NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation
Final
Preliminary Site Assessment Report

Tobe's Breakfast House Site
Watkins Glen, New York
Site No. 8-49-003

Work Assignment No. D003826-06

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FINAL
PRELIMINARY SITE ASSESSMENT REPORT

WORK ASSIGNMENT NO. D003826-06

TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

SITE NO. 8-49-003

Submitted to:

New York State Department of Environmental Conservation
Albany, New York

Submitted by:

Harding Lawson Associates
Portland, Maine
Project Number 53498

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Submitted by:

Mark Stelmack, P.E.
Project Manager
Harding Lawson Associates

Approved by:

William J. Weber, P.E.
Program Manager
Harding Lawson Associates

This document meets standards prescribed in project planning documents and has been reviewed by qualified professionals.

Glenn Daukas, P.G.
Quality Control Reviewer

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TOBE'S BREAKFAST HOUSE SITE

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EXECUTIVE SUMMARY

The Tobe's Breakfast House site (Site), Site No. 8-49-003, is located at 129-135 East 4th Street, in the Village of Watkins Glen, Schuyler County, New York. The New York State Department of Environmental Conservation (NYSDEC) currently considers the Site a potential hazardous waste site, because insufficient information exists to determine whether wastes disposed of at the Site are hazardous wastes, or whether the wastes pose a significant threat to public health or the environment (New York State (NYS), 1998). Harding Lawson Associates (HLA) conducted a field investigation as part of a Preliminary Site Assessment (PSA). The purpose of the PSA is to gather sufficient information to evaluate environmental problems present at a site. The PSA seeks to identify whether a source of waste is present at a site, determine if the wastes pose a significant threat to human health or the environment, and evaluate migration routes to the surrounding environment through groundwater, surficial, or air pathways.

The Site is situated in the north-central section of Watkins Glen on 0.34 acres in a commercial and residential area on East 4th Street (NYS Route 414). The property consists of a paved and a gravel parking lot, a small grassy yard, and a large building containing a restaurant, retail sales space and two residential apartments. A small shed to the rear of the building and the store in the center of the building were reportedly the location of a former dry cleaner that operated from the early 1950's until the late 1970's. The shed was removed in approximately 1981. A two story wooden addition and walk in cooler was constructed in the south corner of the building in 1981. The Site is serviced by public water and sewer.

The Site came to the attention of the NYSDEC in September 1999 after tetrachloroethene (PCE) was detected in groundwater samples collected from the property during an investigation for the sale of the property.

To determine whether the Site is the source of contaminants detected in groundwater, HLA:

- completed a file review of the Site in April of 2001
- conducted a geophysical survey in October of 2001
- collected 11 direct push soil samples from above the water table at 11 locations in October and November of 2001
- collected 22 groundwater samples at 15 locations in October and November of

2001

- installed six microwells to measure groundwater table elevations in October and November of 2001
- collected one air sample from inside the first floor of the Site building in October of 2001
- conducted a land survey of the Site in November of 2001

Review of physical and chemical data collected during the PSA resulted in the following findings:

1) Evidence of hazardous waste use, storage, and disposal at the Site were recorded during the PSA.
2) PCE was detected at concentrations exceeding the NYS Class GA groundwater standard of 5 micrograms per liter (µg/L) in groundwater samples from five borings located at and downgradient from the Site.
3) Based on site data, the groundwater table gradient is relatively flat, and appears to flow to the north, towards Seneca Lake.
4) Relative PCE concentrations in groundwater suggest the Site buildings as the source area. In addition, indoor air concentrations of PCE suggest that PCE contamination exists below the building.
5) PCE concentrations in groundwater (maximum of 100 µg/L) are less than those reported in 1999, when PCE was detected as high as 530 µg/L.
6) PCE was detected in Site soils at concentrations up to 629 J micrograms per kilogram (µg/Kg). The NYSDEC soil cleanup objective for PCE is 1400 µg/Kg. PCE was detected in soils south of the Site buildings at depths ranging from 2 to 14 feet below ground surface.
7) Benzene (2.3 micrograms per cubic meter [$\mu g/m^3$]) and PCE (25 $\mu g/m^3$) were detected at concentrations above the United States Environmental Protection Agency Region III Risk Based Concentration of 0.22 $\mu g/m^3$, and 3.1 $\mu g/m^3$, respectively, in the one air sample collected from inside the ground floor apartment. Although the State does not publish guidelines for benzene, the New York State Department of Health recommends that average ambient air concentrations for PCE in a residential community not exceed 100 $\mu g/m^3$.

1.0 INTRODUCTION

Harding Lawson Associates (HLA) is submitting this Preliminary Site Assessment (PSA) Report to the New York State Department of Environmental Conservation (NYSDEC). This PSA Report addresses the work completed under the Project Management Work Plan (HLA, 2001) at the Tobe's Breakfast House site (Site) in the Village of Watkins Glen, New York (Figure 1-1). This PSA Report was prepared in response to Work Assignment No. D0003826-06, and in accordance with the requirements of the July 1997 Superfund Standby Contract No. D003826 between the NYSDEC and HLA.

The Site, Site No. 8-49-003, is currently considered a potential hazardous waste site by the NYSDEC, because insufficient information exists to determine whether wastes disposed of at the site are hazardous wastes, or whether the wastes pose a significant threat to public health or the environment (New York State (NYS), 1998).

The purpose of the PSA is to provide information to be used by the NYSDEC to classify the Site to one of the following categories:

Class 1	Hazardous waste constitutes a significant threat to the environment, as described in Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 375 (NYS, 1998); and the significant threat to the environment is causing, or presents an imminent danger of causing, either irreversible or irreparable damage to the environment.
Class 2	Hazardous waste constitutes a significant threat to the environment, as described in NYCRR Part 375 (NYS, 1998).
Class 3	Hazardous waste does not presently constitute a significant threat to the environment, as described in NYCRR Part 375 (NYS, 1998).

To complete its classification, the NYSDEC requires information to establish the following:

- the existence of hazardous waste at the site, as defined in Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 371 (NYS, 1999a); and
- the site's significance with respect to the threat it poses to public health and the environment as defined in 6 NYCRR Part 375 (NYS, 1998).

To develop the classification data, HLA:

- completed a file review of the Site
- conducted a geophysical survey
- collected 11 direct push soil samples from above the water table at 11 locations
- collected 22 groundwater samples at 15 locations
- installed six microwells to measure groundwater table elevations
- collected one air sample from inside the first floor of the Site building
- conducted a land survey of the Site

This PSA Report represents culmination of work under Task 1: Review of Background Material and Preparation of Project Management Work Plan (HLA, 2001), and Task 2: Site Field Investigation. During Task 1, HLA conducted a search of state and county Site records and performed a Site inspection to develop information necessary for reclassification or delisting. The results are presented in Section 2.0 of this document. Task 1 activities did not develop adequate data on which to base a classification recommendation. Therefore, a field investigation was completed under Task 2. Section 3.0 of this document presents a detailed summary of work completed during the field investigation. Section 4.0 of this report presents an assessment of the analytical results and field data collected. Section 5.0 presents conclusions.

2.0 SUMMARY OF EXISTING DATA

On April 18, 2001, HLA personnel visited the Site, reviewed available records from the NYSDEC office in Albany, New York, and visited the Watkins Glen, New York municipal offices and the Schuyler County, New York offices. The information was reviewed to support a Site classification and to help prepare the scope of work for the PSA field investigation. The information collected from these sources is summarized below.

2.1 SITE DESCRIPTION

The Site is located at 129-135 East 4th Street, in the north-central section of Watkins Glen, in Schuyler County, New York (Figure 1-1). The Site is situated on 0.34 acres in a commercial and residential area on East 4th Street (NYS Route 414). The property consists of a paved and a gravel parking lot, a small grassy yard, and a large building containing a restaurant, retail sales space and two residential apartments (Figure 2-1). The Site is serviced by public water and sewer.

The Site sits on the south side of East 4th Street and the west side of Decatur Street. Private residences are located south of the Site property, and the United Methodist Church is located to the west of the Site. A small park is located east of the Site, across Decatur Street. Glen Manor House Bed and Breakfast is located north of the Site, across East 4th Street. A self-serve laundromat that was reportedly a former dry cleaner is located on the north side of East 4th Street, approximately 230 feet west of the Site.

Site photographs are presented in Appendix A. Additional Site information is available on the NYSDEC Site Investigation Information Report Form presented in Appendix B, and on the United States Environmental Protection Agency (USEPA) Site Inspection Questionnaire 'Site Information' form, presented in Appendix C.

2.1.1 Topography

The Village of Watkins Glen is located at the southern end of the Seneca Lake Valley, which runs north-south. The Site property is located at approximately 460 feet above mean sea level (msl). The valley walls rise up sharply to the west of the Site, reaching 1000 feet above msl in 0.9 miles.

Seneca Lake is located at 445 feet above msl, 0.2 miles north of the Site. Wetlands

surround the town to the east and south and are located 0.5 miles east of the Site and 1.0 mile south of the Site (Figure 1-1).

2.1.2 Climate

The climate of the area is characterized by moderately warm summers and cold winters. The mean monthly temperatures range from 24 degrees Fahrenheit (°F) in January to 70°F in July. Average annual precipitation is 32 inches. Average annual snowfall is 90 inches (National Climatic Data Center, 1999 for Rochester, NY)

2.1.3 Surface Water Hydrology

Surface drainage from the Site generally follows the topography, flowing towards Seneca Lake to the north.

2.1.4 Groundwater Hydrology

Seneca Lake is a local groundwater discharge area. Depth to groundwater at the Site is approximately 15 feet. Groundwater at the Site is interpreted to flow north towards Seneca Lake.

2.1.5 Geology

Soils in the vicinity of the Site consist primarily of the Chenango gravelly silty loam (URS Consultants, Inc, 1993). Bedrock is expected to be greater than 25 feet below ground surface (bgs). Bedrock in the area consists primarily of Upper Devonian shale and siltstone (New York State Geological Survey, 1970).

2.2 SITE HISTORY

The Site came to the attention of the NYSDEC in September 1999 after tetrachloroethene (PCE) was detected in groundwater samples collected from the property during an investigation for the sale of the property.

It is not known when the Site building was constructed. The building contains numerous stores, including Tobe's Breakfast House, a restaurant in the northeast side of the building. The east side of the building also contains two apartments (one on the first floor and one on the second). A two story wooden addition and walk in cooler was constructed in the south corner of the building in 1981 (Tobey, 2001) (Figure 2-2). A small shed to

the rear of the building and the store in the center of the building were reportedly the location of a former dry cleaner that operated from the early 1950's until the late 1970's (Tobey, 2001) (Figure 2-1). According to the manager of Tobe's Breakfast House, the shed to the rear of the building was also used to store dry cleaning solvents (Peters, 2001). The shed was removed in approximately 1981 (Tobey, 2001).

2.3 PREVIOUS INVESTIGATIONS

The current manager of Tobe's Breakfast House conducted a limited site assessment for the potential purchase of the Site in September 1999. Four geoprobe borings were completed and one soil sample (from boring GEO-1) and three water samples were collected (from GEO-2, GEO-3, and GEO-4) (Figure 2-1). Water samples were collected from the top of the water column. The water table was encountered between 15 and 16 feet bgs.

Samples were analyzed for volatile organic compounds (VOCs) via the United States Environmental Protection Agency (USEPA) Method 8021. No VOCs were detected in the soil sample collected. PCE was detected in all three groundwater water samples. Because the laboratory lost the groundwater sample identifications, it is not known which sample came from which boring. PCE concentrations for the three groundwater samples were 15 micrograms per liter (µg/L), 89 µg/L, and 530 µg/L. Trichloroethene (TCE) was detected at 2.6 µg/L in the water sample containing PCE at a concentration of 530 µg/L.

2.4 SITE WALKOVER

On April 18, 2001 HLA, the NYSDEC, and the Site property manager conducted a walkover of the Site.

SITE WALKOVER ATTENDEES

NAME	TITLE	AFFILIATION/TELEPHONE
Charles Staples	Site Manager	Harding Lawson Associates 207-775-5401
Joseph White	Environmental Engineer NYSDEC Project Manager	NYSDEC Division of Environmental Remediation, Albany 518-402-9564
Greg MacLean	Environmental Engineer	NYSDEC Division of Environmental

SITE WALKOVER ATTENDEES

NAME	TITLE	AFFILIATION/TELEPHONE
	Region 8	Remediation 716-226-5356
Manmohan Mehta	Environmental Engineer Region 8	NYSDEC Division of Environmental Remediation 716-226-5356
Jerry Peters	Tobe's Breakfast House Manager	135 East Fourth Street 607-535-4512

The site walkover consisted of viewing the Site to assess possible contamination sources and logistical concerns for the field program.

No definitive sources of contamination were observed, however, detailed inspections of potential sources, including Site soils and potential dry wells were not conducted during the site walkover. The area surrounding the former shed located south of the Site buildings was identified as a potential source of contamination. HLA gathered additional information for the purpose of identifying potential sources during Task 2.

2.5 SUMMARY OF DATA RECORDS SEARCH AND ASSESSMENT FINDINGS

Under federal and state regulations a solid waste may be regulated as a hazardous waste if it is a material included in one of the USEPA's or the NYSDEC's lists of hazardous wastes. If a material is regulated because of its inclusion on a federal or state list, it is commonly referred to as a "listed" hazardous waste. A waste may also be regulated as a "characteristic" hazardous waste if it exhibits one of the characteristics of toxicity, corrosivity, reactivity, or flammability.

PCE was detected in groundwater samples collected from the Site. Spent chlorinated solvents not originating from household sources, including PCE, are included on both the USEPA's and the NYSDEC's lists of hazardous waste. Under 6 NYCRR Part 371.4(a)(1), this spent solvent constitutes hazardous waste from non-specified sources. Although the presence of chlorinated solvents in Site groundwater was documented in historic records reviewed during Task 1, a Site source area for groundwater contamination was not definitively identified during the records search.

Data collected in 1999 indicated concentrations of VOCs in the Site groundwater that exceeded NYS Class GA water quality standards in 6 NYCRR Parts 700-706 (NYS, 1999b). Contravention of ambient groundwater standards is one method of determining whether a significant threat to the environment exists (NYS, 1998).

Significant threat was confirmed at the Site during Task 1 due to the exceedence of groundwater standards for chlorinated solvents at the Site; however, the source of contamination was not identified. A field investigation was performed during Task 2 to collect the data necessary to determine if hazardous waste was disposed of on-site, and to provide sufficient information to allow the NYSDEC to classify the Site.

3.0 FIELD INVESTIGATION

To classify the Site, the NYSDEC requires data documenting hazardous waste disposal as set forth in 6 NYCRR Part 371, and the potential significant threat to human health and the environment as defined in 6 NYCRR Part 375. Because data necessary to determine if hazardous wastes were disposed of on-site were not available in state and county files reviewed during Task 1, the field investigation described below was performed. Task 2 activities include the field investigation. The objective of Task 2 activities was to determine, if possible, whether the VOCs detected in the Site groundwater originated from the Site, and if the contaminant is migrating off-site.

3.1 TASK 2 - FIELD INVESTIGATION

The Site field investigation was conducted on October 10, 2001, from October 18 to 19, 2001, and on November 1, 2001. The field investigation included a geophysical survey, direct push soil and groundwater sampling, microwell installation, indoor air sampling, and a land survey.

The following subsections describe activities conducted during the field investigation. Findings from the activities are presented in Section 4.0. The field investigation was conducted in accordance with the specifications presented in the Quality Assurance Program Plan (ABB-Environmental Services, 1995) and the site-specific Quality Assurance Project Plan (HLA, 2001). Buck Environmental Laboratories, Inc. performed on-site analytical laboratory analysis. To verify accuracy and quality of he on-site analytical data, confirmatory split samples were sent to an off-site analytical laboratory. H2M Labs, Inc., a New York State Department of Health (NYSDOH)-approved laboratory performed off-site analytical laboratory analyses in accordance with the NYSDEC Analytical Services Protocols (ASP) (NYSDEC, 1995).

3.1.1 Geophysical Survey

HLA conducted a geophysical survey at the Site (Figure 3-1 and Appendix D) on October 10, 2001. Geophysical data was used to screen for the presence or absence of subsurface structures such as abandoned underground storage tanks (UST's), potential dry wells or french drains, septic fields, and associated appurtenances. Two geophysical techniques were employed at the Site and include the following:

- ElectroMagnetic (EM) - 61 Time Domain Metal Detection

- Ground-penetrating Radar (GPR) (GSSI System III)

A high-resolution metal detection survey was conducted using a Geonics EM-61. The EM-61 was used to screen for subsurface metallic objects (i.e., UST's, drums, cast iron piping, etc.) A GPR survey was completed using a GSSI System III GPR unit equipped with a 500-megahertz transducer. GPR data was used to further characterize observed EM-61 anomalies. Additionally, GPR was used to clear proposed soil borings of subsurface structures and possible utilities prior to clearance by Dig-Safely. EM-31 terrain conductivity data was not collected at the site due to the close proximity of buildings, parked vehicles, and overhead power lines.

Prior to the EM survey, a 10-foot by 10-foot survey reference grid was established over the southern portion of the property (parking area accessed by North Decatur Street). EM-61 survey lines were spaced 10 feet apart. EM-61 data was collected every 0.63 feet along each traverse. GPR data was collected continuously in a screening fashion over selected EM-61 anomalies. Observed geophysical anomalies were marked in the field with pin flagging and measured to building corners. Figure 3-1 illustrates the extent of the geophysical survey. Geophysical anomalies were identified for possible boring locations.

3.1.2 Geoprobe Borings and Sampling

Soil and groundwater investigation activities included the completion of geoprobe borings, the collection and analysis of groundwater and soil samples, and the installation of microwells. The objective was to provide groundwater data for comparison to NYS Class GA Groundwater Quality Standards in 6 NYCRR Parts 700-706 (NYS, 1999b), and to assist the NYSDEC in evaluating significant threat to public health and the environment as defined by 6 NYCRR Part 375 (NYS, 1998). Soil sample analyses were used to assess whether hazardous waste constituents are present in Site soil, and to compare soil analytical results to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 94-4046 (NYSDEC 1994). The geoprobe sampling was conducted over three days.

HLA used a geoprobe sampling device to collect groundwater and soil samples. The geoprobe pushes and/or hammers rods and probe tips into the subsurface for sample collection. HLA worked closely with the NYSDEC, the Site owner, and utility companies to obtain access to the exploration locations.

HLA completed ten borings (BS/BW-1 through BS/BW-10) on October 18 and 19, 2001, including the installation of four microwells (MW-1 through MW-4). A total of 17 groundwater samples (two groundwater samples per boring, where possible) and 9 soil

samples (one from each boring except BW-2) were collected. Samples were analyzed on-site in a field laboratory. Analytical results were available in real-time, and the data was used to determine the location of subsequent borings. Upon review of the results of the two-day program, HLA completed a third day of sampling on November 1, 2001. An additional 5 borings were completed (BS/BW-11 through BW-15), including the collection of five groundwater samples (one from each boring) and two soil samples (one each from BS-11 and BS-12). Samples were sent to the off-site analytical laboratory for analysis. Two additional microwells were also installed (MW-5 and MW-6). Soil and groundwater sampling procedures are described below.

3.1.2.1 Soil Sampling Procedure. Soils were collected using a four-foot long 2-inch diameter core sampler with an acrylic liner for the collection of discrete subsurface soil samples. Soil core sample tubes were collected continuously from the ground surface to the top of the water table, present at approximately 15 feet bgs. Photoionization detector (PID) readings were used to screen soils for the presence of VOCs upon opening the sample collection tube. Soil boring BS-5 was selected for continuous soil core sampling to 24 feet bgs, to better characterize Site soils. Soils were described using the Unified Soil Classification System. The sample description and classification, VOC headspace reading, and boring observations were recorded on the Test Boring Logs, located in Appendix E. Based on the PID readings and physical evidence of contamination, such as color and odor, nine unsaturated soil samples from ten borings (one soil sample from each boring except boring BS-2) were submitted to the laboratory for analysis. The gravelly fill located at boring BS-2 bound to the sample collection tube, preventing the collection of a soil sample.

3.1.2.2 Groundwater Sampling Procedure. Groundwater samples were collected using a slotted, two-foot long, one-inch diameter stainless steel rod pushed to the desired sample depth interval. A peristaltic pump was used to collect discrete groundwater samples. At locations where adequate water volumes were present, one set of groundwater parameters including temperature, conductivity, pH, and turbidity was collected before sampling.

To establish vertical distribution of contamination and to aid in directing the location of subsequent borings, groundwater samples were collected from two locations in borings BW-1 through BW-5, BW-8, and in BW-10. The samples were collected from the water table and from eight to 10 feet into the water table. A silt layer encountered in borings BW-6, BW-7, and BW-9 prevented collection of a groundwater sample at the water table, and therefore only one sample (eight to 10 feet into the water table) was collected from each of these three borings. Upon review of the results of the first two days of sampling, HLA added a third day of sampling and completed an additional five borings

(BW-11 to BW-15). One groundwater sample was collected from the water table in each boring (BW-11 through BW-15). Groundwater Sample Field Data Records are located in Appendix E.

3.1.2.3 Sample Analysis. Geoprobe groundwater and soil samples collected on October 18 and 19, 2001 were analyzed in an on-site analytical laboratory. The samples were analyzed for VOCs using the USEPA SW-846 modified Method 8021. Of the soil and groundwater samples collected for on-site analytical laboratory analysis 10% were split sampled for off-site analytical laboratory confirmatory analysis. Groundwater and soil samples selected for confirmatory off-site analytical laboratory analysis and samples collected on November 1, 2001 were analyzed by the off-site analytical laboratory for Target Compound List VOCs using NYSDEC ASP Method 95-4 and 95-1, respectively. Off-site analytical laboratory analyses were reported using NYSDEC Category B specifications. Analytical results are presented in Section 4.0.

3.1.3 Microwell Installation

Microwells were installed after soil and/or groundwater samples were collected from each boring. The microwells were installed as piezometers and used for water level measurements only. Microwells were constructed with one-inch inside diameter schedule 40 polyvinyl chloride, with 10-foot lengths of 0.01-inch machine slotted microwell screens. The microwell screens were set with approximately two to five feet of screen above the water table to determine water table elevations and create a potentiometric surface map. The microwell screens were covered with a polypropylene "sock" to prevent silt from entering the microwell. The microwells were constructed with a # 0 sand pack to 3 to 4 feet bgs, and a granular bentonite seal above the sand pack to the ground surface. The microwells were completed with a screw cap and a four-inch flush mount cover. Microwell construction diagrams are presented in Appendix E. The microwells were developed for twenty minutes with a peristaltic pump to clean the screen and to determine if the microwells are conductive with groundwater.

Six of the 15 geoprobe borings (BS/BW-1, BW-2, BS/BW-3, BS/BW-5, BS/BW-11, and BW-13) were fitted with one-inch inside diameter microwells (MW-1 through MW-6) (Figure 2-1). Three microwells (MW-1, MW-2, and MW-6) were completed north of East 4th Street, on the Glen Manor House Bed and Breakfast property. Microwells MW-1 and MW-2 were constructed in borings BS/BW-1 and BW-2, respectively, both located 10 feet north of East 4th Street. Microwell MW-6, constructed in boring BW-13, is located 100 feet north of East 4th Street, on the eastern edge of the Glen Manor House Bed and Breakfast property. Microwells MW-2 and MW-6 are located downgradient from the Site. The remaining three microwells were located on the Site property.

Microwell MW-3 was installed in boring BS/BW-3, located in the grass on the east side of the Site building. Microwell MW-4 was completed in boring BS/BW-5, located in the southwest portion of the Site parking lot. Microwell MW-5 was installed in boring BS-BW-11, located on the northwest corner of the Site.

3.1.4 Water Level Survey

One round of water levels was collected from the six microwells. Microwell caps were opened to allow water in the microwells to equilibrate to atmospheric pressure. Depth to water was measured with a conductivity probe from the top of the microwell riser. Groundwater table elevations were calculated from the microwell riser elevations (see subsection 3.1.6).

3.1.5 Indoor Air Sampling

One air sample was collected on October 18, 2001 from inside the Site building. The sample was collected from the living room of the first floor apartment. A 24-hour flow controller was used to collect a representative air sample from inside the building. The sample was collected in a 6-liter Summa canister and analyzed for VOCs using the modified USEPA Method TO-14.

3.1.6 Site Survey

Upon completion of sampling activities, HLA's survey subcontractor surveyed the Site and microwell locations. A map of the Site, indicating locations of microwells, and selected Site buildings, was prepared (see Appendix F). Vertical elevation accuracy was 0.01 foot and horizontal accuracy was 0.1 foot. Horizontal positions were tied into the NYS Plane Coordinate System. Vertical elevations were tied to mean seal level, 1929 National Geodetic Vertical Datum. Surveyed items included:

- horizontal locations of six new microwells
- vertical elevations of six new microwells, including top of the riser, and the ground surface
- Site structures

4.0 DATA ASSESSMENT

This section presents results of the geophysical survey and laboratory analyses for soil, groundwater, and air samples collected during Task 2, as well as results of the water level survey.

4.1 GEOPHYSICAL SURVEY

The extent of the geophysical survey is shown in the shaded area of Figure 3-1. Appendix D contains figures of representative geophysical data. Figure D-1 provides bottom coil response contours for the EM-61 high-resolution metal detection survey. One area of elevated EM-61 response values was observed in the data set. The anomaly is approximately 20 feet by 60 feet, and is attributable to the slab foundation of the reported former Dry Cleaning shed. Radar data collected over this structure (Figure D-2) show a strong reflector at or near ground surface indicating the concrete contains rebar or wire mesh. Radar data was inconclusive as to whether underground utilities exist at the site. Soil conditions in the parking lot area may have been overly conductive for penetration of required radio wave energy.

4.2 SOIL AND GROUNDWATER ANALYTICAL RESULTS

Soil and groundwater analytical results are compared to appropriate standards or guidelines. Reported concentrations of individual analytes indicating contravention of standards or guidelines are summarized in the following sections, and noted on Tables 4-1 and 4-2. The tables were assembled after the on-site and off-site data comparison was completed. The tables present both on-site and off-site analytical laboratory data.

A Data Usability Summary Report was completed in accordance with the NYSDEC's Guidance for the Development of Data Usability Summary Reports (NYSDEC, 1997). This report and complete analytical results are presented in Appendix G.

For purposes of analytical interpretation, some of the data was qualified with a J, B, and/or an N. Compounds were qualified J if the concentration listed was an estimated value, which was less than the specified minimum detection limit but greater than zero. Compounds qualified J were analyzed for and determined to be present in the sample, and the mass spectrum of the compound met the identification criteria of the method.

Compounds qualified B indicate that the compound was found in the trip blank, or laboratory blank, and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

Compounds qualified N indicate presumptive evidence that the compound is present in the sample. This qualifier is used to identify uncertainties in reported analytes and to establish the possibility of false positive results.

Analytical results were compared to the standards or guidelines described below.

Soil Samples. Analytical results were compared to the Recommended Soil Cleanup Objectives in the NYSDEC TAGM No. 94-4046 (NYSDEC, 1994).

Groundwater Samples. Analytical results were compared to: (1) the NYS Class GA Groundwater Quality Standards from 6 NYCRR Parts 700-706 (NYS, 1999b) or, where applicable, (2) the NYS Class GA Groundwater Quality Guidance Values from the Division of Water Technical and Operational Guidance Series 1.1.1 "Ambient Water Quality Standards and Guidance Values" (NYSDEC, 1998).

