility closure requirements of service providers:

    - Natural gas – Niagara Mohawk

- Water – OCWA
- Sanitary Sewer – OCDWEP
- Sewer line to leach field – as directed by project engineer

- Disconnect the utility lines at the building and the properly line, and properly cap and abandon subsurface utilities.
- Demolish the dry cleaner building and properly dispose of the debris.
- Inspect the building footprint for evidence of source areas, based on visual observations and PID soil screening work.
- Cover the former building area with polyethylene sheeting to minimize mobilization of soil contamination, if encountered.

4.3 Backhoe Utility Investigation Program

Use of a backhoe to investigate the subsurface utilities and associated bedding will generally consist of the following procedures:

- Digging to expose the abandoned utility lines will be performed. The approximate locations of the proposed test pits are shown on the *Site Plan* and proposed samples are listed in *Table 3 – Soil Sample Inventory*. The location and number of test pits may be adjusted in the field, as necessary, based on the field observations.
- Samples of the bedding material and the underlying soil will be collected at each location. An engineer/geologist will be on-site to perform inspection and photoionization detection (PID) meter field monitoring of the samples during the excavating. Soil samples shall be field-screened using a calibrated PID (by HNU), equipped with an 11.7 eV lamp. The

data will provide general screening data for COCs. The PID soil sample screening procedures are included in *Appendix B – Standard Operating Procedures*. The inspector will also log notes of the excavated materials and depths encountered during the work.

- Additional test pits or digging will proceed along the utility lines until field screening does not show indications of significant soil contamination in the bedding material or underlying soil.

- Test pit trenching along the east wall of the former dry cleaner building will be undertaken to try and find a sewer drain to the purported leach field. If found, the sewer line will be traced by backhoe test pits to either the on-site leach field or to the property line. If the leach field is found to be on-site, two backhoe test pits will be undertaken in the leach field and logged and sampled (subsurface soil) in accordance with the work plan procedures.

- Laboratory analysis for COCs of sampled bedding materials and the underlying soils will be performed from selected test pits.

- After completing the test pit, the excavated soil will be placed back into the excavation.

- If it is determined that hot spot source soil contamination is present associated with any of the utility routes, the area(s) will be targeted for remedial excavation work (Section 4.6).

4.4 Pre-Excavation Confirmatory Soil Sampling Program

The soil borings proposed for this sampling task shall be completed generally as follows:

- A direct push sampling technique will be used to expedite the initial characterization of the shallow subsurface conditions. A percussion sampler by Geoprobe, or equal, will be used to advance the borings.

- All locations will be sampled at a continuous interval using either 2-inch diameter, 24-inch long split spoon samplers, or at the discretion of the engineer/geologist, a 4-foot long, 1.75-inch diameter sleeved sampler may be used, depending on the soil conditions encountered. It is anticipated that a relatively thin lift of gravelly fill materials will be present at most sampling locations. The 24-inch long split spoon samplers will be used to sample the fill or other gravelly materials. The 48-inch long samplers will be used in finer, cohesive soil units, providing suitable recovery (>90%) can be attained.

- All samples will be visually inspected and logged by the engineer/geologist. A standard boring log will be completed, to include sample depths and recovery, soil unit descriptions and any groundwater observations.

- Routine observations and notes will be collected for all retrieved samples by the engineer/geologist regarding the absence or presence of field indicators of potential contamination, to include:

    - Presence of discolored or potentially stained conditions.
    - Presence of obvious oily materials or sheens.
    - Routine PID readings, described below.
    - Presence of any fugitive odors.

- All recovered soil samples shall be field-screened using a calibrated PID (by HNU), equipped with an 11.7 eV lamp. The data will provide general screening data for COCs. The PID soil sample screening procedures are included in *Appendix B – Standard Operating Procedures*.

- All proposed borings shall proceed completely through the unsaturated zone into the water table. Care will be taken when describing all samples in the unsaturated zone in order to try to distinguish any fill(s) from the natural underlying soils . As practical, the percussion borings will proceed to depths as needed to delineate the vertical extent of contamination determined based on observed field indicators.

- All borings shall be sealed upon completion with a cement-bentonite grout, using the tremie method of placement.

- The approximate locations of the proposed soil borings are shown on the *Site Plan* and proposed samples are listed in *Table 3 – Soil Sample Inventory*. The location and number of soil borings may be adjusted in the field, as necessary, based on the field observations and the post-demolition inspection.

- Samples for analytical work will be collected during the shallow boring program by the engineer/geologist and submitted to the laboratory for analysis in accordance with *Table 1 – Analytical Plan* and the project QA/QC Plan. At each location, a sample will be collected in accordance with the following guidelines:

  - If the soil profile did not show any field indication of contamination, a composite sample will be submitted for analysis, consisting of soil from a relatively thin horizon (maximum of 2 feet) immediately above the water table.

  - If field indication of potential contamination is evident in the boring, a grab sample shall be collected for analysis of the potentially contaminated soil. If many contiguous borings indicate similar field indication of contamination, not all samples need be submitted to characterize the "hot spot".

- The remedial target area will be delineated using the following information:

  - The lateral limits of remedial excavation will be delineating "clean" locations from contaminated areas based on the soil boring analytical sample results in comparison to the Relevant Guidance and Regulatory Criteria and on the field indicator data.

- The depth of remedial excavation associated with the source area will be predetermined, as practicable, by evaluating the following combination of data:
  - Vertical contamination profile data, based on field indicators, from the soil boring program.
  - Determining the details of the site hydrogeology as the subsurface investigation proceeds, particularly obtaining additional details regarding the near-surface confining bed stratigraphy.
  - Obtaining pre-confirmation samples using hollow stem auger drilling methods to reduce the potential of cross-contamination.
- As discussed in Section 4.6, sidewall confirmation grab samples may also be obtained to supplement the pre-excavation confirmation analytical data.

4.5 Groundwater Sampling

The shallow groundwater investigation will involve the following main field activities:

- Data generated from the shallow boring program will be reviewed and the locations of the proposed monitoring wells will be adjusted, if needed, particularly if contamination "hot spots" are encountered from the soil boring program. Stratigraphic data generated from the borings will also be reviewed to finalize target depths for the shallow monitoring wells.

- The well installations and associated soil borings will be completed using the 4.25-inch HSA drilling method. Soil samples will be collected using 2-inch diameter split spoon samplers advanced using a percussion, direct push drilling unit by Geoprobe, or equal.

- A continuous sampling interval will be used throughout the borings. All samples will be visually inspected and logged by the engineer/geologist, and screened with a PID meter. A standard boring log will be completed, to include sample recovery data, soil unit descriptions, any groundwater observations, results of sample PID screening and monitoring well as-built data.

- The bottom of the monitoring wells will be completed using a 10-foot long well screen, installed at a depth of approximately 10 feet below the water table in all locations where no field indication of gross contamination is encountered and if the drilling does not penetrate a potential confining bed. Should a potential confining bed be encountered at a depth of less than 10 feet below the water table, the bottom of the well will be set at the top of the bed. A 1-foot sump will be installed on the bottom.

- Should field indication of gross contamination be encountered in the unsaturated zone, the following will be undertaken:

  - Proceed with the continuous-interval sampling work to determine the thickness of the contamination zone, if needed, provided the drilling and sampling work does not penetrate the water table.

  - Either relocate the monitoring well to another nearby location and start over, or change the well installation method to provide for a cased well installation to seal off the contamination zone prior to installing the monitoring well (refer to *Appendix B – Standard Operating Procedures*).

  - Sample driving and drilling into the potential confining bed, if encountered, will be minimized. Any hole created in the confining bed will be grouted with a cement-bentonite grout mixture, using the tremie method of placement.

- Should field indication of gross contamination be encountered in a discrete zone below the water table, further advancement of the soil boring will be terminated and the bottom of the well will be installed at a depth approximately at the base of the contamination zone.

- A filter sand pack shall be installed to 6 inches above the top of the well screen, followed by the placement of a minimum 24-inch thick bentonite pellet seal. The remaining borehole annulus shall be sealed to grade with a cement-bentonite grout mix, using the tremie method of placement.

- Well screen and riser materials will be constructed of flush-threaded stainless steel. Screens shall be factory slotted. Screen slot size shall be either .010 or .020 inch, depending on the absence or presence of considerable fines in the screened formation. Sand packs shall be constructed using approved silica materials graded to meet #00 and #0 gradation characteristics by Morie Sand, or equal, for 10-slot and 20-slot screen sizes, respectively. PVC risers, with flush threaded couplings to the steel screens, may be substituted for stainless steel risers.

- Minimum 8-inch diameter steel flush-mounted curb boxes with bolted covers shall be installed at all permanent monitoring well locations. Temporary wells will be cut off at grade and provided with PVC caps. All caps for the protective well covers shall be labeled "Monitoring Well" and provided with a padlock.

- The driller shall develop the wells after installation using surge and low flow pump-out methods. Groundwater generated during the development work shall be handled in accordance with the project HASP.

- The approximate locations of the proposed monitoring wells are shown on the *Site Plan*. The location and number of monitoring wells may be adjusted in the field, as necessary, based on the field observations. Refer to *Table 2 – Monitoring Well Inventory* for additional information.

4.6 Remedial Excavation

An environmental contractor will be mobilized to perform the excavation work. The main tasks included will be as follows:

- Implement a site HASP for the remedial activities, including the Community Air Monitoring Plan.

- Establish a soil staging area on the existing pavement as shown on the site plan. The soil will staged on 10-mil polyethylene sheeting laid over temporary soil berms. The pile will be securely covered with polyethylene sheeting at the end of the work day. Alternatively, soil may be hauled directly to a landfill from the excavation, depending on the test results and other logistics.

- If determined to be necessary, set up a temporary dewatering system consisting of one or more 20,000± gallon "frac" tanks. Water will be pumped into the tanks using a submersible pump in the active investigation area. After settling, water will be pumped through activated carbon filters for treatment and discharged to the storm sewer on Brewerton Road in compliance with the effluent limitations established by the DEC. Alternatively, the treated water may be discharged to the sanitary sewer, under the terms of a permit from the Onondaga County Department of Water Environment Protection (OCDWEP).

- Excavate the soils to the depths and limits established during the pre-excavation confirmatory sampling activities, as reviewed and accepted by the DEC.

- Additional post-excavation confirmation samples may be collected to supplement the analytical data (to fill in "data gaps") obtained from the pre-excavation confirmation program. A sample frequency guideline of one confirmation sample for every twenty feet of sidewall, with a minimum of one sample per sidewall, will be used to determine sampling frequency. Bottom samples will be collected on an approximate 20-feet grid, where data from pre-excavation sampling is not available. Post-excavation sampling will also be employed, as needed, to provide the same sampling frequency for any source soil removal work undertaken along any of the utility routes, as pre-determined from the backhoe test pit program.

- Backfill the excavation with suitable clean soils. All backfill used in the excavation shall comply with the project's Relevant Guidance and Regulatory Criteria for soil (Section 3.3).

- The project engineer or geologist will be on-site during the excavation work to inspect the work and direct dewatering, if required. Should any field conditions be encountered that are different than expected, the DEC will be consulted regarding any changes to the work.

4.7 Post-Excavation Requirements

Following the completion of the investigation tasks and remedial excavation work, the following tasks will be completed:

- Assess the need for conducting a soil vapor sampling and analysis program based upon the investigation findings and absence or presence of buildings in the future development plans for the property. A sampling and analysis plan will be submitted to the Department for review and approval prior to completing any needed soil vapor investigation work.

- Evaluate the potential need for collecting and analyzing surface soil samples from any areas in the vicinity of the dry cleaning facility that will not be paved or covered with clean, structural fills.

4.8 Project Report

At the completion of the scope of work described herein, a Final Report summarizing the investigation and remedial activities will be submitted to the DEC for review and approval, in compliance with the Voluntary Cleanup Agreement. The report will also include the results of a qualitative public health exposure assessment for on and off-site conditions. The assessment will characterize the exposure setting, identify potential exposure pathways, contaminants of concern, evaluate contaminant fate and transport and identify any potential public health exposures, if any. The evaluation will be completed based upon on a future use of the site restricted to commercial. A post-excavation Operation, Maintenance and Monitoring ("OM&M") Plan, detailing a groundwater monitoring plan, including rational for including or excluding deep monitoring wells below the surficial water table, pursuant to the Voluntary Cleanup Agreement, will also be submitted.

The results of the investigation work regarding the nature and extent of contamination, post-excavation soil and groundwater conditions, and the results of the qualitative exposure assessment will be evaluated and a determination made and reported regarding whether or not additional remedial activities will be required for obtaining the VCP release.

5.0 QUALITY CONTROL/QUALITY ASSURANCE (QA/QC) PLAN

5.1 Project Description and Project Goals

The project involves the collection of samples of subsurface soil and groundwater at the Site. Selected samples will be submitted for laboratory analysis for the COCs, as described above and outlined in Tables 1 through 4.

As described in Section 1.0, the main purpose of this phase of the work is to characterize the nature and extent of potential contamination at the Site from the former dry cleaning operations. The findings will also be used to develop the Final Remedial Plan.

5.2 Project Organization

The following individuals are involved with the QA/QC aspects of the project. Their resumes/qualifications are included in *Appendix C – QA/QC Qualifications*.

Engineering and laboratory personnel are:

Project Manager/Engineer ....Dale R. Vollmer, P.E., Plumley Engineering

Project Geologist.....................................Frank Karboski, C.P.G. /Derk Hudson, Derk Hudson, Geologist, Plumley Engineering

Project Laboratory (Primary) ....Adirondack Environmental Services

Quality Assurance Officer ....Judy V. Harry, Data Validation Services

Field Analyst: PID Screening ....Frank A. Karboski, C.P.G. and Derk Hudson, Geologist, Plumley Engineering

Field Sampling: Soil Borings, Surface Soils and Sediment ....Frank A. Karboski, C.P.G., and Derk Hudson, Geologist, Plumley Engineering

Field Sampling: Groundwater Sampling ....Derk Hudson, Geologist, Plumley Engineering

5.3 Sampling and Analysis

The primary laboratory will be Adirondack Environmental Services, Inc. The laboratory is approved by the New York State Department of Health (DOH) under the Environmental Laboratory Approved Program (ELAP), including approval for Analytical Services Protocol (ASP) and Contract Laboratory Protocol (CLP) tier certification for the planned EPA Method 8260 and 8270 analyses on the various environmental media

Approximately 10% of the proposed sampling is to be performed using the DEC ASP – Category B deliverables. The selection of the Category B samples will be coordinated with the DEC. The remainder of the sampling will done using ASP – Category A deliverables. No field screening analyses, other than PID measurements, are proposed. Refer to Tables 1 through 4 for specific test methods and deliverables.

All analytical data will be submitted to an independent data validator for review. The data validator will prepare a Data Usability Report (DUSR) summarizing their findings in accordance with DEC guidelines.

Well installation details, sampling procedures and equipment decontamination procedures are included in *Appendix B - Standard Operating Procedures*. Refer to *Table 4 – Sampling and Analysis Matrix* for a summary of the sample matrixes, number of samples, analysis methods, data reporting levels, holding times and QA/QC samples. The proposed sampling locations are shown on the *Site Plan.*

Laboratory QA/QC procedures will be provided separately by the laboratory, if requested.

6.0 HEALTH AND SAFETY PLAN

Based on the information available from the previous investigation work and known site history, a HASP has been prepared for the Site (refer to *Appendix D – Health and Safety Plan*).

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TABLE 1: ANALYTICAL PLAN

COCs:	PROPOSED ANALYTICAL METHOD	GROUNDWATER	SUBSURFACE SOIL	SURFACE WATER	SURFACE SOIL	SEDIMENTS
Primary COCs - Halogenated Volatile Organic Compounds						
	EPA Method 8260	YES	YES	NO	NO	NO
1,1,1-Trichloroethane						
1,1,2-Trichloroethane						
1,1-Dichloroethane						
1,1-Dichloroethene						
1,2,3-Trichlorobenzene						
1,2,3-Trichloropropane						
1,2,4-Trichlorobenzene						
1,2,4-Trimethylbenzene						
1,2-Dichlorobenzene						
1,3,5-Trimethylbenzene						
2,2-Dichloropropene						
c-1,2-Dichloroethene						
Chloroethane						
Chloroform						
Chloromethane						
Methylene Chloride						
t-1,2-Dichloroethene						
Tetrachloroethylene						
Trichloroethylene						
Trichlorofluoromethane						
Vinyl Chloride						
Rationale:	Compounds were detected in either subsurface soil, groundwater or sump samples in the area of the dry cleaner building during previous investigations.			No surface water in immediate area	Subsurface sampling will adequately characterize soils	No sediments in immediate area

TABLE 1: ANALYTICAL PLAN

COCs:	PROPOSED ANALYTICAL METHOD	GROUNDWATER	SUBSURFACE SOIL	SURFACE WATER	SURFACE SOIL	SEDIMENTS
Secondary COCs - Petroleum Volatile Organic Compounds						
Benzene	EPA Method 8260	YES	YES	NO	NO	NO
Ethylbenzene						
Isopropylbenzene						
m&p-Xylene						
MTBE						
Naphthalene						
n-Butylbenzene						
n-Propylbenzene						
o-Xylene						
p-Isopropyltoluene						
sec-butylbenzene						
tert-butylbenzene						
Toluene						
Rationale:	Compounds were detected in either subsurface soil, groundwater or sump samples in the area of the dry cleaner building during previous investigations.			No surface water in immediate area	Subsurface sampling will adequately characterize soils	No sediments in immediate area
Other						
SVOCs	EPA Method 8270 B/N	NO	YES	NO	NO	NO
MTBE	EPA Method 8260	YES	YES	NO	NO	NO
Rationale:	MTBE is not proposed as not proposed as COC's since none has been detected in the area of the dry cleaning building on the Site but is included at the request of the DEC.					
TCLP - Full List	Varies	NO	YES	NO	NO	NO
Ignitability		NO	YES	NO	NO	NO
Corrosivity		NO	YES	NO	NO	NO
Reactivity		NO	YES	NO	NO	NO
Paint Filter Test		NO	YES	NO	NO	NO
Percent Solids		NO	YES	NO	NO	NO
Rationale:	Sample from source area (SB-5) for determination of disposal requirements.					

