SUPPLEMENTAL RESPONSE FROM GTE OPERATION SUPPORT INCORPORATED TO U.S. EPA'S 104(E) REQUEST FOR INFORMATION

9. For each substance listed in the chart below, state whether it was detected in sampling performed at the Property at any time. If your answer is Yes, on a separate sheet, provide the identity of the study, the investigator, the date of the study, specifically where on the Property and by whom the sampling was performed.

Supplemental Response:

See Question 9 - Addendum on CD of Supplemental Support Documentation.

13. Provide a summary listing of environmental assessments or studies, investigations, removal actions, remedial activities, or any other environmental work conducted by your Company or by any other party on your Company's behalf relating to industrial wastes released at or from each Property and/or the Site. If any copies of the records requested in this Question are available electronically, kindly submit your answer to this Question on a hard drive or discs.

Supplemental Response:

See GTEOSI reports on CD of Supplemental Support Documentation.

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19. If you have information or documents which may help EPA identify other companies that conducted operations, owned property, or were responsible for the handling, use, storage, treatment, or disposal of industrial wastes that potentially contributed, to contamination of the Site, please provide that information and those documents, and identify the source(s) of your information.

Supplemental Response:

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Adams-Fairchild Property 660-666 Cantiague Rock Road Westbury, NY 11590 (parking lots and garages)	According to the New York State Department of Conservation ("NYSDEC") Manifested Waste Summary, the facility generated spent halogenated solvents used in degreasing. In 1999, documents indicate that the facility generated 40,000 pounds of spent solvents. *Source:* Toxics Targeting Report (April 7, 2003) **(SYL00109113)**; U.S. EPA Envirofacts Database (site last checked on August 13, 2003).	Unknown 660 Cantiague Rock Road has been owned by Adams Fairchild Realty LLC since 9/16/99; the prior owner was Evan-Loma LLC. *Source:* Real Property Transaction Record (available through Westlaw).
Former AGO Associates, Inc. Site 499 West John Street Hicksville, NY 11801	AGO Associates purchased the site in 1963. At the time, the property consisted of a 35 to 45 foot deep sand pit covering about 10 acres. Between 1963 and January 1979, the pit was filled with construction and demolition material. Local residents recall that although a sign at the facility entrance advertised for "clean fill", truckloads of waste were disposed at the site. In 1974, the NCDOH discovered several dozen drums containing industrial solvents, lacquers, and thinners. The Department of Health ordered the removal of over 100 55-gallon drums. By January 1975, all of the drums were removed and disposed. The landfill was closed in 1979 following the final cover and grading. The site was then sold to the current owners. In September 1987, NYSDEC collected surficial soil samples from a	1963-1979

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	portion of the site which was occupied by an asphalt company at the time. On August 7, 1990, 14 more soil samples were taken by NYSDEC. The results indicated low levels of pesticides and volatile organic compounds. *Source:* NYSDEC Division of Hazardous Waste Remediation Inactive Hazardous Waste Disposal Report (January 9, 1996) **(SW005415 – SW005417);** Engineering Investigation of Inactive Hazardous Waste Sites Phase II Investigations AGO Associates Site, Site No.: 130029, Town of Oyster Bay, Nassau County (June 1992) **(SYL00114741 – SYL00115070).** A June 14, 1993 letter from the State of New York Department of Health (NYSDOH) to NYSDEC explains that NYSDOH did not concur with NYSDEC's de-listing the site from the site registry. During the Phase II investigation, no geophysical survey, test pits, or soil borings were conducted to attempt to locate drums that may have been buried before or after 1974. The Department also expressed concern that "[t]he hydrogeologic evidence is not complete." *Source:* Letter from G. Carlson of NYSDOH to E. Barcomb of NYSDEC (June 14, 1993) **(NCDOH25797 to NCDOH25798).**	
Aircraft Turbine Service Div. Airwork 1100 Shames Drive Westbury, NY 11590	The facility used and generated spent halogenated solvents. According to the NYSDEC Manifested Waste Summary database, in 1985, the facility generated 55 gallons of spent halogenated solvents. *Source:* Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109105 - SYL00109106).**	Unknown