4.2.1 Data Comparability

This section presents a comparison between VOC analytical results from the on-site and off-site laboratories. A more detailed discussion of the split sample results is presented in Appendix G.

4.2.1.1 Soil Sample Comparability. Of the nine soil samples collected for on-site analysis, one split sample was sent to the off-site analytical laboratory for confirmatory analysis. Based on limited data, the split samples showed agreement for the absence of contamination at the project reporting limits.

4.2.1.2 Groundwater Sample Comparability. Of the 17 samples collected for on-site VOC analysis, four split samples were sent to the off-site analytical laboratory for confirmatory analysis. All samples showed good correlation for the detected compounds. The average relative percent difference of the detected analytes was 23 percent, indicating good quantitative agreement between the laboratories.

4.2.2 Soil Sample Results

A summary of target VOCs detected in soil samples is presented in Table 4-1. Table 4-1 presents on-site and off-site analytical laboratory results.

No VOCs were detected in soil samples above the NYSDEC Soil Cleanup Objectives. PCE was detected in the soil sample from boring BS-4 at 14 feet bgs at a concentration of 379 µg/Kg. PCE was detected in the soil sample from boring BS-6 at 5 feet bgs at a concentration of 325 J µg/Kg. PCE was detected in the duplicate sample from boring BS-6 at a concentration of 629 J µg/Kg. PCE was detected in the soil sample from boring BS-10 at two feet bgs at a concentration of 410 µg/Kg. PCE was also detected in off-site analytical laboratory samples from borings BS-9, BS-11, and BS-12 at low concentrations (less than 28 µg/Kg). The soil cleanup objective for PCE is 1400 µg/Kg. All soil samples with PCE detections were collected from within the Site property boundary. Highest PCE detections in soil samples were from borings BS-4, BS-6, and BS-10, all located south of and adjacent to the Site building. No samples were collected from beneath the Site building.

Trace concentrations (less than 75 µg/Kg) of toluene, xylene, and tentatively identified compound C3 subst_Benzene were detected in the off-site analytical samples from borings BS-9 and BS-12. The soil cleanup objectives for toluene and xylene are 1500 µg/Kg and 1200 µg/Kg, respectively. No soil cleanup objectives exist for C3 subst_Benzene. Borings BS-9 and BS-12 are located in the Site parking lot.

4.2.3 Groundwater Sample Results

A summary of target VOCs detected in groundwater samples is presented in Table 4-2 and on Figure 4-1. Table 4-2 presents on-site and off-site analytical laboratory results.

PCE was detected in groundwater samples collected from 9 of the 15 borings. Concentrations ranged from 2.6 µg/L to 100 J µg/L. Concentrations in samples collected from five of the borings, BW-2, BW-3, BW-13, BW-14, and BW-15, exceeded the NYS Class GA groundwater standard of 5 µg/L. Four of the five boring locations with PCE groundwater exceedances are located north of the Site, in the direction of groundwater flow, and the fifth boring location is on the northeast corner of the Site. At each boring where PCE was detected, reported concentrations were higher at the water table than at a depth of 8 to 11 feet below the water table.

PCE was detected at trace concentrations (less than 4.0 µg/L) in groundwater samples collected from borings located upgradient (south) from the Site building (BW-4, BW-10,

BW-11, and BW-12. These PCE concentrations may be the result of rain infiltration through PCE in soils below the parking lot, or of vapor migration from the source area.

In addition to PCE, toluene (1.5 µg/L), m,p-xylene (3.1 µg/L), and o-xylene (2.0 µg/L) were detected in the sample from boring BW-6. The NYS Class GA groundwater standard for each of the three compounds is 5 µg/L. BW-6 is located on the Site in the gravel parking lot.

Carbon disulfide (0.6 J µg/L) and 2-Butanone (2.0 J µg/L) were detected in the sample from boring BW-11. There are no NYS Class GA groundwater standards for carbon disulfide and 2-Butanone; 2-Butanone has a guidance value of 50 µg/L.

As a result of underground utilities below the sidewalk and street, no geoprobe borings could be completed immediately north of the Site building. In addition, access to sample below the building foundation slab was not available. To predict groundwater and soil PCE concentrations below the Site buildings, groundwater modeling was performed. Groundwater modeling calculations are presented in Appendix H.

To complete the modeling it was necessary to estimate the width of PCE-contaminated groundwater downgradient from the Site. It was estimated, based on existing data, that the extent of PCE contamination in groundwater at a location 140 feet downgradient from the 1981 Site building addition (boring BW-14) was approximately 200 feet wide. Combining this width with groundwater analytical results, an estimate of PCE concentrations in soil and groundwater at the suspected source area were made. Using the Vertical and Horizontal Spread analytical model and assuming a stratified aquifer, initial concentrations of PCE in groundwater were estimated to be 1,830 µg/L. The linear partitioning model indicates that this PCE groundwater concentration could be achieved if the concentration of PCE in soil at the water table in the source area (suspected to be below the Site building) is now, or was at some point in the past, at least 1300 µg/Kg. Based on the conclusions of the model, the concentration of PCE detected in Site soils is not high enough to result in the PCE concentrations detected in groundwater downgradient from the Site. PCE concentrations in Site soil may have diminished over time, or source area PCE concentrations below the building are greater than those detected.

4.3 POTENTIOMETRIC SURFACE MAP

The microwell survey and depth to water measurements were used to create a potentiometric surface water map (Figure 4-2). Microwell survey and water elevation

data are presented in Table 4-3. Depth to water across the survey area varied from approximately 12 feet bgs to 16 feet bgs. Groundwater elevations varied from 444.68 feet above msl, to 444.89 feet above msl. The groundwater table gradient appears to be relatively flat, varying by only 0.21 feet in elevation over 300 feet of distance. Interpreted groundwater surface contours indicate that groundwater flows to the north, towards Seneca Lake.

4.4 INDOOR AIR SAMPLE

The indoor air sample analytical results were compared to the NYSDOH guideline for PCE and to the USEPA's reference manual for indoor air quality (USEPA, 1991).

A detailed description of the air sample procedures and analytical results are included in Appendix I.

Seven VOCs were detected in the air sample. Benzene (2.3 micrograms per cubic meter [$\mu g/m^3$]) and PCE (25 $\mu g/m^3$), were the only two compounds detected at concentrations above the USEPA Region III Risk-Based Concentrations (RBC) of 0.22 $\mu g/m^3$, and 3.1 $\mu g/m^3$, respectively. Freon 12 (0.72 $\mu g/m^3$), acetone (6.5 $\mu g/m^3$), toluene (1.9 $\mu g/m^3$), and m,p-xylene (0.97 $\mu g/m^3$), were detected at concentrations below the respective USEPA Region III RBC. Ethanol was detected at 75 $\mu g/m^3$; there is no USEPA Region III RBC for ethanol.

Although detected air concentrations of PCE exceeded the USEPA Region III RBC, they were below the NYSDOH guidance action level for PCE (100 $\mu g/m^3$).

The air sample was collected from the ground floor while the building windows were closed and the steam heating system was running. No air sample was collected from the basement, where there is an open floor drain leading to an underlying gravel bed.

5.0 INVESTIGATION FINDINGS

Review of physical and chemical data developed during the PSA resulted in the following findings:

1. Evidence of hazardous waste use, storage and disposal at the Site were recorded during the PSA.
2. PCE was detected at concentrations exceeding the NYS Class GA groundwater standard of 5 µg/L in groundwater samples from five borings (BW-2, BW-3, BW-13, BW-14, and BW-15), located at and downgradient from the Site. Maximum PCE concentrations at the five locations varied from 28.7 µg/L to 100 J µg/L. Lower concentrations of PCE (less than 3.9 µg/L) were detected in groundwater upgradient from the Site building.
3. The groundwater table gradient is relatively flat, and appears to flow to the north toward Seneca Lake.
4. Relative PCE concentrations in groundwater suggest the Site buildings as the source area. Although PCE was detected in Site soil south of the buildings, reported concentrations are not considered high enough to cause the levels of PCE detected downgradient (up to 100 µg/L). It is possible that site soil contamination has diminished over time due to flushing, or that an unidentified source area exists below the Site building. PCE product could have leaked through cracks in the concrete floor of the dry cleaning facility, or been released to the ground surface south of the original building (now occupied by the bakery and office addition, constructed in 1981). Based on analytic modeling, source area soil concentrations at one time may have been greater than approximately 1,300 µg/L. Indoor air concentrations of PCE suggest that PCE contamination exists below the building.
5. PCE concentrations in groundwater determined during the PSA are less than those reported in 1999, when PCE was detected as high as 530 µg/L.
6. Upgradient groundwater contamination may be the result of PCE product released to the ground surface. PCE in upgradient groundwater (3.9 µg/L) could be a result of source migration via rainwater infiltration, or from vapor migration.
7. PCE was detected in Site soil at concentrations up to 629 J µg/Kg. The NYSDEC soil cleanup objective for PCE is 1400 µg/Kg. PCE was detected in soil south of the Site buildings at depths ranging from 2 to 14 feet below ground surface.
8. Benzene (2.3 $\mu g/m^3$) and PCE (25 $\mu g/m^3$) were detected at concentrations above the USEPA Region III RBC of 0.22 $\mu g/m^3$, and 3.1 $\mu g/m^3$, respectively, in the single air sample collected from inside the ground floor apartment. The NYSDOH recommends that average ambient air concentrations for PCE in a residential community not exceed 100 $\mu g/m^3$.

ABB-ES	ABB Environmental Services
ASP	Analytical Services Protocol
bgs	below ground surface
EM	ElectroMagnetic
°F	degrees Fahrenheit
GPR	Ground Penetrating Radar
HLA	Harding Lawson Associates
msl	mean sea level
NYCRR	New York Codes, Rules, and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	tetrachloroethene
PID	photoionization detector
PSA	Preliminary Site Assessment
RBC	Risk Based Concentration
Site	Tobe's Breakfast House site
TAGM	Technical and Administrative Guidance Memorandum
µg/Kg	micrograms per kilogram
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

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FIGURES

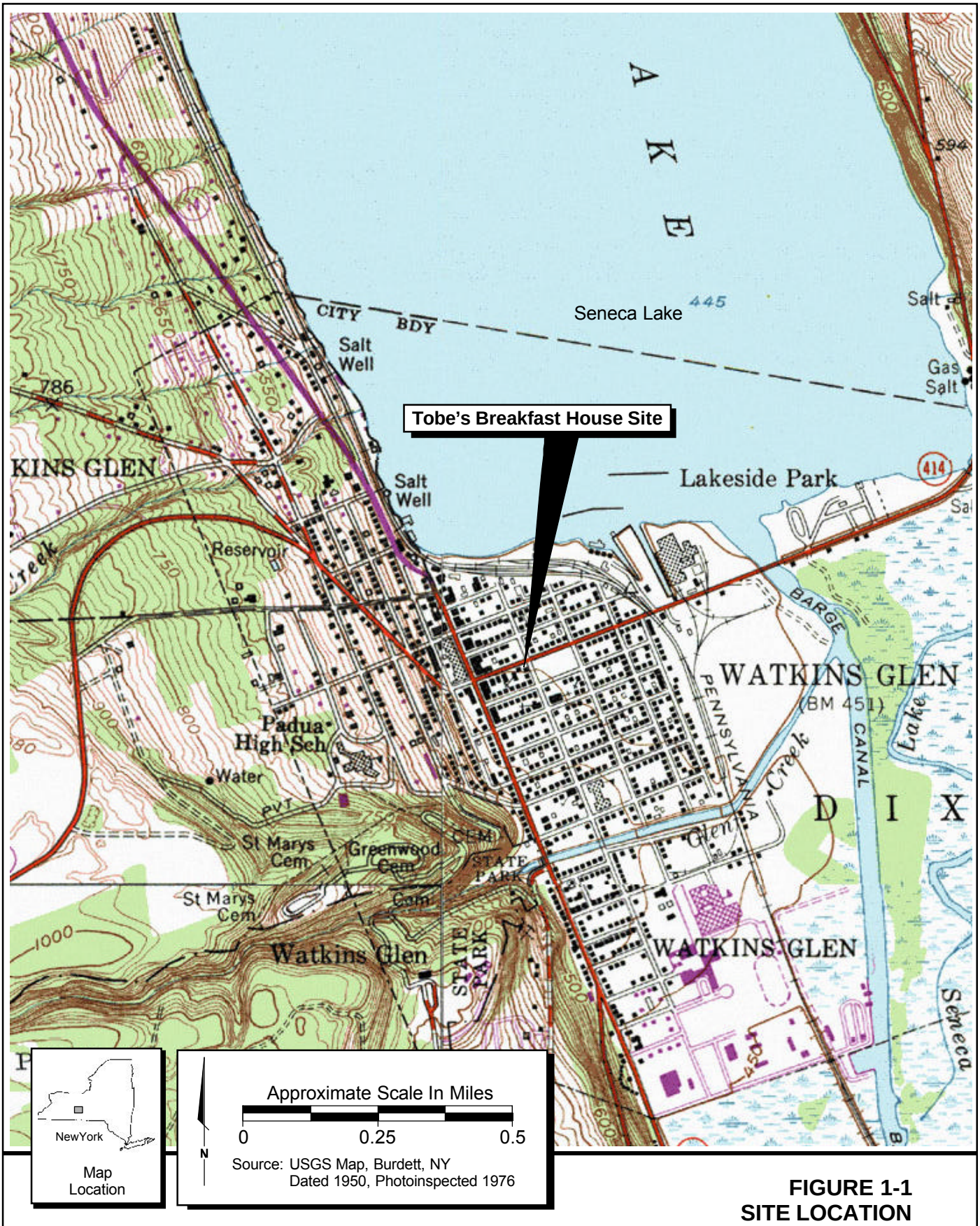

FIGURE 1-1
SITE LOCATION
PSA DATA SUMMARY REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Harding Lawson Associates

W2002004b

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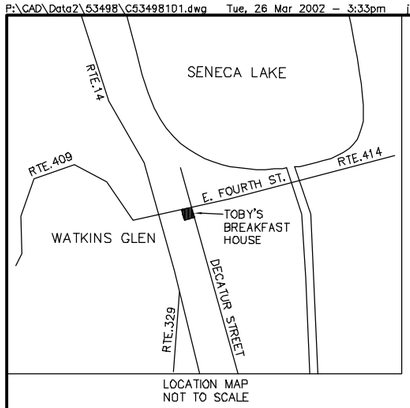
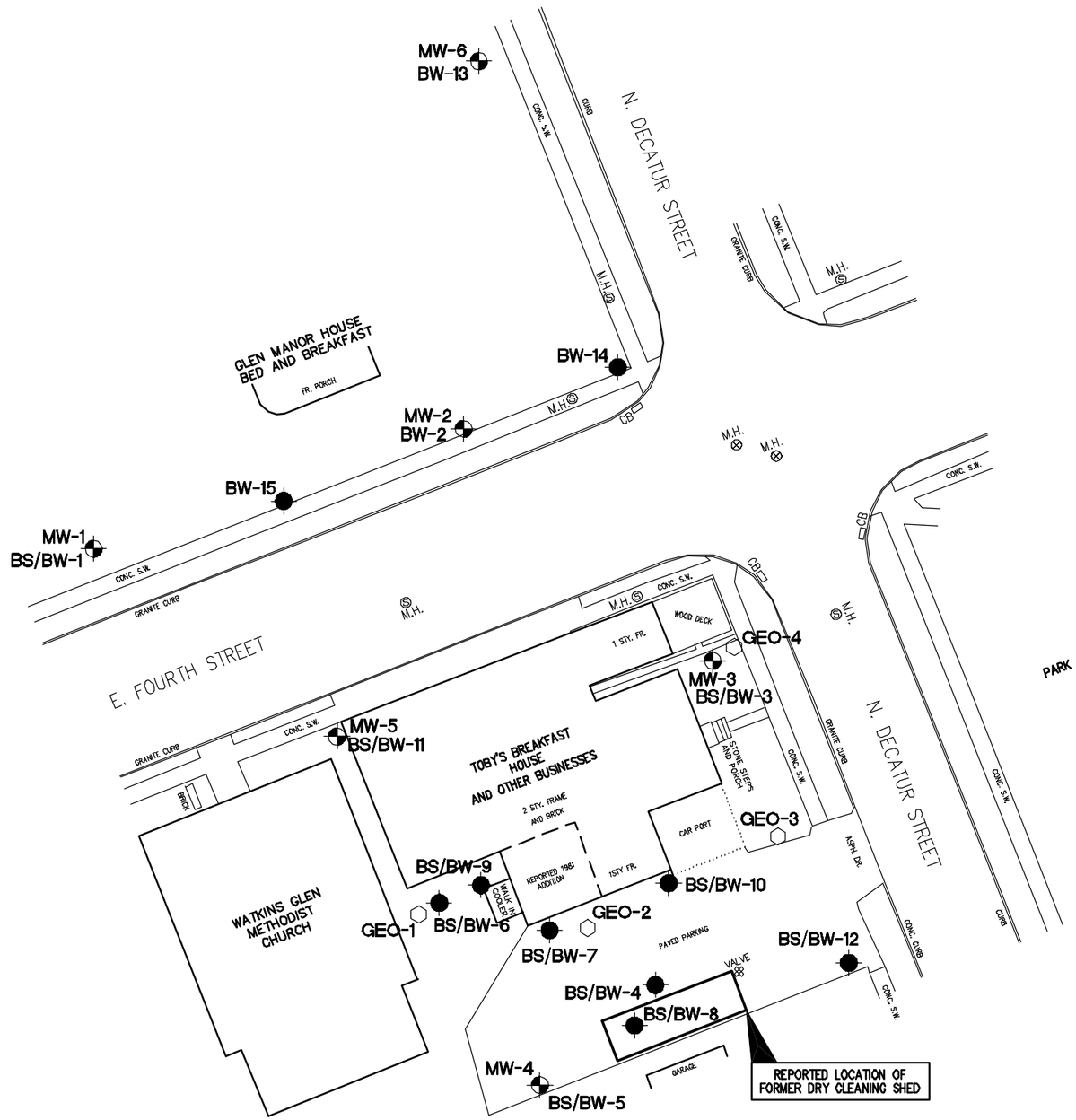


LOCATION MAP
NOT TO SCALE



LEGEND

- MW-1 — MICROWELL
- BS/BW-9 — BORING LOCATION
- GEO-1 — PREVIOUS BORING LOCATION
- SEWER MANHOLE
- UTILITY MANHOLE
- CATCH BASIN

SCALE IN FEET
0 20 40

FIGURE 2-1
SITE MAP
TOBE'S BREAKFAST HOUSE SITE
PSA REPORT
WATKINS GLEN, NEW YORK
Harding Lawson Associates

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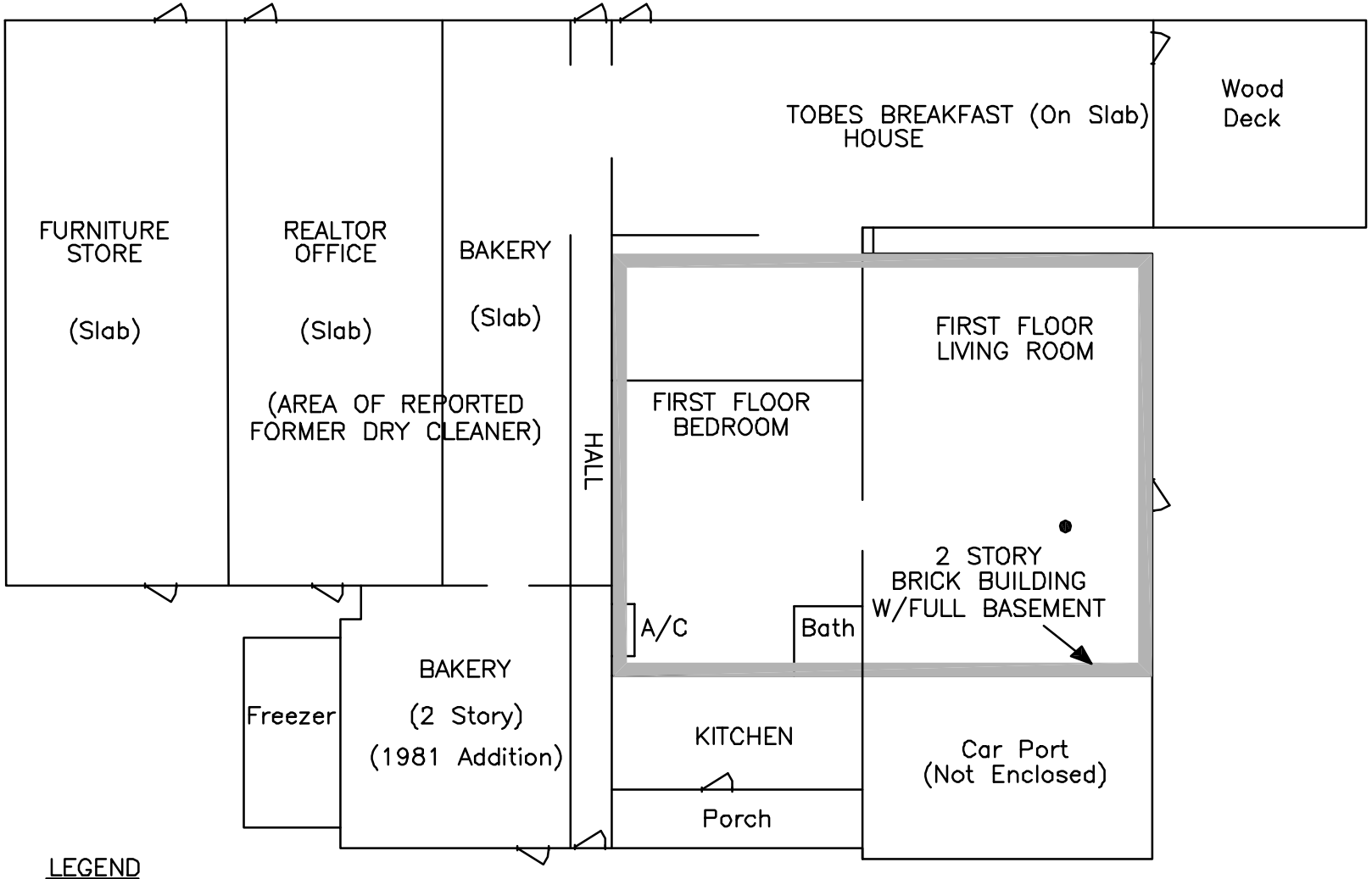

LEGEND

● APPROXIMATE LOCATION OF BASEMENT FLOOR DRAIN

NOTE: LOCATIONS OF INTERIOR WALLS ARE APPROXIMATE.

0 7.5 15 30

APPROXIMATE SCALE

N

FIGURE 2-2
SITE BUILDING PLAN
TOBES BREAKFAST HOUSE SITE
PSA REPORT
WATKINS GLEN, NEW YORK
Harding Lawson Associates

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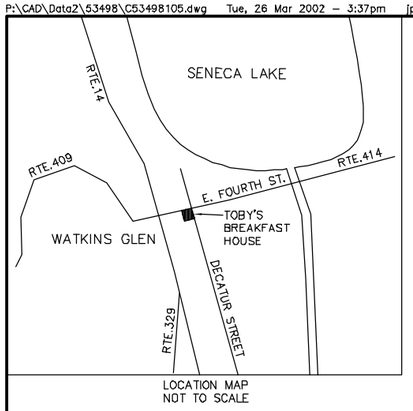

LOCATION MAP
NOT TO SCALE

N

TRUE NORTH AT THE 76°35'00" MERIDIAN OF WEST LONGITUDE (1983 N.A. DATUM)

LEGEND

- MW-1 — MICROWELL
- BS/BW-9 — BORING LOCATION
- GEO-1 — PREVIOUS BORING LOCATION
- SEWER MANHOLE
- UTILITY MANHOLE
- CATCH BASIN
- APPROXIMATE AREA OF GEOPHYSICAL SURVEY
- SLAB FOUNDATION

SCALE IN FEET
0 20 40

MW-6
BW-13
CONC. S.W.
CURB
N. DECATUR STREET
M.H.
GRANITE CURB
CONC. S.W.
M.H.
GLEN MANOR HOUSE BED AND BREAKFAST
FR. PORCH
BW-14
MW-2
BW-2
M.H.
CB
M.H.
M.H.
BW-15
MW-1
BS/BW-1
CONC. S.W.
GRANITE CURB
CB
CONC. S.W.
M.H.
E. FOURTH STREET
M.H.
CONC. S.W.
WOOD DECK
1 STY. FR.
GEO-4
MW-3
BS/BW-3
M.H.
PARK
GRANITE CURB
CONC. S.W.
MW-5
BS/BW-11
STONE STEPS AND PORCH
CONC. S.W.
GRANITE CURB
N. DECATUR STREET
BRICK
TOBY'S BREAKFAST HOUSE AND OTHER BUSINESSES
2 STY. FRAME AND BRICK
CAR PORT
GEO-3
CONC. S.W.
CURB
BS/BW-9
1STY FR.
BS/BW-10
ASPH. DR.
WATKINS GLEN METHODIST CHURCH
WALK IN COOLER
GEO-2
GEO-1
BS/BW-6
PAVED PARKING
BS/BW-12
BS/BW-7
VALVE PIT
BS/BW-4
BS/BW-8
CONC. S.W.
MW-4
GARAGE
BS/BW-5
APPROXIMATE LOCATION OF FORMER DRY CLEANERS SLAB FOUNDATION FOOTPRINT
APPROXIMATE AREA OF GEOPHYSICAL SURVEY

FIGURE 3-1
AREA OF GEOPHYSICAL SURVEY
TOBE'S BREAKFAST HOUSE SITE
PSA REPORT
WATKINS GLEN, NEW YORK
Harding Lawson Associates

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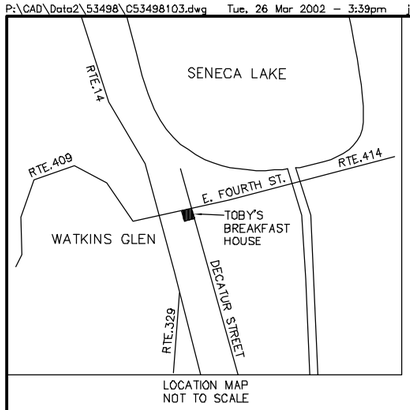
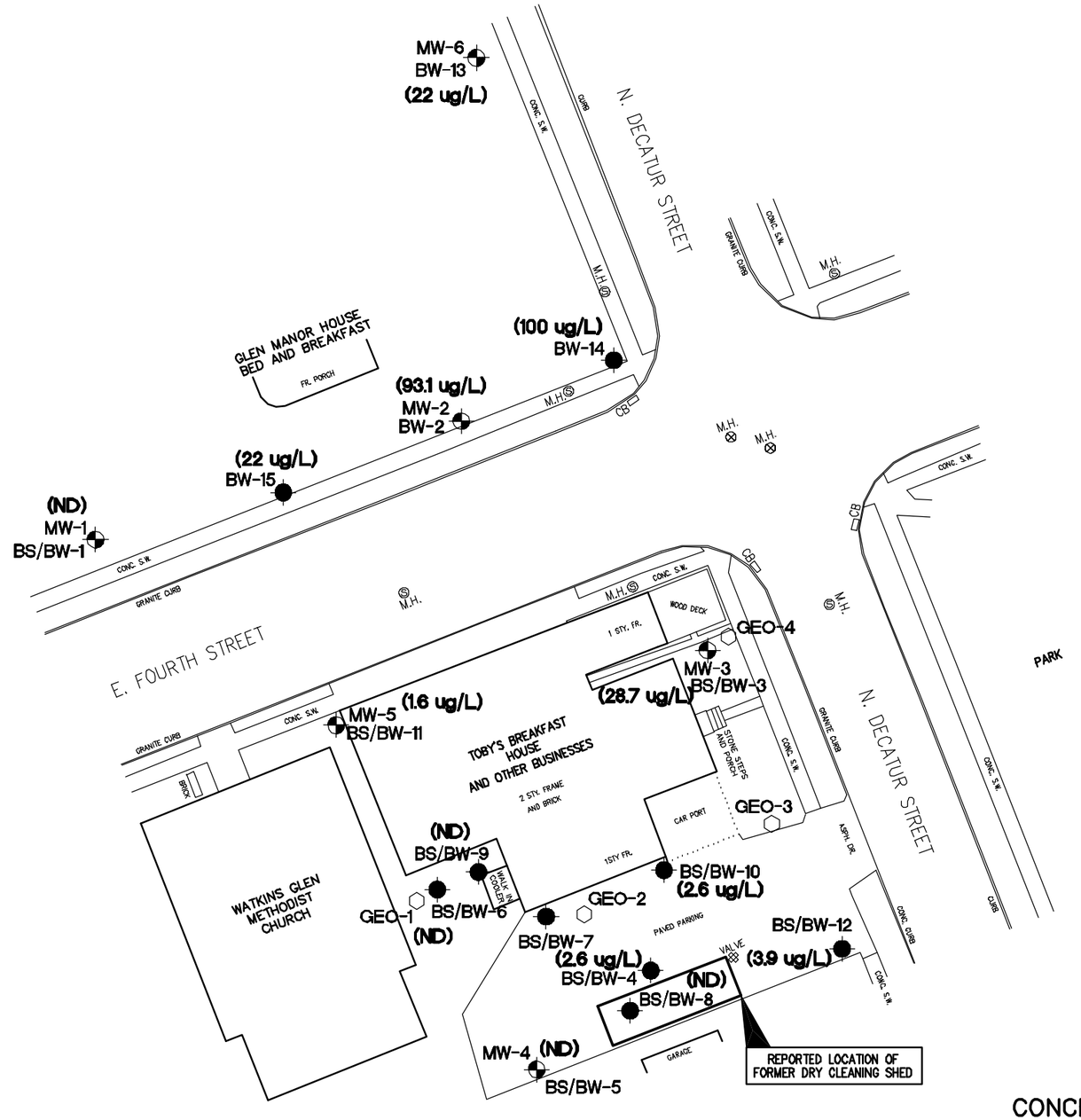


LOCATION MAP
NOT TO SCALE

N

TRUE NORTH AT THE 76°35'00" MERIDIAN OF WEST LONGITUDE (1983 N.A. DATUM)



LEGEND

- MW-1 — MICROWELL
- BS/BW-9 — BORING LOCATION
- GEO-1 — PREVIOUS BORING LOCATION
- SEWER MANHOLE
- UTILITY MANHOLE
- CATCH BASIN
- (28.7 ug/L) — CONCENTRATION OF PCE IN GROUNDWATER
- (ND) — NOT DETECTED
- ug/L — MICROGRAMS PER LITER

SCALE IN FEET
0 20 40

NOTES:

1. RESULTS OF SAMPLES COLLECTED DURING THE PSA ON OCTOBER 18, AND 19TH, AND NOVEMBER 1, 2001.
2. RESULTS FROM BORINGS BW-1 TO BW-10 FROM ON-SITE LABORATORY. ALL OTHER RESULTS FROM OFF-SITE LABORATORY.