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TABLE 2: MONITORING WELL INVENTORY

STATION NO.	LOCATION	RATIONALE	SAMPLING AND ANALYSIS INFORMATION		
			COCs	TYPE	ASP CATEGORY
CESMW-1	Western limit of investigation area	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	A
CESMW-2	Upgradient	Provide background contamination levels and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	A
MW-1	Downgradient at property line	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	B
MW-2	Downgradient at property line	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	B
MW-3	Downgradient at property line	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	B
TMW-4	Potential source area	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	A
TMW-5	Potential source area	Provide contaminant migration and hydraulic gradient information	All	10-foot screen interval immediately below water table; grab sample	A

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TABLE 3: SOIL SAMPLE INVENTORY

STATION NO.	LOCATION		RATIONALE	SAMPLING AND ANALYSIS INFORMATION		
				COCs	SAMPLE TYPE	ASP CATEGORY
SOIL BORINGS:						
SB-1	Upgradient area		Soil stratigraphic information	NA	None	None
SB-2	South of source area		Determine southern limits of soil contamination	VOCs	Grab	A
SB-3	South of source area		Determine southern limits of soil contamination	VOCs	Grab	A
SB-4	South of source area		Determine western limits of soil contamination	VOCs	Grab	A
SB-5	West of source area		Determine western limits of soil contamination	VOCs, SVOCs	Grab	A
SB-6	Potential source area		Determine nature of source and characterize for off-site disposal	VOCs, SVOCs*	Grab	B
SB-7	Potential source area		Determine nature of source	VOCs, SVOCs	Grab	A
SB-8	East of source area		Determine eastern limits of soil contamination	VOCs	Grab	A
SB-9	North of source area		Determine northern limits of soil contamination	VOCs	Grab	A
SB-10	North of source area			VOCs, SVOCs	Grab	B
SB-11	North of source area			VOCs	Grab	B
SB-12	North of source area			VOCs	Grab	A
SB-13	North of source area			VOCs, SVOCs	Grab	B
SB-14	North of source area			VOCs	Grab	B
SB-15	North of source area			VOCs	Grab	A

TABLE 3: SOIL SAMPLE INVENTORY

STATION NO.	LOCATION		RATIONALE	SAMPLING AND ANALYSIS INFORMATION		
				COCs	SAMPLE TYPE	ASP CATEGORY
TEST PITS:						
TP-1	Sanitary sewer lateral	Bedding	Determine extent of contamination in bedding and underlying soil (Up to 2 samples per test pit)	VOCs	Grab	A
		Underlying soil		VOCs	Grab	B
TP-2	Sanitary sewer lateral	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A
TP-3	Water service	Bedding		VOCs	Grab	B
		Underlying soil		VOCs	Grab	A
TP-4	Water service	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A
TP-5	Natural gas service	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A
TP-6	Natural gas service	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A
TP-7	Septic system line	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A
TP-8	Septic system line	Bedding		VOCs	Grab	A
		Underlying soil		VOCs	Grab	A

* Source area will also be analyzed for disposal characterization

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TABLE 4: SAMPLING & ANALYSIS MATRIX

CHEMICALS OF CONCERN (COCs)		SAMPLE MATRIX					
		GROUNDWATER			SUBSURFACE SOIL		
	NUMBER OF FIELD SAMPLES	7			Up to 40		
		STATE STANDARDS[1]/PRACTICAL QUANTITATION LIMIT (PQL)					
	PROPOSED ANALYTICAL METHOD	STANDARD	PQL	MDL	STANDARD	PQL	MDL
		µg/l			µg/kg		
VOCs							
1,1,1-Trichloroethane	EPA Method 8260B	5			800		
1,1,2-Trichloroethane	EPA Method 8260B	1			NA		
1,1-Dichloroethane	EPA Method 8260B	5			200		
1,1-Dichloroethene	EPA Method 8260B	5			400		
1,2,3-Trichlorobenzene	EPA Method 8260B	5			NA		
1,2,3-Trichloropropane	EPA Method 8260B	5			400		
1,2,4-Trichlorobenzene	EPA Method 8260B	5			3400		
1,2,4-Trimethylbenzene	EPA Method 8260B	5			13000		
1,2-Dichlorobenzene	EPA Method 8260B	4.7			7900		
1,3,5-Trimethylbenzene	EPA Method 8260B	5			3300		
2,2-Dichloropropane	EPA Method 8260B	5			NA		
Benzene	EPA Method 8260B	0.7			60		
c-1,2-Dichloroethene	EPA Method 8260B	5			NA		
Chloroethane	EPA Method 8260B	50			1900		
Chloroform (Trichloromethane)	EPA Method 8260B	7			300		
Chloromethane	EPA Method 8260B	NA			NA		
Ethylbenzene	EPA Method 8260B	5			5500		
Isopropylbenzene	EPA Method 8260B	5			5000		
Methylene Chloride	EPA Method 8260B	5			100		
MTBE	EPA Method 8260B	10			120		
Naphthalene	EPA Method 8260B	10			13000		
n-Butylbenzene	EPA Method 8260B	5			18000		
n-Propylbenzene	EPA Method 8260B	5			14000		
p-Isopropyltoluene	EPA Method 8260B	5			11000		
sec-butylbenzene	EPA Method 8260B	5			25000		
t-1,2-Dichloroethene	EPA Method 8260B	5			300		
tert-butylbenzene	EPA Method 8260B	5			NA		
Tetrachloroethene	EPA Method 8260B	5			1400		
Toluene	EPA Method 8260B	5			1500		
Trichloroethylene	EPA Method 8260B	5			700		
Trichlorofluoromethane	EPA Method 8260B	5			NA		
Vinyl Chloride	EPA Method 8260B	2			1200		
m&p-Xylene	EPA Method 8260B	5	NA	NA	1200	NA	NA
o-Xylene	EPA Method 8260B	5	NA	NA	1200	NA	NA
Total Xylenes	EPA Method 8260B	NA	5	0.8	NA	5	1
NUMBER OF FIELD SAMPLES		7			40		
ASP Category A Deliverables		5			32		
ASP Category B Deliverables		2			8		

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TABLE 4: SAMPLING & ANALYSIS MATRIX

CHEMICALS OF CONCERN (COCs)		SAMPLE MATRIX					
		GROUNDWATER			SUBSURFACE SOIL		
	NUMBER OF FIELD SAMPLES	7			Up to 40		
		STATE STANDARDS[1]/PRACTICAL QUANTITATION LIMIT (PQL)					
	PROPOSED ANALYTICAL METHOD	STANDARD	PQL	MDL	STANDARD	PQL	MDL
		µg/l			µg/kg		
FIELD QC SAMPLES							
	EB	1			1		
	FB	1			1		
	TB	1			0		
LABORATORY QC SAMPLES							
	MB	1 per 20 samples			1 per 20 samples		
	MS	1 per 20 samples			1 per 20 samples		
	MSD	1 per 20 samples			1 per 20 samples		
	DUP	NA			NA		
	RS/LCS	1 per 20 samples			1 per 20 samples		
	MSB/BK	1 per 20 samples			1 per 20 samples		
TOTAL NUMBER OF ANALYSES		10			42		
SAMPLE CONTAINER		3 x 40 ml			100 g Glass		
PRESERVATION		None[5]			None		
HOLDING TIME (DAYS)		7 [5]			14		

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TABLE 4: SAMPLING & ANALYSIS MATRIX

CHEMICALS OF CONCERN (COCs)		SAMPLE MATRIX					
		GROUNDWATER			SUBSURFACE SOIL		
	NUMBER OF FIELD SAMPLES	7			Up to 40		
		STATE STANDARDS[1]/PRACTICAL QUANTITATION LIMIT (PQL)					
		STANDARD	PQL	MDL	STANDARD	PQL	MDL
	PROPOSED ANALYTICAL METHOD	µg/l			µg/kg		
SVOCs							
Selected Soil Samples	EPA Method 8270 B/N	NA	NA	NA	per TAGM	Varies	
NUMBER OF FIELD SAMPLES		NA			5		
ASP Category A Deliverables		NA			4		
ASP Category B Deliverables		NA			1		
FIELD QC SAMPLES		NA					
	EB	NA			1		
	FB	NA			1		
	TB	NA			0		
LABORATORY QC SAMPLES							
	MB	NA			1 per 20 samples		
	MS	NA			1 per 20 samples		
	MSD	NA			1 per 20 samples		
	DUP	NA			NA		
	RS/LCS	NA			1 per 20 samples		
	MSB/BK	NA			1 per 20 samples		
TOTAL NUMBER OF ANALYSES		NA			7		
SAMPLE CONTAINER		NA			100 g Glass		
PRESERVATION		NA			None		
HOLDING TIME (DAYS)		NA			14/40		

TABLE 4: SAMPLING & ANALYSIS MATRIX

CHEMICALS OF CONCERN (COCs)			SAMPLE MATRIX					
			GROUNDWATER			SUBSURFACE SOIL		
		NUMBER OF FIELD SAMPLES	7			Up to 40		
			STATE STANDARDS[1]/PRACTICAL QUANTITATION LIMIT (PQL)					
		PROPOSED ANALYTICAL METHOD	STANDARD	PQL	MDL	STANDARD	PQL	MDL
			µg/l			µg/kg		
DISPOSAL CHARACTERIZATION								
	TCLP - Full List		NA	NA	NA	NA	NA	NA
	Ignitability		NA	NA	NA	NA	NA	NA
	Corrosivity		NA	NA	NA	NA	NA	NA
	Reactivity		NA	NA	NA	NA	NA	NA
	Paint Filter Test		NA	NA	NA	NA	NA	NA
	Percent Solids		NA	NA	NA	NA	NA	NA
NUMBER OF FIELD SAMPLES			0			1		

Legend:

EB	Equipment Blank
FD	Field Duplicate
TB	Trip Blank
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Duplicate
RS/LCS	Reference Sample/Laboratory Control Sample
MSB/BK	Matrix Spike Blank/Background
TBD	To be determined by lab
NA	Not Applicable

Notes:

[1] State standard is in reference to the NYSDEC Division of Water's Technical and Operational Guidance Series (1.1.1) *"Ambient Water Quality Standards and Guidance Values"*, reissued June 1998, and the April 2000 Addendum.

* Not available

ND - Non detect

[2] Ref: NYSDEC Technical Administration Guidance Memorandum (TAGM) No. 4046, *Determination of Soil Cleanup Objectives and Cleanup Levels*, dated January 24, 1994 and revised April 10, 2001.

[3] Background levels of lead vary widely. Average levels in undeveloped rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm.

µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)

µg/l micrograms per liter, equivalent to parts per billion (ppb)

Holding times start from the time of verified receipt of samples. Samples collected for VOCs shall not be preserved, therefore the holding time shall be 7 days.

[5] Holding time for Volatiles is typically 14 days (if the sample is preserved). The note above states that the Volatiles will be unpreserved . Therefore, the holding time will be 7 days for liquid samples.

APPENDIX A

PRIOR ANALYTICAL DATA

ANALYTICAL DATA

FROM THE

PHASE 2 ENVIRONMENTAL SITE ASSESSMENT

COMPLETED BY

ADIRONDACK ENVIRONMENTAL SERVICES

DATED

JANUARY 1997

Site No. V-00150-7
VCA No. A7-0466-0702
Town of Cicero, Onondaga County, New York

Phase 2 Environmental Site Assessment, Adirondack Environmental Services, January 1997

TABLE A - VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS

Date Sampled: November 26, 1996 Matrix: Soil

Compound	Soil Boring (mg/kg)				
	SB-1/MW-1	SB-2	SB-3	SB-4/MW-2	SB-5
Dichlorodifluoromethane	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Chloromethane	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Vinyl Chloride	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Bromomethane	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Chloroethane	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Trichlorofluoromethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,1-Dichloroethene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Methylene Chloride	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
trans-1,2-Dichloroethene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,1-Dichloroethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Chloroform	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,1,1-Trichloroethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Carbon Tetrachloride	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,2-Dichloroethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Trichloroethene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,2-Dichloropropane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Bromodichloromethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
cis-1,3-Dichloropropene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
trans-1,3-Dichloropropene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
2-Chloroethylvinyl Ether	ND<1.5	ND<1.5	ND<1.5	ND<1.5	ND<1.5
1,1,2-Trichloroethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Tetrachloroethene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Dibromochloromethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Chlorobenzene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Bromoform	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,1,2,2-Tetrachloroethane	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,3-Dichlorobenzene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,4-Dichlorobenzene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
1,2-Dichlorobenzene	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Benzene	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Toluene	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Ethylbenzene	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Total Xylenes	ND<0.15	ND<0.15	ND<0.15	ND<0.15	ND<0.15
Gasoline	ND<20	ND<20	ND<20	ND<20	ND<20
Kerosene	ND<20	ND<20	ND<20	ND<20	ND<20
Fuel Oil	ND<20	ND<20	ND<20	ND<20	ND<20
Diesel	ND<20	ND<20	ND<20	ND<20	ND<20
Motor Oil	ND<50	ND<70	ND<70	ND<50	ND<70
TOTAL VOCs	ND	ND	ND	ND	ND

mg/kg milligrams per kilogram - parts per million

Site No. V-00150-7
VCA No. A7-0466-0702
Town of Cicero, Onondaga County, New York

Phase 2 Environmental Site Assessment, Adirondack Environmental Services, January 1997

TABLE B - VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS

Date Sampled: November 26, 1996

Matrix: Groundwater

Compound	Monitoring Well (µg/L)	
	SB-1/MW-1	SB-4/MW-2
Benzene	ND<20	ND<0.7
Trichloroethene	ND<20	ND<1.0
Toluene	ND<20	ND<1.0
Tetrachloroethene	ND<2000	ND<1.0
Chlorobenzene	ND<20	ND<1.0
Ethylbenzene	ND<20	ND<1.0
m-Xylene	ND<20	ND<1.0
p-Xylene	ND<20	ND<1.0
o-Xylene	ND<20	ND<1.0
Styrene	ND<20	ND<1.0
Isopropylbenzene	ND<20	ND<1.0
n-Propylbenzene	ND<20	ND<1.0
Bromobenzene	ND<20	ND<1.0
2-Chlorotoluene	ND<20	ND<1.0
1,3,5-Trimethylbenzene	ND<20	ND<1.0
4-Chlorotoluene	ND<20	ND<1.0
tert-Butylbenzene	ND<20	ND<1.0
1,2,4-Trimethylbenzene	ND<20	ND<1.0
sec-Butylbenzene	ND<20	ND<1.0
p-Isopropyltoluene	ND<20	ND<1.0
1,3-Dichlorobenzene	ND<20	ND<1.0
1,4-Dichlorobenzene	ND<20	ND<1.0
n-Butylbenzene	ND<20	ND<1.0
1,2-Dichlorobenzene	ND<20	ND<1.0
1,2,4-Trichlorobenzene	ND<20	ND<1.0
Hexachlorobenzene	ND<20	ND<1.0
Napthalene	ND<20	ND<1.0
1,2,3-Trichlorobenzene	ND<20	ND<1.0
Gasoline	ND<0.1	ND<0.1
Kerosene	ND<0.1	ND<0.1
Fuel Oil	ND<0.1	ND<0.1
Diesel	ND<0.1	ND<0.1
Motor Oil	ND<0.5	ND<0.5
TOTAL VOCs	2,000	0

µg/L micrograms per liter - parts per billion

Site No. V-00150-7
VCA No. A7-0466-0702□
Town of Cicero, Onondaga County, New York

Phase 2 Environmental Site Assessment, Adirondack Environmental Services, January 1997

TABLE C - VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS

Date Sampled: December 26, 1996

Matrix: Groundwater

Compound	Monitoring Well (µg/L)								
	MW-1a	MW-2a	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9
Chloromethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Bromomethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Dichlorodifluoromethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Vinyl Chloride	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Chloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	310	ND<1	ND<1	ND<5
Methylene Chloride	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Trichlorofluoromethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
1,1-Dichloroethene	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
1,1-Dichloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
total 1,2-Dichloroethene	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Chloroform	ND<50	ND<1	ND<1	ND<1	ND<1	750	ND<1	ND<1	30
1,2-Dichloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
1,1,1-Trichloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Carbon Tetrachloride	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Bromodichloromethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
1,2-Dichloropropane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
trans-1,3-Dichloropropene	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Trichloroethylene	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Dibromochloromethane	ND<50	ND<1	ND<1	ND<1	ND<1	140	ND<1	ND<1	ND<5
1,1,2-Trichloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
cis-1,3-Dichloropropene	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
2-Chloroethylvinyl Ether	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Bromoform	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
1,1,2,2-Tetrachloroethane	ND<50	ND<1	ND<1	ND<1	ND<1	ND<50	ND<1	ND<1	ND<5
Tetrachloroethylene	1,200	ND<1	ND<1	ND<1	ND<1	2,400	ND<1	ND<1	77
TOTAL VOCs	1,200	ND	ND	ND	ND	3,600	ND	ND	107

µg/L micrograms per liter - parts per billion

ANALYTICAL DATA

FROM THE

SOIL & GROUNDWATER INVESTIGATION

COMPLETED BY

C&H ENGINEERS

DATED

JUNE 1998

TABLE 1

Soil Sample Analysis Results
North Star Cleaners
7980-7984 Brewerton Road
Cicero, New York

Volatile Organic Compounds	Geoprobe Point										NYSDEC Allowable Soil Concentration (µg/kg)	NYSDEC Soil Cleanup Objectives To Protect Groundwater Quality (µg/kg)
	Utility-1	Utility-2	GP-2	GP-2	GP-3	GP-3	GP-4	GP-6	GP-10	GP-11		
	2'-4'	2'-4'	2'-4'	4'-6'	2'-4'	4'-6'	2'-4'	2'-4'	2'-4'	2'-4'		
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg		
Benzene	ND	***1.0***	ND	ND	ND	***1.4***	ND	ND	ND	***1.1***	***0.6***	***60.0***
n-Butylbenzene	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	***N/A***	***N/A***
Chloroethane	1.3	ND	2.7	ND	ND	ND	ND	ND	ND	ND	***19.0***	***1900.0***
Chloroform	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	***3.0***	***300.0***
Chloromethane	ND	ND	1.9	1.4	ND	ND	ND	ND	ND	ND	***N/A***	***N/A***
1,1-Dichloroethane	***3.5***	ND	***3.6***	***2.2***	1.4	1.3	1.1	ND	***2.9***	***2.1***	***2.0***	***200.0***
1,1-Dichloroethene	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	***4.0***	***400.0***
cis-1,2-Dichloroethene	49.7	ND	12.6	4.5	ND	ND	2.3	ND	ND	ND	***N/A***	***N/A***
trans-1,2-Dichloroethene	2.9	ND	1.7	ND	ND	ND	ND	ND	ND	ND	***3.0***	***300.0***
2,2-Dichloropropane	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	***N/A***	***N/A***
Methylene Chloride	ND	***13.0***	***11.2***	***11.5***	ND	ND	ND	ND	ND	***15.5***	***1.0***	***100.0***
Tetrachloroethene	2.7	1.7	7.9	1.7	1.1	1.5	ND	ND	***30.9***	1.3	***14.0***	***1400.0***
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	***15.0***	***1500.0***
1,1,1-Trichloroethane	2.1	ND	2.6	ND	ND	ND	ND	ND	ND	ND	***7.6***	***760.0***
Trichloroethene	3.2	ND	***8.9***	3.2	ND	ND	***7.8***	ND	3.7	1.7	***7.0***	***700.0***
Trichlorofluoromethane	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	***N/A***	***N/A***
Vinyl Chloride	***4.0***	ND	***4.4***	***2.0***	ND	ND	ND	ND	ND	ND	***1.2***	***120.0***

Notes:

1. "ND" = not detected
2. "N/A" = standard not available.
3. µg/kg = micrograms per kilogram (parts per billion).
4. *Shaded/* ***BOLD*** type indicate exceedence of referenced soil standard.
5. Samples collected on May 26 and May 27, 1998.