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Photronics Corp. 70 Cantiague Rock Road Hicksville, NY 11801	Photronics Corp leased the east side of building 70: In February 1977, the Nassau County Department of Health ("NCDOH") investigated the facility and observed that the company had dumped acetone and toluene waste into the storm drain in the parking lot. This drain emptied into a sump located at the rear of the building. The NCDOH advised Photronics Corp. to cease this activity. NCDOH sampled the sump on August 23, 1977. The sample was forwarded to the NYSDEC Division of Laboratories and Research Environmental Health Center for analysis. "Results of Examination" completed on September 16, 1977 by the New York State Department of Health, Division of Laboratories and Research, Environmental Health Center. Sampled "sump in rear of building." Found 5 mcg/L of 1,1,1-Trichlorethane, 14 mcg/L of Trichloroethylene, and 2.5 mcg/L of Tetrachloroethylene *Source:* Industrial Investigation Follow Up (2/15/77) **(NYSEC011623 - NYSEC011628).** This property was purchased by A-T Realty Company in 1978 and leased to EDI then Air Techniques. EDI Products (predecessor to Air Techniques) was a manufacturer of dental products and equipment. According to a January 1979 Industrial Survey, EDI used 111-TCA for tank degreasing (300 gallons per year)- **NYSDEC011631** Air Techniques, Inc. operated a dental equipment manufacturing facility at 70 Cantiague Rock Road. Air Techniques Inc. is a corporation organized and existing under the laws of New York State. Source: A-T Realty Company and Air Techniques Incorporated	Photronics – Unknown EDI/Air Techniques: **1978 – 2006**

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	complaint against GTE Products Corporation, April 7, 1988. **[SYL00009896-SYL00009908]** Permits evidence use of solvents on site: Notification of Hazardous Waste Activity: On May 29, 1981, Air Techniques filed a Notification of Hazardous Waste Activity with the U.S. EPA for the generation of F001 and F017 wastes. (EPA ID #NYT370012387) **See USEPA000133-USEPA000137.** On April 16, 1990, the Notification to US EPA was modified to list the following hazardous wastes – D007, D008, F001, F002, F003 and F005. (EPA ID #NYD043835081) **See USEPA000138-USEPA000140**. Permit To Operate Solid Waste Management Facility: On December 19, 1984, Air Techniques applied to the Nassau County DOH for approval to operate a solid waste management facility. Air Techniques states in the application that it generates the following wastes as a result of manufacturing air compressors and film processors: lacquer thinners, perchlorethylene, and honing/cutting oils. All of these are hazardous substances. *Source: Application for Approval to Operate a Solid Waste Management Facility, December 19, 1984.* ***[SYL00031048]*** • A hand written note on the application states that Air Techniques used perchlorethylene up to one and a half years ago (as of 1996). • A 1986 Solid Waste Permit Application states the company generates between 75 and 87 gallons of PCE per month **[NYSDEC011621- NYSDEC011678]** *Manifested Hazardous Waste:*	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	• Acetone • Developer • Kodak RPX-OMAT Fixer and Replenisher • Lacquer thinners • Mixed machining oils 100% • Muriatic acid • Oil (Speedy Dri 80/100%) and oily rags • Paint and paint filters (toluene, chromium) • Silver • Selenium • S-X ray film • Tetrachloroethylene • 1,1,1-trichloroethane • Waste flammable liquid (1,T/L-toluol, isopropol alcohol, MIBK, acetone, cellasolve, 1,1,1-trichloroethane) • Waste petroleum naptha (105) (waste may contain ignitable liquid, halogenated organic compounds, benzene, tetrachloroethylene) *Source:* Hazardous Waste Manifests **[ATS0000001-ATS0000610; ATS0000824-ATS0000]**; NYSDEC Generator Annual Reports **[ATS0000611-ATS0000823]**	
Alsy Manufacturing Co., Inc. 270 Duffy Avenue Hicksville, NY 11802 (residential electric lighting fixtures) (near capture zone) ***Prior owner/operator - Metlab***	Alsy leased the property and conducted operations at the site from 1975 until March 31, 1991. Alsy produced and sold electronic lamps and lamp shades. Its operations included antiquing and brass plating. "The electroplating area [was] located on the west side of the manufacturing facility and consist[ed] of 25 rectangular baths ranging in capacity from 425 gallons to 1200 gallons. The baths [were] positioned on a platform and [were] recessed through an elevated	Alsy occupied 270 Duffy Avenue from July 1, 1975 to the winter of 1991. Alsy occupied 280 Duffy Avenue from August 1, 1980 through March 31, 1991.