FIGURE 4-1
CONCENTRATIONS OF PCE IN GROUNDWATER
TOBE'S BREAKFAST HOUSE SITE
PSA REPORT
WATKINS GLEN, NEW YORK

Harding Lawson Associates

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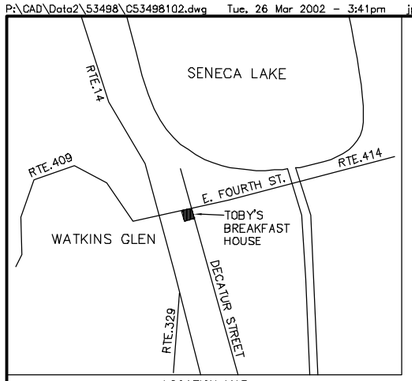


LOCATION MAP
NOT TO SCALE

N

TRUE NORTH AT THE 76°35'00" MERIDIAN OF WEST LONGITUDE (1983 N.A. DATUM)

444.70 444.75 444.80 444.85 444.90

MW-6 BW-13 (444.68)

N. DECATUR STREET

CONC. S.W. CURB GRANITE CURB M.H. CB

GLEN MANOR HOUSE BED AND BREAKFAST

BW-14 (444.78) MW-2 BW-2 BW-15 MW-1 (444.76) BS/BW-1

E. FOURTH STREET

WATKINS GLEN METHODIST CHURCH BRICK

MW-5 (444.77) BS/BW-11

TOBY'S BREAKFAST HOUSE AND OTHER BUSINESSES 2 STY. FRAME AND BRICK 1 STY. FR. WOOD DECK STONE STEPS AND PORCH CAR PORT

GEO-4 (444.82) MW-3 BS/BW-3 GEO-3 BS/BW-10 GEO-2 BS/BW-7 BS/BW-9 GEO-1 BS/BW-6 WALK CIRCLE

PAVED PARKING ASPH. DR. VALVE BS/BW-12 BS/BW-4 BS/BW-8 (444.89) MW-4 BS/BW-5 GARAGE

REPORTED LOCATION OF FORMER DRY CLEANING SHED

PARK

LEGEND

- MW-1 MICROWELL
- BS/BW-9 BORING LOCATION
- GEO-1 PREVIOUS BORING LOCATION
- SEWER MANHOLE
- UTILITY MANHOLE
- CATCH BASIN
- 444.75 APPROXIMATE GROUNDWATER CONTOUR ELEVATION
- (444.77) WATER ELEVATION
- INTERPRETIVE GROUNDWATER FLOW DIRECTION

NOTE:

ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL, AND ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

SCALE IN FEET
0 20 40

FIGURE 4-2
POTENTIOMETRIC SURFACE MAP
TOBE'S BREAKFAST HOUSE SITE
PSA REPORT
WATKINS GLEN, NEW YORK

Harding Lawson Associates

TABLES

TABLE 4-1
GEOPROBE SOIL SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location		BS-001	BS-003	BS-004	BS-005	BS-006	
Sample ID		TBBS00101401FX	TBBS00301401FX	TBBS00401401FX	TBBS00501401FX	TBBS00600501FX	
Sample Date		10/18/01	10/18/01	10/18/01	10/19/01	10/19/01	
Depth (ft bgs)		14-15	14-15	14-15	14-15	5-6	
Lab		ON	ON	ON	ON	ON	
	Soil Cleanup						
Parameter	Objective[1]	Result (µg/Kg)	Result (µg/Kg)	Result (µg/Kg)	Result (µg/Kg)	Result (µg/Kg)	QF
Tetrachloroethene	1400			379		325	J
Toluene	1500						
Xylene	1200						
C3 subst_Benzene	NA						

NOTES:

1	=	from Technical Administrative Guidance Memorandum 94-4046, "Determination of Soil Cleanup Objectives and Cleanup Levels" (NYSDEC, 1994). Values in µg/Kg.
dup	=	duplicate sample
ft bgs	=	feet below ground surface.
Lab	=	ON =BUCK on-site field laboratory, OFF = H2M off-site laboratory.
Result	=	only detected compounds are shown.
µg/Kg		micrograms per kilogram
QF	=	laboratory qualifier
J Qualifier	=	indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not Available

TABLE 4-1
GEOPROBE SOIL SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location		BS-006 (Dup)		BS-007	BS-008	BS-009	BS-009	
Sample ID		TBBS00600501FD		TBBS00701501FX	TBBS00801101FX	TBBS00901301FX	TBBS00901301XX	
Sample Date		10/19/01		10/19/01	10/19/01	10/19/01	10/19/01	
Depth (ft bgs)		5-6		15-16	11-12	13-14	13-14	
Lab		ON		ON	ON	ON	OFF	
	Soil Cleanup							
Parameter	Objective[1]	Result (µg/Kg)	QF	Result (µg/Kg)	Result (µg/Kg)	Result (µg/Kg)	Result (µg/Kg)	QF
Tetrachloroethene	1400	629	J				28	
Toluene	1500						6	J
Xylene	1200						4	J
C3 subst_Benzene	NA							

NOTES:

1	=	from Technical Administrative Guidance Memorandum 94-4046, "Determination of Soil Cleanup Objectives and Cleanup Levels" (NYSDEC, 1994). Values in µg/Kg.
dup	=	duplicate sample
ft bgs	=	feet below ground surface.
Lab	=	ON =BUCK on-site field laboratory, OFF = H2M off-site laboratory.
Result	=	only detected compounds are shown.
µg/Kg		micrograms per kilogram
QF	=	laboratory qualifier
J Qualifier	=	indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not Available

TABLE 4-1
GEOPROBE SOIL SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location		BS-009 (Dup)		BS-010	BS-011		BS-012	
Sample ID		TBBS01501501FX		TBBS01000201FX	TBBS01101201XX		TBBS01200301XX	
Sample Date		10/19/01		10/19/01	11/01/01		11/01/01	
Depth (ft bgs)		13-14		2-3	12-13		3-4	
Lab		OFF		ON	OFF		OFF	
	Soil Cleanup							
Parameter	Objective[1]	Result (µg/Kg)	QF	Result (µg/Kg)	Result (µg/Kg)	QF	Result (µg/Kg)	QF
Tetrachloroethene	1400	22		410	2	J	7	J
Toluene	1500						75	
Xylene	1200	5	J					
C3 subst_Benzene	NA	6	J					

NOTES:

1	=	from Technical Administrative Guidance Memorandum 94-4046, "Determination of Soil Cleanup Objectives and Cleanup Levels" (NYSDEC, 1994). Values in µg/Kg.
dup	=	duplicate sample
ft bgs	=	feet below ground surface.
Lab	=	ON =BUCK on-site field laboratory, OFF = H2M off-site laboratory.
Result	=	only detected compounds are shown.
µg/Kg		micrograms per kilogram
QF	=	laboratory qualifier
J Qualifier	=	indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not Available

TABLE 4-2
GROUNDWATER SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location			**BW-001**		**BW-001**		**BW-001 (dup)**		**BW-002**		**BW-002**		**BW-002**	
Sample ID			**TBBW00101601FX**		**TBBW00102401FX**		**TBBW00102401FD**		**TBBW00201801FX**		**TBBW00201801XX**		**TBBW00202601FX**	
Sample Date			**10/18/01**		**10/18/01**		**10/18/01**		**10/18/01**		**10/18/01**		**10/18/01**	
Depth (ft bgs)			**16**		**24**		**24**		**18**		**18**		**26**	
Lab			**ON**		**ON**		**ON**		**ON**		**OFF**		**ON**	
Parameter	**TOG 1.1.1**	**CR**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**
Tetrachloroethene	5	S							**93.1**		**100**		**35.3**	
Toluene	5	S												
m,p-Xylene	5	S												
o-Xylene	5	S												
Xylene (total)														
Carbon disulfide	NA													
2-Butanone	50	G												

NOTES:

ft bgs	=	feet below ground surface.
Lab	=	ON = BUCK on-site field laboratory, OFF = H2M off-site laboratory.
TOG 1.1.1	=	values from Technical and Operational Guidance Series (TOG) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998). Values in µg/L.
CR	=	criteria: S = New York State Standard; G = New York State Guidance.
Result	=	only detected compounds are shown.
µg/L	=	micrograms per liter
QF	=	qualifier
93	=	values in bold exceed the state standards or guidance values.
J	=	The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not available

TABLE 4-2
GROUNDWATER SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location			BW-003		BW-003		BW-003		BW-004		BW-004		BW-004	
Sample ID			TBBW00301701FX		TBBW00301701XX		TBBW00302601FX		TBBW00401601FX		TBBW00401601XX		TBBW01501501XX	
Sample Date			10/18/01		10/18/01		10/18/01		10/18/01		10/18/01		10/18/01	
Depth (ft bgs)			17		17		26		16		16		16	
Lab			ON		OFF		ON		ON		OFF		OFF (Duplicate)	
Parameter	**TOG 1.1.1**	**CR**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**
Tetrachloroethene	5	S	**28.7**		**40**	J	**8.5**		2.6		2.3		2.3	
Toluene	5	S												
m,p-Xylene	5	S												
o-Xylene	5	S												
Xylene (total)														
Carbon disulfide	NA													
2-Butanone	50	G												

NOTES:

ft bgs	=	feet below ground surface.
Lab	=	ON = BUCK on-site field laboratory, OFF = H2M off-site laboratory.
TOG 1.1.1	=	values from Technical and Operational Guidance Series (TOG) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998). Values in µg/L.
CR	=	criteria: S = New York State Standard; G = New York State Guidance.
Result	=	only detected compounds are shown.
µg/L	=	micrograms per liter
QF	=	qualifier
93	=	values in bold exceed the state standards or guidance values.
J	=	The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not available

TABLE 4-2
GROUNDWATER SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location			BW-004		BW-005		BW-005		BW-006		BW-006 (Dup)		BW-006	
Sample ID			TBBW00402601FX		TBBW00501801FX		TBBW00502601FX		TBBW00602101FX		TBBW00602101FD		TBBW00602101XX	
Sample Date			10/18/01		10/19/01		10/19/01		10/19/01		10/19/01		10/19/01	
Depth (ft bgs)			26		18		26		21		21		21	
Lab			ON		ON		ON		ON		ON		OFF	
Parameter	**TOG 1.1.1**	**CR**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**
Tetrachloroethene	5	S	1.0											
Toluene	5	S							1.5		1.5		1.2	
m,p-Xylene	5	S							3.1		2.8			
o-Xylene	5	S							2.0		1.8			
Xylene (total)													3.4	
Carbon disulfide	NA													
2-Butanone	50	G												

NOTES:

ft bgs	=	feet below ground surface.
Lab	=	ON = BUCK on-site field laboratory, OFF = H2M off-site laboratory.
TOG 1.1.1	=	values from Technical and Operational Guidance Series (TOG) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998). Values in µg/L.
CR	=	criteria: S = New York State Standard; G = New York State Guidance.
Result	=	only detected compounds are shown.
µg/L	=	micrograms per liter
QF	=	qualifier
93	=	values in bold exceed the state standards or guidance values.
J	=	The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not available

TABLE 4-2
GROUNDWATER SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location			**BW-007**		**BW-008**		**BW-008**		**BW-009**		**BW-010**		**BW-010**	
Sample ID			**TBBW00702301FX**		**TBBW00801701FX**		**TBBW00802601FX**		**TBBW00902201FX**		**TBBW01001701FX**		**TBBW01002601FX**	
Sample Date			**10/19/01**		**10/19/01**		**10/19/01**		**10/19/01**		**10/19/01**		**10/19/01**	
Depth (ft bgs)			**23**		**17**		**26**		**22**		**17**		**26**	
Lab			**ON**		**ON**		**ON**		**ON**		**ON**		**ON**	
Parameter	**TOG 1.1.1**	**CR**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**
Tetrachloroethene	5	S									2.6			
Toluene	5	S												
m,p-Xylene	5	S												
o-Xylene	5	S												
Xylene (total)														
Carbon disulfide	NA													
2-Butanone	50	G												

NOTES:

ft bgs	=	feet below ground surface.
Lab	=	ON = BUCK on-site field laboratory, OFF = H2M off-site laboratory.
TOG 1.1.1	=	values from Technical and Operational Guidance Series (TOG) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998). Values in µg/L.
CR	=	criteria: S = New York State Standard; G = New York State Guidance.
Result	=	only detected compounds are shown.
µg/L	=	micrograms per liter
QF	=	qualifier
93	=	values in bold exceed the state standards or guidance values.
J	=	The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not available

TABLE 4-2
GROUNDWATER SAMPLING RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Location			**BW-011**		**BW-012**		**BW-013**		**BW-013 (dup)**		**BW-014**		**BW-015**	
Sample ID			**TBBW01101501XX**		**TBBW01201601XX**		**TBBW01301601FX**		**TBBW02001601FX**		**TBBW01401601FX**		**TBBW01501701FX**	
Sample Date			**11/01/01**		**11/01/01**		**11/01/01**		**11/01/01**		**11/01/01**		**11/01/01**	
Depth (ft bgs)			**15-17**		**16-18**		**16-18**		**16-18**		**16-18**		**17-19**	
Lab			**OFF**		**OFF**		**OFF**		**OFF**		**OFF**		**OFF**	
Parameter	**TOG 1.1.1**	**CR**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**	**Result (µg/L)**	**QF**
Tetrachloroethene	5	S	1.6		3.9	J	**22**		**20**		**100**	J	**22**	
Toluene	5	S												
m,p-Xylene	5	S												
o-Xylene	5	S												
Xylene (total)														
Carbon disulfide	NA		0.6	J										
2-Butanone	50	G	2.0	J										

NOTES:

ft bgs	=	feet below ground surface.
Lab	=	ON = BUCK on-site field laboratory, OFF = H2M off-site laboratory.
TOG 1.1.1	=	values from Technical and Operational Guidance Series (TOG) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998). Values in µg/L.
CR	=	criteria: S = New York State Standard; G = New York State Guidance.
Result	=	only detected compounds are shown.
µg/L	=	micrograms per liter
QF	=	qualifier
93	=	values in bold exceed the state standards or guidance values.
J	=	The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value.
NA	=	Not available

TABLE 4-3
GROUNDWATER WELL SURVEY AND WATER ELEVATION DATA
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Well ID	Top of Riser Elevation[1]	Depth to Water[2] (Feet)	Groundwater Elevation[1]
MW-1	458.86	14.1	444.76
MW-2	458.47	13.69	444.78
MW-3	459.71	14.89	444.82
MW-4	460.61	15.72	444.89
MW-5	459.26	14.49	444.77
MW-6	457.19	12.51	444.68

Notes:

1. Elevations are in feet above mean sea level and are based on the National Geodetic Vertical Datum of 1929.
2. Depth to water measured in feet below top of riser on 10/31/01.

TABLE 4-4
AIR SAMPLE RESULTS
PSA REPORT
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

Compound	Reference Guidance Ambiant Air Risk Based Concentration (1)	Results TOBEAIR001XX01
	(ug/m^3)	(ppbv / ug/m^3)
Freon 12	180	0.72 / 3.6
Benzene	0.22	**0.72 / 2.3**
Toluene	420	1.9 / 7.3
Tetrachloroethene[2]	3.1	**3.6 / 25**
m.p-Xylene	7300	0.97 / 4.3
Acetone	370	6.5 / 16
Ethanol	not listed	75 / 140

Notes:

1	=	United States Environmental Protection Agency, Region III Risk-Based Concentration Table, October, 2000
2	=	the NYSDOH recommends that the average air levels in a residential community not exceed 100 $\mu g/m^3$.
ppbv	=	parts per billion per volume
ug/m^3	=	micrograms per cubic meter
3.6/25	=	shaded concentrations exceed the risk based guidance value

APPENDIX A

SITE PHOTOGRAPHS

APPENDIX A
SITE PHOTOGRAPHS
TOBE'S BREAKFAST HOUSE SITE

AERIAL VIEW OF WATKINS GLENN, NEW YORK

APPENDIX A

SITE PHOTOGRAPHS

TOBE'S BREAKFAST HOUSE SITE

Looking east to northeast (Left to Right) from North Decatur Street towards Site.

APPENDIX A

SITE PHOTOGRAPHS

TOBE'S BREAKFAST HOUSE SITE

Looking north at Site

Looking southeast at Site

APPENDIX B

NYSDEC SITE INVESTIGATION INFORMATION FORM

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

4/1/00

SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
Tobe's Breakfast House Site	8-49-003	Watkins Glen	Schuyler County

5. REGION	6. CLASSIFICATION
8	CURRENT [ ] PROPOSED [X] MODIFICATION

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

a. Quadrangle: UGS 7.5 Minute Quad Burdett, NY b. Site Latitude _42_° _22_' _51.6_" Site Longitude _76_° _52_' _19.2_"

c. Tax Map Number(s) 65.54-1-36 d. Site Street Address 129-135 East 4th Street

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

The site is located in a residential-commercial area. The property consists of a parking lot, a small grassy yard and a large building that contains a restaurant, a retail space, and two apartments. Part of the site was reportedly occupied by a dry cleaning operation from 1950 until the late 1970's. Tetrachloroethene (PCE) was detected in groundwater samples collected at the site in 1999 using a Geoprobe for a limited Phase II Environmental Site Assessment (ESA) at concentrations up to 530 parts per billion (ppb). Additional soil, water and air samples were collected at the site in October 2001 during a Preliminary Site Assessment (PSA). The site is approximately three blocks from the North Franklin Street inactive hazardous waste disposal site (also impacted by a dry cleaning operation) currently being remediated. Seneca Lake, a source of public water supply for the Village of Watkins Glen is located ¼ mile to the north of the site. The groundwater flow direction is north toward Seneca Lake.

a. Area: 0.34 acres b. Completed: ( ) Env. Property Assessment (X) PSA ( ) SI ( ) ESI ( ) IRM ( ) RI/FS ( ) Construction ( ) O&M ( ) Other_____

9. HAZARDOUS WASTE DISPOSED (Include EPA Hazardous Waste Numbers)

Tetrachloroethene (a.k.a. Perchloroethylene or PCE) – U210

10. ANALYTICAL DATA AVAILABLE

a. (X) Air (X) Groundwater ( ) Surface Water ( ) Sediment (X) Soil ( ) Waste ( ) Leachate ( ) EPTox ( ) TCLP

b. Contravention of Standards or Guidance Values

Maximum concentrations detected:

Year	Contaminant	Media	Concentration	NYS Groundwater and Drinking Water Standard	USEPA Region III Risk-Based Concentrations (RBC)
1999	Tetrachloroethene	groundwater	530 ppb	5 ppb	
2001	Tetrachloroethene	groundwater	100 ppb	5 ppb	
2001	Tetrachloroethene	air	25 ug/m^3		3.1 ug/m^3
2001	Benzene	air	2.3 ug/m^3		0.22 ug/m^3
2001	Tetrachloroethene	soil	629 µg/Kg		

11. **CONCLUSION**

The site was reportedly a dry cleaning operation until 1970's The Phase II ESA conducted in 1999 as part of a real estate transaction resulted in detections of PCE at 530 ppb in groundwater at the site. Soil, groundwater, and air quality samples were collected during a PSA in 2001. Analytical sample results from the PSA indicated concentrations of PCE in exceedence of NYS Groundwater & Drinking Water Standard and exceedences USEPA RBC for air.

a. Institutional Controls (IC) Required? ( ) Y (X) N, not at this time b. If yes, identify c. Are these ICs in place and verified? ( ) Y ( ) N

12. SITE IMPACT DATA

a. Nearest Surface Water: Distance 1200 ft. Direction North Class _____AA/B_____

b. Groundwater: Depth 15 ft. Flow Direction North ( ) Sole Source (X) Primary ( ) Other High-Yield Aquifer

c. Water Supply: Distance approx. 2500 ft. (surface) Direction North Active (X) Yes ( ) No

d. Nearest Building: Distance 0 ft. Direction (on-site) Use Business/residential

e. Documented fish or wildlife mortality?	( ) Y	(X) N	h. Exposed hazardous waste?	( ) Y	(X) N
f. Impact on special status fish or wildlife resource?	( ) Y	(X) N	i. If proposed Classification is 2, Priority?	( ) 1 ( ) 2	( ) 3
g. Controlled Site Access?	( ) Y	(X) N	j. EPA ID# _____	HRS Score	_____

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Gerald Tobey	81 Salt Point Road, Watkins Glen, New York14891	(607) 535-2750

16. PREPARER	17. APPROVED
Signature Date	Signature Date
Name, Title, Organization	Name, Title, Organization

APPENDIX C

USEPA SITE INSPECTION QUESTIONNAIRE
SITE INFORMATION FORM

PART I: SITE INFORMATION

1. Site Name/Alias Tobe's Breakfast House Site

Street Address 129-135 East 4th Street

City Watkins Glen **State** New York **Zip Code** 14891

Describe Site Boundaries (North, South, East, West)

The Site is located in the north-central section of Watkins Glen in Schuyler County, NY. The Site is located on the south side of East 4th Street and on the west side of Decatur Street. Private Residences bound the property to the south, and a Methodist church is located to the west. A small park is located east of the Site, across Decatur Street and the Glen Manor House B&B is located across East 4th Street to the north. A laundromat, formerly a dry cleaner, is located across the strett 230 ft. from the Site along the north side of East 4th Street. The site has a Latitude of 42° 22' 51.6" and a Longitude of 76° 52' 19.2". The Tax Map Number is 65.54-1-36. The property consists of a parking lot, a small grassy yard and a large building that contains a restaurant, a retail space, and two apartments. A portion of the site was reportedly occupied by a dry cleaning operation during the 1950's until the late 1970's.

2. County Schuyler County **County Code** (Federal ID #) 156000466W **Congressional District** #31

3. CERCLIS ID No. **Not Applicable** **Region** 8

4. Block No. 65.54-1 **Lot No.** 36

5. Latitude 42° 22' 51.6" **Longitude** 76° 52' 19.2".

USGS Quad. USGS 7.5 Minute Quad Burdett, N.Y.

6. Approximate size of site _____0.34_acre_____

7. Owner Gerald F. Tobey **Telephone Number** (607) 535-2750

Street 81 Salt Point Road

City Watkins Glen **State** New York **Zip Code** 14891

8. Operator Jerry Peters **Telephone Number** (607) 535-4512

Street 135 East 4th Street

City Watkins Glen **State** New York **Zip Code** 14891

9. Type of Ownership

Private (X) **Federal ( )** **State ( )** **County ( )** **Municipal ( )**
Unknown ( ) **Other**

10. Owner/Operator Notification on File

RCRA 3001 Date _____ **CERCLA 103c Date** _____ **NYSDEC Date** 08-27-2001 Intent to Investigate Notification

Other Property purchased June 1991 **None ( )** **Unknown ( )**

11. Permit Information

Permit	Permit No.	Date Issued	Expiration Date

Comments: The property was reportedly occupied by a dry cleaning operation from the 1950's until the late 1970's.

12. Site Status

Active (X) **Inactive ( )** **Unknown ( )**

13. Years of Operation Approximately 25 years (Dry cleaning operation) from the early 1950's until the late 1970's.

14. Identify the types of waste sources on site (e.g., landfill, surface impoundment, piles, stained soil, above or below ground tanks or containers, land treatment, etc.). Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Source Type	Facility Name for Unit
1.	Contaminated soil	
2.		

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

No reported releases, but cleaner-related chemicals were reportedly stored in a shed located at the southern edge of the property. Low concentrations (less than 629 µg/Kg) of tetrachloroethene (PCE) were detected in site soils.

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

No prior regulatory history for the site known.

1) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

No.

2) Are pesticides produced and stored on site? Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?

No

3) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

No

4) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC) ?