62001

6/29/98

T LE 2

Groundwater Sample Analysis Results

Northstar Cleaners
7984 Brewerton Road
Cicero, New York

Volatile Organic Compounds	Geoprobe Point					NYSDEC Groundwater Quality Standards (µg/L)
	GP-1 (µg/L)	GP-4 (µg/L)	GP-5 (µg/L)	GP-7 (µg/L)	GP-11 (µg/L)	
cis-1,2-Dichloroethene	265.0	146.0	ND	ND	7.1	*N/A*
trans-1,2-Dichloroethene	1.5	ND	ND	ND	ND	***5.0***
Tetrachloroethene	***1000.0***	***145.0***	2.8	1.4	***59.3***	***5.0***
Toluene	ND	2.5	2.3	2.3	ND	***5.0***
Trichloroethene	***126.0***	***75.9***	ND	ND	***5.6***	***5.0***
Vinyl Chloride	***32.7***	ND	ND	ND	ND	***2.0***
0-Xylene	1.4	ND	ND	ND	2.0	***5.0***

Notes:

1. "ND" = not detected
2. "N/A" = standard not available
3. ***Bold*** indicates exceedence of referenced groundwater standard.
4. µg/L = micrograms per liter (parts per billion)
5. Samples collected on May 26 and May 27, 1998.

ANALYTICAL DATA

FROM THE

PRELIMINARY REPORT

PREPARED BY

C&H ENGINEERS

DATED

JULY 1998

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

Laboratory Report

Lab Log No: 9807186

Client: C&H ENGINEERS
431 EAST FAYETTE STREET
SYRACUSE NY 13202-

Site: NORTHSTAR CLEANERS

Report Date: 08/10/98
Sampling Date: 07/11/98
Sampled By: M.M.,T.H.
Date Received: 07/13/98
Analyzed By: EAP
Analyzed: 07/24/98

Sample ID: SLUDGE - EAST SUMP

VOLATILES BY EPA 8021

ANALYTE	CAS #	UNITS	DL	RESULTS
Benzene	71-43-2	UG/KG	500	ND
Bromobenzene	108-86-1	UG/KG	500	ND
Bromochloromethane	74-97-5	UG/KG	500	ND
Bromodichloromethane	75-27-4	UG/KG	500	ND
Bromoform (Tribromomethane)	75-25-2	UG/KG	500	ND
Bromomethane	74-83-9	UG/KG	500	ND
n-Butylbenzene	104-51-8	UG/KG	500	19900
sec-Butylbenzene	135-98-8	UG/KG	500	16600
tert-Butylbenzene	98-06-6	UG/KG	500	8670
Carbon tetrachloride	56-23-5	UG/KG	500	ND
Chlorobenzene	108-90-7	UG/KG	500	ND
Chloroethane	75-00-3	UG/KG	500	ND
Chloroform (Trichloromethane)	67-66-3	UG/KG	500	ND
Chloromethane	74-87-3	UG/KG	500	ND
2-Chlorotoluene	95-49-8	UG/KG	500	ND
4-Chlorotoluene	106-43-4	UG/KG	500	ND
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	UG/KG	500	ND
Dibromochloromethane	124-48-1	UG/KG	500	ND
1,2-Dibromoethane	106-93-4	UG/KG	500	ND
Dibromomethane	74-95-3	UG/KG	500	ND
1,2-Dichlorobenzene	95-50-1	UG/KG	500	7260
1,3-Dichlorobenzene	541-73-1	UG/KG	500	ND
1,4-Dichlorobenzene	106-46-7	UG/KG	500	ND
Dichlorodifluoromethane	75-71-8	UG/KG	500	ND
1,1-Dichloroethane	75-34-3	UG/KG	500	ND
1,2-Dichloroethane	107-06-2	UG/KG	500	ND
1,1-Dichloroethene	75-35-4	UG/KG	500	619
cis-1,2-Dichloroethene	156-59-5	UG/KG	500	84400
trans-1,2-Dichloroethene	156-60-5	UG/KG	500	ND
1,2-Dichloropropane	78-87-5	UG/KG	500	ND
1,3-Dichloropropane	142-28-9	UG/KG	500	ND
2,2-Dichloropropane	590-20-7	UG/KG	500	ND
1,1-Dichloropropene	563-58-6	UG/KG	500	ND
cis-1,3-Dichloropropene	10061-01-5	UG/KG	500	ND
trans-1,3-Dichloropropene	10061-02-6	UG/KG	500	ND
Ethylbenzene	100-41-4	UG/KG	500	6620
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	UG/KG	500	ND
Hexachlorobutadiene	87-68-3	UG/KG	500	ND
Isopropylbenzene	98-82-8	UG/KG	500	22000
p-Isopropyltoluene	99-87-6	UG/KG	500	23700
Methylene chloride	75-09-2	UG/KG	500	ND
Naphthalene	91-20-3	UG/KG	500	4520
n-Propylbenzene	103-65-1	UG/KG	500	7390
Styrene	100-42-5	UG/KG	500	ND
1,1,1,2-Tetrachloroethane	630-20-6	UG/KG	500	ND
1,1,2,2-Tetrachloroethane	79-34-5	UG/KG	500	ND
Tetrachloroethene	127-18-4	UG/KG	500	.1E+8
Toluene	108-88-3	UG/KG	500	6010
1,2,3-Trichlorobenzene	87-61-6	UG/KG	500	ND
1,2,4-Trichlorobenzene	120-82-1	UG/KG	500	ND
1,1,1-Trichloroethane	71-55-6	UG/KG	500	ND
1,1,2-Trichloroethane	79-00-5	UG/KG	500	ND
Trichloroethene	79-01-6	UG/KG	500	31600
Trichlorofluoromethane	75-69-4	UG/KG	500	ND
1,2,3-Trichloropropane	96-18-4	UG/KG	500	ND
1,2,4-Trimethylbenzene	95-63-6	UG/KG	500	15500
1,3,5-Trimethylbenzene	108-67-8	UG/KG	500	13000
Vinyl chloride	75-01-4	UG/KG	500	ND
o-Xylene	106-38-3	UG/KG	500	4540
m,p-Xylene	95-47-6	UG/KG	500	12800
Z_SURROGATE1 (75%-130%)	BCB	UG/KG	0	118
Z_SURROGATE2 (75%-130%)	1CPA	UG/KG	0	115

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

(ND => not detected above DL indicated)
(NEG => not detected)
(DL => detection limit)
(ug/L => ppb in water)
(ug/kg => ppb solid)

8021L.FRX

John H. Buck, P.E.
Laboratory Director, ELAP ID 10795

BUCK ENVIRONMENTAL LABORATORIES, INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
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Laboratory Report
Lab Log No: 9807186

Client: C&H ENGINEERS
431 EAST FAYETTE STREET
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Site: NORTHSTAR CLEANERS

Report Date: 08/10/98
Sampling Date: 07/11/98
Sampled By: M.M.,T.H.
Date Received: 07/13/98
Analyzed By: EAP
Analyzed: 07/15/98

Sample ID: WATER - EAST SUMP

VOLATILES BY EPA 8021

ANALYTE	CAS #	UNITS	DL	RESULTS
Benzene	71-43-2	UG/L	1	ND
Bromobenzene	108-86-1	UG/L	1	ND
Bromochloromethane	74-97-5	UG/L	1	ND
Bromodichloromethane	75-27-4	UG/L	1	ND
Bromoform (Tribromomethane)	75-25-2	UG/L	1	ND
Bromomethane	74-83-9	UG/L	1	ND
n-Butylbenzene	104-51-8	UG/L	1	6.8
sec-Butylbenzene	135-98-8	UG/L	1	6.2
tert-Butylbenzene	98-06-6	UG/L	1	2.7
Carbon tetrachloride	56-23-5	UG/L	1	ND
Chlorobenzene	108-90-7	UG/L	1	ND
Chloroethane	75-00-3	UG/L	1	ND
Chloroform (Trichloromethane)	67-66-3	UG/L	1	37.7
Chloromethane	74-87-3	UG/L	1	ND
2-Chlorotoluene	95-49-8	UG/L	1	ND
4-Chlorotoluene	106-43-4	UG/L	1	ND
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	UG/L	1	ND
Dibromochloromethane	124-48-1	UG/L	1	ND
1,2-Dibromoethane	106-93-4	UG/L	1	ND
Dibromomethane	74-95-3	UG/L	1	ND
1,2-Dichlorobenzene	95-50-1	UG/L	1	ND
1,3-Dichlorobenzene	541-73-1	UG/L	1	ND
1,4-Dichlorobenzene	106-46-7	UG/L	1	ND
Dichlorodifluoromethane	75-71-8	UG/L	1	ND
1,1-Dichloroethane	75-34-3	UG/L	1	15
1,2-Dichloroethane	107-06-2	UG/L	1	ND
1,1-Dichloroethene	75-35-4	UG/L	1	36.7
cis-1,2-Dichloroethene	156-59-5	UG/L	1	ND
trans-1,2-Dichloroethene	156-60-5	UG/L	1	4.6
1,2-Dichloropropane	78-87-5	UG/L	1	ND
1,3-Dichloropropane	142-28-9	UG/L	1	ND
2,2-Dichloropropane	590-20-7	UG/L	1	ND
1,1-Dichloropropene	563-58-6	UG/L	1	ND
cis-1,3-Dichloropropene	10061-01-5	UG/L	1	ND
trans-1,3-Dichloropropene	10061-02-6	UG/L	1	ND
Ethylbenzene	100-41-4	UG/L	1	11.9
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	UG/L	1	ND
Hexachlorobutadiene	87-68-3	UG/L	1	ND
Isopropylbenzene	98-82-8	UG/L	1	5.1
p-Isopropyltoluene	99-87-6	UG/L	1	9.3
Methylene chloride	75-09-2	UG/L	1	ND
Naphthalene	91-20-3	UG/L	1	10.8
n-Propylbenzene	103-65-1	UG/L	1	4.1
Styrene	100-42-5	UG/L	1	ND
1,1,1,2-Tetrachloroethane	630-20-6	UG/L	1	ND
1,1,2,2-Tetrachloroethane	79-34-5	UG/L	1	ND
Tetrachloroethene	127-18-4	UG/L	1	53300
Toluene	108-88-3	UG/L	1	19.2
1,2,3-Trichlorobenzene	87-61-6	UG/L	1	ND
1,2,4-Trichlorobenzene	120-82-1	UG/L	1	ND
1,1,1-Trichloroethane	71-55-6	UG/L	1	ND
1,1,2-Trichloroethane	79-00-5	UG/L	1	4.4
Trichloroethene	79-01-6	UG/L	1	387
Trichlorofluoromethane	75-69-4	UG/L	1	ND
1,2,3-Trichloropropane	96-18-4	UG/L	1	ND
1,2,4-Trimethylbenzene	95-63-6	UG/L	1	11.8
1,3,5-Trimethylbenzene	108-67-8	UG/L	1	6.5
Vinyl chloride	75-01-4	UG/L	1	903
o-Xylene	108-38-3	UG/L	1	4.2
m,p-Xylene	95-47-6	UG/L	1	17.9
Z_SURROGATE1 (75%-130%)	BCB	UG/L	0	89.5
Z_SURROGATE2 (75%-130%)	1CPA	UG/L	0	84.1

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

(ND => not detected above DL indicated)
(NEG => not detected)
(DL => detection limit)
(ug/L => ppb in water)
(ug/kg => ppb solid)

8021L.FRX

John H. Buck, P.E.
Laboratory Director, ELAP ID 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

Laboratory Report
Lab Log No: 9807186

Client: C&H ENGINEERS
431 EAST FAYETTE STREET
SYRACUSE NY 13202-

Site: NORTHSTAR CLEANERS

Report Date: 08/10/98
Sampling Date: 07/11/98
Sampled By: M.M.,T.H.
Date Received: 07/13/98
Analyzed By: EAP
Analyzed: 07/15/98

Sample ID: SLUDGE - WEST SUMP

VOLATILES BY EPA 8021

ANALYTE	CAS #	UNITS	DL	RESULTS
Benzene	71-43-2	UG/KG	125	ND
Bromobenzene	108-86-1	UG/KG	125	ND
Bromochloromethane	74-97-5	UG/KG	125	ND
Bromodichloromethane	75-27-4	UG/KG	125	ND
Bromoform (Tribromomethane)	75-25-2	UG/KG	125	ND
Bromomethane	74-83-9	UG/KG	125	ND
n-Butylbenzene	104-51-8	UG/KG	125	1810
sec-Butylbenzene	135-98-8	UG/KG	125	1580
tert-Butylbenzene	98-06-6	UG/KG	125	ND
Carbon tetrachloride	56-23-5	UG/KG	125	ND
Chlorobenzene	108-90-7	UG/KG	125	ND
Chloroethane	75-00-3	UG/KG	125	ND
Chloroform (Trichloromethane)	67-66-3	UG/KG	125	ND
Chloromethane	74-87-3	UG/KG	125	ND
2-Chlorotoluene	95-49-8	UG/KG	125	ND
4-Chlorotoluene	106-43-4	UG/KG	125	ND
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	UG/KG	125	ND
Dibromochloromethane	124-48-1	UG/KG	125	ND
1,2-Dibromoethane	106-93-4	UG/KG	125	ND
Dibromomethane	74-95-3	UG/KG	125	ND
1,2-Dichlorobenzene	95-50-1	UG/KG	125	1360
1,3-Dichlorobenzene	541-73-1	UG/KG	125	ND
1,4-Dichlorobenzene	106-46-7	UG/KG	125	ND
Dichlorodifluoromethane	75-71-8	UG/KG	125	ND
1,1-Dichloroethane	75-34-3	UG/KG	125	152
1,2-Dichloroethane	107-06-2	UG/KG	125	ND
1,1-Dichloroethene	75-35-4	UG/KG	125	538
cis-1,2-Dichloroethene	156-59-5	UG/KG	125	25800
trans-1,2-Dichloroethene	156-60-5	UG/KG	125	ND
1,2-Dichloropropane	78-87-5	UG/KG	125	ND
1,3-Dichloropropane	142-28-9	UG/KG	125	ND
2,2-Dichloropropane	590-20-7	UG/KG	125	ND
1,1-Dichloropropene	563-58-6	UG/KG	125	ND
cis-1,3-Dichloropropene	10061-01-5	UG/KG	125	ND
trans-1,3-Dichloropropene	10061-02-6	UG/KG	125	ND
Ethylbenzene	100-41-4	UG/KG	125	3870
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	UG/KG	125	ND
Hexachlorobutadiene	87-68-3	UG/KG	125	ND
Isopropylbenzene	98-82-8	UG/KG	125	2140
p-Isopropyltoluene	99-87-6	UG/KG	125	3850
Methylene chloride	75-09-2	UG/KG	125	660
Naphthalene	91-20-3	UG/KG	125	1970
n-Propylbenzene	103-65-1	UG/KG	125	1750
Styrene	100-42-5	UG/KG	125	ND
1,1,1,2-Tetrachloroethane	630-20-6	UG/KG	125	ND
1,1,2,2-Tetrachloroethane	79-34-5	UG/KG	125	ND
Tetrachloroethene	127-18-4	UG/KG	125	.1E+8
Toluene	108-88-3	UG/KG	125	1800
1,2,3-Trichlorobenzene	87-61-6	UG/KG	125	759
1,2,4-Trichlorobenzene	120-82-1	UG/KG	125	1300
1,1,1-Trichloroethane	71-55-6	UG/KG	125	ND
1,1,2-Trichloroethane	79-00-5	UG/KG	125	ND
Trichloroethene	79-01-6	UG/KG	125	29200
Trichlorofluoromethane	75-69-4	UG/KG	125	ND
1,2,3-Trichloropropane	96-18-4	UG/KG	125	784
1,2,4-Trimethylbenzene	95-63-6	UG/KG	125	4800
1,3,5-Trimethylbenzene	108-67-8	UG/KG	125	3170
Vinyl chloride	75-01-4	UG/KG	125	2740
o-Xylene	108-38-3	UG/KG	125	1140
m,p-Xylene	95-47-6	UG/KG	125	5770
Z_SURROGATE1 (75%-130%)	BCB	UG/KG	0	112
Z_SURROGATE2 (75%-130%)	1CPA	UG/KG	0	109