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	walkway. The entire electroplating area [was] surrounded by a sloped trench system where steam condensate (used in the process) collect[ed] and flow[ed] to a sump area. A sump pump then pump[ed] the waters on a periodic basis through an overhead pipe to the wastewater treatment plant for processing and decontamination. The trenches also serve[d] as a containment system for either accidental spills or for excess 'dragout' of manufactured lamp components. The trench system [was] capable of holding approximately 150 gallons of water." "The wastewater treatment system operating at Alsy [was] designed to process and decontaminated process wastewaters generated in the electroplating area." "The major contaminants present in the processing wastewaters [were] cyanide, zinc, copper and nickel." The container storage facility stored 1,1,1 trichloroethane still bottoms. *Source:* Alsy Closure Plan (September 1989) **NYSDEC012195 - NYSDEC012199.** Reports indicate that the facility generated approximately 55 gallons/4 months of 1,1,1-trichloroethane from its vapor degreaser. ***Source:*** Engineering Investigation at Inactive Hazardous Waste Sites In the State of New York Phase I Investigations Alsy Manufacturing, Town of Oyster Bay, Nassau County, New York I.D. No. 130027 (June 1987) **(SW033499).** *See also* Part 360 Solid waste Management Information Sheet (signed by Alsy's General Manager on 3/19/84) **(NYSDEC012944).** The Nassau County Department of Health Bureau of Land Resources Hazardous Chemical/Waste Storage Locations database printed on February 11, 1988, indicated that Alsy stored 5,500 gallons of 1,1,1-trichloroethane onsite at the time. According to records reviewed, the wastes generated and stored at the site during Alsy's operations include: wastewater treatment sludge containing cyanide, copper, and zinc; paint strippers and thinners generated in the cleaning of painting	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	equipment; and 1,1,1-trichloroethane from vapor degreasers. *Source:* Alsy Manufacturing Site NYSDEC Site No. 1-30-027 Remedial Investigation/Feasibility Study Fact Sheet No. 1 (April 1996) **(SYL00113513 – SYL00113517)** and Waste Analysis Plan prepared by Alsy Manufacturing Co., Inc. (October 1989) **(SYL00113524).** The facility discharged wastewater through two outfalls between 1977 and 1985. Outfall 001 was for industrial wastewater and outfall two was for sanitary wastewater. Three cesspools were located just west of the Cycle II area and south of the rail road tracks. The first cesspool was considered Outfall 001. It would appear that these cesspools received the electroplating waste. *Source:* **NYSDEC0102539 and NYSDEC012940.** Sewer Permit Applications for 270 Duffy Avenue submitted by Alsy Manufacturing Corp. to the Town of Oyster Bay, NY on June 8, 1984. Identifies Oak Tree Sewers, Inc. as the company that would be connecting the facility to the sewer. The application indicates that three cesspools will be backfilled and covers would be removed. The Nassau Co. Permit Numbers are 5104953 and 5104954. *Source:* Letter from Environmental Management, Ltd. to NYSDEC Region I (July 14, 1986) **(NYSDEC012997 – NYSDEC012998).** Between 1977 and 1983 the NCDOH and the NYSDEC conducted investigations at the site in response to alleged SPDES violations. Samples gathered during the inspections indicated concentrations of permitted metals in excess of allowable levels and the presence of methylene chloride, chloroform, 1,1,1-trichloroethane, toluene, xylene, and trichloroethylene. In addition, the results of self-monitoring conducted by Alsy in 1977-78 and 1980-81 showed concentrations of copper, cyanide, nickel, total nitrogen, and zinc in excess of permit	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	levels. A NYSDEC inspection report dated August 8, 1978 noted that trichloroethylene was found in the discharge at a concentration of 420 mg/liter above the state limit of 50 mg/liter. *Source:* Engineering Investigation at Inactive Hazardous Waste Sites In the State of New York Phase I Investigations Alsy Manufacturing, Town of Oyster Bay, Nassau County, New York I.D. No. 130027 (June 1987) **(SW033500).** "Additionally, sampling by NCDOH on 24 March 1981 indicated that additional pollutants not authorized by the permit (chloroform and trichloroethylene) were also being discharged...." *Source:* Document Title Unknown (date unknown), excerpt called "4. Alsy Manufacturing, 4.1 Site History" **(NYSDEC012206 – NYSDEC012221).** "NCDOH sampled again on 17 November 1983. Samples were found to contain elevated levels of aluminum, arsenic, copper, iron, chloride, methylene, chloride, chloroform, 1,1,1-trichloroethane, toluene, xylene, and trace amounts of other volatile organics...." *Source:* Document Title Unknown (date unknown), excerpt called "4. Alsy Manufacturing, 4.1 Site History" **(NYSDEC012206 – NYSDEC012221 and NYSDEC012230).** In February 1984, a joint inspection by NCDOH and NYSDEC identified four unpermitted discharge points, as well as three industrial leachpools and two trenches, behind the buildings. *Source:* Alsy Manufacturing Site NYSDEC Site No. 1-30-027 Remedial Investigation/Feasibility Study Fact Sheet No. 1 (April 1996) (SYL00113513 – SYL00113517). *See also* letter from Nassau County Department of Health to Jack Ehrenfeld, Alsy Mfg. Co. (June 2, 1983)	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	(NYSDEC012951). "In 1984, a joint inspection by NYSDEC and NCDOH was conducted. Many violations, including unpermitted discharge points, were found. Analysis of samples taken during the inspection indicated that much of the area behind the building contained heavy metal and volatile organic contamination including three industrial leachpools, several discharge pipes, and two trenches. A depression near some railroad siding was filled with overflow from one of the leachpools." *Source*: Executive Summary (document and date unknown) **NYSDEC012202 – NYSDEC012203).** NYSDEC visited the site on February 21, 1984 and observed an unauthorized discharge point consisting of a two-inch PVC pipe exiting from the north wall of the Alsy building. The pipe was discharging a light green liquid. NYSDEC personnel took samples of the liquid and the results indicated the presence of the following pollutants: arsenic, copper, lead, nickel, selenium, silver, zinc, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,1-trichloroethane, toluene, ethylbenzene, and methylene chloride. The concentration of 1,1,1-trichloroethane was found to be 74,000 ppb in the plating line overflow. NYSDEC personnel also sampled liquid in the southernmost of three cesspools. The source of this liquid was the discharge from the authorized industrial outlet. The concentration of 1,1,1-trichloroethane was found to be 42,000 ppb in the southernmost leachpool. Between August 1984 and April 1988 soil and groundwater samples were collected by NYSDEC, NCDOH, the U.S. EPA, and consultants employed by Alsy The investigations confirmed the existence of five additional leachpools and three drywell catch basins. Sampling in these areas indicated heavy metals and volatile organic compound (VOC) contamination consistent with previous	