No

16. Information available from:

Contact:	Agency:	Telephone Number:
Preparer: Charles R. Staples		Agency/Company: Harding Lawson Associates
Date: 21 March 2002		Telephone Number: (207) 775-5401

PART II: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

Waste Unit (#) 1 -

Source Type

__ Constituent	__ Wastestream
__ Landfill	_X_ Contaminated Soil
__ Surface Impoundment (buried/backfilled)	__ Pile (Specify type: chemical, junk, trash, tailings, etc.)
__ Drums	__ Land Treatment
__ Tanks/Containers	__ Other (Specify)

Description:

1. **Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.**

   Dry cleaner chemicals may have been stored on a concrete pad in a shed in the parking lot to the south of the site building. Low concentrations (less than 629 µg/Kg) of tetrachloroethene (PCE) were detected in site soils south of the site building.
2. **Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).**

   Unknown. No current waste storage on site.
3. **Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).**

Hazardous Waste Quantity - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.

Not applicable

Hazardous Substances/Physical State

NA

PART III: SAMPLING RESULTS

EXISTING ANALYTICAL DATA

Prior to the Preliminary site Assessment (PSA), the Site came to the attention of the NYSDEC in September 1999 after Tetrachloroethene (PCE) was detected in groundwater samples collected from the property during an investigation for the sale of the property. The following investigations have since occurred: a file review of the Site was completed in April 2001; a geophysical survey of the Site was completed in October 2001; 11 direct push soil samples were collected above the water table in October & November 2001; 22 groundwater samples were collected at 15 locations in October & November 2001; Six microwells were installed in October & November 2001 to measure groundwater table elevations; An air sample was collected from inside the first floor of the Site building in October 2001; A land survey of the Site was completed in November 2001.

Reference: Harding Lawson Associates, 2002

The analytical results for the soil, air, and groundwater samples had the following results.

The soil sample analytical results were compared to the Recommended Soil Cleanup Objectives in the NYSDEC TAGM No. 94-4046.

Of the nine soil samples collected no VOCs were detected above the NYSDEC Soil Cleanup Objectives of 1400 ug/Kg.

However, PCE was detected in soil borings: BS-4 (379 ug/Kg), BS-6 (325 J ug/Kg), duplicate BS-6 (629 J ug/Kg), and BS-10 (410ug/Kg). In addition, trace concentrations were detected significantly below soil cleanup goals for toluene, xylene and benzene.

The groundwater sample analytical results were compared to the NYS Class GA Groundwater Quality Standards from 6 NYCRR Parts 700-706 and where applicable the NYS Class GA Groundwater Quality Guidance Values from the Division of Water Technical and Operational Guidance Series 1.1.1 “Ambient Water Quality Standards and Guidance Values”.

PCE was detected in groundwater samples collected from 9 of the 15 borings. Samples collected from five borings, BW-2, BW-3, BW-13, BW-14, and BW-15 exceeded the NYS Class GA groundwater standard of 5 ug/L with a range of results from 28.7 µg/L to 100 µg/L. Other VOCs, toluene, m,p,-xylene and o-xylene, were detected but the NYS Class GA groundwater standard of 5 µg/L was not exceeded. Also carbon disulfide and 2-butanone were detected but the NYS Class GA groundwater standards for these parameters have not been promulgated.

The indoor air sample analytical results were compared to the NYSDOH guidelines for PCE and to USEPA Region III Risk-Based Concentrations (RBC). Two compounds were detected above the RBC thresholds for PCE and benzene. PCE was detected at 25 ug/m^3 and the RBC for PCE is 3.1 ug/m^3. Benzene was detected at 2.3 ug/m^3 compared to the RBC of 0.22 ug/m^3. The other VOCs detected in the air sample were freon, acetone, toluene, and m,p-xylene which had concentrations less than the USEPA Region III RBCs.

SITE INSPECTION RESULTS

Based on the samples collected, relative PCE concentrations in groundwater, soils and air suggest that the source area exists below the Site building. PCE product could have leaked through cracks in the concrete floor of the dry cleaning facility or been released to the ground surface, but there is no documentation of a release or spill.

Reference: Harding Lawson Associates, 2002

PART IV: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. **The likelihood of a release of a contaminant to the groundwater** is based on the detection of PCE in groundwater samples collected as part of the PSA. PCE was detected at concentrations exceeding the NYS Class GA groundwater standard of 5 ug/L in groundwater samples from five borings (BW-2, BW-3, BW-13, BW-14, and BW-15) located downgradient of the site. The rationale for attributing the PCE to the site is based on the earlier activity of the site, which was an operating dry cleaner for 25 years.

   Reference: Harding Lawson Associates, 2002

2. **The groundwater table gradient** is relatively flat and appears to flow to the north toward Seneca Lake. Depth to water at the site is approximately 15 feet. Soils in the vicinity of the Site consist primarily of the Chenango gravelly silty loam (URS Consultants, Inc, 1993). Stratified sand and silty clay was observed at the site. Bedrock is expected to be greater than 25 feet below ground surface (bgs). Bedrock in the area consists primarily of Upper Devonian shale and siltstone (New York State Geological Survey, 1970).

   Reference: Harding Lawson Associates, 2002

3. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer(s) of concern?**

   No waste disposal activities were identified. However, the depth to groundwater at the Site is approximately 15 feet.

4. **The permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern** is unknown

5. **What is the net precipitation at the site (inches)?**

   The average annual precipitation is 32 inches and the average annual snowfall is 90 inches (National Climatic Data Center, 1999 for Rochester, NY).

6. **What is the distance to and depth of the nearest well that is currently used for drinking purposes?** Not Applicable.

   The residents of the Village of Watkins Glen use the municipal water supply furnished by Watkins Glen Water Department. The Water Department uses Seneca Lake as the surface water source for the public water. According the town water department there are no private wells being used for drinking water in the Village.

7. **If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.**

   It is unknown whether private wells are in use. According the town water department there are no private wells being used for drinking water in the Village.

8. **Identify the population served by wells (private + municipal) located within 4 miles of the site that draw from the aquifer(s) of concern.**

   The Watkins Glen Water Department uses the surface water from Seneca Lake as the source of water for the municipal needs. The Lake is approximately 0.25 mile from the Tobe Breakfast House Site. The population of Watkins Glen is 2149 (2000 Census Bureau). It is unknown if additional private wells exist within four miles of the site.

   a. State whether groundwater is blended with surface water, groundwater, or both before distribution.

   The Watkins Glen Water Department uses the surface water from Seneca Lake as the source of water for the municipal needs.

   b. Is a designated well head protection area within 4 miles of the site?

   Not applicable.

   c. Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected. does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?

   Not applicable.

9. Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).

The URS Consultant, Inc. report (1993) suggested that groundwater might be used by private residences to wash cars or water flower gardens. But according to a Watkins Glen town official there are no private wells in use and there are no agricultural farms in the Village.

SURFACE WATER ROUTE

10. Describe the likelihood of a release of contaminant(s) to surface water as follows: release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

None. Based on concentrations of PCEvdetected in groundwater downgradient of the Site, it is unlikely that PCE contamination in groundwater will be released to surface water above detectable limits.

11. Identify the nearest down slope surface water. Include a description of possible surface drainage patterns from the site.

Surface water at the site is expected to flow into storm sewer lines and eventually into Lake Seneca.

12. What is the distance to the nearest down slope surface water? Measure the distance along a course that runoff can be expected to follow.

It is approximately 0.25 mile from the Site to the Lake.

13. Identify all surface water body types within 15 downstream miles.

Name	Water Body Type	Flow	Saline/Fresh/Brackish
Seneca Lake	Lake	(40 miles long)	Fresh

14. Determine the 2 yr, 24 hr rainfall (inches) for the site?

2.6 inches

Reference: New York Guidelines for Urban Erosion and Sediment Control, 1997

15. Determine size of drainage area (Acres) for the sources at the site?

The site is 0.34 acres. The site is located in the Seneca Lake watershed The size of the Seneca Lake water shed is 540 square miles or 345,600 acres. The area of Seneca Lake is 43,343 acres (URS Consultants, Inc, 1993).

16. Describe the predominant soil group in the drainage area?

Soils in the vicinity of the Site consist primarily of the Chenango gravelly silty loam. The Chenango consists of soils formed in alluvial deposits on floodplains and in very low areas adjacent to ponds and lakes. The soil is characterized as well drained on nearly level (0-3 %) slopes and formed on glacial outwash plains and stream terraces.

17. Determine the floodplain (1 yr., 10 yr., 100 yr., 500 yr., none) that the site is within.

The site is within the 100 year floodplain.

18. The Watkins Glen Water Department uses Seneca Lake for the municipality's drinking water demands. The intake valve for the Lake is located on Bath Street well. The intake is located is in Lake Seneca. The distance in miles from the point of surface water entry is less that 0.5 mile from the site. The population served by the Water Department is less than 3000 people. In 1996 the Water Treatment Plant (WTP) was constructed on West Hill on Steuben Street which is connected with the intake valve on Bath Street.

Intake	WB Type	Distance From PPE	Pop. Served	Flow (cfs)
Bath Street	Lake	0.5 mi	< 3000	NA

19. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the information in the table. Seneca Lake provides habitat to a variety of fish, both warm and cool water species, and the lake

contains low to moderate levels of plant nutrients with good dissolved oxygen content (URS Consultants, Inc., 1993). There are numerous forage (alewife) and minnow species, which provide food for the predator species. Brown trout and Atlantic salmon are stocked in the lake.

Fishery	WB	Distance From PPE	Flow (cfs)	Saline/Fresh/Brackish
Brown Trout	Lake Seneca		NA	Fresh
Lake Trout	Lake Seneca		NA	Fresh
Rainbow Trout	Lake Seneca		NA	Fresh
Yellow Perch	Lake Seneca		NA	Fresh
Large Mouth Bass	Lake Seneca		NA	Fresh
Small Mouth Bass	Lake Seneca		NA	Fresh
Chain Pickerel	Lake Seneca		NA	Fresh
Northern Pike	Lake Seneca		NA	Fresh
Bull Head	Lake Seneca		NA	Fresh
Sunfish	Lake Seneca		NA	Fresh
Landlocked (Atlantic) Salmon	Lake Seneca		NA	Fresh

20. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.

A State Protected Wetland is located around the eastern portion of the village, known as Queen Catherine Marsh (or Bad Indian Swamp).

Environment	WB Type	Distance from PPE	Flow (cfs)	Wetland Frontage (miles)
Catherine Creek	Canal	0.75 mi	unknown	0.25 mi

21. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release from the site.

Based on concentrations of PCE detected downgradient of the site, it is unlikely that a release to surface water would occur.

22. Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply?

According to a representative of the Watkins Glen Water Department the surface water from Lake Seneca is the source of the village's water supply. The water intake is located on the western corner of Seneca Lake. A Water Treatment Plant services the surface water for drinking water. Both the Villages of Watkins Glen and Montour Falls have waste water treatment plants (WWTP) that discharge to Seneca Lake and Catherine Creek, respectively (URS Consultants, Inc. 1993). The Water Department representative claims that no private wells are used for drinking, farming or irrigation practices in the Village.

SOIL EXPOSURE PATHWAY

23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of an area of observed contamination.

The population of the Village is 2149. Tobe's Breakfast House Site is located in the north central portion of the Village. It is estimated that less than 20 people occupy residences within 200 feet of the site. There are no schools or day cares within 200 feet.

24. Determine the number of people that regularly work on or within 200 feet of an area of observed or suspected contamination.

It is estimated that less than 20 work on or within 200 feet of the site.

25. Identify terrestrial sensitive environments on or within 200 feet of an area of observed or suspected contamination.

No sensitive environmentas on or within 200 feet of the site.

26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an observed or suspected contamination boundary?

None.

AIR ROUTE

27. Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence and relationship to background.

Seven VOCs were detected in the air sample. Benzene (2.3 micrograms per cubic meter [µg/m^3]) and PCE (25 µg/m^3), were the only two compounds detected at concentrations above the USEPA Region III Risk-Based Concentrations (RBC) of 0.22 µg/m^3, and 3.1 µg/m^3, respectively. Freon 12 (0.72 µg/m^3), acetone (6.5 µg/m^3), toluene (1.9 µg/m^3), and m,p-xylene (0.97 µg/m^3), were detected at concentrations below the respective USEPA Region III RBC. Ethanol was detected at 75 µg/m^3; there is no USEPA Region III RBC for ethanol.

Although detected air concentrations of PCE exceeded the USEPA Region III RBC, they were below the NYSDOH guidance action level for PCE of 100 µg/m^3.

The air sample was collected from the ground floor while the building windows were closed and the steam heating system was running. No air sample was collected from the basement, where there is an open floor drain leading to an underlying gravel bed.

28. Determine populations that reside within 4 miles of the site.

Distance	Population
0 (on-site)	2 rentors
0 - 1/4 mi	< 1000
>3 - 4 mi	< 2200

29. Identify sensitive environments and wetlands acreage (wetland acreage only for wetlands sensitive environment) within 4 miles of the site.

Distance	Type of Sensitive Environment	Actual Distance from site (miles)	Wetland Acreage
0 (on-site)			
0-1/4 mi.			
>1/4-1/2 mi.			
>1/2-1 mi.	Queen Catherine Marsh (aka: Bad Indian Swamp)	0.75	unknown
>1-2 mi.			
>2-3 mi.			
>3-4 mi.			

30. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination (might be actual contamination) from the release.

There are two tenants (residence) of the building.

31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 46, that are or may be located within the area of air contamination from the release.

The Village provides a poor habitat for most fauna species. The animals that thrive are gray squirrels, robins, mourning doves, pigeons and house sparrows. Within two miles of the site are five rare plant species reported by URS Consultants, Inc. (1993) in Queen Catherine Marsh and Watkins Glen State Park.

REFERENCES

1. Harding Lawson Associates, 2002; *Final Preliminary Site Assessment Report, Tobes Breakfast House Site, Watkins Glen, New York*; March 2002.
2. URS Consultants, Inc. 1993 *Final Report, Remedial Investigation, N. Franklin Street Site, Watkins, Glen, NY*; August, 1993.

APPENDIX D

GEOPHYSICAL SURVEY FIGURES

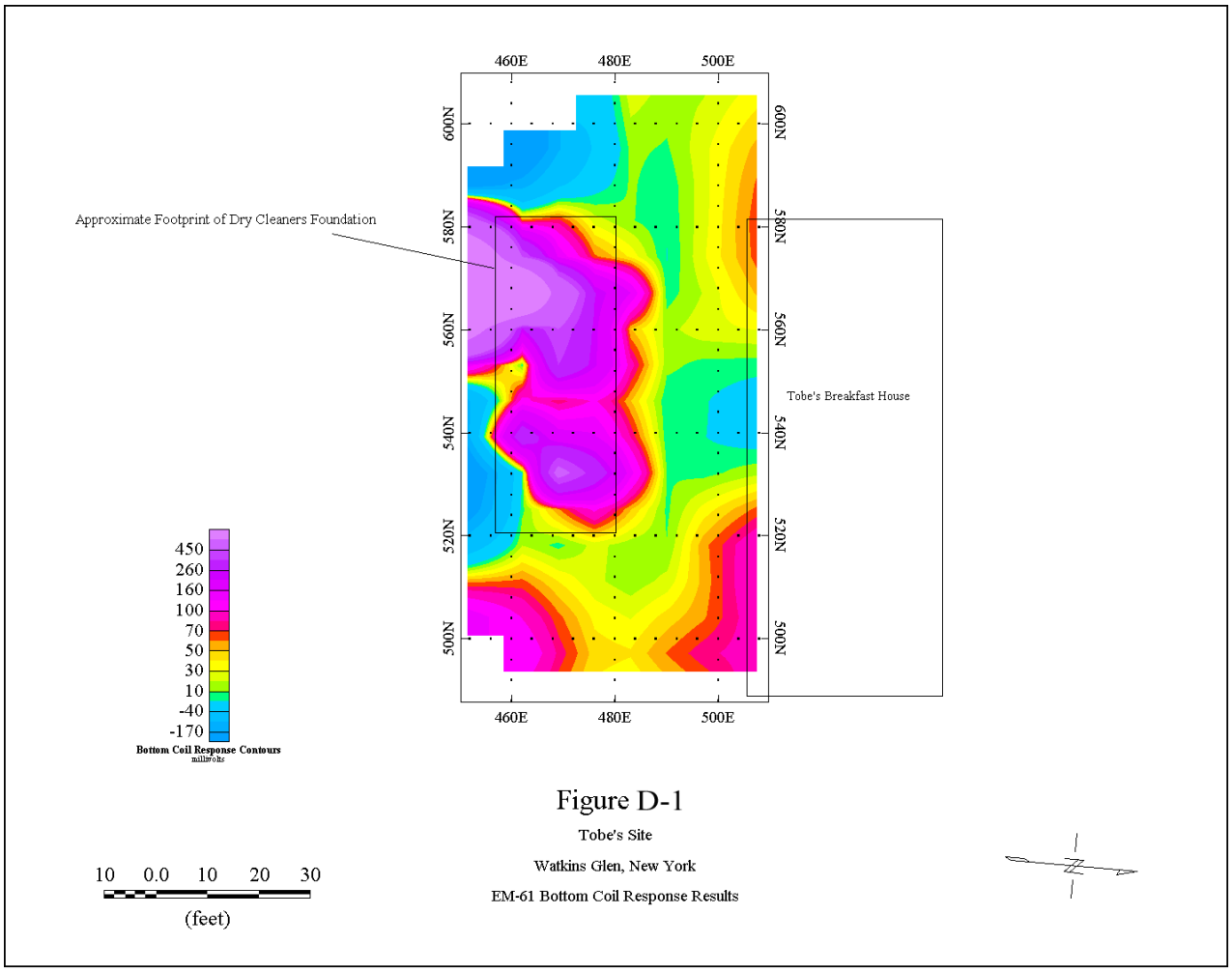


Figure D-1

Tobe's Site

Watkins Glen, New York

EM-61 Bottom Coil Response Results

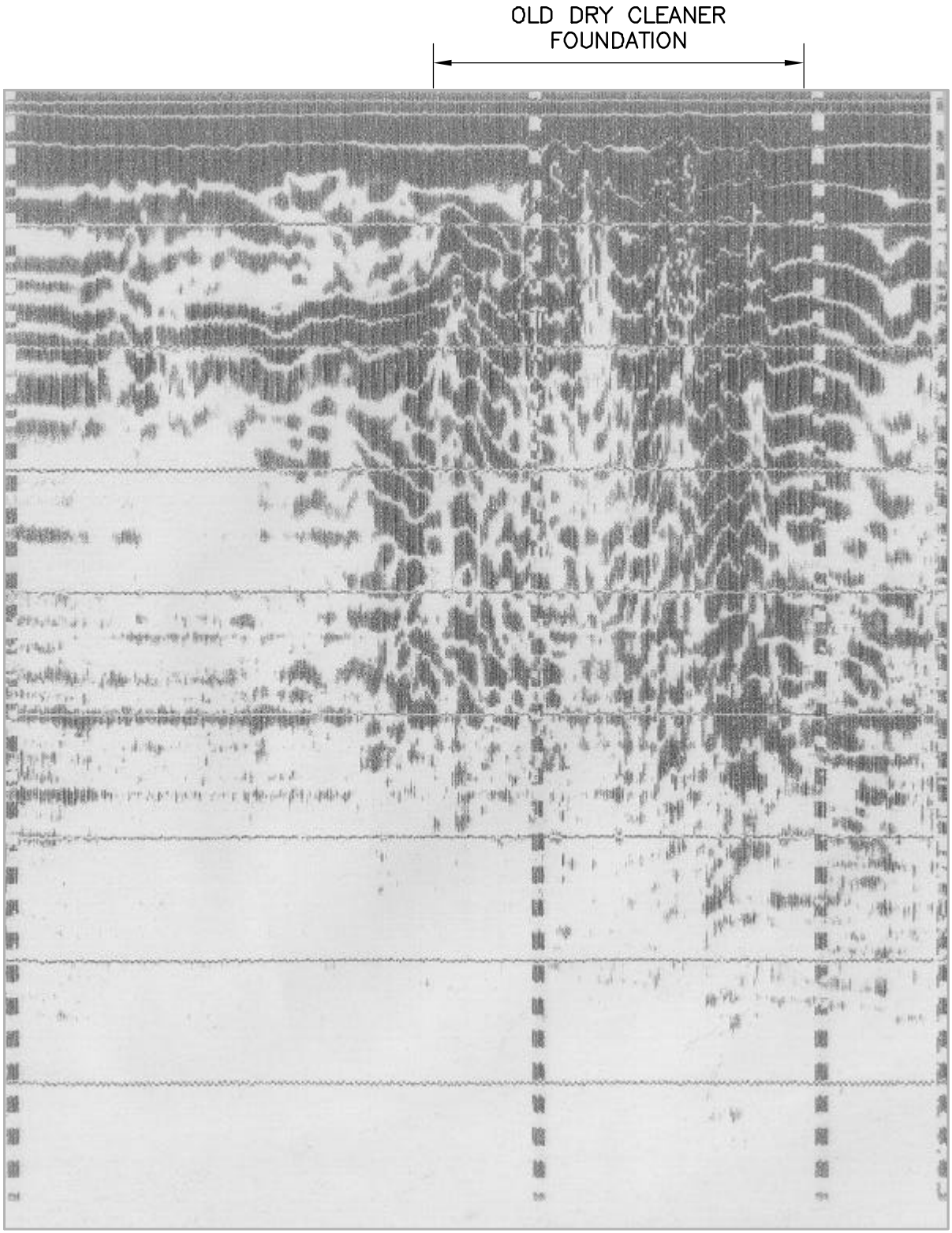


FIGURE D-2
GPR PROFILE REPORTED OVER
OLD DRY CLEANER FOUNDATION
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NEW YORK

NOT TO SCALE

Harding Lawson Associates

APPENDIX E

FIELD DATA SHEETS

E.1 Test Boring Logs and Microwell Diagrams
E.2 Sample Records

APPENDIX E

E.1 Test Boring Logs and Microwell Diagrams

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA - 6	BS/BW 001 /MW-001	53498-2

Client	Site	Sheet No.
NYSDEC	Tobe's	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. Staples		10/18/01	10/18/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	~~HNu~~ 10.6	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	—	(26' for water)	15' 10/18/01	☐	☒	☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
0–4	S1 0-4' Rec 2.8/4.0					0-2.4 Gray fine - med SAND, some gravel - dry - fill 2.4-2.8 greenish brown fine SAND, trace organics, trace sand, poorly graded, dry,	SP		0.0			
4–8	S2 4-8' Rec 3.5/4.0					0-3.5 Greenish gray fine SAND, some coarse sand and gravel, piece of coal, poorly graded, loose, dry.	SP		0.0			
8–12	S4 8-12' Rec 4.0/4.0					0-4.0 Greenish gray med SAND, some gravel, little cobble, little fine sand, poorly graded, dense, dry	SW/SP		0.0			
12–16	S5 12-16' Rec 4.0/4.0					0-3.0 - Same as S4 3.0-4.0 - Same, but saturated. - More coarse SAND.	SW SP	Collect sample TB BS001014 01FX @ 0905	0.0			VOC

BOB = 16'

Harding Lawson Associates

9910003(e) L 33

MW-001

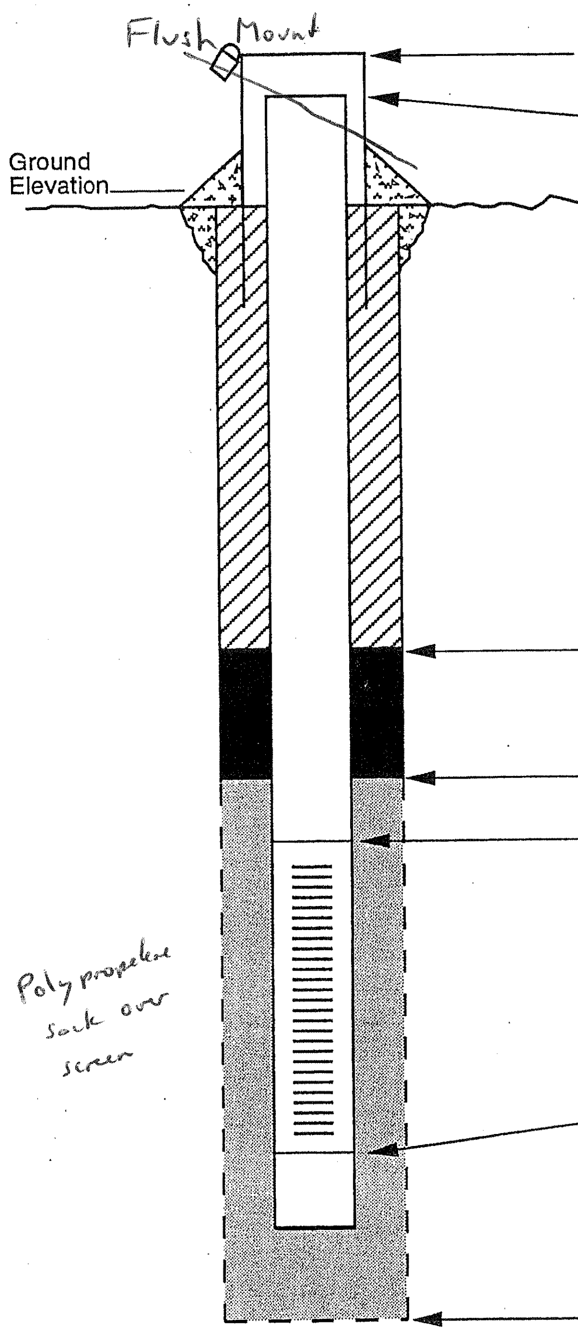
OVERBURDEN **WELL CONSTRUCTION DIAGRAM**

Project: 53998-NYSDEC
Site Area: ~~Fusca...~~ Tobe's Street (CRS)
Driller: J. Powell

Project No.: 53998
Boring No.: BS-001
Drilling Method: Direct Push

Date Installed: 10/18/01
Development Method: —

Field Geologist: C. Stapler



Polypropylene sock over screen

Elevation of Top of Surface Casing:	
Stick-up of Casing Above Ground Surface:	Flush Mount
Elevation of Top of Riser Pipe:	
Type of Surface Seal:	Cement
Type of Surface Casing:	Cement
ID of Surface Casing:	4"
Diameter of Borehole:	2"
Riser Pipe ID:	1"
Type of Riser Pipe:	PVC
Type of Backfill:	SAND & Bentonite
Elevation of Top of Seal:	
Depth of Top of Seal:	1.0'
Type of Seal:	Bentonite granular
Elevation of Top of Sand:	
Depth of Top of Sand:	3.8'
Elevation of Top of Screen:	12.4 ↓
Depth of Top of Screen:	
Type of Screen:	PVC
Slot Size x Length:	0.01' x 10'
ID of Screen:	1"
Type of Sandpack:	#0
Elevation of Bottom of Screen:	
Depth of Bottom of Screen:	22.4
Depth of Sediment Sump with Plug:	22.5
Elevation of Bottom of Borehole:	
Depth of Bottom of Borehole:	26.0'

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

MW-2

TEST BORING LOG

Project: NYSDEC - PSA-6		Boring/Well No.: BS/BW-002	Project No.: 53498-2
Client: NYSDEC	Site: ~~Tuscarora Street~~ Tobe's Breakfast House		Sheet No.: 1 of 1
Logged By: C. Staples	Ground Elevation:	Start Date: 10/18/01	Finish Date: 10/18/01
Drilling Contractor: Geologic, NY	Driller's Name: J. Powell		Rig Type: Geoprobe
Drilling Method: Direct Push	Protection Level: D	P.I.D. (eV): 5903-OVM	Casing Size: 2" / Auger Size:
Soil Drilled: 12'	Rock Drilled: —	Total Depth: 26'	Depth to Groundwater/Date: 15.6 10/18/01 / 14.0 10/19/01 — Piez ☐ Well ☒ Boring ☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm): PI Meter Field Scan	Monitoring (ppm): PI Meter Head Space	Monitoring (ppm):	Lab Tests
1–4	S1 0-4' Rec 2.4/4.0					0-2.4 Dark brown gravelly, med. SAND grades to grayish brown gravelly SAND, little cobble, poorly graded, loose dry.	GP		0.0			
5–8	S2 4-8' Rec 3.0/4.0					0-2.6 Grayish Brown gravelly med. SAND, little fine sand, trace cobble, poorly graded, loose, dry 2.6-3.0 Greenish brown silty fine sand, little coarse sand, little organics, poorly graded, med dense, moist	GP SP		0.0			
9–12	S3 9-12' Rec 4.0/4.0					- Gravel pack won't come out of casing - dry gravelly sand - both ends of sample -Too much debris falling in hole			0.0			
13						Can't clear hole - No more soil samples						
14						EOB - 12'						
15–16												