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

(ND => not detected above DL indicated)
(NEG => not detected)
(DL => detection limit)
(ug/L => ppb in water)
(ug/kg => ppb solid)

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Sample ID: WATER - WEST SUMP

VOLATILES BY EPA 8021

ANALYTE	CAS #	UNITS	DL	RESULTS
Benzene				
Bromobenzene	71-43-2	UG/L	10	ND
Bromochloromethane	108-86-1	UG/L	10	ND
Bromodichloromethane	74-97-5	UG/L	10	ND
Bromoform (Tribromomethane)	75-27-4	UG/L	10	ND
Bromomethane	75-25-2	UG/L	10	ND
n-Butylbenzene	74-83-9	UG/L	10	ND
sec-Butylbenzene	104-51-8	UG/L	10	ND
tert-Butylbenzene	135-98-8	UG/L	10	ND
Carbon tetrachloride	98-06-6	UG/L	10	ND
Chlorobenzene	56-23-5	UG/L	10	ND
Chloroethane	108-90-7	UG/L	10	ND
Chloroform (Trichloromethane)	75-00-3	UG/L	10	ND
Chloromethane	67-66-3	UG/L	10	ND
2-Chlorotoluene	74-87-3	UG/L	10	ND
4-Chlorotoluene	95-49-8	UG/L	10	ND
1,2-Dibromo-3-chloropropane (DBCP)	106-43-4	UG/L	10	ND
Dibromochloromethane	96-12-8	UG/L	10	ND
1,2-Dibromoethane	124-48-1	UG/L	10	ND
Dibromomethane	106-93-4	UG/L	10	ND
1,2-Dichlorobenzene	74-95-3	UG/L	10	ND
1,3-Dichlorobenzene	95-50-1	UG/L	10	ND
1,4-Dichlorobenzene	541-73-1	UG/L	10	ND
Dichlorodifluoromethane	106-46-7	UG/L	10	ND
1,1-Dichloroethane	75-71-8	UG/L	10	ND
1,2-Dichloroethane	75-34-3	UG/L	10	ND
1,1-Dichloroethene	107-06-2	UG/L	10	ND
cis-1,2-Dichloroethene	75-35-4	UG/L	10	ND
trans-1,2-Dichloroethene	156-59-5	UG/L	10	ND
1,2-Dichloropropane	156-60-5	UG/L	10	ND
1,3-Dichloropropane	78-87-5	UG/L	10	ND
2,2-Dichloropropane	142-28-9	UG/L	10	ND
1,1-Dichloropropene	590-20-7	UG/L	10	ND
cis-1,3-Dichloropropene	563-58-6	UG/L	10	ND
trans-1,3-Dichloropropene	10061-01-5	UG/L	10	ND
Ethylbenzene	10061-02-6	UG/L	10	ND
Ethylene dibromide (1,2-Dibromoethane)	100-41-4	UG/L	10	ND
Hexachlorobutadiene	106-93-4	UG/L	10	ND
Isopropylbenzene	87-68-3	UG/L	10	ND
p-Isopropyltoluene	98-82-8	UG/L	10	ND
Methylene chloride	99-87-6	UG/L	10	ND
Naphthalene	75-09-2	UG/L	10	ND
n-Propylbenzene	91-20-3	UG/L	10	41
Styrene	103-65-1	UG/L	10	ND
1,1,1,2-Tetrachloroethane	100-42-5	UG/L	10	ND
1,1,2,2-Tetrachloroethane	630-20-6	UG/L	10	ND
Tetrachloroethene	79-34-5	UG/L	10	ND
Toluene	127-18-4	UG/L	10	868
1,2,3-Trichlorobenzene	108-88-3	UG/L	10	ND
1,2,4-Trichlorobenzene	87-61-6	UG/L	10	ND
1,1,1-Trichloroethane	120-82-1	UG/L	10	ND
1,1,2-Trichloroethane	71-55-6	UG/L	10	ND
Trichloroethene	79-00-5	UG/L	10	ND
Trichlorofluoromethane	79-01-6	UG/L	10	ND
1,2,3-Trichloropropane	75-69-4	UG/L	10	ND
1,2,4-Trimethylbenzene	96-18-4	UG/L	10	ND
1,3,5-Trimethylbenzene	95-63-6	UG/L	10	ND
Vinyl chloride	108-67-8	UG/L	10	ND
o-Xylene	75-01-4	UG/L	10	ND
m,p-Xylene	108-38-3	UG/L	10	ND
Z_SURROGATE1 (75%-130%)	95-47-6	UG/L	10	12.9
Z_SURROGATE2 (75%-130%)	BCB	UG/L	0	76
	1CPA	UG/L	0	75

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(ug/kg => ppb solid)

8021L.FRX

John H. Buck, P.E.
Laboratory Director, ELAP ID 10795

ANALYTICAL DATA

FROM THE

SUPPLEMENTAL SUBSURFACE INVESTIGATION

COMPLETED BY

CES, INC.

DATED

DECEMBER 2000

Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 1 - Summary of Soil Analytical Data
Method 8021 and 8270
(Page 1 of 4)

Method 8021	TOTAL NYSDEC STARS TCLP Alternative Guidance Values (ug/L)	TCLP NYSDEC STARS TCLP Extraction Guidance Values (ug/L)	TOTAL MW-1 (4'-8') (ug/Kg) 10/20/00	TCLP MW-1 (4'-8') (ug/Kg) 10/20/00	TOTAL MW-2 (4'-8') (ug/Kg) 10/20/00	TCLP MW-2 (4'-8') (ug/Kg) 10/20/00	TOTAL MW-3 (4'-8') (ug/Kg) 10/20/00	TCLP MW-3 (4'-8') (ug/Kg) 10/20/00	TOTAL MW-4 (4'-8') (ug/Kg) 10/20/00	TCLP MW-4 (4'-8') (ug/Kg) 10/20/00
Benzene	14	0.7	< 14	NC	< 14	NC	< 14	NC	< 14	NC
Toluene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Ethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
M-Xylene & P-Xylene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
O-Xylene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Isopropylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
N-Propylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
1,3,5-Trimethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
tert-Butylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
1,2,4-Trimethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
utylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
opropyltoluene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
N-Butylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Naphthalene	200	10	< 200	NC	< 200	NC	< 200	NC	< 200	NC
Methyl-t-Butyl Ether	1,000	50	< 500	NC	< 500	NC	< 500	NC	< 500	NC
Total VOC Concentrations			ND	NC	ND	NC	ND	NC	ND	NC
Method 8270										
Naphthalene	200	10	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Acenaphthylene	NA	NA	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Acenaphthene	400	20	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Fluorene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Phenanthrene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Anthracene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Fluoranthene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Pyrene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Benzo(a)Anthracene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Chrysene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Benzo(b)Fluoranthene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Benzo(k)Fluoranthene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Benzo(a)Pyrene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Indeno(1,2,3-cd)Pyrene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
Di[illegible](a,h)Anthracene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
[illegible]i)Perylene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5
[illegible]al SVOC Concentrations			ND	ND	ND	ND	ND	ND	ND	ND

NA = Not Available
ND = Not Detectable
NC = Not Conducted

Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 1 - Summary of Soil Analytical Data
Method 8021 and 8270
(Page 2 of 4)

Method 8021	TOTAL NYSDEC STARS TCLP Alternative Guidance Values (ug/L)	TCLP NYSDEC STARS TCLP Extraction Guidance Values (ug/L)	TOTAL MW-5 (8'-12') (ug/Kg) 10/20/00	TCLP MW-5 (8'-12') (ug/Kg) 10/20/00	TOTAL SB-9 (4'-8') (ug/Kg) 10/20/00	TCLP SB-9 (4'-8') (ug/Kg) 10/20/00	TOTAL SB-11 (4'-8') (ug/Kg) 10/20/00	TCLP SB-11 (4'-8') (ug/Kg) 10/20/00	TOTAL SB-12 (4'-8') (ug/Kg) 10/20/00	TCLP SB-12 (4'-8') (ug/Kg) 10/20/00	TOTAL Floor Drains (BERCO'S) (ug/Kg) 10/20/00	TCLP Floor Drains (BERCO's) (ug/Kg) 10/20/00
Benzene	14	0.7	< 14	NC	< 14	NC	< 14	NC	< 14	NC	< 14	NC
Toluene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Ethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
M-Xylene & P-Xylene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
O-Xylene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Isopropylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
N-Propylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
1,3,5-Trimethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
tert-Butylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
1,2,4-Trimethylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
Sec-Butylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
P-Isopropyltoluene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
N-Butylbenzene	100	5	< 50	NC	< 50	NC	< 50	NC	< 50	NC	< 50	NC
phthalene	200	10	< 200	NC	< 200	NC	< 50	NC	< 50	NC	< 50	NC
ethyl-t-Butyl Ether	1,000	50	< 500	NC	< 500	NC	< 200	NC	< 200	NC	< 200	NC
Total VOC Concentrations			ND	NC	ND	NC	< 500	NC	< 500	NC	< 500	NC
Method 8270												
Naphthalene	200	10	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Acenaphthylene	NA	NA	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Acenaphthene	400	20	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Fluorene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Phenanthrene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Anthracene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Fluoranthene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Pyrene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Benzo(a)Anthracene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Chrysene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Benzo(b)Fluoranthene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Benzo(k)Fluoranthene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Benzo(a)Pyrene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Indeno(1,2,3-cd)Pyrene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Dibenzo(a,h)Anthracene	1,000	50	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Benzo(ghi)Perylene	0.04	0.002	< 200	< 5	< 200	< 5	< 200	< 5	< 200	< 5	< 2000	< 5
Total SVOC Concentrations			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Not Available
Not Detectable
= Not Conducted

CES Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 1 - Summary of Soil Analytical Data
Method 8082, 8260 and Lead
(Page 3 of 4)

Method 8082	Totals MW-1 (4'-8') (mg/Kg) 10/20/00	TCLP MW-1 (4'-8') (mg/Kg) 10/20/00	Totals MW-2 (4'-8') (mg/Kg) 10/20/00	TCLP MW-2 (4'-8') (mg/Kg) 10/20/00	Totals MW-3 (4'-8') (mg/Kg) 10/20/00	TCLP MW-3 (4'-8') (mg/Kg) 10/20/00	Totals MW-4 (4'-8') (mg/Kg) 10/20/00	TCLP MW-4 (4'-8') (mg/Kg) 10/20/00
Aroclor 1221	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1232	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1242/1016	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1248	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1254	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1260	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Total Aroclor Concentrations	ND	NC	ND	NC	ND	NC	ND	NC
Method 8260								
Acetone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Benzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromodichloromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromoform	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromomethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
2-Butanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Carbon Disulfide	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Carbon Tetrachloride	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chloroethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Chloroform	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chloromethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
2-Chloroethylvinylether	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Dibromochloromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Dichlorodifluoromethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
1,1-Dichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1-Dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
cis-1,2-dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
trans-1,2-Dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichloropropane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
cis-1,3-Dichloropropene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
trans-1,3-Dichloropropene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Ethylbenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
2-Hexanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Methylene Chloride	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
4-Methyl1-2-Pentanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Styrene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,2,2-Tetrachloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Tetrachloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Toluene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,1-Trichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,2-Trichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Trichlorofluoromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Trichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Vinyl Acetate	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Vinyl Chloride	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Total Xylenes	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,3-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,4-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Total Solvent Concentrations	ND	NC	ND	NC	ND	NC	ND	NC
Total Lead Concentrations	6.7 mg/Kg	NC	9.3 mg/Kg	NC	13.0 mg/Kg	NC	12.0 mg/Kg	NC

ND - Not Detected

CES Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 1 - Summary of Soil Analytical Data
Method 8082, 8260 and Lead

Method 8082	MW-5 (8'-12') (mg/Kg) 10/20/00	MW-5 (8'-12') (mg/Kg) 10/20/00	SB-9 (4'-8') (mg/Kg) 10/20/00	SB-9 (4'-8') (mg/Kg) 10/20/00	SB-11 (4'-8') (mg/Kg) 10/20/00	SB-11 (4'-8') (mg/Kg) 10/20/00	SB-15 (4'-8') (mg/Kg) 10/20/00	SB-15 (4'-8') (mg/Kg) 10/20/00	Floor Drains (BERCO's) (mg/Kg) 10/20/00	Floor Drains (BERCO's) (mg/Kg) 10/20/00
Aroclor 1221	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1232	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1242/1016	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1248	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1254	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Aroclor 1260	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Total Aroclor Concentrations	ND	NC	ND	NC	ND	NC	ND	NC	ND	NC
Method 8260										
Acetone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Benzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromodichloromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromoform	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Bromomethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
2-Butanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Carbon Disulfide	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Carbon Tetrachloride	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chloroethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Chloroform	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Chloromethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
2-Chloroethylvinylether	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Dibromochloromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Dichlorodifluoromethane	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
1,1-Dichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1-Dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
cis-1,2-dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
trans-1,2-Dichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichloropropane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
cis-1,3-Dichloropropene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
trans-1,3-Dichloropropene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Ethylbenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
2-Hexanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Methylene Chloride	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
4-Methyl1-2-Pentanone	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Styrene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,2,2-Tetrachloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Tetrachloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Toluene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,1-Trichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,1,2-Trichloroethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Trichlorofluoromethane	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Trichloroethene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Vinyl Acetate	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Vinyl Chloride	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC	< 0.5	NC
Total Xylenes	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,3-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,4-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
1,2-Dichlorobenzene	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC	< 0.1	NC
Total Solvent Concentrations	ND	NC	ND	NC	ND	NC	ND	NC	ND	NC
Total Lead Concentrations	8.2 mg/Kg	NC	25.0 mg/Kg	NC	8.0 mg/Kg	NC	10.0 mg/Kg	NC	215.0 mg/Kg	NC

ND - Not Detected

Certified Environmental Services, Inc.

ATTACHMENT C

Summary of Groundwater Analytical Data

CES Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 2 - Summary of Groundwater Analytical Data
Method 8021 and 8270
(Page 1 of 2)

Method 8021	NYSDEC Water Quality Regulations	MW-1 Grab (ug/L) 10/20/00	MW-2 Grab (ug/L) 10/20/00	MW-3 Grab (ug/L) 10/20/00	MW-4 Grab (ug/L) 10/20/00	MW-5 Grab (ug/L) 10/20/00
Benzene	1 ug/L	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Toluene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M-Xylene & P-Xylene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
O-Xylene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	5 ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	10 ug/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl-t-Butyl Ether	10 ug/L	< 5.0	8.3	107	8.6	< 5.0
Total VOC Concentrations		ND	8.3	107	8.6	ND
Method 8270						
Naphthalene	10 ug/L	< 5	< 5	< 5	< 5	< 5
Acenaphthylene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Acenaphthene	20 ug/L	< 5	< 5	< 5	< 5	< 5
Fluorene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Phenanthrene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Anthracene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Fluoranthene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Pyrene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Benzo(a)Anthracene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Chrysene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Benzo(b)Fluoranthene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Benzo(k)Fluoranthene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Benzo(a)Pyrene	ND**	< 5	< 5	< 5	< 5	< 5
Indeno(1,2,3-cd)Pyrene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Dibenzo(a,h)Anthracene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Benzo(ghi)Perylene	50 ug/L	< 5	< 5	< 5	< 5	< 5
Total SVOC Concentrations		ND	ND	ND	ND	ND

NA = Not Available
ND = Not Detectable
NC = Not Conducted

CES Certified Environmental Services, Inc.

The Widewaters Group, Inc.
Route 11
Cicero, New York

Table 2 - Summary of Groundwater Analytical Data
Method 8082, 8260 and Lead
(Page 2 of 2)

Method 8082	MW-1 Grab (ug/L) 10/20/00	MW-2 Grab (ug/L) 10/20/00	MW-3 Grab (ug/L) 10/20/00	MW-4 Grab (ug/L) 10/20/00	MW-5 Grab (ug/L) 10/20/00
Aroclor 1221	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Aroclor 1232	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Aroclor 1242/1016	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Aroclor 1248	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Aroclor 1254	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Aroclor 1260	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
Total Aroclor Concentrations	ND	ND	ND	ND	ND
Method 8260					
Acetone	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Butanone	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Tetrachloride	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Chloroethylvinylether	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-dichloroethene	34	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Methyl1-2-Pentanone	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Acetate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	9.4	< 2.0	< 2.0	< 2.0	< 2.0
Total Xylenes	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Solvent Concentrations	12.4	ND	ND	ND	ND
Total Lead Concentration	< 0.001 mg/L	< 0.001 mg/L	< 0.001 mg/L	< 0.001 mg/L	< 0.001 mg/L

ND - Not Detected

APPENDIX B

STANDARD OPERATING PROCEDURES

- **PID SOIL SAMPLE FIELD SCREENING**
- **GROUNDWATER SAMPLING PROCEDURE**
- **SAMPLING EQUIPMENT CLEANING PROCEDURE**

PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

PID SOIL SAMPLE FIELD SCREENING

This standard operating procedure pertains field screening of subsurface soil samples with a photoionization detector (PID) collected using routine drilling methods. With modification, it may also pertain to the field screening of soil samples of any type (surface or subsurface) collected by any methods (for example, from test pits) in which the information will be used to assist in characterizing environmental site conditions.

A. Sample collection:

- If the retrieved sample shows visual indications of potential contamination, a grab sample comprised of a representative portion of the retrieved sample shall be selected for screening.

- If the retrieved sample shows no visual indications of potential contamination, representative portions of the sample will be used to make a composite sample for the screening measurement. The maximum sample interval for the composite sample shall not exceed the length of the sampler used, being 2 feet for standard spilt spoon sampling methods, or 4 feet if using 48-inch long sleeved core samplers in non-gravel bearing formations.