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	investigations. *Source:* Affidavit of William O'Brien, Engineering Technician for Environmental Quality, NYSDEC (12/26/84); *See also* Document Title Unknown (date unknown), excerpt called "4. Alsy Manufacturing" **(NYSDEC012218)**; H2M Lab Report dated 7/15/84 **(NYSDEC012232).** Alsy Manufacturing Site NYSDEC Site No. 1-30-027 Remedial Investigation/Feasibility Study Fact Sheet No. 1 (April 1996) **(SYL00113513 – SYL00113517);** New York State Department of Environmental Conservation Division of Hazardous Waste Remediation Inactive Hazardous Waste Disposal Report **(SYL00113503).** *Source:* Alsy Manufacturing Site Remedial Investigation Volume 1 Report (Draft) (May 1997) **(SW028590 – SW028594).** Analytical Results for Groundwater Samples Collected by Roux Associates for April 1988 through June 1989 indicated high levels of TCA, TCE, and PCE in the monitoring wells. **(See SYL00113496 – SYL00113502).** ***MetLab Equipment Company*** From 1962 to June 1975, "Metlab Equipment Company, Inc. manufactured and metal plated and coated laboratory furniture on the premises and used at least two industrial cesspools and one or more sanitary cesspools, which cesspools were present when Alsy took possession of the premises. Furthermore, upon information and belief of Alsy, Metlab used and abandoned an industrial cesspool which was located on the premises for hazardous substances. As of 1992, Metlab was known as Laboratory Furniture, Inc. John Casaburri, Plant Manager indicated in a January 23, 1986 interview that "the former owner of the property, Balatem, Inc.,	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	operated onsite as Metalab, a maker of laboratory furniture." *Source:* Interview Acknowledgement Form (1/23/86) **(NYSDEC 01228).**	
Applied Fluidics 770 Main Street, New Cassel, NY	The current occupant, Coronet Juvenile Furniture, has no documented usage of the chemicals related to the groundwater contamination. The prior occupant, Applied Fluidics, has documented usage of TCE, as well as other compounds containing PCE. Soil samples collected in close proximity to a drywell/cesspool at depths of 15 to 17 feet and 17 to 19 feet contained PCE at concentrations of 70 to 390 ppb, respectively. A consultant was hired to perform an RI/FS. The field work was completed in September 1998 and a final report was dated August 1999. The ROD for Operable Unit 1-Soil was issued on March 28, 2000 and Soil Vapor Extraction for the deep soil was the preferred remedy for on-site soil. The contaminated groundwater at the three Frost Street sites (Former Autoline Automotive, 89 Frost Street, and Former Applied Fluidics) was the subject of a combined groundwater ROD for Operable Unit 02 issued on March 30, 2000. The selected remedies are Air Sparging/Soil Vapor Extraction near sources and In-Well Air Stripping for deep groundwater contaminated off site. The AS/SVE system began operation in September 2005. *Source:* NYSDEC Inactive Hazardous Waste Disposal Report (April 1, 2002) **(SYL00115271 and SW117725-SW117726).**	
Arkwin Industries 648-656, 662-670 Main Street, 66 Brooklyn Avenue	Arkwin manufactures aircraft equipment and conducts machine shop operations, including honing and grinding, degreasing and non-destructive testing.	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
New Cassel, NY 11590	A large amount of petroleum based oils and lubricants and 1,1,1-trichloroethane (TCA) were used and stored onsite as part of daily site operations. According to the Nassau County Department of Health, Arkwin used between 275-550 gallons of TCA per year. *Source:* New York State Department of Environmental Conservation Division of Hazardous Waste Remediation Inactive Hazardous Waste Disposal Report **(ARK-002859).**	
Bowe Systems & Machinery Corporation 200 Frank Road Hicksville, NY 11801 (same address as **Dyna Magnetic**; see below)	Commercial dry cleaning machinery was assembled and tested on site prior to its sale and distribution. Bowe Systec, Inc. purchased the property in the early 1980s from Dyna Magnetic Devices. During the testing of dry cleaning machines, municipally supplied non-contact cooling water was used to cool the PCE which was continuously reused in the testing process. The non-contact cooling water was then discharged to a floor drain that emptied into a drywell system that extends into the outside rear portion of the property. Under normal operation, no cross connection between PCE and non-contact cooling water was supposed to occur. *Source:* Final Remediation Work Plan For Bowe Systec, Inc. (September 23, 1992) **(BOWE 000075 – BOWE 000434).** The testing equipment had a problem that was first discovered during a Phase I environmental site assessment in January 1990. Leaking of PCE into the floor drain was observed and soil had to be removed from the cesspools. About 450 tons of PCE-contaminated soil was removed from the leaching pool system during an Interim Remedial Measure. A Remedial Investigation/Feasibility Study report was completed in November 1998. A Record of Decision was issued in March 1999 and	Initial DOS filing date: 1/18/78 Current entity status: inactive