Harding Lawson Associates

9910003(e) L 33

MW-002

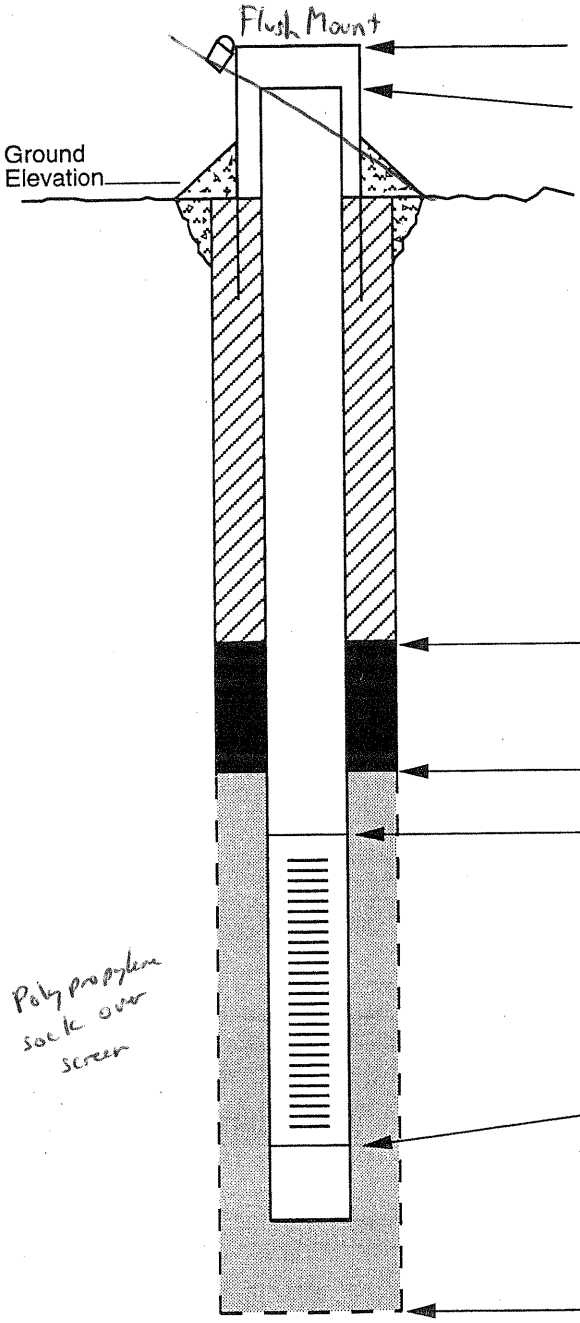
OVERBURDEN WELL CONSTRUCTION DIAGRAM

Project: NYSDEC-PSA-6 Site Area: Tober Breakfast Driller: J. Powell

Project No.: 53498-2 Boring No.: BS-002/MW2 Drilling Method: Direct Push

Date Installed: 10/18/01 Development Method:

Field Geologist: C. Staples



Elevation of Top of Surface Casing:

Stick-up of Casing Above Ground Surface: Flush Mount

Elevation of Top of Riser Pipe:

Type of Surface Seal: Cement

Type of Surface Casing: Aluminum

ID of Surface Casing: 4"

Diameter of Borehole: 2"

Riser Pipe ID: 1"

Type of Riser Pipe: PVC

Type of Backfill: - Cave in sand + gravel

Elevation of Top of Seal: 0.5'

Depth of Top of Seal: 3.5'

Type of Seal: Granular Bentonite

Elevation of Top of Sand:

Depth of Top of Sand: - No sand - caved in.

Elevation of Top of Screen:

Depth of Top of Screen: 12.1'

Type of Screen: PVC

Slot Size x Length: 0.01" x 10'

ID of Screen: 1"

Type of Sandpack: - Gravel Cave in

Elevation of Bottom of Screen:

Depth of Bottom of Screen: 22.1'

Depth of Sediment Sump with Plug: 22.2'

Elevation of Bottom of Borehole:

Depth of Bottom of Borehole: 28.0' (Advanced)

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC PSA-6	~~BS~~/BW-003	53498-2

Client	Site	Sheet No.
NYSDEC	Tobe's Breakfast House	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		10/18/01	10/18/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Bowell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.6	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	—	28' (water)	14.9' 10/18/01	☐	☒	☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
1	S1 0-4' Rec 2.4/4.0					0-0.5 Dark brown silty fine SAND, some organic, Damp	SM		0.0			
2						0.5-2.0 Dark brown fine SAND, little gravel, little silt, loose, poorly graded, damp	SP					
3						2.0-2.4 - Dark brown silty fine SAND, poorly graded, loose, damp, trace organic	SM					
4												
5	S2 4-8 Rec 3.3/4.0					0-1.0 - greenish brown, silty fine SAND, poorly graded, loose, damp.	SM		0.0			
6						1.0-3.3 grayish brown ~~coarse~~ med. SAND some coarse SAND & gravel, poorly graded, loose, dry	SP					
7												
8												
9	S3 8-12 4.0/4.0					0-4.0 Greenish gray fine to med SAND, some gravel, poorly graded, loose, Damp	SP		0.0			
10												
11												
12												
13	S4 12-16 Rec 4.0/4.0					Br 4.0 Greenish gray med. SAND. some coarse sand & gravel, trace cobble poorly graded, loose dry - saturated @ 15'	SP		0.0			
14												
15												
16												

Collect sample TBBS003OL401Ft @ 1455 VOC

BOB = 16'

Harding Lawson Associates

MW-003

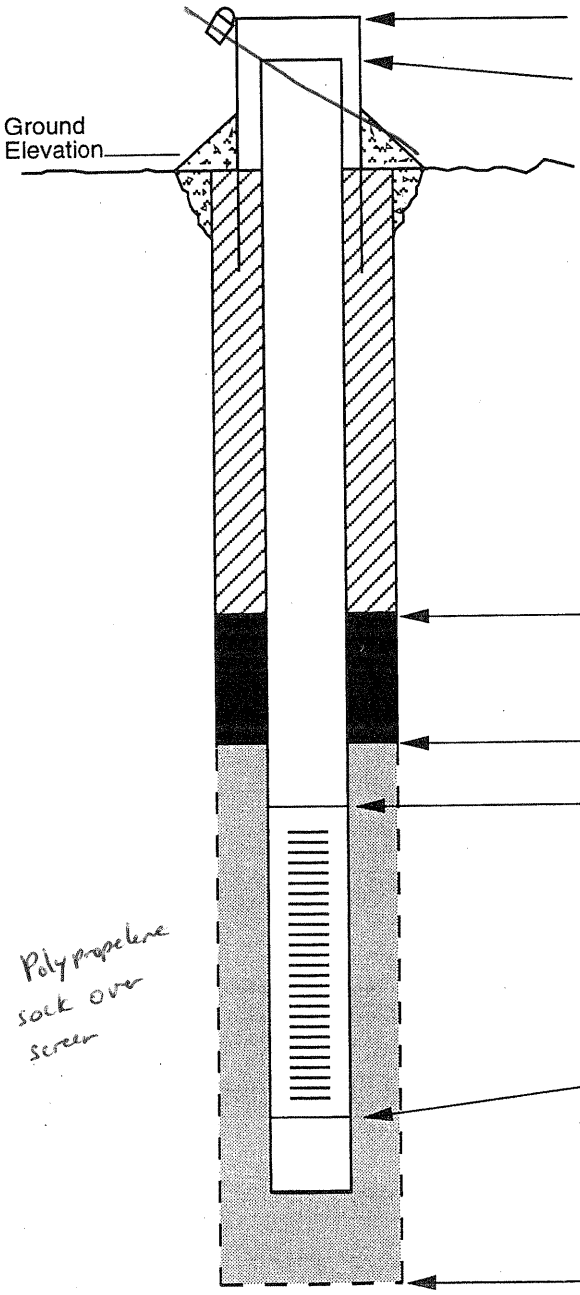
OVERBURDEN **WELL CONSTRUCTION DIAGRAM**

Project: NYSDEC - PSA-6 Site Area: Tobe's Breakfast Driller: J. Powell

Project No.: 53498-2 Boring No.: BS-003/MW-003 Drilling Method: Direct Push

Date Installed: 10/18/01 Development Method:

Field Geologist: C. Staples



Elevation of Top of Surface Casing:

Stick-up of Casing Above Ground Surface: Flush Mount

Elevation of Top of Riser Pipe:

Type of Surface Seal: Cement

Type of Surface Casing: Aluminum/plastic

ID of Surface Casing: 4"

Diameter of Borehole: 2"

Riser Pipe ID: 1"

Type of Riser Pipe: PVC

Type of Backfill: SAND

Elevation of Top of Seal:

Depth of Top of Seal: 1.0'

Type of Seal: Granular Bentonite

Elevation of Top of Sand:

Depth of Top of Sand: 4.0'

Elevation of Top of Screen:

Depth of Top of Screen: 12.3

Type of Screen: PVC

Slot Size x Length: 0.01" slot x 10'

ID of Screen: 1"

Type of Sandpack: #0

Elevation of Bottom of Screen:

Depth of Bottom of Screen: 22.3

Depth of Sediment Sump with Plug: 22.4

Elevation of Bottom of Borehole:

Depth of Bottom of Borehole: 23.0'

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BS/BW-004	53498

Client	Site	Sheet No.
NYSDEC	Tobey	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		10/18/01	10/18/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.6	2"	

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	–	28' (water)	15.5' 10/18/01	☐	☒	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
1	S1 0-4' Rec 3.5/4.0					0-0.6 - Pavement/Gravel 0.6-1.5 Medium & Coarse SAND - Tan, poorly graded, dry	SP		0.0			
2						1.5-3.5 Olive brown to grayish brown fine sandy SILT, trace coarse SAND, trace organics, poorly graded, med dense, dry	SM		0.0			
3												
4												
5	S2 4-8' Rec 3.5/4.0					0-1.8 Dark olive brown silty, fine SAND, poorly graded, modeled, little, silty/sand layers, poorly graded, dry	SM		0.0			
6												
7						1.8-3.5 Olive brown med. coarse SAND, some gravel, little cobble, poorly graded, med dense, dry	SP					
8												
9	S3 8-12' Rec 3.0/4.0					0-1.8' Olive brown med. coarse SAND, some gravel, little cobble, poorly graded, med. dense, damp-moist	SP		0.0			
10						1.8-2.4 - Reddish brown silty clay, moist - plasticity.						
11						2.4-3.0 Olive brown coarse SAND and fine gravel, little fines, poorly graded, moist	SP					
12												
13	S4					0-2.0 Olive brown coarse SAND			0.0			
14	12-16' Rec 3.0/4.0					and fine gravel, little fines, poorly graded, moist	SP	Collect sample TBBS00401401FX @ 1655				VOC
15						2.0-2.5 dark brown silty clay, black & tan modeling, loose, poorly graded, moist, high plasticity	OL					
16			EOB=16'			2.5-3.0 Olive brown coarse SAND, some gravel, little fines, poorly graded, SATURATED	SP					

Harding Lawson Associates

MW-4

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BS/MW005	53498

Client	Site	Sheet No.
NYSDEC	Tobe's Breakfast House	1 of 2

Logged By	Ground Elevation	Start Date	Finish Date
C.R. STAPLES		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.6	2"	

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
24'	-	24'	15.8 10/19/01	☐	☒	☐

Depth(Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
0	S1					0-1.3 Blackish brown to brown med SAND, some gravel, moist, poorly graded	SP GP		0.0			
1	0-4'					1.3-4.0 Olive brown fine SAND, some silt, trace organics, little mottling, poorly graded, loose, moist	SM					
2	Rec											
3	3.0/4.0											
4	S2					0-1' Olive brown fine SAND, some silt, trace organics, loose poorly graded, Damp	SM		0.0			
5	4-8'					1-1.2 Olive gray med SAND, some gravel, little cobble, trace silt, poorly graded, loose, dry	SP/GP					
6	3.2/4.0					1.2-3.2 Silty fine SAND & fine sandy silt, slight banding, slight plasticity in silty clay (olive brown), med. SAND and gravel in top, - loose, moist.	SM					
7												
8												
9	S3					0-3.5 - Olive brown med & coarse sand, little to some gravel trace fines, poorly graded, loose, moist	SP/GP		0.0			
10	8-12'											
11	3.5/4.0											
12												

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BS/BW005/MW-4	53498

Client	Site	Sheet No.
NYSDEC	10/19/01 - Tobey	2 of 2

Logged By	Ground Elevation	Start Date	Finish Date
C. Staples		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push		10.2	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
24'	—	28'/wtr	—	☐	☒	☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
12	S4 12-16' Rec 4.0/4.0					0-2.5 - same as S3 2.5-3.0 Brown and olive mottled, silty clay, poorly graded, soft, saturated, med plasticity 3.0-3.6 Olive gray med-coarse SAND little gravel, poorly graded, loose, saturated 3.6-4.0 Olive clay, little brown mottling, saturated, plasticity.	CM SP CL		Collected sample 0.0		TB1SS005014Oct @ 0745	VOC
16	S5 16-20' Rec 4.0-4.0					0-2.5 - Fine to med SAND, some silt, little gravel, trace cobble, poorly graded, dense, damp - dry 2.5-4.0 - Banded, olive gray, fine SAND and brown/olive silty clay, (med plasticity) well graded, loose, saturated	SP/SM SW/CM					
20	S6 20-24' Rec 4.0-4.0					0-1.5 silty fine SAND, some gravel, well graded, dense, damp 1.5-2.0 Olive brown silty clay, moist, some plasticity 2.0-2.4 Olive brown med-coarse SAND, little cobble, gravel, poorly graded, saturated 2.4-3.5 - Band, (2") of med SAND and silty clay, saturated 3.5-4.0 Olive brown gravel, some sand, poorly graded, saturated - brown + gry silty clay in tip.	SM CM SP/GP SW/CM GP					

BOB - 24' bgs

MW-4

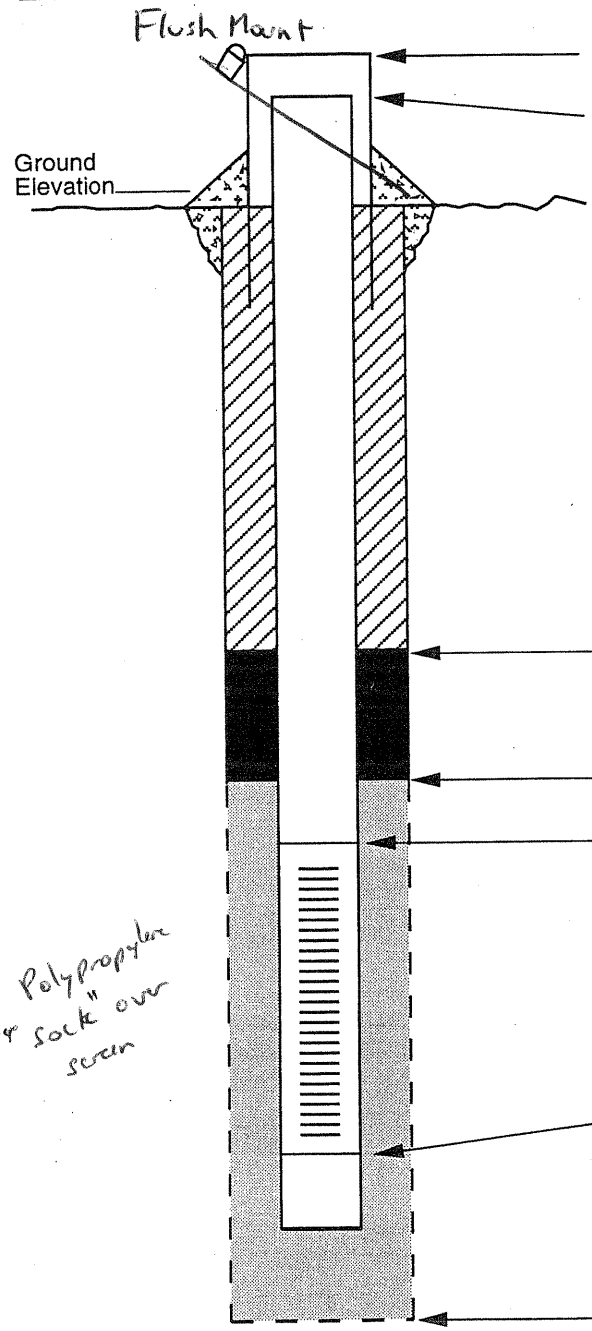
OVERBURDEN **WELL CONSTRUCTION DIAGRAM**

Project: NYSDEC - PSA-6 Site Area: Tobe's Breakfast Driller: J. Powell

Project No.: 53498 Boring No.: BS/BW-005/MW-4 Drilling Method: Direct Push

Date Installed: 10/19/01 Development Method:

Field Geologist: C. Staples



Elevation of Top of Surface Casing:

Stick-up of Casing Above Ground Surface: Flush Mount

Elevation of Top of Riser Pipe:

Type of Surface Seal: Cement

Type of Surface Casing: Aluminum/plastic

ID of Surface Casing: 4"

Diameter of Borehole: 2"

Riser Pipe ID: 1"

Type of Riser Pipe: PVC

Type of Backfill: Sand #0

Elevation of Top of Seal: ~~1.1~~

Depth of Top of Seal: 1.1

Type of Seal: Granular Bentonite

Elevation of Top of Sand: ~~3.0~~

Depth of Top of Sand: 3.0'

Elevation of Top of Screen:

Depth of Top of Screen: 12.1'

Type of Screen: PVC

Slot Size x Length: 0.01 slot x 10 ft

ID of Screen: 1"

Type of Sandpack: #0

Elevation of Bottom of Screen:

Depth of Bottom of Screen: 22.1

Depth of Sediment Sump with Plug: 22.2

Elevation of Bottom of Borehole:

Depth of Bottom of Borehole: 28 (water sample)

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

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TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BS/BW-006	53498

Client	Site	Sheet No.
NYSDEC	Tobey Brook Ford House	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. Stapler		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.6	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	—	28' - water	15' - 10/19/01	☐	☐	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
1	S1 0-4' Rec 3.0/4.0					0-1.4 Greenish gray Sand and gravel, poorly graded, damp (fill)	FILL SP		0.0			
2						1.4-3.0 Olive brown fine sand little to trace silt, trace coarse sand, trace organics, poorly graded, loose, damp.	SW/ SP		TBBS006005 01FX/FD @ 1025			
3												
4												
5	S2 - 4-8' 3.1/4.0					0-1.3 Olive brown silty fine SAND, little fine gravel, trace organics, poorly graded, soft, damp-moist	SM		1.3			VOC
6						1.3-2.4 Olive gray coarse & med SAND, some gravel, poorly graded, dry	SP/ GP		0.0			
7												
8						2.4-3.1 Olive brown silty fine SAND and fine SAND bands, well graded, loose, Moist	SM					
9	S3 8-12' Rec 1.2/4.0					0-1.0 Olive brown coarse SAND, some gravel, little cobble, Poorly graded, Moist	SP/ GP		0.0			
10						1.0-1.2 Olive red/Light brown mottled silty Clay - med plasticity	CM					
11						Moist						
12	S4 12-16' Rec 2.4/4.0					0-2.4' Olive brown silty ~~fine~~ Coarse SAND, Some gravel, poorly graded Moist to saturated	SM		0.0 1.2 (0-0.5)			
13						Only trace fines 1.0-2.0	SP					
14									0.0			
15												
16												
17												

BOB = 16' bgs

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC PSA-6	BS/BW-007	53498

Client	Site	Sheet No.
NYSDEC	Tobe's Breakfast House	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. Staples		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	0.2	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
20'		24' (auger)	15.5' 10/19/01	☐	☐	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
0	S-1					0-1.0 Black to Olive green med-coarse SAND, some gravel, poorly graded, moist	Fill SP/GP					
1	0-4'											
2	Rec 2.6/4.0					1.0-1.8 Dark brown fine sandy SILT, little coarse sand, poorly graded moist - trace organics	ML/ SM		0.0			
3						1.8-2.0 Olive brown coarse sandy gravel	GP					
4						2.0-2.6 Dark olive brown fine sandy SILT + clay, poorly graded soft, moist, slight plasticity						
5	S2 4-8' Rec 2.6/4.0					0-1.0 Olive brown silt, fine SAND and fine sandy SILT, 0.2" band of coarse SAND, little fines, poorly graded, moist (slight plasticity)	SM/ SP		0.0			
6						1.0-2.6 Olive brown med-coarse SAND, some gravel, trace cobble No fines to some fines, poorly graded, loose, damp to moist	SP/ GP					
7												
8	S3 8-12' Rec 2.4/4.0					0-0.4 Olive brown coarse sandy SILT - slight plasticity, poorly graded, moist	SM/ ML		0.0			
9						0.4-2.4 Coarse SAND, some gravel, little fines, trace cobble, Damp, poorly graded	SP/ GP					
10												
11												
12	S4 12-16'					0-2.9 Olive brown fine to med - trace SAND, some gravel, little cobble, fine,			0.0			
13												
14	Rec 2.9/4.0					Poorly graded, loose, Damp - saturated @ 15.5'	SP GP	Collect soil sample FBBS007015O1FX @ 1150				VOC
15												
16	S5 16-20'					- same as S4 - more fines.	SP/ GP					
17	1.2/4.0											
18												

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BS/MW-008	53498

Client	Site	Sheet No.
NYSDEC	Tobe's Breakfast House	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.2	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	—	28' (water)	15' 10/19/01	☐	☐	☒

Depth(Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
0	S-1					0-0.8 Gray sand & gravel, well(poorly) graded - dry/olive brown	Fill		0.0			
1	0-4'					0.8-2.4 - Silty fine sand, trace modeling, 2" find sand layer, poorly graded, loose, moist	SM					
2	Rec											
3	2.4/4.0											
4												
5	S2					0-1.0 Olive brown silty fine SAND, trace brown modeling, poorly graded, soft, moist	SM		0.0			
6	4-8'					1.0-3.0 Olive gray med & coarse SAND, some gravel, little cobble, trace fines, poorly graded, damp	SP					
7	3.0/4.0											
8												
9	S3					0-2.5 Olive brown med & coarse SAND and GRAVEL, trace cobble, trace fines, poorly graded, loose, moist	SP		0.0			
10	8-12'					2.5-2.8 Olive and brown modeled silty clay, poorly graded soft, moist, slight plasticity	CM	- collect soil sample TBBW008011101FX @1340				VOC
11	Rec											
12	2.8/4.0											
13	S4					0.-0.6 ft - cave in gravel	GW		0.0			
14	12-16'					0.6-1.2 Olive & brown modeled silty clay poorly graded, slight plasticity	CM					
15	Rec					1.2-2.4 Olive brown silty coarse sand grades to coarse SAND, some gravel, saturated	SP					
16	2.9/4.0					2.4-2.9 Olive & brown fine SAND - trace coarse SAND and silty clay - layered - plasticity Moist - saturated	SM/ CM					

BOB - 16'

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC- PSA-6	BS/BW-009	53498

Client	Site	Sheet No.
NYSDEC	Tobey	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geologic

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.6	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
16'	—	24' water	16' 10/19/01	☐	☐	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
1	S1 0-4' Rec 2.6/4.0					0-1' olive brown sandy gravel Damp - Fill	GP		0.0			
2						1.0-2.6 Olive brown silty fine SAND, trace black nodely trace organics, poorly graded soft, damp	SM					
3												
4												
5	S2 4-8' Rec 3.1/4.0					0-1.4 olive brown silty fine SAND, trace coarse sand, poorly graded, soft, moist	SM		0.0			
6						1.4-3.1 Olive brown moc SAND, little gravel, trace cobble, trace fines, poorly graded, loose, Damp	SP					
7												
8												
9	S3 8-12' Rec 12/4.0					0-3.2 Olive brown moc SAND, some gravel, little cobble, trace to NO fines, poorly graded loose, Moist.	SP/ GP		0.0			
10												
11												
12												
13	S4					0-1.0 olive brown moc SAND	SP					
14	12-16' Rec 1.0/4.0					little gravel, little fine, damp ← Collect sample TBBS009013O1FX						VOC
15						1.0-2.0 olive & brown modeled silty Clay - trace SAND, saturated plasticity	CM	@ 15#				
16						2.0-3.0 - Olive brown fine SAND and coarse sands gravel - well graded, moist saturated	SP	- offsite split + offsite dupe → ID=TBBS01S01S01FX				
17												

15OB-16'

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TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC PSA-6	BS/BW-010	53498

Client	Site	Sheet No.
NYSDEC	Tobey	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. Stapley		10/19/01	10/19/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	10.2	2"	—

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
8'	—	28' (water)		☐	☐	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
0	S1					0-1.4 olive brown silty gravel - fill	Fill		0.0			VOC
2	0-4' Rec 30/40					1.4-3.0 Olive brown silty fine SAND, trace c. sand, trace black mottling - organic, stiff, poorly graded, Moist	SM		Collect soil sample TBS5010002011EX @ 1605			
4												
5	S2 4-8' Rec 2.6/4.0					0-2.0 olive brown silty fine SAND, trace organics, stiff, poorly graded, Moist	SM		0.0			
6						2.0-3.0 Olive brown fine to M sand, some C. sand & gravel, trace cobble, poorly graded, damp	SP/GP					
8						BOB - 8'						

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC - PSA-6	BB/BW-011 - MW-5	53501

Client	Site	Sheet No.
NYSDEC	TOBES	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		11/1/01	11/01/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	11.8	2"	

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
20'	—	20'	15.5' 11/1/01	☐	☐	☒

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
0												
1	S1 0-4' Rec 3.0/4.0					0-0.5 Dark brown silty fine SAND, some organics, little cobble, 0.5-3.0 Greenish brown silty fine SAND, well graded, soft, Moist	SM		0.0			
2												
3												
4												
5	S2 4-8' Rec 2.8/4.0					0-2.8' Greenish brown silty fine SAND and fine sandy SILT, little clay layer, 2.5-2.6 M sand & cobble, soft, well graded, Moist	SM/ ML		0.0			
6												
7												
8												
9	S3 8-12' Rec 2.5/4.0					0-0.4 Greenish brown fine sandy SILT & clay, poorly graded, soft, Moist, some plasticity	ML		0.0			
10						0.4-2.0 F-C SAND, some gravel/ some cobble, little silt, Moist	SP					
11						2.0-2.5 Greenish brown silty fine SAND, little gravel, little cobble, poorly graded, M dense, Moist	SM					
12												
13	S4 12-16' Rec 2.4/4.0					0-2.2 Greenish brown C. SAND and gravel, little SILT to trace SILT Poorly graded, M dense, SATURATED @ 0.4'	SP/ ~~SM~~	collect TBBS01101 @ 0815	0.0			VOC
14												
15						2.2-2.4 Green & redish brown mottled silty Clay - high plasticity	CL					
16												
17	S5 16-20' Rec 3.5/4.0					0-3.5 Green & red modeled silty Clay, high plasticity CL - gravel layer - 1.5-1.8 - clean. SATURATED						

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9910003(e) L 33

BOB: 20'

MW-005

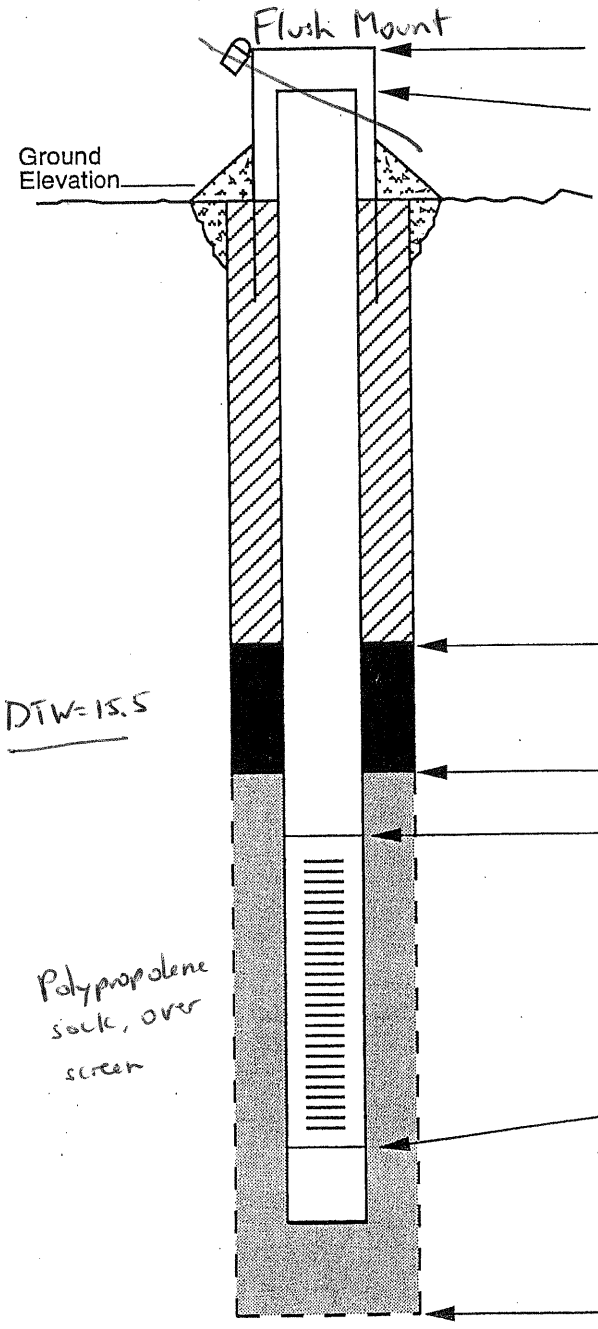
OVERBURDEN WELL CONSTRUCTION DIAGRAM

Project: NYSDEC-PSA-6 Site Area: TOBES Driller: J. Powell

Project No.: 53500 Boring No.: BS-DII-MW-005 Drilling Method: Direct Push

Date Installed: 11/1/01 Development Method:

Field Geologist: C. STAPLES



Elevation of Top of Surface Casing: El. Flush Mount

Stick-up of Casing Above Ground Surface:

Elevation of Top of Riser Pipe:

Type of Surface Seal: Cement

Type of Surface Casing: Plastic

ID of Surface Casing: 4"

Diameter of Borehole: 2"

Riser Pipe ID: 1"

Type of Riser Pipe: PVC

Type of Backfill: #0 SAND.