- If 48-inch core samplers are being used, multiple grab samples from different depths or an upper and lower composite sample may be collected for more detailed screening results.

B. Sample Readings:

- The selected samples will be placed in a twist-top plastic sampling bag (*Whirl-Pacs*, by Nasco, or equal) and sealed tightly. Glass drilling jars with screw lids may also be used. Immediately after sealing the sample container, the samples shall be broken apart (disaggregated) before storing and taking the reading.

- All samples collected for PID screening should be given a comparable amount of time in storage under similar temperature conditions (to generate a head space vapor) of at least a few minutes, before taking the reading. The site inspector shall perform the measurements periodically throughout the day as samples are collected in order to introduce as much consistency to the work as practical.

- Samples collected during winter work shall be stored at room temperature, in a running vehicle with the heater on, for example.

- Take the PID measurement from the headspace of the sample container, recording the readings obtained after opening the container and quickly inserting the PID probe. Readings will typically rise as the sampling pump draws head space vapor into the unit, then decline due to dilution effects of opening the container. The maximum readings obtained shall be recorded.

- The PID is to be calibrated against the calibration gas at least once for every one-half day's work.

The ionization potentials for the COCs are listed in the attached Table A.

PLUMLEY ENGINEERING, P.C.
SAMPLING PROCEDURES

GROUNDWATER SAMPLING PROCEDURE

This procedure ensures that a groundwater sample collected is representative of the hydrogeologic formation. This procedure is utilized anytime a monitoring well is sampled. There are no specific definitions for this procedure. Consult the Equipment Checklist for required materials. Precautions on the chemical preservative Material Safety Data Sheets must be followed.

INSTRUCTIONS:

1. Read over the scope of work to become familiar with the specifics of the program.

2. Obtain appropriate sample containers from the laboratory.

3. Prepare sampling equipment necessary for the program.

    a. Consult the Equipment Checklist.

    b. Reserve equipment, if necessary.

        NOTE: Try to have enough equipment on site to avoid decontamination while sampling.

    c. Check, test and clean all equipment before leaving for the site.

    d. Always bring more than enough personnel protective equipment and expendables (ex. gloves, tyvek, rope etc.) on site to complete the program.

4. Examine the monitoring well.

    a. Confirm the well identification.

b. Note any damage in the groundwater field log.

5. Place a plastic sheet around the monitoring well so the field equipment (bailer, rope, meters, etc.) is not in direct contact with the ground, avoiding contamination.

6. Wipe the monitoring well's outer casing cover clean of any foreign material which might enter the well when it is opened.

7. Unlock the monitoring well.

NOTE: Securely lock the monitoring well when it is left unattended and is not in direct view.

8. The monitoring well headspace of all wells is to be monitored with a photoionization detector (PID) during the initial entry.

   a. Open the outer well casing cover just enough to insert the PID probe.

   b. Monitor the well headspace for organic vapors.

   c. Remove the probe and close the casing cover.

   d. Record the results in the groundwater field log.

   e. Establish appropriate levels of personnel protection.

9. Remove the outer well casing cover.

10. Put on a new pair of disposable gloves before doing any field measurements, preventing cross-contamination.

11. Measure the depth to water and the total depth of the monitoring well with an electronic water level indicator.

12. Calculate the volume of water within the well and determine how much must be evacuated.

Monitoring Well Volume Calculation:

SWL	=Depth to Water	C	= Conversion Factor
TD	=Total Depth of Well	N	=Number of Volumes to Evacuate
L	=Length of Water Column	TV	=Total Volume to Evacuate

TD - SWL = L

L x C = 1 well volume

1 well volume x N = TV

Common Conversion Factors:

0.16 2 inch well

0.65 4 inch well

NOTE: Quick field calculations for 3 well volume evacuation.

2-inch well: divide the length of the water column (L) by 2

4 inch well: multiply the length of the water column (L) by 2

13. The monitoring wells shall be evacuated and sampled using a low flow peristaltic pump system. Clean, dedicated pump suction and decontaminated drive tubing is to be provided for each well.

14. If initial field readings (ex. eh, temperature, pH, specific conductivity, etc.) are necessary:

a. Measurements are taken from the first water evacuated from the well.

NOTE: Always calibrate field meters on site daily before initial use and check the calibration periodically.

b. Field reading are taken in the following order:

eh

temperature

pH

specific conductivity

c. Record the readings in the groundwater field log.

15. If a bailer is going to be used to evacuate the monitoring well:

a. Push only the bailer loop through the protective polyethylene wrap, leaving the rest of the bailer covered.

b. Attach a spool of 3/16-inch polypropylene rope to the bailer, using at least two half hitches, and weave the rope end through the main rope several times.

c. Keep the bailer in the protective wrap until just before it is lowered into the monitoring well.

d. Gently lower the bailer into the well until it contacts the water surface.

NOTE: The contact is felt through the rope and may be audible.

e. An immiscible layer check will be done prior to evacuation with the bailer:

1. Lower the bailer about 2 feet into the water (skim the surface).

2. Retrieve the bailer.

NOTE: The bailer rope is still attached to the spool and care must be taken to avoid contamination of the rope spool. In addition, the retrieved rope must not come in contact with sources of contamination.

3. Pour the bailer contents into a clear glass container for observation.

4. Return the bailer to the well.

5. Record any amount of free product and associated observations in the field log (ex. odor, sheen).

f. Gently lower the bailer to the bottom of the well.

NOTE: The bailer must go all the way to the bottom to ensure there is enough rope if the well must be bailed dry.

g. Cut the bailer rope from the spool.

h. Begin bailing.

1. Gently retrieve the bailer.

2. Empty the bailer into a graduated 5 gallon bucket.

3. Gently lower the bailer 1 or 2 feet below the surface of the water.

4. Repeat steps 1, 2 and 3 until the required water volume has been removed or the well is dry.

16. Evacuated well water is dumped away from the well so that it doesn't flow back towards any monitoring well.

NOTE: If the evacuated water is contaminated (ex. free product, strong odor or sheen) the purge water shall be stored on-site in a 55 gallon drum. Notify the client of status of drum after each sampling event and arrange appropriate disposal.

17. a. For samples collected for analysis by volatile parameters, 95% well recovery is not required. Sampling for VOCs should be performed as soon as sufficient volume of a sample can be collected without disturbing any sediment that may be present at the bottom of the well.

    NOTE: VOC samples must be collected within 2 hours of well evacuation.

    b. For samples collected for analysis by semi-volatile parameters, 95% well recovery is required prior to sampling. If 95% recovery is not noted within 24 hours, the DEC shall be consulted for proper sample collection procedure. This procedure is likely to consist of collecting the sample while taking care not to disturb any sediment that may be present at the bottom of the well.

18. If samples for both volatile and semi-volatile analysis are to be collected from the same well and 95% well recovery is not noted within 2 hours of well evacuation, the DEC shall be consulted for proper sample collection procedure. This will likely consist of collecting the samples separately by the procedures outlined in Item 17.

19. Before collecting any samples:

    a. Check the sample containers are properly labeled as to client name, sample location, analysis to be performed and container preservation.

    b. Check sample containers are stored in a contaminant-free environment.

20. Samples are collected from the screened portion of the monitoring well in the order of the parameters' volatilization sensitivity unless otherwise specified in the scope of work.

    a. Volatile organics

    b. Field readings

c. Total organic carbon

d. Extractable organics

e. Total metals

f. Dissolved metals

g. Phenols

h. Cyanides

i. Sulfate and chloride

j. Turbidity

k. Nitrate and ammonia

l. Radionuclides

21. Begin sample collection.

a. Do not over fill preserved sample containers. This may result in inadequately preserved samples.

b. Containers for volatile analysis are filled slowly in such a way that the sample runs down the inner wall of the container reducing volatilization of the sample.

c. Containers for alkalinity and volatile analysis are filled with no headspace.

NOTE: If headspace is present in the container after it is capped, it is emptied out and refilled. The label is corrected to read "unpreserved", if necessary.

d. Containers for semi-volatile analysis are filled with as little headspace as possible.

e. Keep the quality control requirements of the program in mind and collect adequate sample volumes (Appendices 1 and 2).

22. Immediately after sampling:

a. Store all collected samples in a cooler maintained at 4 degrees centigrade.

b. Place the custody seals on the containers or coolers if the scope of work calls for them.

c. Fill out the chain of custody form.

d. Check the groundwater field log is complete.

NOTE: Field notes are critical to inform the client and laboratory personnel about the conditions of the well and other observations (ex. weather, strange odors, bent casing or flooded wells). These notes may help in running the samples as well as interpreting the analytical results.

23. Collect the used expendables (ex. gloves, rope etc.) in a plastic bag and properly dispose of them.

24. Lock the monitoring well.

25. Deliver the samples to the laboratory within all appropriate holding times for the parameters to be analyzed.

26. Clean all the used sampling equipment per Standard Procedures for Decontamination.

PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

SAMPLING EQUIPMENT CLEANING PROCEDURE

This procedure ensures better laboratory results through the use of properly cleaned sampling equipment. This procedure is utilized anytime sampling equipment is cleaned. There are no specific definitions for this procedure. Materials required include Alconox, deionized water, 10% nitric acid solution and methanol. Precautions on the Material Safety Data Sheets must be followed.

INSTRUCTIONS:

1. Rinse the equipment with tap water to remove any loose debris.
2. Wash the equipment with tap water and non phosphate detergent (ex. Alconox).
3. Rinse the equipment with tap water to remove any traces of detergent.
4. Rinse the equipment with a 10% nitric acid solution followed by deionized water.
5. Rinse the equipment with methanol.
6. Allow the equipment to air dry in a contaminant free area.
7. Seal the equipment in plastic to keep it clean.
8. Label the equipment with the cleaner's initials and date of cleaning.
9. Store all the equipment in a contaminant free area.

APPENDIX C

QA/QC QUALIFICATIONS

CURRICULUM VITAE

DALE R. VOLLMER, P.E.

QUALIFICATIONS AND EXPERIENCE

1993-Present **PLUMLEY ENGINEERING, P.C.**
Baldwinsville, New York

As Managing Engineer, responsible for project management, design, construction management of a variety of civil and environmental engineering projects, including the following:

- Petroleum and hazardous waste site investigations, including soil and groundwater contamination assessment, remedial feasibility studies, remediation systems design and construction management. Contaminated sites have included petroleum products, PCBs, chlorinated solvents, metals and coal tar.

- Brownfields redevelopment including the first project to be completed and redeveloped in the State under the New York State Environmental Bond Act program.

- Environmental site assessments (Phase 1 and 2) for property transfers, including petroleum service stations, commercial and industrial property. Assessments are performed in accordance with latest ASTM guidance.

- Petroleum storage and dispensing facilities design and construction, petroleum tank closure management, spill prevention and response planning, and secondary containment evaluation and design. Facilities include retail service stations, petroleum bulk plants, petroleum terminals and airport fueling facilities.

- Industrial wastewater treatment facilities design and construction management for manufacturing processes including dairy products, electro-plating, food processing, wire drawing, and industrial laundry.

- Industrial compliance services, including environmental compliance audits, air emissions surveys, permit application preparation for air emissions, process wastewater discharges, stormwater, and solid waste management facilities, preparation of best management practices (BMP) plans for stormwater and spill prevention.

1992-1993 **NIAGARA MOHAWK POWER CORPORATION**
Syracuse, New York

As Associate Senior Environmental Analyst in the Environmental Compliance and Waste Management Section, responsible for developing and implementing programs to enhance compliance with environmental requirements. Developed new procedures and performed company-wide training in the area of hazardous waste management, spill prevention, petroleum bulk storage, reporting and cleanup, and PCB management. Also participated as an instructor for Executive Enterprises, Inc. at their PCB Cleanup and Compliance Courses in Washington, D.C.

1976-1992 **NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, REGION 7**
Syracuse, New York

As Regional Spill Engineer (1987-1992), responsible for the Spill Prevention and Response Program in a nine county area. Managed staff of fourteen engineers, geologist, and technicians dealing with storage of petroleum and other hazardous substances and response to an average of 800 spills per year of petroleum and hazardous materials. Inspected installations and reviewed plans for petroleum bulk storage facilities for compliance with regulatory requirements. Performed public presentations/training on petroleum storage requirements. Responsible for oversight of spill response contractors with annual expenditures of approximately $1,000,000. Managed State-funded clean-ups and investigations and designed remedial systems. Reviewed work plans and progress of responsible party funded cleanups.

As Senior Air Pollution Control Engineer (1981-1987), responsible for implementation of the Air Pollution Control Program in a three county area. Reviewed and determined conditions for issuance of air emission permits for all types of sources, including garbage burning incinerators, coal fired boilers, volatile organic compound emissions sources, toxic emission sources, electric arc steel furnaces, etc. Familiar with various State regulations, Federal Clean Air Act including the State Implementation Plan, Prevention of Significant Detection, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants. Performed inspections of industrial processes, performed and witnessed stack emission testing, performed certified visible emission monitoring, performed and reviewed emission calculations, performed and reviewed BACT, RACT, PSD and LAER determinations for particulate, SO_2, NO_x and VOC sources, performed and reviewed dispersion modeling and all aspects of permit review and compliance. Air quality modeling experience includes work with Air Guide-1 analysis and EPA models "SCREEN3", "ISC", "Valley" and "COMPLEX".

As Industrial Wastewater Engineer (1979-1981), responsible for Industrial Wastewater Discharge Program in a three county area. Reviewed engineering design of industrial wastewater treatment systems, including biological, physical/chemical and other systems. Evaluated industrial processes for potential pollutant discharges. Inspected industrial facilities for compliance with State and Federal discharge limitations. Established sampling programs for evaluation of compliance with permit limitations.

As Sanitary Engineer (1976-1978), responsible for Commercial Wastewater Discharge Program in a nine county area. Reviewed engineering design of commercial wastewater treatment facilities, established effluent limits based on water quality standards or treatment requirements, evaluated failing treatment systems and recommended design changes. Inspected facilities for conformance with engineering drawings and performance criteria.

1976 **ROWELL & ASSOCIATES, P.C.**
East Syracuse, New York

As Engineering Survey Crew Chief, responsible for all field activities of an engineering field survey crew of Conrail Dewitt Railroad Yard. Included utilization of state-of-the-art electronic distance and angle measuring equipment.

1974-1976 **GURSKY & RYAN ENGINEERS & LAND SURVEYORS**
North Syracuse, New York

As Project Engineer, responsible for various site development projects, including design of water supply and distribution systems, wastewater disposal systems and drainage facilities. Prepared associated permit applications, plans and engineering reports for approval by various State and local regulatory agencies. Prepared cost estimates, performed engineering field surveys, and construction inspections.

EDUCATION

1974 Bachelor of Science in Civil/Environmental Engineering
Clarkson University
Potsdam, New York

REGISTRATION

Professional Engineer Licensed in the State of New York, 1979

CONTINUING EDUCATION COURSES

MTBE Fate & Transport
Confined Space Entry
Underground Storage Tank Management & Hydrocarbon Contamination Cleanup
Identification of Hazardous Wastes
USDOT Hazardous Materials Regulation (HM-126F)
Health & Safety Operations for Supervisors at Hazardous Material Sites
Health & Safety Operations at Hazardous Material Sites
Fundamentals of Groundwater Contamination
Basic Soil Mechanics and Hydrogeology
Local Groundwater Management
Grade II Wastewater Treatment Plant Operator
Activated Sludge Technology
Microbiology Workshop
Flow Metering Equipment & Maintenance
Solids Conditioning Workshop
Plant Inspection & Evaluation Procedures
Combustion Evaluation
Control of Gaseous Emissions
Control of Particulate Emissions
Continuous Emission Monitoring
Boiler Efficiency Improvement
Engineering Permit Review Workshop
Effective Management & Leadership
Emissions from Hazardous Waste Treatment, Storage and Disposal Facilities
Hazardous Waste Incineration
Visible Emissions Certification

CURRICULUM VITAE

FRANK A. KARBOSKI, C.P.G.

QUALIFICATIONS AND EXPERIENCE

1986-Present **PLUMLEY ENGINEERING, P.C.**
Baldwinsville, New York

Project hydrogeologist for contaminated groundwater investigations involving industrial sites in the Central New York area (Broome, Cortland, Onondaga and Oneida Counties). Primary duties included characterizing the site hydrogeology and delineating the extent of contamination, typically industrial solvents, in unconsolidated glacial deposits. Preparation of remedial investigation reports and feasibility studies.

Design and construction management of groundwater and soil remediation systems, including pump and treat, soil vapor extraction, air sparging and bioremediation.

Performed aquifer (potable water source) exploratory investigations in bedrock and unconsolidated glacial deposits of Central New York for the Villages of East Syracuse and Camden, the Towns of Vienna and McConnellsville, and Omega Wire, Inc. at Williamstown, New York. Provided design recommendations for production facilities involving suitable aquifers discovered for East Syracuse and Camden, New York.

Researched previous work and co-authored a hydrogeologic report on the Allied-Signal, Inc. waste beds in the Town of Camillus, New York for the Town of Camillus. The report dealt primarily with the physical characteristics of the waste beds and their hydrogeologic setting.

Performed hydrogeologic investigations and designed a groundwater monitoring well network for the Town of Camillus, New York municipal solid waste and construction and demolition debris landfills at Belle Island Road. Coordinated and inspected the installation of groundwater monitoring wells at the Seneca Meadows Landfill in Waterloo, New York.

Performed many subsurface petroleum spill investigations involving leaking underground storage tanks and groundwater impacts.

Provided field inspection services for a geotechnical soils investigation of an earthen dam for Niagara Mohawk Power Corporation. The project involved obtaining standard penetration and cone penetrometer test data, field calibration of standard penetration test equipment, and soils and bedrock sample logging. The field data was subsequently used for a seismic analysis of the dam.

Considerable experience inspecting standard penetration testing per American Society for Testing and Materials (ASTM) D-1586, and field classifying soils according to the Unified Soil Classification System per ASTM D-2488.