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	calls for "No Further Action" with continued groundwater monitoring. Groundwater samples were collected from seven on-site and one off-site well on a quarterly basis. Contamination decreased over time (migrated away from the site), and groundwater treatment ever occurred. On February 26, 2004, the site was delisted when groundwater quality goals were obtained. *Source:* Record of Decision Bowe Systems and Machinery Hicksville, Nassau County Site Number 1-30-048 **(BOWE 000046 – BOWE 000074).**	
Brinkman Instruments, Inc. 605 Cantiague Rock Road Westbury, NY 11590 (medicinal chemicals and botanical products)	The facility is an archived site with no further remedial action required. A release was discovery on February 1, 1989. A preliminary assessment performed between March 1, 1989 and May 22, 1989. The chemicals of concern at the site were acetone, chloroform, 1,2-dichloroethane, ethyl acetate, methanol, dichloromethane. The source of the pollutants was a laboratory drain connected to a septic tank located outside of the building. *See* NYSDEC Hazardous Substance Waste Disposal Site Study **(SYL00115808).** The NYSDEC Manifested Waste Summary database indicates that the facility generated 483 pounds of F001 spent halogenated solvents used in degreasing in 1999. Before and after that the level of solvent use is unknown. *Source*: Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109109 and – SYL00109130).**	1974 - unknown
College House (a/k/a Rubies Costume Co. Inc.)	According to the NYSDEC Manifested Waste Summary database, in 1998 the facility generated 47,560 pounds of spent halogenated solvents,	Unknown