Elevation of Top of Seal:

Depth of Top of Seal: 1.0'

Type of Seal: Granular Bentonite

Elevation of Top of Sand:

Depth of Top of Sand: 4.0'

Elevation of Top of Screen:

Depth of Top of Screen: 11.1

Type of Screen: PVC

Slot Size x Length: 10' x 0.015 6"

ID of Screen: 1"

Type of Sandpack: #0

Elevation of Bottom of Screen:

Depth of Bottom of Screen: 21.1

Depth of Sediment Sump with Plug: 21.2

Elevation of Bottom of Borehole:

Depth of Bottom of Borehole: 21.4'

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

TEST BORING LOG

Project	Boring/Well No.	Project No.
NYSDEC PSA-6	BS/BW-012	53501

Client	Site	Sheet No.
NYSDEC	TOBE's	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
C. STAPLES		11/1/01	11/1/01

Drilling Contractor	Driller's Name	Rig Type
Geologic, NY	J. Powell	Geoprobe

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
Direct Push	D	1.8	2"	—

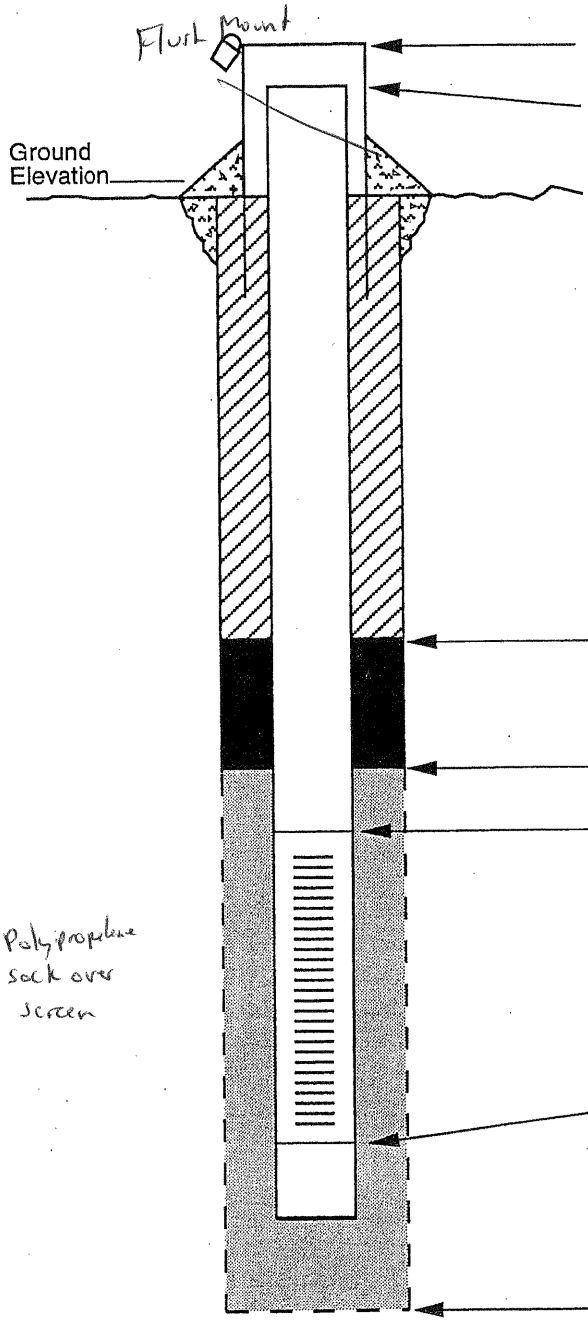
Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
19	—	19'	15.5' 11/1/01	☐	☐	☒

Depth(Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	PI Meter Head Space		Lab Tests
0	S1 0-4'					0-0.6 - M. SAND & GRAVEL Fill	SP		0.0			VOC
1	2.5/4.0					0.6-2.5 Greenish brown fine sandy SILT to silty fine SAND trace gravel, Clean M Sand 1.1-1.4 M. Dense, poorly graded, Moist	SM	Collect sample @ 0750 TB BS01	200	301		X
4						Greenish brown						
5	S2 4-8' Rec 3.5/4.0					0-3.5 Fine SAND, some silt, Areas of coarse sand & gravel (1.6-2.8) Loose, Poorly graded, Moist	SM SP		0.0			
8												
9	S3 8-12' Rec 3.5/4.0					0-2.5 Greenish brown C. SAND & GRAVEL, little cobble, trace silt, P. graded, M Dense, Dom.	SP/ GP		0.0			
10						2.5-3.2 Brown & Grey fine SANDY SILT, little clay, soft, slight plasticity, Moist	ML/ SM					
11						3.2-3.5 F. SAND & GRAVEL, some silt, M. dense, p. graded moist	SM					
12												
13	S4 12-16'					0-3.1 Greenish brown M. SAND,			0.0			
14	Rec 3.1/4.0					and GRAVEL, trace to little silt.	SP					
15						silty clay layer @ 2.0-2.3.	CL					
16						Saturated @ 1.8'	SP					
17	S5 16-19' Rec 3.0/3.0					0-3.0 Greenish brown M. SAND and GRAVEL, trace to little SILT, poorly graded, SATURATED	SP/ GP		0.0			

MW-006

OVERBURDEN WELL CONSTRUCTION DIAGRAM

Project: NYSDEC - PSA-6
Project No.: 53501
Site Area: TOBES
Boring No.: BW013-MW-6
Date Installed: 11/1/01
Field Geologist: C. STAPLES
Driller: J. Powell
Drilling Method: Direct Push
Development Method: Geopump



Elevation of Top of Surface Casing:
Stick-up of Casing Above Ground Surface: Flush Mount
Elevation of Top of Riser Pipe:
Type of Surface Seal: CEMENT
Type of Surface Casing: plastic

ID of Surface Casing: 4"
Diameter of Borehole: 2"
Riser Pipe ID: 1"
Type of Riser Pipe: PVC
Type of Backfill: #0 SAND

Elevation of Top of Seal:
Depth of Top of Seal: 1.0'
Type of Seal: 1.0'

Elevation of Top of Sand:
Depth of Top of Sand: 3.0'
Elevation of Top of Screen:
Depth of Top of Screen: 10.2

Type of Screen: PVC
Slot Size x Length: 10x0.01"
ID of Screen: ~~to~~ 1"

Type of Sandpack: #0

Elevation of Bottom of Screen:
Depth of Bottom of Screen: 20.2
Depth of Sediment Sump with Plug: 20.3

Elevation of Bottom of Borehole:
Depth of Bottom of Borehole: 20.4

DTW = 12.8

FIGURE 4-5
OVERBURDEN MONITORING WELL CONSTRUCTION DIAGRAM
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

APPENDIX E

E.2 Sample Records

FIELD INSTRUMENTATION & MATERIAL QUALITY ASSURANCE RECORD

Project NYSDEC-PSA6 Site Tobei Breakfast House

Project No. 53501/2 Sampler Signature [signature]

Date 10/19/01

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba-U-10/NYSDEC-13		pH 4 3.99 pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. 4.49 / ____ Cond. Std. ____ / 4.53 meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
Dissolved Oxygen		10.2°C
		Avg. Winkler Value ____ ppm Meter Value 10.90 ppm
Redox		
		Zobell Sol. Value ____ Meter Value ____
Photoionization Meter		
Thermo 580 B		Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv.
		Meter Value 101.3 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ____ ppm Equiv.
		Meter Value ____ ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: ____ ABB-ES FOS ____ Portable System ☒ Other Walmart Dish/Gal

Trip Blank Water Source: X Lab; Lot No. ____

____ Other; Type ____ ID ____

Decontamination Fluids: Type Liquinox + DI ID ____

Filtration Paper ID: (In Line) Manuf/Type ____ Lot No. ____ / ____

(Vacuum) Manuf/Type ____ Lot No. ____ / ____

Chemicals Used: HNO_3 Lot No. ____ ZnAOC Lot No. ____

H_2SO_4 Lot No. ____ Other Lot No. ____

HCL Lot No. ____ Other Lot No. ____

NaOH Lot No. ____

FIGURE 6-1
FIELD INSTRUMENTATION AND MATERIAL QUALITY ASSURANCE RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

FIELD INSTRUMENTATION & MATERIAL QUALITY ASSURANCE RECORD

Project NYSDEC-PSA-6 Site Tobay Brook Pond House

Project No. 53498 Sampler Signature [signature]

Date 10/13/01

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba-U-10/NYSDEC-13		pH 4 3.98 pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. 4.49 / ____ Cond. Std. ____ / 4.59 meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
Dissolved Oxygen		6.5 °C
____	____	Avg. Winkler Value ____ ppm Meter Value 11.99 ppm
Redox		
____	____	Zobell Sol. Value ____ Meter Value ____
Photoionization Meter		
Thermo 580 B	____	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv.
		Meter Value 100.3 ppm Equiv.
____	____	Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ____ ppm Equiv.
		Meter Value ____ ppm Equiv.
Other		
____	____	____

Fluids/Materials Record

Deionized Water Source: ____ ABB-ES FOS ____ Portable System X Other (Walmart distilled)

Trip Blank Water Source: X Lab; Lot No. ____

____ Other; Type ____ ID ____

Decontamination Fluids: Type Liquinox + D.I ID ____

Filtration Paper ID: (In Line) Manuf/Type ____ Lot No. ____ / ____

(Vacuum) Manuf/Type ____ Lot No. ____ / ____

Chemicals Used: HNO_3 Lot No. ____ ZnAOC Lot No. ____

H_2SO_4 Lot No. ____ Other Lot No. ____

HCL Lot No. ____ Other Lot No. ____

NaOH Lot No. ____

FIGURE 6-1
FIELD INSTRUMENTATION AND MATERIAL QUALITY ASSURANCE RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

FIELD INSTRUMENTATION & MATERIAL QUALITY ASSURANCE RECORD

Project NYSDEC - PSA 6 Site Tobe's Breakfast House

Project No. 53498 Sampler Signature [signature]

Date 11/1/01

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba U-10 / NYSDEC 13		pH 4 3.99 pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. 4.49 / ____ Cond. Std. ____ / 4.54 meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
		Cond. Std. ____ / ____ Cond. Std. ____ / ____ meter value
Dissolved Oxygen		Temp = 10.3
		Avg. Winkler Value ____ ppm Meter Value 10.41 ppm
Redox		
		Zobell Sol. Value ____ Meter Value ____
Photoionization Meter		
Pine Environmental / Thermo 580B - 11.8 b/b		Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 101 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ ppm Equiv. Meter Value ___ ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: ____ ABB-ES FOS ____ Portable System ___X___ Other Walmart distilled

Trip Blank Water Source: ___X___ Lab; Lot No. ____

____ Other; Type ____ ID ____

Decontamination Fluids: Type Liquinox + D.I. ID ____

Filtration Paper ID: (In Line) Manuf/Type ____ Lot No. ____ / ____

(Vacuum) Manuf/Type ____ Lot No. ____ / ____

Chemicals Used: HNO_3 Lot No. ____ ZnAOC Lot No. ____

H_2SO_4 Lot No. ____ Other Lot No. ____

HCL Lot No. ____ Other Lot No. ____

NaOH Lot No. ____

FIGURE 6-1
FIELD INSTRUMENTATION AND MATERIAL QUALITY ASSURANCE RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: Tobe's Breakfast House
Project Number: 53498 Date: 10/18/01
Time: Start: 0920 End: 0950
Sample Location ID: T B B S 0 0 1 0 1 6 0 1 F X Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ____ Measured ____ Historical ____ Top of Well ____ Top of Protective Casing ____ Well Riser Stick-up ____ Ft. (from ground) Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Direct Push Sample

Depth to Water ____ Ft. Well Material: ____ PVC ____ SS ____ Well Locked?: ____ Yes ____ No Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
____ Methanol (100%)
____ 25% Methanol/75% ASTM Type II water
____ Deionized Water
____ Liquinox Solution
____ Hexane
____ HNO_3/D.I. Water Solution
____ Potable Water
____ None
X Disposible

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth ____ ppm Purge Data Collected ____ In-line X In Container

Sample Observations: X Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 0.25 Gal. (0945)	@ 0.30 Gal. (0949)	@ Gal.	@ Gal.	@ Gal.
Temperature, Deg. C	12.9	Collect			
pH, units	6.89	Sample			
Specific Conductivity (µmhos/cm)	0.798				
Turbidity (NTUS)	978				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	5.92				

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Inorganics		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500ml P	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes:

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6
Site: Tobe's Breakfast House
Project Number: 53498 - 2
Date: 10/18/01
Time: Start: 0950 End: 1020
Sample Location ID: TBBW001024001FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing ___ _____
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct push

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
—	—	Submersible Pump	
—	—	Bailer	
X	X	PVC/Silicon Tubing	
—	—	Teflon/Silicon Tubing	
—	—	Airlift	
—	—	Hand Pump	
—	—	In-line Filter	
—	—	Press/Vac Filter	
—	—		

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X Disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.3 Gal. (1010)	@ 0.40 Gal. (1015)	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	13.5	Collect			
pH, units	6.88	Sample			
Specific Conductivity (µmhos/cm)	0.719				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ppm	2.96				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: MS/MSD

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - BA - 6
Project Number: 53498
Site: ~~Falconer Street Site~~ Tube's Site
Date: 10/18/01
Time: Start: 1210 End: 1240
Sample Location ID: TBSW00201801FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing ___ _____
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = [_____ Gal/Vol. _____ Total Gal Purged]

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.25 Gal. (1225)	@ 0.35 Gal. (1230)	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	17.2	Collect			
pH, units	~~7.1~~ 6.96	sample			
Specific Conductivity (µmhos/cm)	0.785				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ppm	3.03				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
__ VOCs		4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: offsite VOC

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6
Project Number: 53498
Site: Tobe's Breakfast House
Date: 10/18/01
Time: Start: 1240 End: 1245
Sample Location ID: TBSW002026011FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
✓ disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.25 Gal. (1240)	@ 0.40 Gal. (1245)	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	17.1	Collect			
pH, units	7.10	Sample			
Specific Conductivity (µmhos/cm)	0.676				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	1.00				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PA-6
Project Number: 53498 -2
Sample Location ID: TBBW003017O1FK
Site: Tobe's Breakfast House
Date: 10/18/01
Time: Start: 1455 End: 1510
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ____ Measured ____ Historical
____ Top of Well ____ Top of Protective Casing
Well Riser Stick-up ______ Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water ______ Ft.
Well Material: ____ PVC ____ SS
Well Locked?: ____ Yes ____ No
Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
____ Methanol (100%)
____ 25% Methanol/75% ASTM Type II water
____ Deionized Water
____ Liquinox Solution
____ Hexane
____ HNO_3/D.I. Water Solution
____ Potable Water
____ None
✓ Disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ____ In-line ✓ In Container
Sample Observations: ✓ Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 0.30 Gal. (1500)	@ 0.40 Gal. (1505)	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	14.9	Collect			
pH, units	~~6.7~~ 7.19	Sample			
Specific Conductivity (µmhos/cm)	0.615				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	0.48				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Inorganics		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500ml P	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes:

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC PSA-6
Project Number: 53498-2
Sample Location ID: TBBW0030260IFX

Site: Tobe's Breakfast House
Date: 10/18/01
Time: Start: 1510 End: 1530
Signature of Sampler: [signature]

Water Level/Well Data

(section struck through by hand: "Direct Push Sample")

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X Disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ 0.30 Gal. (1515)	@ 0.4 Gal. (1520)	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	13.8	Collect Sample			
pH, units	7.17				
Specific Conductivity (µmhos/cm)	0.653				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	~~0.4~~				
Dissolved Oxygen, ppm	0.93				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: ______

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC PSA-6
Project Number: 53498
Site: Tobey Breakfast House
Date: 10/18/01
Time: Start: 1650 End: 1710
Sample Location ID: TBBW04016 01 FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push Sample

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
___	___	Submersible Pump	
___	___	Bailer	
X	X	PVC/Silicon Tubing	
___	___	Teflon/Silicon Tubing	
___	___	Airlift	
___	___	Hand Pump	
___	___	In-line Filter	
___	___	Press/Vac Filter	
___	___		

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X Disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.5 Gal. 1700	@ 0.70 Gal. 1705	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	15.2	Collect			
pH, units	6.79	sample			
Specific Conductivity (µmhos/cm)	.701				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	3.75				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Split sample / Dupe / MS / MSD

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6
Project Number: 53498
Site: Tobe's Breakfast House
Date: 10/18/01
Time: Start: 1710 End: 1740
Sample Location ID: TBBW004026011FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct push Sample

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air 10.0 ppm Well Mouth 0.0 ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.3 Gal. 1725	@ 0.5 Gal. 1730	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	14.9	Collect			
pH, units	6.97	Sample			
Specific Conductivity (µmhos/cm)	0.625				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	0.18				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA
Project Number: 53498-2
Site: Tobe's Breakfast House
Date: 10/19/01
Time: Start: 0930 End: 0845
Sample Location ID: TBBW005018011FX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.5 Gal. (0935)	@ 0.6 Gal. (0840)	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	11.8	Collect				
pH, units	6.36	Sample				
Specific Conductivity (µmhos/cm)	0.701					
Turbidity (NTUS)	999					
Oxidation - Reduction, +/- mv	-					
Dissolved Oxygen, ppm	2.91					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6
Project Number: 53498
Site: Tober Breakfast House
Date: 10/19/01
Time: Start: 0850 End: 0915
Sample Location ID: TBSW005026041FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push Sample

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.3 Gal. (0900)	@ _____ Gal. (0905)	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	10.6	Collect				
pH, units	6.81	Sample				
Specific Conductivity (µmhos/cm)	0.711					
Turbidity (NTUS)	999					
Oxidation - Reduction, +/- mv	-					
Dissolved Oxygen, ppm	2.46					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA - 6
Site: Tober Breakfast
Project Number: 53498
Date: 10/19/01
Time: Start: 1100 End: 1130
and [X][X]
Sample Location ID: T B B W 0 0 6 0 2 1 0 1 F X
Signature of Sampler: [signature]

Water Level/Well Data

Direct Push Sample

Well Depth ____ Ft. ____ Measured ____ Historical ____ Top of Well ____ Top of Protective Casing ____

Well Riser Stick-up ____ Ft. (from ground)

Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft.

Well Material: ____ PVC ____ SS ____

Well Locked?: ____ Yes ____ No

Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch ____

Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer ____

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ____ Methanol (100%)
- ____ 25% Methanol/75% ASTM Type II water
- ____ Deionized Water
- ____ Liquinox Solution
- ____ Hexane
- ____ HNO_3/D.I. Water Solution
- ____ Potable Water
- ____ None
- X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ____ In-line X In Container

Sample Observations: X Turbid ____ Clear ____ Cloudy ____ Colored ____ Odor

Purge Data	@ 0.80 Gal. (1115)	@ 1.00 Gal. (1120)	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	12.5	Collect			
pH, units	6.92	SAMPLE			
Specific Conductivity (µmhos/cm)	0.679				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ppm	3.20				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Silty soil from 16' to 21' - could not get flow for sample
* collect offsite split

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Tobe; - NYSDEC-PSA6 Site: Tobe;

Project Number: 53498 Date: 10/19/01

Time: Start: 1200 End: 1315

Sample Location ID: TBSW00702301FX Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing ___ _____

Well Riser Stick-up _____ Ft. (from ground)

Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Direct Push Sample

Depth to Water _____ Ft.

Well Material: ___ PVC ___ SS _____

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No

Prot. Casing Secure ___ ___

Concrete Collar Intact ___ ___

Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
___	___	Submersible Pump	
___	___	Bailer	
X	X	PVC/Silicon Tubing	
___	___	Teflon/Silicon Tubing	
___	___	Airlift	
___	___	Hand Pump	
___	___	In-line Filter	
___	___	Press/Vac Filter	
___	___		

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.4 Gal. 1300	@ 0.5 Gal. 1305	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	14.1	Collect Sample			
pH, units	7.06				
Specific Conductivity (µmhos/cm)	0.694				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	4.50				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs	___	4°C	2x1 liter AG	
___ Inorganics	___	HNO_3,4°C	1x1 liter P	
___ Cyanide	___	NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate	___	H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate	___	H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB	___	4°C	3x1 liter AG	
___ TPH	___	H_2SO_4,4°C	2x1 liter AG	
___ TOC	___	H_2SO_4,4°C	1x1 liter P	
	___			

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC- PSA-6
Project Number: 53498
Sample Location ID: T B B W 0 0 8 0 1 7 0 1 F X

Site: Tobe's
Date: 10/19/01
Time: Start: 1320 End: 1405
Signature of Sampler: [signature]

Water Level/Well Data

Direct push

Well Depth ____ Ft. ____ Measured ____ Historical ____ Top of Well ____ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ____ PVC ____ SS
Well Locked?: ____ Yes ____ No
Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch
Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
____ Methanol (100%)
____ 25% Methanol/75% ASTM Type II water
____ Deionized Water
____ Liquinox Solution
____ Hexane
____ HNO_3/D.I. Water Solution
____ Potable Water
____ None
X Disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ____ In-line X In Container
Sample Observations: X Turbid __ Clear __ Cloudy __ Colored __ Odor

	1355	1400			
Purge Data	@ 0.5 Gal.	@ 0.6 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	15.6	Collect	sample clear		
pH, units	7.08	Sample			
Specific Conductivity (µmhos/cm)	0.693				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	–				
Dissolved Oxygen, ppm	3.71				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: ____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC-PSA-6
Site: Tobes
Project Number: 53498-2
Date: 10/19/01
Time: Start: 1405 End: 1430
Sample Location ID: TBBW00802601FX
Signature of Sampler: [signature]

Water Level/Well Data

Direct Push

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing Well Riser Stick-up ______ Ft. (from ground) Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft. Well Material: ___ PVC ___ SS Well Locked?: ___ Yes ___ No Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ___ Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None
- X disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.5 Gal. (1420)	@ 0.65 Gal. (1425)	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.2	Collect	- sample cloudy		
pH, units	7.08	sample			
Specific Conductivity (µmhos/cm)	0.701				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	1.79				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Inorganics		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500ml P	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: ______

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYDEC - ISA
Project Number: 53498-2
Site: Tober's
Date: 10/19/01
Time: Start: 1515 End: 1540
Sample Location ID: TBSW009022001FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Direct Push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
___	___	Submersible Pump	
___	___	Bailer	
X	X	PVC/Silicon Tubing	
___	___	Teflon/Silicon Tubing	
___	___	Airlift	
___	___	Hand Pump	
___	___	In-line Filter	
___	___	Press/Vac Filter	
___	___		

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line X In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.30 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
	1530	1535			
Temperature, Deg. C	15.2	Collect Sample	- Very turbid		
pH, units	7.08				
Specific Conductivity (µmhos/cm)	0.707				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	2.53				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs	___	4°C	2x1 liter AG	
___ Inorganics	___	HNO_3, 4°C	1x1 liter P	
___ Cyanide	___	NaOH, 4°C	1x500ml P	
___ Nitrate/Sulfate	___	H_2SO_4, 4°C	1x1 liter P	
___ Nitrate/Phosphate	___	H_2SO_4, 4°C	1x1 liter P	
___ Pest/PCB	___	4°C	3x1 liter AG	
___ TPH	___	H_2SO_4, 4°C	2x1 liter AG	
___ TOC	___	H_2SO_4, 4°C	1x1 liter P	
	___			

Notes: could not produce water from 17-22' bgs - too silty

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA 6
Project Number: 53498-2
Site: Tobe's BREAKFAST HOUSE
Date: 10/19/01
Time: Start: 1615 End: 1630
Sample Location ID: TBBW01 00170 1FX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Direct Push Sample

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (__in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
✓ disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.50 Gal. 1620	@ 0.60 Gal. 1625	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	17.3	Collect			
pH, units	6.85	Sample			
Specific Conductivity (µmhos/cm)	0.703				
Turbidity (NTUS)	879				
Oxidation - Reduction, +/- mv	~~2.69~~ MA				
Dissolved Oxygen, ppm	~~17.3~~ 2.69				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: Tober's Breakfast House

Project Number: 53498 Date: 10/19/01

Time: Start: 1630 End: 1700

Sample Location ID: TBBW01062601FX Signature of Sampler: [signature]

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up _____ Ft. (from ground)

Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Depth to Water _____ Ft.