Primary designer for contaminated groundwater remedial systems involving:

- Single and multiple recovery wells, including well point extraction systems.
- Interception trench systems.
- Soil vapor extraction.
- Granular activated carbon and aeration treatment units.
- Various types of groundwater pump systems.

Project management and design experience for civil engineering projects involving:

- Aquifer pumping tests.
- Production water well designs.
- Foundation investigations.
- Environmental audits.
- Landfill site feasibility and monitoring per 6NYCRR Part 360 Solid Waste Management Regulations.
- Spill Prevention, Control and Countermeasure (SPCC) Plans for petroleum bulk storage facilities.
- Construction inspections and contractor coordination.
- Subdivision plans and submissions.
- Urban hydrology of small watersheds using United States Department of Agriculture TR-55 methodology.
- Regulatory permitting and compliance.

1980-1986 **WHALE RIVER OUTFITTERS, LTD.**
Parish, New York

Vice President and Camp Manager for an Atlantic Salmon Fishing Camp in Northern Quebec Province, Canada.

EDUCATION

1977-1980 M.Sc., Geology
Carleton University, Ottawa, Ontario, Canada

1977-1980 Research Scholarship Awarded from the
Department of Geology, Carleton University

1973-1977 B.Sc., Geology
St. Lawrence University, Canton, New York

1973-1980 Thesis Field Projects completed for partial fulfillment of degree requirements in Geology from St. Lawrence and Carleton Universities.

Educational training involved considerable field and laboratory work mapping sedimentary and metamorphic rocks. Thesis project for graduate degree involved mapping the Precambrian bedrock geology of a 65-square mile area of the Grenville Province previously unmapped in southwestern Ontario, Canada. Undergraduate thesis and course project work involved mapping Precambrian Grenville rocks and Potsdam Sandstone outcrops in the Canton, New York area. Undergraduate thesis results were presented at the Geological Society of America Annual Meeting in Indianapolis, Indiana in 1983.

1977 United States Geological Survey Field Assistant during the Summer, Mapping Bedrock Geology of Eastern Massachusetts for the U.S.G.S. Cooperative Summer Field Training Program.

CURRICULUM VITAE

DERK T. HUDSON, GEOLOGIST/TECHNICIAN

QUALIFICATIONS AND EXPERIENCE

1998-Present **PLUMLEY ENGINEERING, P.C.**
Baldwinsville, New York

Responsibilities have included performance of various environmental and civil engineering projects, including the following:

- Remediation system operation. Operated groundwater and soil vapor extraction system at hazardous waste remediation sites. Responsibility included periodic inspections, routine maintenance, responding to system alarms, making and coordinating repairs. Also performed similar duties for remediation systems at petroleum spill sites.

- Design of groundwater remediation systems. Responsibilities have included the investigation and assessment of hydrogeologic characteristics, specification of equipment, development of construction drawings and specifications.

- Subsurface groundwater and soil investigations for petroleum and hazardous materials spills including proposal work, drilling and test pit excavation inspection, monitoring well installations, soils classification, soil and groundwater sampling, assessment of analytical results and assessment of hydrogeologic conditions.

- Underground storage tank (UST) removal and closure operations for multiple projects consisting of soil and groundwater sampling/testing,.

- Design and inspection of construction of sewage disposal systems for individual households and commercial sites.

- Coordinated the disposal of hazardous and petroleum waste.

- Perform engineering surveying and drafting using computer-aided drafting and design (CADD) Microstation.

EDUCATION

2000	Hazardous Waste Operations Training (40 Hour Course)
1998	Bachelors of Science Degree in Geology State University of New York Oswego, New York

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
Antonia C. Novello, M.D., M.P.H., Dr.P.H.

Expires 12:01 AM April 01, 2004
Issued June 16, 2003

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. PAUL BATISTA
ADIRONDACK ENVIRONMENTAL SERVICES INC
314 NORTH PEARL STREET
ALBANY NY 12207 United States

NY Lab Id No: 10709
EPA Lab Code: NY00063

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES ANALYTICAL SERVICES PROTOCOL
All approved subcategories and/or analytes are listed below:

CLP PCB/Pesticides

CLP Semi-Volatile Organics

CLP Volatile Organics

CLP Inorganics

Serial No.: 19786

ty of the New York State Department of Health. Valid only at the address shown.
e conspicuously posted. Valid certificates have a raised seal and may be verified by calling (518) 485-5570.

DOH-3317 (3/97)

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EPA Lab Code: NY00063

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All approved analytes are listed below:

Acrolein and Acrylonitrile

Acrolein	EPA 624
Acrylonitrile	EPA 624

Atrazine and Carbaryl

Atrazine	EPA 1978,p.25
Carbaryl	EPA 1978, p.94

Be ines

3,3 -dichlorobenzidine	EPA 605
	EPA 625
Benzidine	EPA 1978,P.1
	EPA 605
	EPA 625

Chlorinated Hydrocarbon Pesticides

4,4 -DDE	EPA 608
4,4 -DDT	EPA 608
4,4-DDD	EPA 608
Aldrin	EPA 608
alpha-BHC	EPA 608
beta-BHC	EPA 608
Captan	SM 18-20 6630B
Chlordane Total	EPA 608
delta-BHC	EPA 608
Dichloran	SM 18-20 6630B

Chlorinated Hydrocarbon Pesticides

Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan sulfate	EPA 608
Endrin	EPA 608
Endrin aldehyde	EPA 608
Heptachlor	EPA 608
Heptachlor epoxide	EPA 608
isodrin	SM 15, p. S73
Lindane	EPA 608
Methoxychlor	SM 18-20 6630C
Mirex	SM 18-20 6630C
PCNB	SM 18-20 6630C
Strobane	SM 18-20 6630C
Toxaphene	EPA 608
Trifluralin	SM 18-20 6630B

Chlorinated Hydrocarbons

1,2,4-Trichlorobenzene	EPA 625
2-Chloronaphthalene	EPA 625
Hexachlorobenzene	EPA 625
Hexachlorobutadiene	EPA 625
Hexachlorocyclopentadiene	EPA 625
Hexachloroethane	EPA 625

Serial No.: 19780

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Chlorophenoxy Acid Pesticides

2,4,5-T	SM 18-20 6640B
2,4,5-TP (Silvex)	SM 18-20 6640B
2,4-D	SM 18-20 6640B
Dicamba	EPA 1978, p.115

Demand

Biochemical Oxygen Demand	EPA 405.1

Haloethers

4-Bromophenylphenyl ether	EPA 625
4-Chlorophenylphenyl ether	EPA 625
Bis (2-chloroisopropyl) ether	EPA 625
Bis(2-chloroethoxy)methane	EPA 625
Bis(2-chloroethyl)ether	EPA 625

Mineral

Alkalinity	EPA 310.1
Calcium Hardness	EPA 200.7
Chloride	EPA 300.0
	EPA 325.3
Fluoride, Total	EPA 300.0
	EPA 340.2
Hardness, Total	EPA 200.7
Sulfate (as SO4)	EPA 300.0
	EPA 375.4

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 625
2,6-Dinitrotoluene	EPA 625
Isophorone	EPA 625
Nitrobenzene	EPA 625

Nitrosoamines

N-Nitrosodimethylamine	EPA 625
N-Nitrosodi-n-propylamine	EPA 625
N-Nitrosodiphenylamine	EPA 625

Nutrient

Ammonia (as N)	EPA 350.1
Kjeldahl Nitrogen, Total	EPA 351.1
	EPA 351.3
Nitrate (as N)	EPA 300.0
	EPA 353.1
Orthophosphate (as P)	EPA 300.0
Phosphorus, Total	EPA 365.2

Organophosphate Pesticides

Azinphos methyl	EPA 1978,p.25
Demeton-O	EPA 1978,p.25
Demeton-S	SM 15, p.S51
Diazinon	EPA 1978,p.25
Disulfoton	EPA 1978,p.25

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Organophosphate Pesticides

Malathion	EPA 1978,p.25
Parathion ethyl	EPA 1978,p.25
Parathion methyl	EPA 1978,p.25

Phthalate Esters

Benzyl butyl phthalate	EPA 606
	EPA 625
B[illegible]2-ethylhexyl) phthalate	EPA 606
	EPA 625
Diethyl phthalate	EPA 606
	EPA 625
Dimethyl phthalate	EPA 606
	EPA 625
Di-n-butyl phthalate	EPA 606
	EPA 625
Di-n-octyl phthalate	EPA 606
	EPA 625

Polychlorinated Biphenyls

PCB-1016	EPA 608
PCB-1221	EPA 608
PCB-1232	EPA 608
PCB-1242	EPA 608
PCB-1248	EPA 608

Polychlorinated Biphenyls

PCB-1254	EPA 608
PCB-1260	EPA 608

Polynuclear Aromatics

Acenaphthene	EPA 625
Acenaphthylene	EPA 625
Anthracene	EPA 625
Benzo(a)anthracene	EPA 625
Benzo(a)pyrene	EPA 625
Benzo(b)fluoranthene	EPA 625
Benzo(ghi)perylene	EPA 625
Benzo(k)fluoranthene	EPA 625
Chrysene	EPA 625
Dibenzo(a,h)anthracene	EPA 625
Fluoranthene	EPA 625
Fluorene	EPA 625
Indeno(1,2,3-cd)pyrene	EPA 625
Naphthalene	EPA 625
Phenanthrene	EPA 625
Pyrene	EPA 625

Priority Pollutant Phenols

2,4,5-Trichlorophenol	SW-846 8270C
2,4,6-Trichlorophenol	EPA 604

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Priority Pollutant Phenols

2,4,6-Trichlorophenol	EPA 625
2,4-Dichlorophenol	EPA 604
	EPA 625
2,4-Dimethylphenol	EPA 604
	EPA 625
2,4-Dinitrophenol	EPA 604
	EPA 625
2-Chlorophenol	EPA 604
	EPA 625
2-Methyl-4,6-dinitrophenol	EPA 604
	EPA 625
2-Nitrophenol	EPA 604
	EPA 625
4-Chloro-3-methylphenol	EPA 604
	EPA 625
4-Nitrophenol	EPA 604
	EPA 625
Pentachlorophenol	EPA 604
	EPA 625
Phenol	EPA 604
	EPA 625

Purgeable Aromatics

1,2-Dichlorobenzene	EPA 601

Purgeable Aromatics

1,2-Dichlorobenzene	EPA 602
	EPA 624
	EPA 625
1,3-Dichlorobenzene	EPA 601
	EPA 602
	EPA 624
	EPA 625
1,4-Dichlorobenzene	EPA 601
	EPA 602
	EPA 624
	EPA 625
Benzene	EPA 602
	EPA 624
Chlorobenzene	EPA 601
	EPA 602
	EPA 624
Ethyl benzene	EPA 602
	EPA 624
Toluene	EPA 602
	EPA 624
Total Xylenes	EPA 602
	EPA 624

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Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA 601
	EPA 624
1,1,2,2-Tetrachloroethane	EPA 601
	EPA 624
1,1,2-Trichloroethane	EPA 601
	EPA 624
[illegible]ichloroethane	EPA 601
	EPA 624
1,1-Dichloroethene	EPA 601
	EPA 624
1,2-Dichloroethane	EPA 601
	EPA 624
1,2-Dichloropropane	EPA 601
	EPA 624
2-Chloroethylvinyl ether	EPA 601
	EPA 624
Bromodichloromethane	EPA 601
	EPA 624
Bromoform	EPA 601
	EPA 624
Bromomethane	EPA 601
	EPA 624
Carbon tetrachloride	EPA 601

Purgeable Halocarbons	
Carbon tetrachloride	EPA 624
Chloroethane	EPA 601
	EPA 624
Chloroform	EPA 601
	EPA 624
Chloromethane	EPA 601
	EPA 624
cis-1,3-Dichloropropene	EPA 601
	EPA 624
Dibromochloromethane	EPA 601
	EPA 624
Dichlorodifluoromethane	EPA 601
Methylene chloride	EPA 601
	EPA 624
Tetrachloroethene	EPA 601
	EPA 624
trans-1,2-Dichloroethene	EPA 601
	EPA 624
trans-1,3-Dichloropropene	EPA 601
	EPA 624
Trichloroethene	EPA 601
	EPA 624
Trichlorofluoromethane	EPA 601

Serial No.: 19780

DOH-3317 (3/97)

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
Antonia C. Novello, M.D., M.P.H., Dr.P.H.

Expires 12:01 AM April 01, 2004
Issued June 16, 2003

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. PAUL BATISTA
ADIRONDACK ENVIRONMENTAL SERVICES INC
314 NORTH PEARL STREET
ALBANY NY 12207 United States

NY Lab Id No: 10709
EPA Lab Code: NY00063

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Purgeable Halocarbons	
Trichlorofluoromethane	EPA 624
Vinyl chloride	EPA 601
	EPA 624
Residue	
Solids, Total	EPA 160.3
Solids, Total Dissolved	EPA 160.1
Solids, Total Suspended	EPA 160.2
Volatile Chlorinated Organics	
Benzyl chloride	EPA 1978, p. 130
Epichlorohydrin	EPA 1978, p. 130
Wastewater Metals I	
Barium, Total	EPA 200.7
Cadmium, Total	EPA 200.7
Calcium, Total	EPA 200.7
Chromium, Total	EPA 200.7
Copper, Total	EPA 200.7
Iron, Total	EPA 200.7
Lead, Total	EPA 200.7
	EPA 200.9
Magnesium, Total	EPA 200.7
Manganese, Total	EPA 200.7
Nickel, Total	EPA 200.7
Wastewater Metals I	
Potassium, Total	EPA 200.7
Silver, Total	EPA 200.7
Sodium, Total	EPA 200.7
Wastewater Metals II	
Aluminum, Total	EPA 200.7
Antimony, Total	EPA 200.7
Arsenic, Total	EPA 200.7
	SM 18-19 3113B
Beryllium, Total	EPA 200.7
Mercury, Total	EPA 245.1
Selenium, Total	EPA 200.7
Vanadium, Total	EPA 200.7
Zinc, Total	EPA 200.7
Wastewater Metals III	
Cobalt, Total	EPA 200.7
Molybdenum, Total	EPA 200.7
Thallium, Total	EPA 200.7
	EPA 200.9
Tin, Total	EPA 200.7
Titanium, Total	EPA 200.7
Wastewater Miscellaneous	
Boron, Total	EPA 200.7

Serial No.: 19780

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All approved analytes are listed below:

Wastewater Miscellaneous

Bromide	EPA 300.0
	EPA 320.1
Color	EPA 110.1
Cyanide, Total	EPA 335.3
Hydrogen Ion (pH)	EPA 150.1
Oil & Grease Total Recoverable	EPA 1664-A
(ιic Carbon. Total	SM 18-20 5310 C
Phenols	EPA 420.1
Specific Conductance	EPA 120.1
Sulfide (as S)	EPA 376.1
	EPA 376.2
Surfactant (MBAS)	EPA 425.1
Temperature	EPA 170.1

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Demand	
Chemical Oxygen Demand	Method Not Specified
Nutrient	
Nitrite (as N)	EPA 300.0
	EPA 354.1
TCLP Additional Compounds	
C	SW-846 8270C
Methylethyl ketone (2-butanone)	SW-846 8260B
Pyridine	SW-846 8270C
	SW-846 8260B
Wastewater Metals II	
Chromium VI	SM 18-19 3500-Cr D
Wastewater Metals III	
Gold, Total	Method Not Specified
Palladium, Total	Method Not Specified
Platinum, Total	Method Not Specified
Wastewater Miscellaneous	
Corrosivity	Method Not Specified
Silica, Dissolved	Method Not Specified

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All approved analytes are listed below:

Acrolein and Acrylonitrile	
Acrolein	SW-846 8260B
Acrylonitrile	SW-846 8260B
Characteristic Testing	
Corrosivity	SW-846 1110
E.P Toxicity	SW-846 1310
Ignitability	SW-846 1010
Re ity	SW846 Ch7, Sec. 7.3
TCLP	FED REG 1311
Chlorinated Hydrocarbon Pesticides	
4,4 -DDE	SW-846 8081A
4,4 -DDT	SW-846 8081A
4,4-DDD	SW-846 8081A
Aldrin	SW-846 8081A
alpha-BHC	SW-846 8081A
beta-BHC	SW-846 8081A
Chlordane Total	SW-846 8081A
delta-BHC	SW-846 8081A
Dieldrin	SW-846 8081A
Endosulfan I	SW-846 8081A
Endosulfan sulfate	SW-846 8081A
Endrin	SW-846 8081A
Endrin aldehyde	SW-846 8081A
Chlorinated Hydrocarbon Pesticides	
Heptachlor	SW-846 8081A
Heptachlor epoxide	SW-846 8081A
Lindane	SW-846 8081A
Methoxychlor	SW-846 8081A
Toxaphene	SW-846 8081A
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	SW-846 8270C
2-Chloronaphthalene	SW-846 8270C
Hexachlorobenzene	SW-846 8270C
Hexachlorobutadiene	SW-846 8270C
Hexachlorocyclopentadiene	SW-846 8270C
Hexachloroethane	SW-846 8270C
Chlorophenoxy Acid Pesticides	
2,4,5-T	SW-846 8151A
2,4,5-TP (Silvex)	SW-846 8151A
2,4-D	SW-846 8151A
Dicamba	SW-846 8151A
Haloethers	
Bis (2-chloroisopropyl) ether	SW-846 8270C
Bis(2-chloroethoxy)methane	SW-846 8270C

Serial No.: 19782

DOH-3317 (3/97)

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Metals I

Barium, Total	SW-846 6010B
Cadmium, Total	SW-846 6010B
Chromium, Total	SW-846 6010B
Lead, Total	SW-846 6010B
Nickel, Total	SW-846 6010B
Silver, Total	SW-846 6010B

Metals II

Antimony, Total	SW-846 6010B
Arsenic, Total	SW-846 6010B
Selenium, Total	SW-846 6010B