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
601 Cantiague Rock Road Westbury, NY 11590	51 pounds of PCE, and 45 pounds of U226 (ethane, 1,1,1 trichloroethane). *Source*: Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109107).**	
Computer Instrument Corporation 1000 Shames Drive Westbury, NY 11590	According to the NYSDEC Manifested Waste Summary database, in 1996 the facility generated 36 gallons of F001 spent halogenated solvents used in degreasing. *Source*: Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109109).**	Unknown
Depew Manufacturing 359 Duffy Avenue Hicksville, NY 11801 (fiberglass fishing rod manufacturer)	The facility began operating in the 1950's when Mayson Tucker purchased 359 Duffy Avenue and moved DePew Manufacturing's operations from Wyandanch to Hicksville. The approximately 2-acre site was once an active facility that manufactured and ground fiberglass rods and tubes, including fishing rods. The property originally had one building, but three extensions were added over time. Operations ceased in March 1985. *Source:* Lawler, Matusky & Skelly Engineers Memorandum of Conversation (July 6, 1992) **(NYSDEC013211)** and Lawler, Matusky & Skelly Engineers Phase II Investigation (February 1993) **(NYSDEC013066).** From February 1977 to April 1985, liquid/sludge wastes from the manufacturing and grinding of fiberglass finishing rods were dumped into a 35 to 40 foot diameter lagoon/settling pit adjacent to the plant. *Source:* Engineering Investigations at Inactive Hazardous Waste Sites Phase 1 Investigation (July 1988) **(SW032428 – SW032501);** NYSDEC Inactive Hazardous Waste Disposal Sites in New York State	Period associated with hazardous waste: at least as early as 1950's –1985