Well Material: ___ PVC ___ SS _____

Well Locked: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer _____

Direct Push SAMPLING

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No

Prot. Casing Secure ___ ___

Concrete Collar Intact ___ ___

Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
Y disposible tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.5 Gal. 1640	@ 0.6 Gal. 1645	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	15.8	collect			
pH, units	7.08	SAMPLE			
Specific Conductivity (µmhos/cm)	0699				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	LU				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
__ SVOCs		4°C	2x1 liter AG	
__ Inorganics		HNO_3,4°C	1x1 liter P	
__ Cyanide		NaOH,4°C	1x500ml P	
__ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
__ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
__ Pest/PCB		4°C	3x1 liter AG	
__ TPH		H_2SO_4,4°C	2x1 liter AG	
__ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: TOBES

Project Number: 55501 Date: 11/01/01

Time: Start: 0825 End: 0850

Sample Location ID: T O B W O 1 1 0 1 5 0 1 X X Signature of Sampler: CK/k Hop

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing ____ _____ Well Riser Stick-up _____ Ft. (from ground) Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Depth to Water _____ Ft. Well Material: ___ PVC ___ SS _____ Well Locked?: ___ Yes ___ No Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ____ _____ Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth _____ ppm Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.20 Gal. 0830	@ 0.25 Gal. 0840	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	12.4	Collect	-poor flow - turn pump on & off to fill vials		
pH, units	6.96	sample			
Specific Conductivity (µmhos/cm)	0.445				
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	4.78				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: _____

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA 6 Site: TOBER

Project Number: 53501 Date: 11/1/01

Time: Start: 1010 End: 1040

Sample Location ID: TBBW0120160 1XX Signature of Sampler: Chad Stopol

Water Level/Well Data

Direct Push Sample

Well Depth _____ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up _____ Ft. (from ground)

Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Depth to Water _____ Ft.

Well Material: ___ PVC ___ SS _____

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch _____

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No

Prot. Casing Secure ___ ___

Concrete Collar Intact ___ ___

Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth _____ ppm

Purge Data Collected ___ In-line X In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.50 Gal.	@ 0.75 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	~~0.66~~ 14.7	Collect	- Good flow - water clearing up		
pH, units	7.07	Sample			
Specific Conductivity (µmhos/cm)	0.803				
Turbidity (NTUS)					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	1.66				

1025 1030

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: ~~Collect dupe~~ No dupe CRJ

~~TBBW0201601XX @ 1400~~

Sample 16-18' bgl

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: TOBES
Project Number: 53501 Date: 11/1/01
Time: Start: 1110 End: 1150
Sample Location ID: TBBW01301601XX Signature of Sampler: [signature]

Water Level/Well Data (struck through: "Direct Push" / "Sample")

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing Well Riser Stick-up ____ Ft. (from ground) Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft. Well Material: ___ PVC ___ SS Well Locked?: ___ Yes ___ No Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm Purge Data Collected X In-line ___ In Container

Sample Observations: X Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.36 Gal. (1130)	@ 0.50 Gal. (1140)	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	16.1	Collect	good flow - slightly cloudy		
pH, units	7.12	Sample	-		
Specific Conductivity (µmhos/cm)	0.93	-			
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	0.03				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Inorganics		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500ml P	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: - Drilling - soft to 16' - 16-18 hard (gravel)
DTW - 11.9'
- Collect Duplicate TBBW02001601XX @ 1600

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: TOBE 5
Project Number: 53501 Date: 11/1/01
Time: Start: 1320 End: 1400
Sample Location ID: TBBW01401601XX Signature of Sampler: [signature]

Water Level/Well Data

Direct Push Sampling

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing ___ _____
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS _____
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
X	X	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
X Disposable tubing

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm Purge Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.50 Gal. 1350	@ 0.75 Gal. 1355	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	17.6	Collect sample	good flow - clearing up.		
pH, units	6.83			clearwater	
Specific Conductivity (µmhos/cm)	0.95				
Turbidity (NTUS)	260				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	3.24				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
X VOCs	X	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3, 4°C	1x1 liter P	
___ Cyanide		NaOH, 4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4, 4°C	2x1 liter AG	
___ TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: DTW = 15.0' bgs

FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: NYSDEC - PSA-6 Site: TOBES

Project Number: 53501 Date: 11/1/01

Time: Start: 1430 End: 1600

Sample Location ID: TBSW01S01701XX Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing ___ _____

Well Riser Stick-up _____ Ft. (from ground)

Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Direct Push Sample

Depth to Water _____ Ft.

Well Material: ___ PVC ___ SS _____

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No

Prot. Casing Secure ___ ___

Concrete Collar Intact ___ ___

Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
✓ disposable

Field Analysis Data

PID: Ambient Air NA ppm Well Mouth NA ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ✓ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 0.25 Gal.	@ 0.30 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
	1530	1540			
Temperature, Deg. C	18.0	Collect	- Clear water - but 1.HH flow		
pH, units	7.70	Sample	- stop to discharge between		
Specific Conductivity (µmhos/cm)	1.11		vials		
Turbidity (NTUS)	999				
Oxidation - Reduction, +/- mv	-				
Dissolved Oxygen, ppm	6.49				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Inorganics		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500ml P	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Sample 17-20' bss

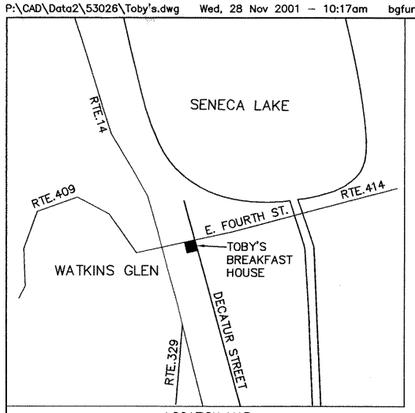
FIGURE 4-14
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Harding Lawson Associates

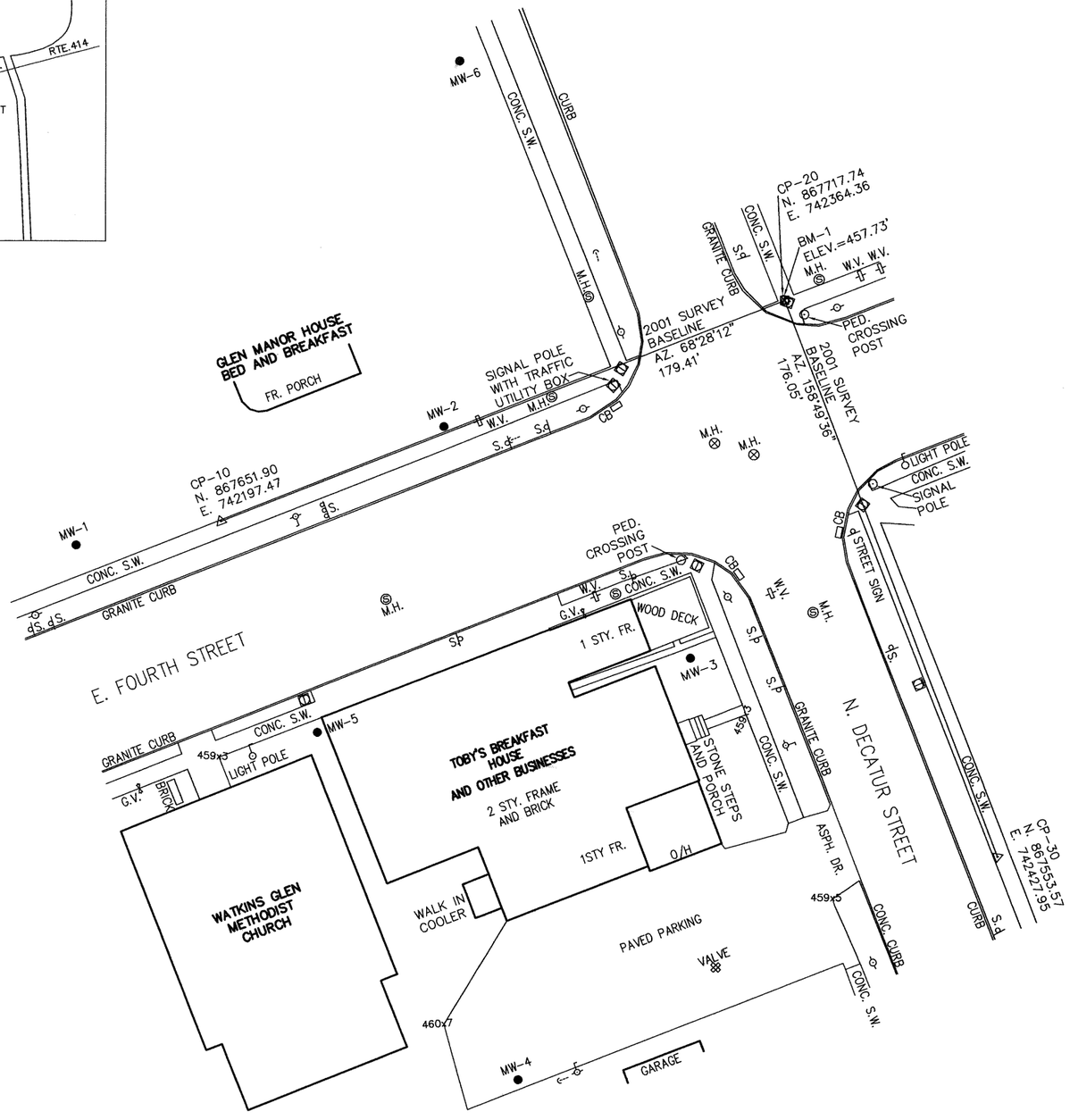
APPENDIX F

SITE LAND SURVEY

P:\CAD\Data2\53026\Toby's.dwg Wed, 28 Nov 2001 - 10:17am bgfurey



LOCATION MAP
NOT TO SCALE



N

TRUE NORTH AT THE 76°35'00" MERIDIAN OF WEST LONGITUDE (1983 N.A. DATUM)

REVISIONS			

TITLE

PLANIMETRIC SURVEY

WITH ELEVATIONS

PROJECT

TOBY'S BREAKFAST HOUSE

CLIENT: HARDING LAWSON ASSOCIATES, INC.

LOCATION: CITY OF WATKINS GLEN, COUNTY OF SCHUYLER, STATE OF NEW YORK

OM P. POPLI, P.E., L.S., P.C.
CONSULTING ENGINEERS & SURVEYORS
555 PENBROOKE DRIVE
PENFIELD, N.Y. 14526
(716) 388-2060

DATE	SCALE	DRAWN BY	DRAWING NO.
NOV. 2001	1"=20'	SRR	TOBYDWG

SURVEY NOTES:

1. HORIZONTAL LOCATIONS SHOWN HEREON ARE BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM AND DERIVED FROM STATION GPS 195, SET BY POPLI P.C. FOR THE NYSDOT IN 1996 UNDER P.I.N. 6802.40 ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) USING REAL TIME KINEMATIC GLOBAL POSITIONING PROCEDURES.
2. VERTICAL LOCATIONS SHOWN HEREON ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD'29) AND ARE DERIVED FROM GPS 195 AS STATED ABOVE.
3. ALL DISTANCES ARE GROUND HORIZONTAL DISTANCES.
4. PROJECT BENCHMARK:

   BM-1 - 'X' CUT ON BOLT IN THE NORTHWEST CORNER OF A NYS TRAFFIC PULLBOX AT THE NORTHEAST INTERSECTION OF EAST FOURTH ST. AND NORTH DECATUR ST. ELEV.=457.74'
5. UTILITY LOCATIONS SHOWN WERE INFERRED FROM SURFACE EVIDENCE ONLY AND MAY NOT REFLECT AN ACCURATE SUBSURFACE POSITION.

MONITORING WELL TABLE

WELL	NORTHING	EASTING	ELEVATION (FT.)	
MW-1	867644.8	742154.6	459.0	GROUND
			458.86	RISER
MW-2	867680.0	742263.4	458.6	GROUND
			458.47	RISER
MW-3	867611.8	742336.7	459.8	GROUND
			459.71	RISER
MW-4	867487.1	742285.9	460.7	GROUND
			460.61	RISER
MW-5	867589.6	742226.2	459.4	GROUND
			459.26	RISER
MW-6	867788.1	742267.9	457.4	GROUND
			457.19	RISER

LEGEND

- MONITORING WELL
- SEWER MANHOLE
- UTILITY POLE
- SIGN
- TRAFFIC PULLBOX
- WATER VALVE
- GUY POLE
- UTILITY POLE WITH LIGHT
- GAS VALVE
- 460x7 SPOT ELEVATION
- UTILITY MANHOLE
- CATCH BASIN

SCALE: 1" = 20 FT

0 20 40 60

APPENDIX G

DATA USABILITY REPORT

G.1 On Site Analytical Data
G.2 Off Site Analytical Data

APPENDIX G

DATA USABILITY REPORT

G.1 On Site Analytical Data

APPENDIX G.1
DATA USABILITY SUMMARY REPORT
2001 SAMPLING EVENT
ON-SITE FIELD SCREENING
TOBE'S BREAKFAST HOUSE SITE
NEW YORK

Introduction:

Soil and Groundwater samples were collected at the Tobe's Breakfast House site in October 2001 and submitted for on-site analytical laboratory analyses. Samples were analyzed for VOCs using the United States Environmental Protection Agency modified Method 8260. All soil samples were extracted in methanol prior to analysis. Results are reported on a wet weight basis. A summary of analytical results is presented in Tables G-1 and G-2.

A project chemist review was completed based on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance (NYSDEC, 1997). The project chemist review included evaluations for data package completeness, holding times, QC data (blanks, instrument calibrations, duplicates, surrogate recovery, and spike recovery) were applicable, and data qualification. A subset of laboratory results was qualified during the data review. The following qualifiers were used:

U = target analyte is not detected at the reported detection limit
J = concentration is estimated
N = presumptive evidence that compound exists

On-site sample analysis was completed by Buck Environmental Laboratories Inc., Cortland, New York. With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory.

VOLATILES

Instrument Calibration

Target compound chloroform was >20% relative standard deviation for the initial calibration on 101601 (B). All results for chloroform associated with this initial calibration were qualified as estimated (J).

Surrogates

Surrogate dibromofluoromethane was reported as 85% recovery (R) on the form 2 in package 101801 for sample TBBS00301401FX. The quantitation report shows dibromofluoromethane at 118%R. The discrepancy between the forms appears to be a transcription error. Both results are within the QC limits and no changes were made to the form 2.

Duplicates

Sample TBBS00600501FX had a reported tetrachloroethene result of 325 micrograms per kilogram (µg/Kg). The associated field duplicate had tetrachloroethene reported at 629 µg/Kg. The relative percent difference (RPD) was greater than 50% (64%RPD) and both results for tetrachloroethene were qualified as estimated (J). These results indicate that some variability in soil target compound results would be expected for the soil sample matrix.

Result Reporting

Positive detections of target compound chloroform were reported in several samples. Chloroform contamination in the method blanks and methanol blanks suggests the possibility of false positive results in the samples. The potential for chloroform contamination was discussed with the on-site analytical laboratory, and the laboratory indicated that they have had problems historically with chloroform contamination. Based on the QC blank, matrix spike, and additional information obtained from the lab, all positive detections of chloroform were qualified as "NJ". The N indicates the possibility that the chloroform detections in this data set are false positives.

Sample TBBS00301401FX had a chloroform result of 245 µg/Kg reported on Table E-1. The sample quantitation report shows a chloroform result of 137.73, which is less than the adjusted practical quantitation limit (PQL) of 200. This was determined to be a transcription error, and the result was removed from Table E-1 and reported as <PQL.

Sample TBBS00600501FX had a tetrachloroethene result of 0.8 µg/Kg reported on Table E-1. The PQL for tetrachloroethene is 1. The result was removed from Table E-1 and reported as <PQL.

ON-SITE/OFF-SITE COMPARISON

Split sample results obtained from the off-site analytical laboratory were compared to the

results of the on-site analytical laboratory. One soil split sample and four water split samples were collected. Sample results from the on-site analytical laboratory were compared to the results from the off-site analytical laboratory.

On-site soil sample results are based on wet weights. The PQL for the compounds listed below for on-site sample was 200 µg/Kg. Trace concentrations of target compounds were reported in the off-site samples below the quantitation limit of the on-site samples. RPDs were not calculated if the on-site results were <PQL. Based on the limited data, the split samples show agreement for the absence of contamination at the project reporting limits.

Results for the aqueous samples show good qualitative agreement between the data sets with the detection of tetrachloroethene and other target compounds. The average RPD of detected results was 23, indicating good quantitative agreement between the laboratories. Based on these split results, on-site data is adequate for the assessment of contamination at the site.

Sample	Chemical name	Off-site		units	On-site		units	%RPD
TBBS00901301	Tetrachloroethene	**28**		ug/kg	<200	U	ug/kg	NC
TBBS00901301	Toluene	**6**	J	ug/kg	<200	U	ug/kg	NC
TBBS00901301	Xylene (total)	**4**	J	ug/kg	<200	U	ug/kg	NC
TBBW00201801	Tetrachloroethene	**100**	J	ug/l	**93.1**		ug/l	7
TBBW00301701	Tetrachloroethene	**40**	J	ug/l	**28.7**		ug/l	33
TBBW00401601	Tetrachloroethene	**2.3**		ug/l	**2.6**		ug/l	-12
TBBW00602101	Toluene	**1.2**		ug/l	**1.5**		ug/l	-22
TBBW00602101	Xylene (total)	**3.4**		ug/l	**5.1**		ug/l	-40

NC = not calculated

Reference:

New York State Department of Environmental Conservation (NYSDEC), 1995. "Analytical Services Protocols"; 10/95 Edition; October 1995.

New York State Department of Environmental Conservation (NYSDEC), 1997. "Guidance for the Development of Data Usability Reports"; Division of Environmental Remediation; September 1997.

APPENDIX G
TABLE G-1
SOIL SAMPLE RESULTS
ON-SITE ANALYTICAL LABORATORY

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

Client Information:
Contact: David M. Houston
Address: PO Box 7050
Portland, ME 04112
Tel: 207-828-3429
Fax: 207-772-4762

Harding ESE
Site Contact: Chuck Staples
Tel:
Fax:

Site:Tobe's Breakfast House

Sampling Date: 10/18/01
Analysis Date: 10/18/01
Matrix: Soil

John H. Buck, P.E.
Laboratory Director

Method: Non-ELAP Field Screening by EPA 8260 Modified

Target Compounds	Dilution Factor	Benzene 71-43-2	Toluene 108-88-3	Ethylbenzene 100-41-4	m,p-Xylene 1330-20-7	o-Xylene 95-47-6	Tetrachloroethene 127-18-4	Trichloroethene 79-01-6	cis-1,2-Dichloroethene 156-59-2	trans-1,2-Dichloroethene 156-60-5	1,1-Dichloroethene 75-35-4	1,1-Dichloroethane 75-34-3	1,2-Dichloroethane 107-06-2	Chloroform 67-66-3	1,1,1-Trichloroethane 71-55-6	Vinyl chloride 75-01-4	Chloroethane 75-00-3
PQL (ug/Kg)*		120	200	200	400	200	200	200	200	200	200	200	120	200	200	200	200
Sample ID:																	
TBBS00101401FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00301401FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00401401FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	379	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL

* = Results are reported on as-received wet-weight basis.
Preparation was 5 g soil in 10 g methanol diluted 1:100 in water.

J = Value listed is an estimated value.

APPENDIX G
TABLE G-1
SOIL SAMPLE RESULTS
ON-SITE ANALYTICAL LABORATORY

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

This laboratory analysis has been performed in accordance with generally accepted laboratory practices. 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 consequence of any action taken in connection with this report.

Client Information:
Contact: David M. Houston
Address: PO Box 7050
Portland, ME 04112
Tel: 207-828-3429
Fax: 207-772-4762

Harding ESE
Site Contact: Chuck Staples
Tel:
Fax:

Site:Tobe's Breakfast House

Sampling Date: 10/19/01
Analysis Date: 10/19/01
Matrix: Soil

John H. Buck, P.E.
Laboratory Director

Method: Non-ELAP Field Screening by EPA 8260 Modified

Target Compounds	Dilution Factor	Benzene 71-43-2	Toluene 108-88-3	Ethylbenzene 100-41-4	m,p-Xylene 1330-20-7	o-Xylene 95-47-6	Tetrachloroethene 127-18-4	Trichloroethene 79-01-6	cis-1,2-Dichloroethene 156-59-2	trans-1,2-Dichloroethene 156-60-5	1,1-Dichloroethene 75-35-4	1,1-Dichloroethane 75-34-3	1,2-Dichloroethane 107-06-2	Chloroform 67-66-3	1,1,1-Trichloroethane 71-55-6	Vinyl chloride 75-01-4	Chloroethane 75-00-3
PQL (ug/Kg)*		120	200	200	400	200	200	200	200	200	200	200	120	200	200	200	200
Sample ID:																	
TBBS00501401FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00600501FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	**325 J**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00600501FD	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	**629 J**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00701501FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00801101FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS00901301FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBS01000201FX	1.0	<PQL	<PQL	<PQL	<PQL	<PQL	**410**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL

* Results are reported on as-received wet-weight basis.
Preparation was 5 g soil in 10 g methanol diluted 1:100 in water.
J = Value listed is an estimated value.

APPENDIX G
TABLE G-2
GROUNDWATER SAMPLE RESULTS
ON-SITE ANALYTICAL LABORATORY

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

Client Information:
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Harding ESE
Site Contact: Chuck Staples
Tel:
Fax:

Site: Tobe's Breakfast House

Sampling Date: 10/18/01
Analysis Date: 10/18/01
Matrix: Water

John H. Buck, P.E.
Laboratory Director

Method: Non-ELAP Field Screening by EPA 8260 Modified

Target Compounds	Dilution Factor	Benzene 71-43-2	Toluene 108-88-3	Ethylbenzene 100-41-4	m,p-Xylene 1330-20-7	o-Xylene 95-47-6	Tetrachloroethene 127-18-4	Trichloroethene 79-01-6	cis-1,2-Dichloroethene 156-59-2	trans-1,2-Dichloroethene 156-60-5	1,1-Dichloroethene 75-35-4	1,1-Dichloroethane 75-34-3	1,2-Dichloroethane 107-06-2	Chloroform 67-66-3	1,1,1-Trichloroethane 71-55-6	Vinyl chloride 75-01-4	Chloroethane 75-00-3
PQL (ug/L)		1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Sample ID:																	
TBBW00101601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00102401FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00102401FD	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00201801FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	93.1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00202601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	35.3	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00301701FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	28.7	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00302601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	8.5	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00401601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	2.6	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00402601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL

J = Value listed is an estimated value.

APPENDIX G
TABLE G-2
GROUNDWATER SAMPLE RESULTS
ON-SITE ANALYTICAL LABORATORY

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

This laboratory analysis has been performed in accordance with generally accepted laboratory practices. 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 consequence of any action taken in connection with this report.

Client Information:
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Harding ESE
Site Contact: Chuck Staples
Tel:
Fax:

Site: Tobe's Breakfast House

Sampling Date: 10/19/01
Analysis Date: 10/19/01
Matrix: Water

John H. Buck, P.E.
Laboratory Director

Method: Non-ELAP Field Screening by EPA 8260 Modified

Target Compounds	Dilution Factor	Benzene 71-43-2	Toluene 108-88-3	Ethylbenzene 100-41-4	m,p-Xylene 1330-20-7	o-Xylene 95-47-6	Tetrachloroethene 127-18-4	Trichloroethene 79-01-6	cis-1,2-Dichloroethene 156-59-2	trans-1,2-Dichloroethene 156-60-5	1,1-Dichloroethene 75-35-4	1,1-Dichloroethane 75-34-3	1,2-Dichloroethane 107-06-2	Chloroform 67-66-3	1,1,1-Trichloroethane 71-55-6	Vinyl chloride 75-01-4	Chloroethane 75-00-3
PQL (ug/L)		1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Sample ID:																	
TBBW00501801FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00502601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00602101FX	1	<PQL	**1.5**	<PQL	**3.1**	**2**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00602101FD	1	<PQL	**1.5**	<PQL	**2.8**	**1.8**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00702301FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00801701FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00802601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW00902201FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW01001701FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	**2.6**	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL
TBBW01002601FX	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL J	<PQL	<PQL	<PQL

J = Value listed is an estimated value.

APPENDIX G

DATA USABILITY REPORT

G.2 Off Site Analytical Data

APPENDIX G.2
DATA USABILITY SUMMARY REPORT
2001 SAMPLING EVENT
OFF-SITE LABORATORY SDGs HLA003, HLA004, HLA007, and HLA008
TOBE'S BREAKFAST HOUSE SITE
NEW YORK

Introduction:

Soil and water samples were collected at the Tobe's Breakfast House site in October and November 2001. Samples were submitted for off-site laboratory analyses for VOCs using the New York State Department of Environmental Conservation (NYSDEC) Methods 95-1 (soils) and 95-4 (waters). A summary of analytical results is presented in Tables G-3 and G-4.

Deliverables for the off-site laboratory analyses included a Category B deliverable as defined in the NYSDEC Analytical Services Protocols (NYSDEC, 1995).

A project chemist review was completed based on NYSDEC Division of Environmental Remediation guidance (NYSDEC, 1997). The project chemist review included evaluations for data package completeness, holding times, QC data (blanks, instrument calibrations, duplicates, surrogate recovery, and spike recovery) where applicable, and data qualification. A subset of laboratory results was qualified during the data review. The following qualifiers were used:

U = target analyte is not detected at the reported detection limit
J = concentration is estimated
R= result rejected

Off-site sample analysis was completed by H2M Labs, Inc., Melville, New York. With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory.

VOLATILES

Blanks

Low concentrations of the common laboratory contaminants methylene chloride, acetone, and 2-butanone were present in laboratory blanks, indicating possible contamination of the data sets.

HLA003
The laboratory method blank and holding blank contained detections of methylene chloride. Action levels were calculated at 10X the concentrations observed in blanks for methylene chloride. Detections of methylene chloride were qualified U in all samples.

A second blank associated with the data set also had a detection of tetrachloroethene of 2 µg/Kg. This blank was analyzed directly after samples TBBS00901301XX and TBBS01501501XX, which contained higher concentrations of tetrachloroethene (> 20 µg/Kg). The tetrachloroethene results in samples were reported unqualified.

HLA004
The laboratory method blank (VBLK102901) and the holding blank (VHBLK) had detections of methylene chloride. Action levels were calculated at 10X the concentrations observed in blanks for methylene chloride. Results less than action levels were qualified non-detect U. Detections of methylene chloride were qualified U in all samples.

A tentatively identified compound (TIC) was detected in the instrument blanks, method blank, holding blank, and trip blank. Action levels were calculated at 10X the concentrations observed in blanks for the TIC. TIC results less than the action level were qualified as rejected (R).

HLA007
The laboratory method blank VBLK111101 had a detection of acetone and 2-butanone. Acetone and 2-butanone were not detected in any of the associated samples and no qualifications were necessary.

The holding blank VHBLK had a detection of methylene chloride. Methylene chloride was not detected in any of the associated samples and no qualifications were necessary.