Miscellaneous

Cyanide, Total	SW-846 9012A
Hydrogen Ion (pH)	SW-846 9040B
	SW-846 9045C
Lead in Paint	SW-846 6010B
Sulfide (as S)	SW-846 9030B
	SW-846 9034

Nitroaromatics and Isophorone

2,4-Dinitrotoluene	SW-846 8270C
2,6-Dinitrotoluene	SW-846 8270C
Isophorone	SW-846 8270C
Nitrobenzene	SW-846 8270C

Organophosphate Pesticides

Azinphos methyl	SW-846 8141A
Demeton-O	SW-846 8141A
Demeton-S	SW-846 8141A
Diazinon	SW-846 8141A
Disulfoton	SW-846 8141A
Malathion	SW-846 8141A
Parathion ethyl	SW-846 8141A
Parathion methyl	SW-846 8141A

Phthalate Esters

Benzyl butyl phthalate	SW-846 8270C
Bis(2-ethylhexyl) phthalate	SW-846 8270C
Diethyl phthalate	SW-846 8270C
Dimethyl phthalate	SW-846 8270C
Di-n-butyl phthalate	SW-846 8270C
Di-n-octyl phthalate	SW-846 8270C

Polychlorinated Biphenyls

PCB-1016	SW-846 8082
PCB-1221	SW-846 8082
PCB-1232	SW-846 8082
PCB-1242	SW-846 8082
PCB-1248	SW-846 8082
PCB-1254	SW-846 8082

Serial No.: 19782

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Polychlorinated Biphenyls	
PCB-1260	SW-846 8082
Polynuclear Aromatic Hydrocarbons	
Acenaphthene	SW-846 8270C
	SW-846 8310
Acenaphthylene	SW-846 8270C
	SW-846 8310
A[illegible]acene	SW-846 8270C
	SW-846 8310
Benzo(a)anthracene	SW-846 8270C
	SW-846 8310
Benzo(a)pyrene	SW-846 8270C
	SW-846 8310
Benzo(b)fluoranthene	SW-846 8270C
	SW-846 8310
Benzo(ghi)perylene	SW-846 8270C
	SW-846 8310
Chrysene	SW-846 8270C
	SW-846 8310
Dibenzo(a,h)anthracene	SW-846 8270C
	SW-846 8310
Fluoranthene	SW-846 8270C
	SW-846 8310
Fluorene	SW-846 8270C

Polynuclear Aromatic Hydrocarbons	
Fluorene	SW-846 8310
Indeno(1,2,3-cd)pyrene	SW-846 8270C
	SW-846 8310
Naphthalene	SW-846 8310
Phenanthrene	SW-846 8270C
	SW-846 8310
Pyrene	SW-846 8270C
	SW-846 8310
Priority Pollutant Phenols	
2,4,6-Trichlorophenol	SW-846 8270C
2,4-Dichlorophenol	SW-846 8270C
2,4-Dimethylphenol	SW-846 8270C
2,4-Dinitrophenol	SW-846 8270C
2-Chlorophenol	SW-846 8270C
2-Methyl-4,6-dinitrophenol	SW-846 8270C
4-Chloro-3-methylphenol	SW-846 8270C
4-Nitrophenol	SW-846 8270C
Pentachlorophenol	SW-846 8270C
Phenol	SW-846 8270C
Purgeable Aromatics	
1,2-Dichlorobenzene	SW-846 8021B
	SW-846 8260B

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Purgeable Aromatics

1,3-Dichlorobenzene	SW-846 8021B
	SW-846 8260B
1,4-Dichlorobenzene	SW-846 8021B
	SW-846 8260B

Purgeable Halocarbons

P nomethane	SW-846 8021B
	SW-846 8260B

Volatile Chlorinate Organics

Benzyl chloride	SW-846 8121

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Metals II

Chromium VI	SW-846 7196A
Mercury, Total	SW-846 7470A
	SW-846 7471A

Priority Pollutant Phenols

2-Nitrophenol	Method Not Specified

Pu[illegible]ble Aromatics

Benzene	SW-846 8021B
	SW-846 8260B
Chlorobenzene	SW-846 8021B
	SW-846 8260B
Ethyl benzene	SW-846 8021B
	SW-846 8260B
Toluene	SW-846 8021B
	SW-846 8260B
Total Xylenes	SW-846 8021B
	SW-846 8260B

Purgeable Halocarbons

1,1,1-Trichloroethane	SW-846 8021B
	SW-846 8260B
1,1,2,2-Tetrachloroethane	SW-846 8021B
	SW-846 8260B
1,1,2-Trichloroethane	SW-846 8021B

Purgeable Halocarbons

1,1,2-Trichloroethane	SW-846 8260B
1,1-Dichloroethane	SW-846 8021B
	SW-846 8260B
1,1-Dichloroethene	SW-846 8021B
	SW-846 8260B
1,2-Dichloroethane	SW-846 8021B
	SW-846 8260B
1,2-Dichloropropane	SW-846 8021B
	SW-846 8260B
2-Chloroethylvinyl ether	SW-846 8021B
	SW-846 8260B
Bromodichloromethane	SW-846 8021B
	SW-846 8260B
Bromoform	SW-846 8021B
	SW-846 8260B
Carbon tetrachloride	SW-846 8021B
	SW-846 8260B
Chloroethane	SW-846 8021B
	SW-846 8260B
Chloroform	SW-846 8021B
	SW-846 8260B
Chloromethane	SW-846 8021B
	SW-846 8260B

Serial No.: 19783

DOH-3317 (3/97)

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All approved subcategories and/or analytes are listed below:

Purgeable Halocarbons

cis-1,3-Dichloropropene	Method Not Specified
Dibromochloromethane	SW-846 8021B
	SW-846 8260B
Dichlorodifluoromethane	SW-846 8021B
	SW-846 8260B
Methylene chloride	SW-846 8021B
	SW-846 8260B
Tetrachloroethene	SW-846 8021B
	SW-846 8260B
trans-1,3-Dichloropropene	Method Not Specified
Trichloroethene	SW-846 8021B
	SW-846 8260B
Trichlorofluoromethane	SW-846 8021B
	SW-846 8260B
Vinyl chloride	SW-846 8021B
	SW-846 8260B

Serial No.: 19783

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DOH-3317 (3/97)

JUDY V. HARRY
P. O. Box 208
120 Cobble Creek Rd.
North Creek, NY 12853

Occupation: Data Validator/Environmental Technical Consultant

Years Experience: 26

Education: B.S., Chemistry, Magna cum laude, 1976, Phi Beta Kappa

Certifications: New York State Woman-Owned Business Enterprise (WBE)

Relevant Work History:

Data Validation Services: September 1989 - present

Sole proprietor of Data Validation Services, providing consultation/validation services to various regulatory and commercial clients.

These services include the review of analytical laboratory data for compliance with respect to various protocols, accuracy and defensibility of data, verification of reported values, and evaluation of quality parameters for analytical usability of results. Approved by NYSDEC NJDEP, and NYCDEP as a data validator for projects contracted through the Division of Hazardous Waste Remediation, Division of Solid Waste, and Division of Water Quality. Has also performed validation and usability determinations for data pertaining to USEPA Superfund and lead sites.

Performed validation for compliance with protocols including USEPA OLM, USEPA OLC, USEPA ILM, USEPA DFLM, USEPA SOW3/90, USEPA SOW 7/87 CLP, USEPA SOW 2/88 CLP, USEPA SW846, RCRA, AFCEE, NYS 6 NYCRR Part 360, 40 CFR, Air analysis methods, 1989/1991/1995 NYSDEC ASPs, and 1987 NYSDEC CLP. Performed validation according to the USEPA National and Regional SOPs and Functional Guidelines, AFCEE, NYSDEC Validation Scope of Work, and NJDEP Division of Hazardous Site Mitigation/Publicly Funded Site Remediation SOPs.

Performed validation for USEPA Superfund Sites including Salem Acres, York Oil, Port Washington L-4 Landfill, Bridgeport Rental and Oil Services, MMR/ OTIS AFB, and Peter Cooper site; and for USEPA lead sites including SJ&J Piconne, Maska, Bowe System, and Syossett Landfill, involving CLP, RAS, and SAS protocols.

Contracted for NYSDEC Superfund Standby Contracts with LMS Engineers, Camp Dresser & McKee, Malcolm-Pirnie, Ecology & Environment, and EC Jordan, involving samples collected at NYS Superfund Sites and analyzed under the NYSDEC ASP.

Validated data for NYSDEC Phase II remedial investigations, RI/FS projects, and PRP over-site projects for hazardous waste sites. Was the primary contractor for Lawler, Matusky & Skelly Engineers during fifth and sixth round Phase II investigation, reviewing results for TCL/ TAL analyses performed according to EPA CLP and 1989 NYSDEC ASP. Provided data validation for NYSDEC Phase II investigations for Gibbs & Hill, Inc, reviewing results from TCL/TAL analyses performed according to 1989 NYSDEC ASP.

Performed validation services for clients conducting RI/FS activities involving samples of many matrices, including waste, air, sludges, leachates, solids/sediments, aqueous, and biota; clients have included Arcadis Geraghty & Miller, Barton & Loguidice, Bergmann Associates, Blasland, Bouck & Lee, Camp Dresser & McKee, C&S Consulting Engineers, Clough Harbour & Associates, Columbia Analytical Services, C.T. Male, Dames & Moore, Ecology & Environment, EC Jordan, Environmental Chemical Corporation, EHRT, ERM-Northeast, Fagan Engineers, Fanning Phillips & Molnar, FluorDaniel GTI, Foster Wheeler Environmental Corp, Frontier Technical, Galson Consultants, Geomatrix Consultants, Handex of N, H2M Group, IT Corp, Leader Environmental, Lockwood, Kessler & Bartlett, LMS Engineers, Malcolm-Pirnie, Metcalf & Eddy, O'Brien & Gere Engineers, Parsons Engineering-Science, Plumley Engineering, P. W. Grosser, Rizzo Associates, Roux Associates, Sear Brown Group, SECOR, ThermoRemediation Inc., TRC Environmental, Turnkey Environmental Restoration, TVGA Engineering, URS Consultants, Wehran Emcon, Weston, YEC, and private industries.

Validator for investigations at the Knolls Atomic Power Laboratory site. Validator for NYSDEC and NJDEP sites for samples analyzed according to EPA CLP SOPs, with validation performed according to NJDEP validation procedures. Validator for numerous landfill site investigations for TCL/TAL and NYS 6 NYCRR Part 360 analytes.

Provided consultation services to laboratories regarding analytical procedures and protocol interpretation, and to law firms for litigation support.

Provided services to firms involving audits of environmental analytical laboratories to determine analytical capability, particularly for compliance with NYSDEC ASP and AFCEE requirements.

Guest speaker on a panel discussing Data Review/Compliance and Usability, for an analysts workshop for the New York Association of Approved Environmental Laboratories, 1993.

Adirondack Environmental Services: June 1987 - August 1989

Senior mass spectroscopist for AES. Responsible for GC/MS analyses of environmental samples by USEPA and NYSDEC protocols; development of the GC/MS laboratory, initiating the instrumental and computer operations from the point of installation; and for implementing the procedures and methodologies for Contract Laboratory Protocol.

CompuChem Laboratories: May 1982 - January 1987

Managed a GC/MS production laboratory; developed, implemented, and supervised QA/QC criteria at three different levels of review; and was responsible for the development and production of the analysis of environmental and clinical samples. Directed a staff of 23 technical and clerical personnel, and managed the extraction and GC/MS labs, and data review operations.

Research Triangle Institute: December 1979 - May 1982

Worked as an analytical research chemist responsible for development of analytical methods for the EPA Federal Register at RTI. This involved analysis of biological and environmental samples for priority pollutants, primarily relating to wastewaters and to human sampling studies. Method
development included modification and interfacing of the initially developed Tekmar volatile purge apparatus to GC/MS, and the analysis and resolution/identification of individual PCB congeners by capillary column and mass spectra.

Guardsman Chemical Company: February 1977 - November 1979

Performed all quality control functions for the manufacturing plant. Performed research and development on coatings and dyes.

Almay Cosmetics: May 1976 - December 1976

Product evaluation chemist. Responsible for analytical QC of manufactured products.

APPENDIX D

HEALTH AND SAFETY PLAN
[BOUND SEPARATELY]

APPENDIX E

MONITORING WELL
AS-BUILT DRAWINGS

FROM THE

SUPPLEMENTAL SUBSURFACE INVESTIGATION

COMPLETED BY

CES, INC.

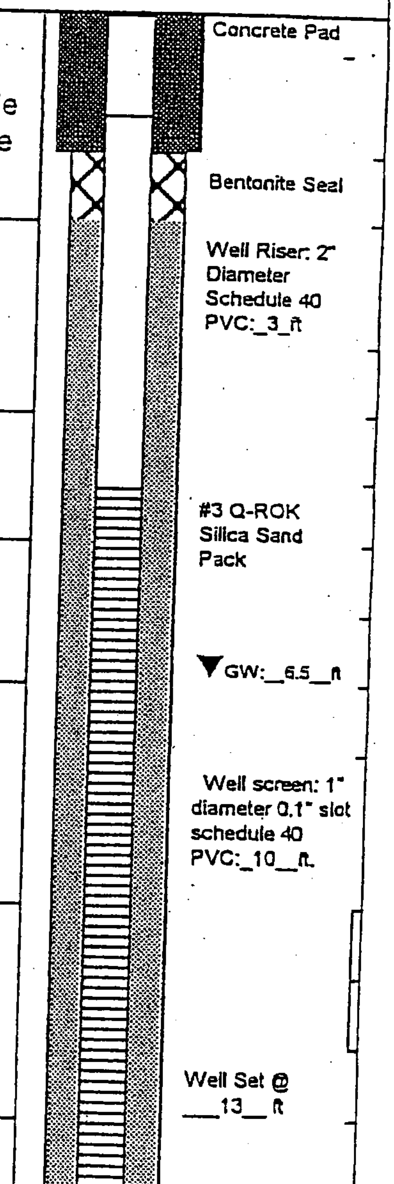
DATED

DECEMBER 2000

CLIENT: L[illegible]CATION:	Widewaters Group Route 11 Cicero, New York	WELL LOCATION: 82' West from NW Corner of Dry Cleaners Building, then 14' South	WELL NO.: MW-1/ SB-3
DRILLING CO.: DRILLER(S):	Central Pump & Tank Dan Clemmons and Martin Kieffer	GEOLOGIST: Kevin R. Rowe	DATE: 10/20/00

DEPTH(ft)	SAMPLE INTERVAL	BLOW COUNT (ft)	PID (ppm)	RECOVERY (ft)	MOISTURE CONTENT	SOIL DESCRIPTION
						GROUND SURFACE
	0'-4'	N/A	< 5	90%	D	0'-.3' - Asphalt .3'-1.5' - Sand and gravel fill 1.5'-4' - Olive/brown fine/very fine sand, little silt, medium dense, non-cohesive, trace fine gravel
	4'-8'	N/A	< 5	95%	M	4'-6' - Brown very fine sand, little silt, medium stiff, semi-cohesive 6'-8' Brown very fine sand and silt, medium stiff, cohesive, trace clay
	8'-12'	N/A	< 5	95%	M	Brown very fine sand and silt medium dense/stiff semi-cohesive, well sorted, little clay

MONITORING WELL CONSTRUCTION DETAIL



CES Certified Environmental Services, Inc.

NOTES: D = DRY
M = MOIST
S = SATURATED
N/A = NOT APPLICABLE
▼GW = GROUNDWATER (APPROX.)

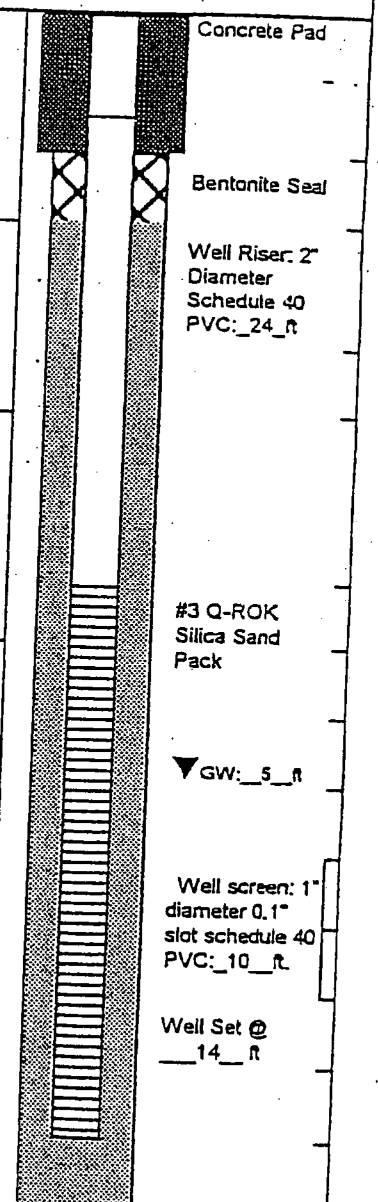
REMARKS: Sand - 13'-2'
Bentonite - 2'-1'
Cement - 1'-.5'

CLIENT: LOCATION:	Widewaters Group Route 11 Cicero, New York	WELL LOCATION: 26' South from SE Corner of Dry Cleaners Building, then 2' East	WELL NO.: MW-2
DRILLING CO.: DRILLER(S):	Central Pump & Tank Dan Clemmons and Martin Kieffer	GEOLOGIST: Kevin R. Rowe	DATE: 10/20/00

GROUND SURFACE

DEPTH(ft)	SAMPLE INTERVAL	BLOW COUNT(/ft)	PID(ppm)	RECOVERY(ft)	MOISTURE CONTENT	SOIL DESCRIPTION
	0'-4'	N/A	< 5	80%	D	0'-2.5' - Sand and gravel fill 2.5'-4' - Olive/brown very fine sand, little silt, medium dense, non-cohesive,
	4'-8'	N/A	< 5	90%	M	Brown very fine sand and silt, medium dense/medium stiff, semi-cohesive
	8'-12'	N/A	< 5	95%	S M	8'-10' - Brown very fine sand and silt, medium dense/medium stiff cohesive, 10'-12' - Brown/purple v/f sand and silt, medium stiff, cohesive, well sorted, trace clay
	12'-16'	N/A	< 5	95%	M	Brown/purple v/f sand and silt, medium stiff, cohesive, well sorted, little clay

MONITORING WELL CONSTRUCTION DETAIL



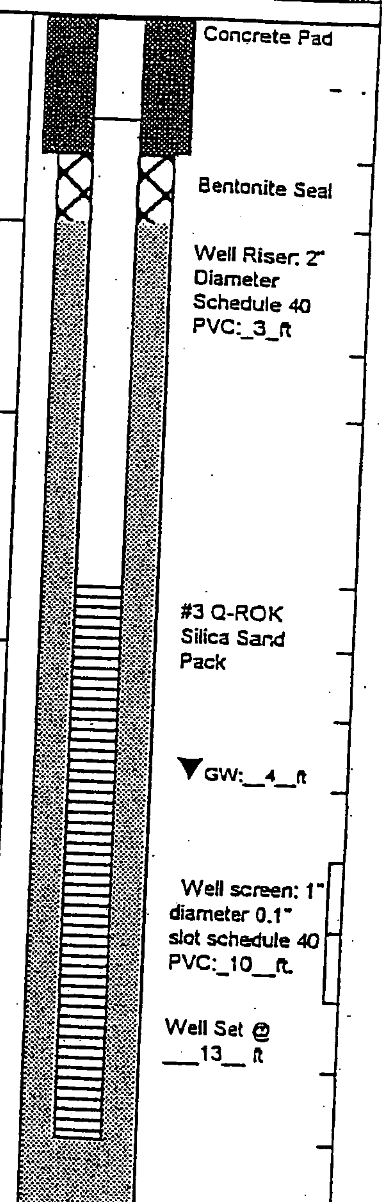
CES Certified Environmental Services, Inc.