The trip blank had a detection of acetone. Action levels were calculated at 10X the concentrations observed in the trip blank for acetone. Acetone was detected above the PQL but was less than the action level in sample TBBW01101501XX and was qualified as non detect (U). Acetone was detected below the action level and PQL for sample TBBW01501701XX. The result was elevated to the PQL and qualified as non detect (U).

HLA008
The laboratory method blank had a detection of methylene chloride. Action levels were calculated at 10X the concentrations observed in blanks for methylene chloride. Results

less than action levels were qualified non-detect U. Detections of methylene chloride were qualified U in all samples.

Instrument Calibration

HLA003
Target compounds carbon disulfide, 1,2-dichloroethene, trans-1, 3-dichloropropene, and bromoform were >25% difference (D) for the continuing calibration standard. All results for these compounds were qualified as estimated (J).

HLA004
Target compounds methylene chloride, 1,3-dichlorobenzene, and 1,2,4-trichlorobenzene were >30% relative standard deviation (RSD) in the initial calibration. All results were qualified as estimated (J).

Target compounds acetone, 2-butanone, carbon tetrachloride, 1,2,4-trichlorobenzene, and tetrachloroethene were >25%D for the continuing calibration standard associated with the diluted samples. All results for these compounds were qualified as estimated (J).

HLA007
Target compounds chloroethane, 1,1-dichloroethene, and carbon disulfide were >25%D for the continuing calibration standard associated with samples TBBW01101501XX, TBBW01401601XX, TBBW01501701XX, and TBBW02001601XX. All results for these compounds were qualified as estimated (J).

Target compounds chloroethane, 1,1-dichloroethene, carbon disulfide, methylene chloride, trans-1, 2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene were >25%D for the continuing calibration standard associated with samples TBBW01201601XX, TBBW01301601XX, and the diluted sample TBBW01401601XXDL. All results for these compounds were qualified as estimated (J).

HLA008
Target compounds 2-butanone and tetrachloroethene were >25%D for the continuing calibration standard. All results for these compounds were qualified as estimated (J).

Surrogate Recovery

HLA003, HLA008
Form 2 surrogate recoveries differ slightly from the raw data reports by no more than 2%. All surrogate recoveries were within method limits and no qualifications or changes were

made.

Spike Recoveries

HLA007
All spike recoveries were within method limits and no qualifications or changes were made.

Dilutions

HLA004
The calibration range for target compound tetrachloroethene was exceeded in samples TBBW00201801XX and TBBW00301701XX. Dilutions were performed on these samples in order to get tetrachloroethene within the calibration range. The dilution results were reported for tetrachloroethene, and results for the remaining target compounds were obtained from the original undiluted analysis.

Reference:

New York State Department of Environmental Conservation (NYSDEC), 1995. "Analytical Services Protocols"; 10/95 Edition; October 1995.

New York State Department of Environmental Conservation (NYSDEC), 1997. "Guidance for the Development of Data Usability Reports"; Division of Environmental Remediation; September 1997.

APPENDIX G
TABLE G-3
SOIL SAMPLE RESULTS
OFF-SITE ANALYTICAL LABORATORY
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NY

Sample Location	**BS-9**		**BS-9 (dupe)**		**BS-11**		**BS-12**	
Sample ID	**TBBS00901301XX**		**TBBS01501501XX**		**TBBS01101201XX**		**TBBS01200301XX**	
Sample Date	**10/19/01**		**10/19/01**		**11/01/01**		**11/01/01**	
Parameter	**Result (µg/Kg)**		**Result (µg/Kg)**		**Result (µg/Kg)**		**Result (µg/Kg)**	
1,1,1-Trichloroethane	12	U	11	U	11	U	13	U
1,1,2,2-Tetrachloroethane	12	U	11	U	11	U	13	U
1,1,2-Trichloroethane	12	U	11	U	11	U	13	U
1,1-Dichloroethane	12	U	11	U	11	U	13	U
1,1-Dichloroethene	12	U	11	U	11	U	13	U
1,2-Dichloroethane	12	U	11	U	11	U	13	U
1,2-Dichloroethene (total)	12	UJ	11	UJ	11	U	13	U
1,2-Dichloropropane	12	U	11	U	11	U	13	U
2-Butanone	12	U	11	U	11	UJ	13	UJ
2-Hexanone	12	U	11	U	11	U	13	U
4-Methyl-2-pentanone	12	U	11	U	11	U	13	U
Acetone	12	U	11	U	11	U	13	U
Benzene	12	U	11	U	11	U	13	U
Bromodichloromethane	12	U	11	U	11	U	13	U
Bromoform	12	UJ	11	UJ	11	U	13	U
Bromomethane	12	U	11	U	11	U	13	U
Carbon Disulfide	12	UJ	11	UJ	11	U	13	U
Carbon Tetrachloride	12	U	11	U	11	U	13	U
Chlorobenzene	12	U	11	U	11	U	13	U
Chloroethane	12	U	11	U	11	U	13	U
Chloroform	12	U	11	U	11	U	13	U
Chloromethane	12	U	11	U	11	U	13	U
cis-1,3-Dichloropropene	12	U	11	U	11	U	13	U
Dibromochloromethane	12	U	11	U	11	U	13	U
Ethylbenzene	12	U	11	U	11	U	13	U
Methylene Chloride	12	U	11	U	11	U	13	U
Styrene	12	U	11	U	11	U	13	U
Tetrachloroethene	28		22		2	J	7	J
Toluene	6	J	11	U	11	U	75	
trans-1,3-Dichloropropene	12	UJ	11	UJ	11	U	13	U
Trichloroethene	12	U	11	U	11	U	13	U
Vinyl Chloride	12	U	11	U	11	U	13	U
Xylene (total)	4	J	5	J	11	U	13	U
TIC								
C3 subst_ Benzene			6	J				
unknown					7	J	13	J

Notes:
U = not detected at listed quantitation limit
J = estimated value

APPENDIX G
TABLE G-4
GROUNDWATER SAMPLE RESULTS
OFF-SITE ANALYTICAL LABORATORY
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NY

Sample Location	BW-2		BW-3		BW-4		BW-4 (dupe)		BW-6		BW-11		BW-12	
Sample ID	TBBW00201801XX		TBBW00301701XX		TBBW00401601XX		TBBW01501501XX		TBBW00602101XX		TBBW01101501XX		TBBW01201601XX	
Sample Date	10/18/01		10/18/01		10/18/01		10/18/01		10/19/01		11/01/01		11/01/01	
Parameter	Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)	
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	UJ	1	UJ
1,2,4-Trichlorobenzene	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone	5	U	5	U	5	U	5	U	5	U	2	J	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	5	U	5	U	5	U	5	U	5	U	6.9	U	5	U
Benzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	1	U	1	U	1	U	1	U	1	U	0.6	J	1	UJ
Carbon tetrachloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ
Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methyl tert-butyl ether	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	U	1	UJ
Styrene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	100	J	40	J	2.3		2.3		1	U	1.6		3.9	J
Toluene	1	U	1	U	1	U	1	U	1.2		1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ
Vinyl chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Xylene (total)	2	U	2	U	2	U	2	U	3.4		2	U	2	U

Notes:
U = not detected at listed quantitation limit
J = estimated value
B = compound detected in associated laboratory blank

APPENDIX G
TABLE G-4
GROUNDWATER SAMPLE RESULTS
OFF-SITE ANALYTICAL LABORATORY
TOBE'S BREAKFAST HOUSE SITE
WATKINS GLEN, NY

Sample Location	BW-13		BW-14		BW-15		BW-13 (dupe)		Trip Blank-2	
Sample ID	TBBW01301601XX		TBBW01401601XX		TBBW01501701XX		TBBW02001601XX		TBTB002XXX01XX	
Sample Date	11/01/01		11/01/01		11/01/01		11/01/01		11/01/01	
Parameter	Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)		Result (µg/L)	
1,1,1-Trichloroethane	1	UJ	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	UJ	1	UJ	1	UJ	1	UJ	1	U
1,2,4-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
2-Butanone	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	5	U	5	U	5	U	5	U	5	U
Acetone	5	U	5	U	5	U	5	U	3	BJ
Benzene	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	1	UJ	1	UJ	1	UJ	1	UJ	1	U
Carbon tetrachloride	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	UJ	1	UJ	1	UJ	1	UJ	1	U
Chloroform	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U
Methyl tert-butyl ether	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	UJ	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	22	J	100	J	22		20		1	U
Toluene	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	UJ	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	UJ	1	U	1	U	1	U	1	U
Vinyl chloride	1	U	1	U	1	U	1	U	1	U
Xylene (total)	2	U	2	U	2	U	2	U	2	U

Notes:
U = not detected at listed quant
J = estimated value
B = compound detected in assc

APPENDIX H

GROUNDWATER MODELING NOTES

PROJECT	COMP. BY	JOB NO.
Tobe's Breakfast House	RAL	53498/3
	CHK. BY	DATE 1/2/02

Purpose: Estimate concentrations in soil and groundwater associated with old dry cleaner site.

Observations: Old source area (now possibly covered by addition to building) estimated at 20 x 20' square. Maximum PCE in soil nearby was 629 ppb. Maximum PCE in groundwater at 140' down-gradient was 100 ppb. Estimated maximum plume thickness at this distance < 20 feet. Max plume width ≈ 200 ft at 140' distance.

Approach: Use OLM and linear partitioning to estimate relationships between soil contaminants and leachate reaching groundwater. Use VHS model to evaluate possible dilution due to dispersion.

Both of these models are available as BASIC computer programs. The inputs and outputs plus supporting calculations are:

OLM:

Given PCE with water solubility of 150 mg/L and soil concentration of 629 ppb = 0.629 mg/kg, the resultant leachate concentration would be 10.5 µg/L.

Linear partitioning:

If the mechanism for mobilizing PCE in soil to groundwater is by fluctuations of water table up into contaminated soil seasonally, then linear partitioning may provide a better estimation of groundwater concentrations at the source.

$$C_S = K_d C_W = f_{OC} K_{OC} C_W$$

Assume f_{OC} of 0.002 and let $K_{OC} = 364 \frac{ml}{g}$ for PCE

$$C_W = \left(0.629 \frac{mg}{kg}\right) / (0.002)\left(364 \frac{L}{kg}\right)$$

$$= 0.864 \frac{mg}{L} = 864 \mu g/L$$

Note that at this leaching rate, the source would not likely last long unless some free product had been present at some time.

VHS model

Since the plume width increases approximately from 20 ft at the source to 200 feet at 140 ft distance, by dispersion equations,

$6\sigma_y = 200 - 20 \text{ ft} = 180'$

or $\sigma_y = 30$ ft.

Domenico and Schwartz give:

$$D_L = v\alpha_y = \frac{\sigma_y^2 v}{2x}$$

or $$\alpha_y = \frac{\sigma_y^2}{2x}$$ (lateral dispersivity)

$$\alpha_y = \frac{(30)^2 \text{ ft}^2}{2(140)\text{ ft}} = 3.2 \text{ ft}$$

This compares favorably with the rules of thumb

$$\alpha_x = \frac{x}{10} \quad \text{and} \quad \alpha_y = \frac{\alpha_x}{8} \text{ to } \frac{\alpha_x}{3}$$

or $\alpha_y = 1.8$ to 4.7 ft

Assume $\alpha_z = 0.1$ ft as the aquifer is noted to be stratified. Let $z = [(0.1)(20)]^{\frac{1}{2}} = 1.4$ ft.

Assuming a nominal initial concentration in groundwater of 100 mg/L, the VHS model indicates a concentration of 5.45 mg/L at 140 feet from the source gives a dilution factor of

$$DF = \frac{100}{5.45} = 18.3$$

This would suggest initial concentrations of about

$18.3 (100 \text{ ppb}) = 1830 \text{ ppb}$.

This might occur if concentrations in soil at the groundwater table in the actual source area (now likely covered) are much greater than the 629 ppb sampled at the site adjacent to the likely source area. Alternately, concentrations may have been greater at some time in the past if the groundwater/plume migration rate is slow.

PROJECT	COMP. BY	JOB NO.
Tobe's Breakfast House	CRS	53498/3
	CHK. BY	DATE 2/4/02

Add on page - 1 of 1

Estimates of potential soil contamination at source area.

Using VHS model to calculate potential initial concentrations of PCE at source area (assumed to be below current site building) ≈ 1830 ppb = 1830 ug/L PCE in groundwater at source area.

If 629 ug/kg at source area would result in groundwater concentrations of 864 ug/L in source area groundwater, then 1830 ug/L in groundwater would equate to:

$$\frac{629\ ug/kg}{864\ ug/L} = \frac{X}{1830}, \quad X = \frac{1830 \times 629}{864} = 1332\ ug/kg$$

1332 ug/kg in source area soils at the groundwater table.

Again, PCE concentrations in source area soils may be greater than 1300 ug/kg, or may have been greater at some time in the past if groundwater/plume migration rate is slow.

APPENDIX I

AIR SAMPLE RESULTS

OSR - 3

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Charles Staples Date Prepared 10/18/01

Preparer's Affiliation Harding Lawson Associates Phone No. 207-828-3571

1. **OCCUPANT** Name: C.W Lucas

Address: 403 N. Decater
Watkins Glen

County: Schuyler

Home Phone No. 607 535-4188 Office Phone No _____

2. **OWNER OR LANDLORD**: (If different than occupant) Name: Gerald Tobey

Address: 81 Salt Point Road
Watkins Glen 14891

Phone No. 607-535-2750

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch	2-Family
Raised Ranch	Duplex
Split Level	Apartment House _____ Units
(Colonial)	Number of floors 2 – with 1 floor addition on slab
Mobile Home	Other specify _____

Residence Age 113 General Description of Building Construction Materials Brick + Wood

Is the building insulated? Yes (No) How air tight is the building ~~Not very~~ - O.k. storm

↓ in some areas - Blown fiberglass

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, ~~other~~ ← all of them - Full under sample
2. Basement floor: (concrete), dirt, other _____
3. Concrete floor: unsealed, painted, covered; with - seal
4. Foundation walls: poured concrete, block, (laid up stone), other _____
5. The basement is: wet, damp, (dry) _____ Sump present? y / n _____ Water in sump? y / n ____
6. The basement is: finished, (unfinished) _____
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
   large floor drain to gravel
8. Describe how air tight the basement is Very air tight

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

Hot Air Circulation	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
(Steam Radiation)	Wood stove
Electric Baseboard	Other (specify) _____

2. The type(s) of fuel(s) used is/are: (Natural Gas) (~~Fuel Oil~~), Electric, Wood Coal Solar
   Other (specify) Natural Gas
3. Is the heating system's power plant located in the basement or another area: basement.
4. Is there air-conditioning? (Yes) / No Central Air or Window Units?
   Specify the location in bedroom
5. Are there air distribution ducts present? Yes / (No)
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
   No air supply or ducts

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / (No)
2. Is there an attached garage? Yes / (No)
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / (No)
5. Is there a workshop, hobby or craft area in the residence? (Yes) / (No) – in basement – paints + varnishes, insecticides
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / (No) Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment. NO

E. Water and Sewage (Circle the appropriate response)

Source of Water

(Public Water) Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____ Grouted or Ungrouted _____

Well Depth _____ Type of Storage Tank _____

Depth to Bedrock _____ Size of Storage Tank _____

Feet of Casing _____ Describe type(s) of Treatment _____

_____

Water Quality:

Taste and/or odor problems? y / (n) If so, describe _____

How long has the taste and/or odor been present? _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Other (Specify) _____

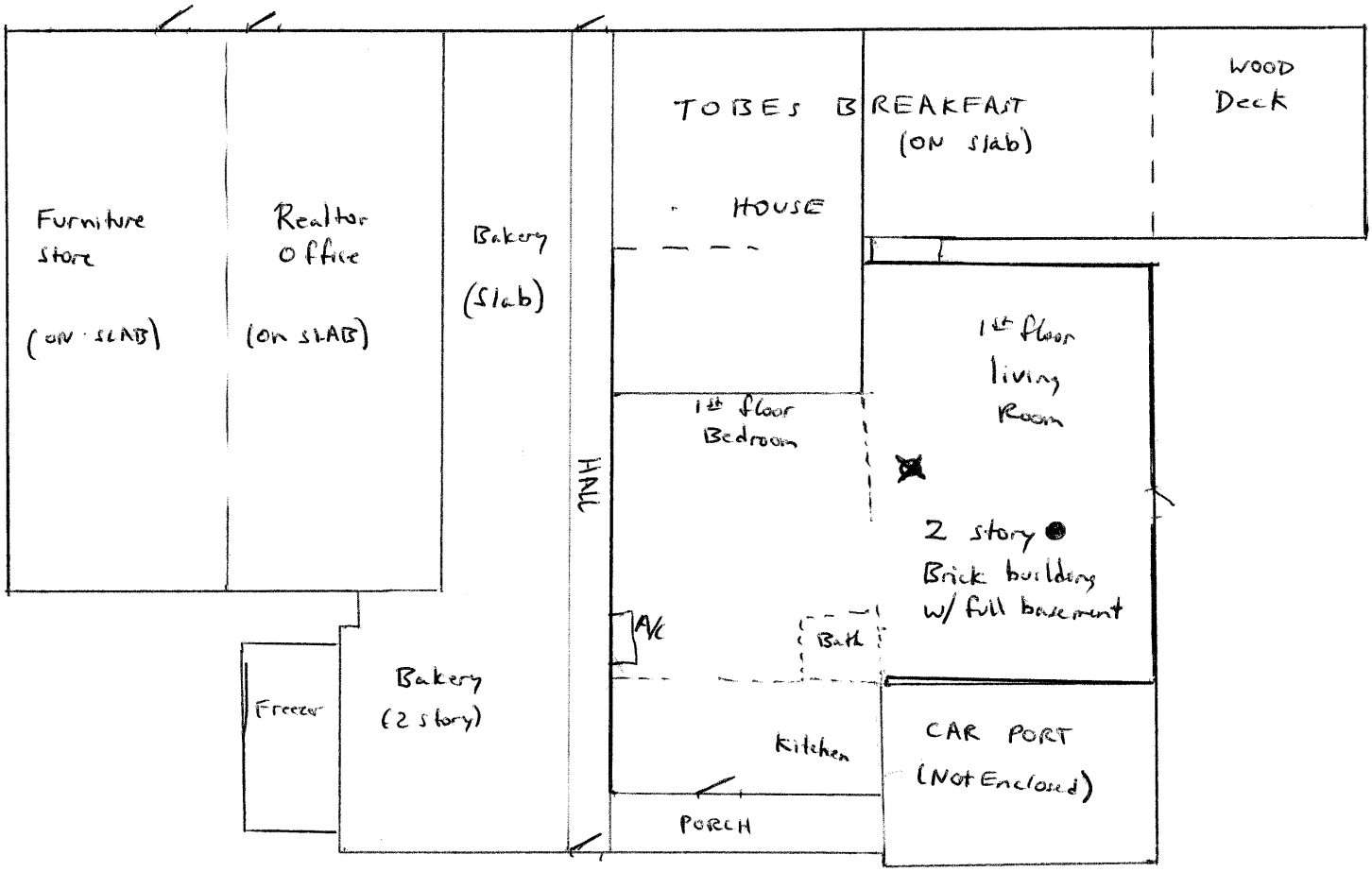
Distance from well to septic system _____ Type of septic tank additive _____

Sample collected from 8 AM on 10/18/01
to 8 AM on 10/19/01
Barometric pressure was at 30.18 at beginning
OSR-3 (continued) of sample collection and
at 30.06 at end of test.

N

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



= Air Sample location

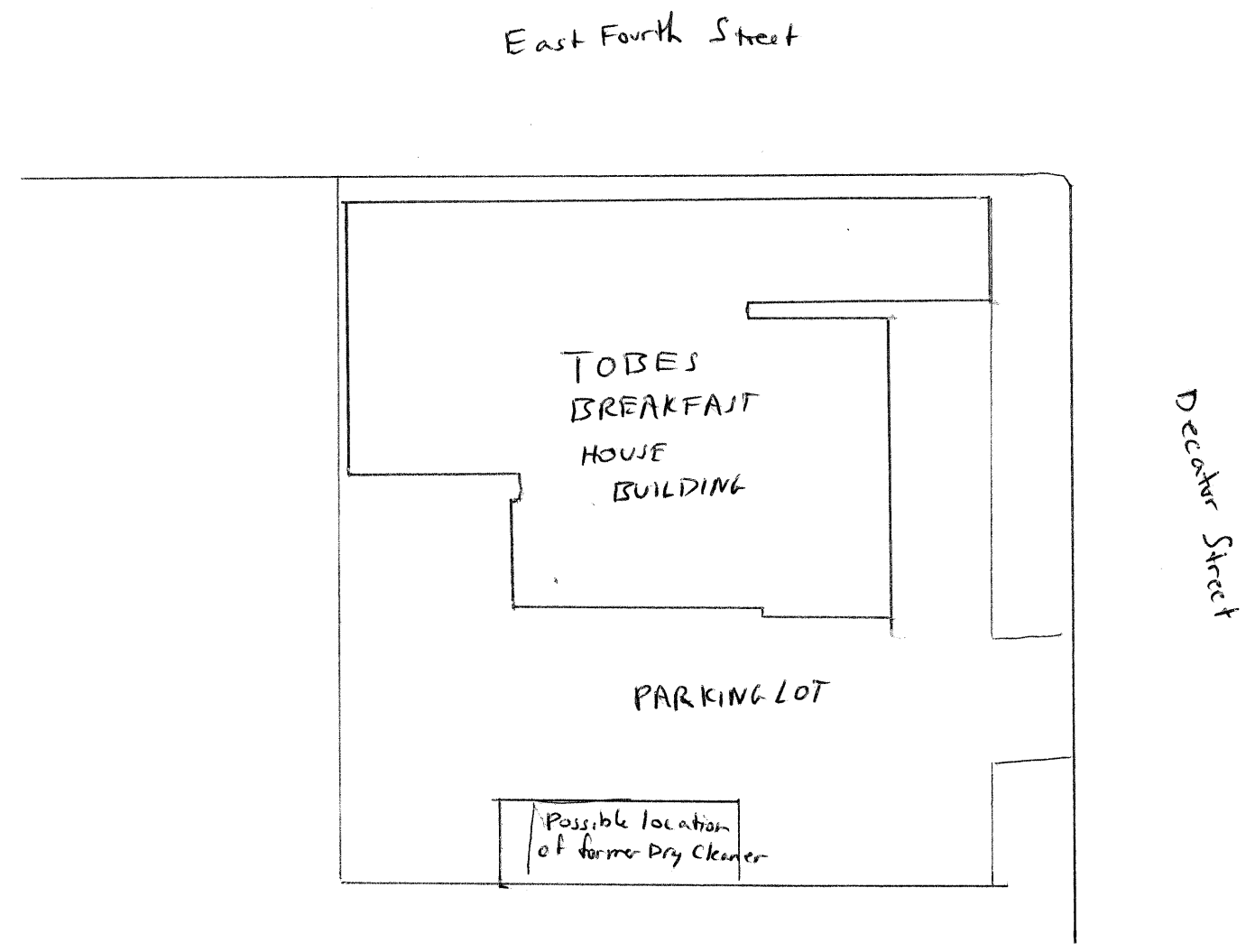
● Approximate location of basement floor drain

OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.



AIR TOXICS LTD.

SAMPLE NAME: TOBEAIR001XX01

ID#: 0110384-02A

EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	**c102418**	**Date of Collection:**	**10/19/01**
Dil. Factor:	**1.34**	**Date of Analysis:**	**10/25/01**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	0.67	3.4	0.72	3.6
Freon 114	0.67	4.8	Not Detected	Not Detected
Chloromethane	0.67	1.4	Not Detected	Not Detected
Vinyl Chloride	0.67	1.7	Not Detected	Not Detected
Bromomethane	0.67	2.6	Not Detected	Not Detected
Chloroethane	0.67	1.8	Not Detected	Not Detected
Freon 11	0.67	3.8	Not Detected	Not Detected
1,1-Dichloroethene	0.67	2.7	Not Detected	Not Detected
Freon 113	0.67	5.2	Not Detected	Not Detected
Methylene Chloride	0.67	2.4	Not Detected	Not Detected
1,1-Dichloroethane	0.67	2.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.67	2.7	Not Detected	Not Detected
Chloroform	0.67	3.3	Not Detected	Not Detected
1,1,1-Trichloroethane	0.67	3.7	Not Detected	Not Detected
Carbon Tetrachloride	0.67	4.3	Not Detected	Not Detected
Benzene	0.67	2.2	0.72	2.3
1,2-Dichloroethane	0.67	2.8	Not Detected	Not Detected
Trichloroethene	0.67	3.6	Not Detected	Not Detected
1,2-Dichloropropane	0.67	3.1	Not Detected	Not Detected
cis-1,3-Dichloropropene	0.67	3.1	Not Detected	Not Detected
Toluene	0.67	2.6	1.9	7.3
trans-1,3-Dichloropropene	0.67	3.1	Not Detected	Not Detected
1,1,2-Trichloroethane	0.67	3.7	Not Detected	Not Detected
Tetrachloroethene	0.67	4.6	3.6	25
Ethylene Dibromide	0.67	5.2	Not Detected	Not Detected
Chlorobenzene	0.67	3.1	Not Detected	Not Detected
Ethyl Benzene	0.67	3.0	Not Detected	Not Detected
m,p-Xylene	0.67	3.0	0.97	4.3
o-Xylene	0.67	3.0	Not Detected	Not Detected
Styrene	0.67	2.9	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	0.67	4.7	Not Detected	Not Detected
1,3,5-Trimethylbenzene	0.67	3.3	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.67	3.3	Not Detected	Not Detected
1,3-Dichlorobenzene	0.67	4.1	Not Detected	Not Detected
1,4-Dichlorobenzene	0.67	4.1	Not Detected	Not Detected
Chlorotoluene	0.67	3.5	Not Detected	Not Detected
1,2-Dichlorobenzene	0.67	4.1	Not Detected	Not Detected
1,2,4-Trichlorobenzene	0.67	5.0	Not Detected	Not Detected
Hexachlorobutadiene	0.67	7.3	Not Detected	Not Detected
Propylene	2.7	4.7	Not Detected	Not Detected
1,3-Butadiene	2.7	6.0	Not Detected	Not Detected
Acetone	2.7	6.5	6.5	16

AIR TOXICS LTD.

SAMPLE NAME: TOBEAIR001XX01

ID#: 0110384-02A

EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	**c102418**	**Date of Collection:**	**10/19/01**
Dil. Factor:	**1.34**	**Date of Analysis:**	**10/25/01**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Carbon Disulfide	2.7	8.5	Not Detected	Not Detected
2-Propanol	2.7	6.7	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.7	11	Not Detected	Not Detected
Vinyl Acetate	2.7	9.6	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.7	8.0	Not Detected	Not Detected
Hexane	2.7	9.6	Not Detected	Not Detected
Tetrahydrofuran	2.7	8.0	Not Detected	Not Detected
Cyclohexane	2.7	9.4	Not Detected	Not Detected
1,4-Dioxane	2.7	9.8	Not Detected	Not Detected
Bromodichloromethane	2.7	18	Not Detected	Not Detected
4-Methyl-2-pentanone	2.7	11	Not Detected	Not Detected
2-Hexanone	2.7	11	Not Detected	Not Detected
Dibromochloromethane	2.7	23	Not Detected	Not Detected
Bromoform	2.7	28	Not Detected	Not Detected
4-Ethyltoluene	2.7	13	Not Detected	Not Detected
Ethanol	2.7	5.1	75	140
Methyl tert-Butyl Ether	2.7	9.8	Not Detected	Not Detected
Heptane	2.7	11	Not Detected	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	102	70-130