NOTES: D = DRY
M = MOIST
S = SATURATED
N/A = NOT APPLICABLE
▼GW = GROUNDWATER (APPROX.)

REMARKS: Sand - 14'-2'
Bentonite - 2'-1'
Cement - 1'-.5'

CLIENT: LOCATION:	Widewaters Group Route 11 Cicero, New York	WELL LOCATION: 5.5' East from NE Corner of Berco, then 18' South	WELL NO.: MW-3
DRILLING CO.: DRILLER(S):	Central Pump & Tank Dan Clemmons and Martin Kieffer	GEOLOGIST: Kevin R. Rowe	DATE: 10/20/00

DEPTH(ft)	SAMPLE INTERVAL	BLOW COUNT(/ft)	PID(ppm)	RECOVERY(ft)	MOISTURE CONTENT	SOIL DESCRIPTION	MONITORING WELL CONSTRUCTION DETAIL
						GROUND SURFACE	
	0'-4'	N/A	< 5	80%	M	0'-2' - Grass, sand and gravel 2'-4' - Brown very fine sand, some silt, medium stiff/medium dense, semi-cohesive, trace fine gravel	
	4'-8'	N/A	< 5	90%	M	Brown very fine sand and silt, medium dense/medium stiff, semi-cohesive, well sorted	
	8'-12'	N/A	< 5	95%	S M	Brown very fine sand and silt, medium stiff cohesive, well sorted 11.5'-12' - Brown/gray silt with very fine sand medium stiff, cohesive, well sorted, trace clay	



CES Certified Environmental Services, Inc.

NOTES: D = DRY
M = MOIST
S = SATURATED
N/A = NOT APPLICABLE
▼GW = GROUNDWATER (APPROX.)

REMARKS: Sand - 13'-2'
Bentonite - 2'-1'
Cement - 1'-.5'

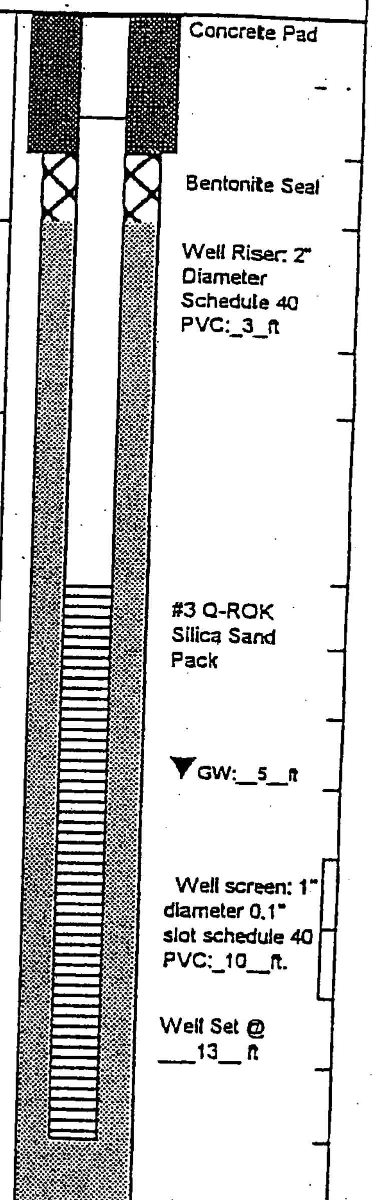
Groundwater approx. - 4'

CLIENT: Widewaters Group LOCATION: Route 11 Cicero, New York		WELL LOCATION: 25' East from SE Corner of Berco, then 33' South	WELL NO.: MW-4
DRILLING CO.: Central Pump & Tank DRILLER(S): Dan Clemmons and Martin Kieffer		GEOLOGIST: Kevin R. Rowe	DATE: 10/20/00

GROUND SURFACE

DEPTH(ft)	SAMPLE INTERVAL	BLOW COUNT(/ft)	PID(ppm)	RECOVERY(ft)	MOISTURE CONTENT	SOIL DESCRIPTION
	0'-4'	N/A	< 5	80%	M	0'-3' - Sand and gravel 3'-4' - Brown very fine sand, little silt, medium dense, non-cohesive
	4'-8'	N/A	< 5	90%	M	Brown very fine sand and silt, medium dense/medium stiff, semi-cohesive
	8'-12'	N/A	< 5	95%	S M	8'-11' Brown very fine sand and silt, medium dense/stiff, semi-cohesive 11'-12' - Brown/gray silt with very fine sand medium stiff, cohesive, trace clay

MONITORING WELL CONSTRUCTION DETAIL



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NOTES: D = DRY
M = MOIST
S = SATURATED
N/A = NOT APPLICABLE
▼GW = GROUNDWATER (APPROX.)

REMARKS: Sand - 13'-2'
Bentonite - 2'-1'
Cement - 1'-.5'

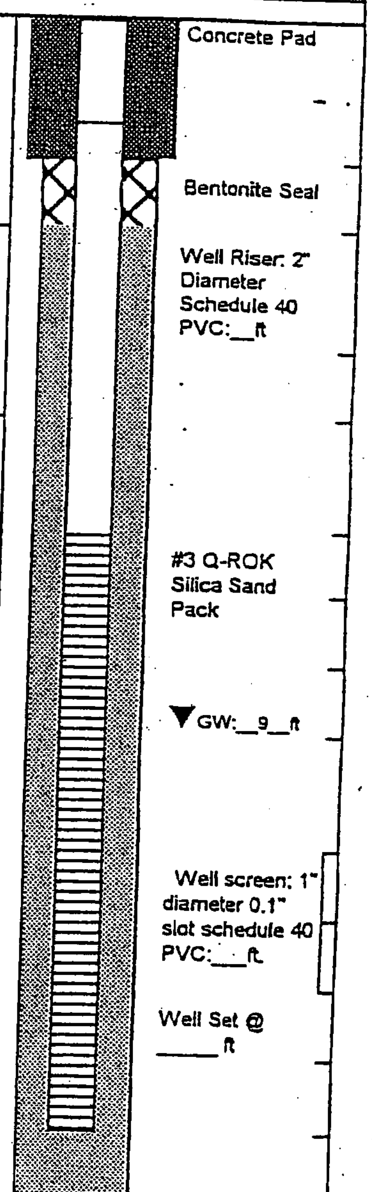
Groundwater approx. - 5'

CLIENT: Widewaters Group LOCATION: Route 11, Cicero, New York	WELL LOCATION: 25' East from SE Corner of Berco, then 33' South	WELL NO.: MW-5
DRILLING CO.: Central Pump & Tank DRILLER(S): Dan Clemmons and Martin Kieffer	GEOLOGIST: Kevin R. Rowe	DATE: 10/20/00

GROUND SURFACE

DEPTH(ft)	SAMPLE INTERVAL	BLOW COUNT(ft)	PID(ppm)	RECOVERY(ft)	MOISTURE CONTENT	SOIL DESCRIPTION
	0'-4'	N/A	< 5	90%	M	0'-2' - Grass, sand and gravel 3'-4' - Brown medium/fine sand, trace silt, loose, non-cohesive little fine gravel
	4'-8'	N/A	< 5	90%	D M	Brown very fine sand, some silt, medium dense/ loose, non-cohesive
	8'-12'	N/A	< 5	95%	M	Brown very fine sand and silt, medium dense/stiff, semi-cohesive
	12'-16'	N/A	< 5	95%	S M	Brown very fine sand and silt, medium stiff, cohesive, well sorted, trace clay
	16'-20'	N/A	< 5	95%	M	Brown/gray silt, with very fine and, medium stiff, cohesive, well sorted, little clay

MONITORING WELL CONSTRUCTION DETAIL



CES Certified Environmental Services, Inc.

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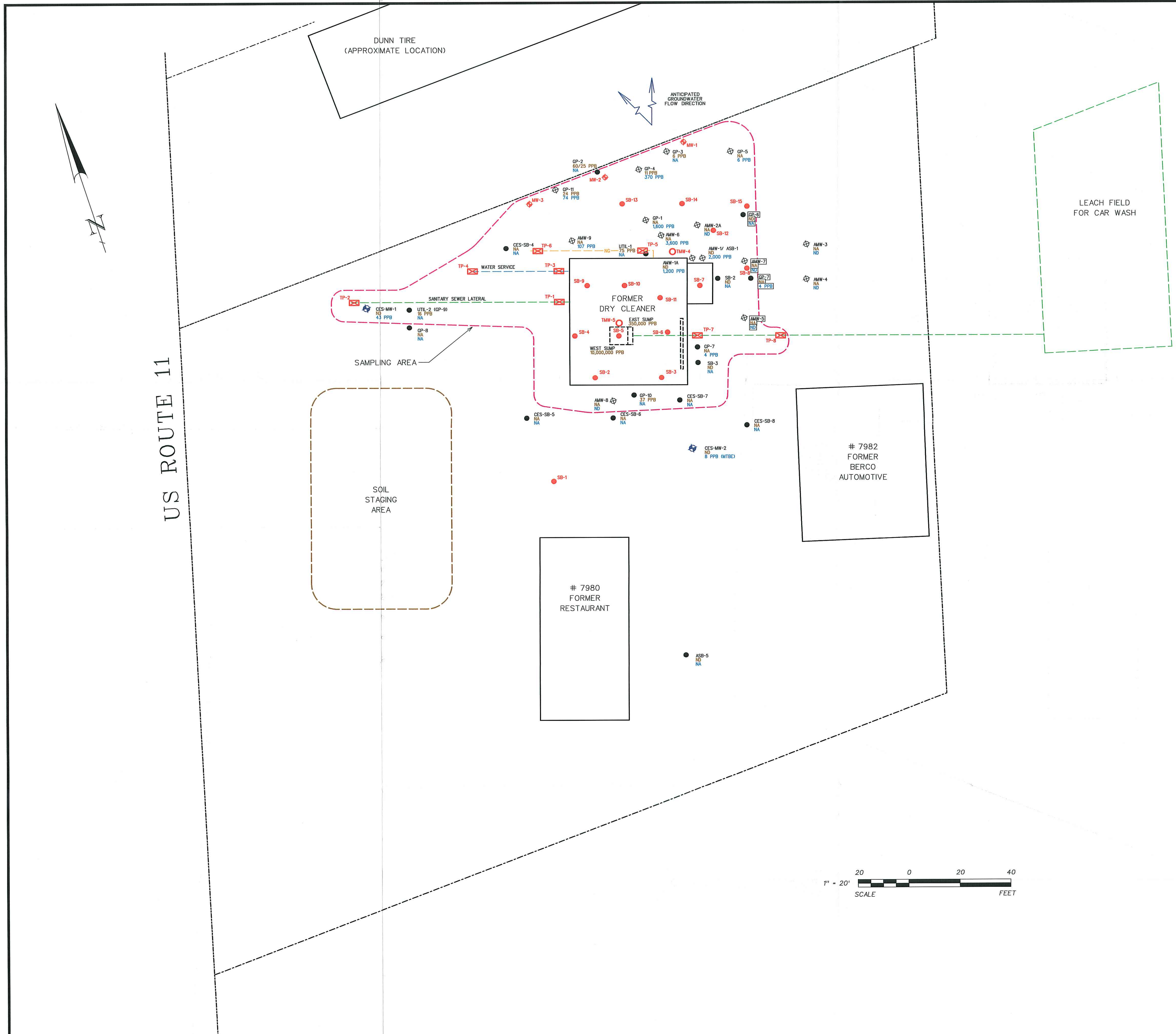
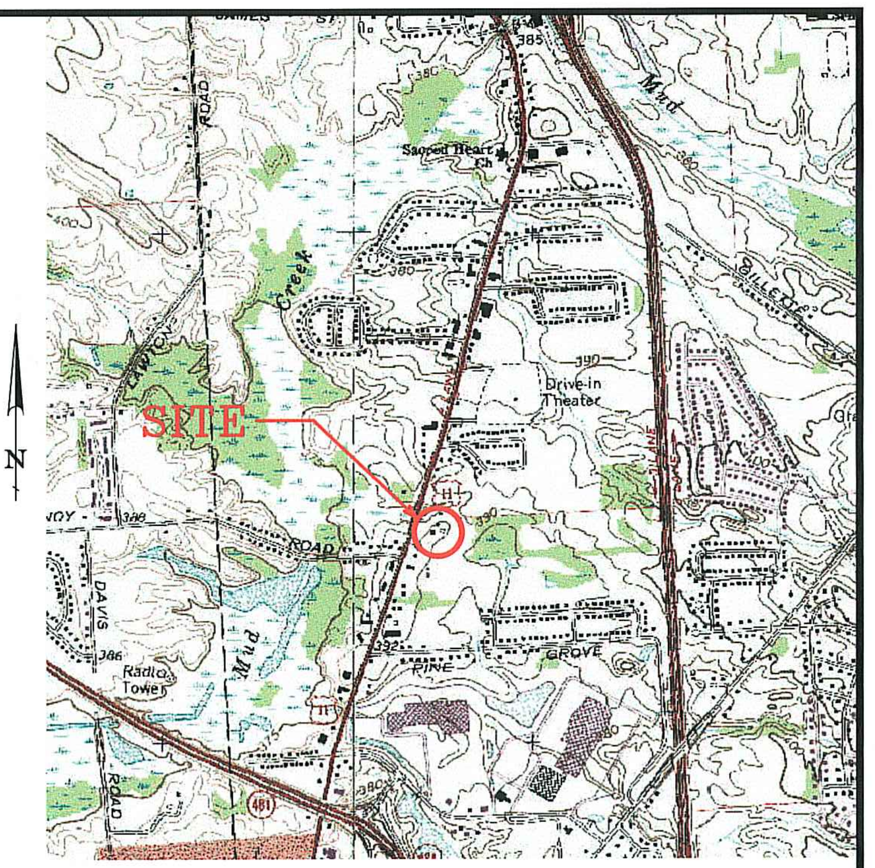
▼GW = GROUNDWATER (APPROX.)

REMARKS:

Groundwater approx. - 9'





LOCATION MAP

REF: U.S.G.S. CICERO (NY) QUAD., 1978, 7.5 MIN., 1" = 2000' +/-

MAP REFERENCES:

1. COMPOSITE [SURVEY] MAP, ALFRED N. IANUZI, JR. L.S., FEBRUARY 26, 1987.
2. REMEDIAL WORK PLAN, FIGURE RWP-1, AUGUST 6, 2002.
3. SOIL & GROUNDWATER INVESTIGATION, C&H ENGINEERS, JUNE 1998 (GP-1 - GP-11, UTIL 1 & 2)
4. PRELIMINARY REPORT, C&H ENGINEERS, JULY 1998. (SUMP SAMPLES)
5. PHASE 2 ENVIRONMENTAL SITE ASSESSMENT, ADIRONDACK ENVIRONMENTAL SERVICES, JANUARY 1997. (AMW-1 - AMW-9, ASB-1 - ASB-5)
6. SUPPLEMENTAL SUBSURFACE INVESTIGATION, CES, INC., DECEMBER 2000. (CESMW-1 - CESMW-5, CESSB-1 - CESSB-24)

KEY

EXISTING	PROPOSED
PERMANENT MONITORING WELL	MW-3 2" DIA. PERMANENT MONITORING WELL
TEMPORARY MONITORING WELL	TMW-5 TEMPORARY MONITORING WELL
SOIL BORING	SB-5 SOIL BORING
75 PPB SOIL ANALYTICAL RESULTS TOTAL VOCS IN PARTS PER BILLION	TP-1 BACK HOE TEST PITS
3,600 PPB GROUNDWATER ANALYTICAL RESULTS TOTAL VOCS IN PARTS PER BILLION	

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Civil and Environmental Engineering

REVISIONS:	DATE:	BY:

NOTE: NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT: VOLUNTARY CLEANUP PROGRAM
VCA No. A7-0466-0702

CLIENT: HANCOCK & ESTABROOK, LLP

LOCATION: TOWN OF CICERO, ONONDAGA COUNTY, NEW YORK

DWG. TITLE:
SITE PLAN
REMEDIAL WORK PLAN

PROJECT No.: 2003074
FILE NAME: SP01P
SCALE: 1" = 20'
DATE: JUNE 2003
ENG'D BY: DRV
DRAWN BY: DRV
CHECKED BY:

SHEET NO. SP-1

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