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	(December 1986) **(PHHWD011994)**; Lawler, Matusky & Skelly Engineers Phase II Investigation (February 1993) **(NYSDEC013066).** *Soil Gas Results.* Trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), and tetrachlorethylene (PCE), were detected during a March 1992 soil gas survey. TCE ranged from 130 to 150 ug/m3. PCE ranged from 31 to 100 ug/m3. TCA was detected at 96 ug/m3. ***Source:* Lawler, Matusky & Skelly Engineers Phase II Investigation (February 1993) (NYSDEC013118).** *Groundwater Contamination.* Pervasive contamination was found around site, including TCA and PCE, chromium, iron, manganese, and sodium. *Soil Contamination.* Low-level, widespread contamination of soils by organic compounds was identified in the rear of the building. It was recommended that areas with PCB concentrations greater than 1 mg/kg and ethylbenzene concentrations from 80 to 400 mg/kg be remediated. *Source:* **Engineering Investigations at Inactive Hazardous Waste Sites Phase II Investigation Depew Manufacturing Corporation (February 1993) (SYL00113576 – SYL00113589).**	
Dyna Magnetic Devices, Inc. 200 Frank Road Hicksville, NY 11801 (magnetic device manufacturer) (occupied site prior to Bowe)	Stored used, and disposed, etc. of solvents since 1977: 200 gallons/year *Source:* Investigation of Contaminated Aquifer Segments Nassau County, NY (June 1986) **(SW32143). See also BOWE 000084.**	Initial DOS filing date: 5/13/58 Current entity status: inactive.

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Hitemco Div. Barson Composites 70 Cantiague Rock Road Hicksville, NY 11801 (Metallurgical Coatings) (same address as Air Techniques)	Conducted special metallurgical coatings. Principle types of processing done at the facility included: (1) braze type coatings; (2) pack cementation coatings; (3) plasma, flame, arc coatings; and (4) machining, grinding. *Source:* Application Form "C" for a State Pollutant Discharge Elimination System (SPDES) Permit Industrial or Mining signed by Seymour Priceman, Vice President of Hitemco Division Barson Corp. **(NYSDEC 011506 – NYSDEC 011507).** In 1977, the facility did not discharge into a municipally owned sanitary sewer system; was not permitted to discharge liquid wastes under a SPDES or NPDES permit; discharged liquid wastes by way of toilets; did not discharge process or chemical wastes or sanitary wastes; discharged non-contact cooling water and collected storm drainage into cesspools and sumps or basins; Master Sanitation Co. removed degreaser sludge and other wastes; reported average use of Trichloroethylene was 250 gallons per year. *Source:* Industrial Chemical Survey completed by H.U. Nelson, General Manager on February 10, 1977 **(SYL00017777 – SYL00017778).** By 1978, the average use of Trichloroethylene was increased to 350 gallons per year. *Source:* Industrial Chemical Survey completed on November 3, 1978 **(SYL00019668- SYL00019669).** Internal memorandum prepared by L. Sama of NCDOH, dated May 17, 1979, provides that "A citation (summons) was given to Hitemco, Hicksville, for discharging without a permit."	Circa 1968-1972 Barson Composites occupied all or parts of Building #4 on Parcel S under leases from Sylvania. *Source:* GTE Operations Support Incorporated Response to NYSDEC Information Request of 6/3/96 (SYL00074587).

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	"Current usage of solvents includes 1,1,1-Trichlorethane, Trichloroethylene and acetone. Currently waste oils and acids are beings stored for removal by scavenger. Possible sources of organic contamination in wastewater could be caused by employees pouring small amounts of Trichloroethylene (a spot cleaner) into the aluminum pack coating washing sink. After monitoring for inorganics is established, a sample of wastewater will be analyzed for volatile organics." Analysis of the wastewater discharge from the aluminum pack coating operation indicated violations of discharge standards for 1,1-dichloroethane (275 ug/l vs. 50 ug/l), 1,1,1-trichloroethane (4818 vs. 50 ug/l), and trichloroethylene (13068 vs. 10 ug/l). *Sources:* **SYL00017797; NYSDEC 011548 – NYSDEC 011552; NYSDEC 011518 – NYSDEC 011519.**	
IMC Magnetics 570 Main Street New Cassel, NY 11590	The facility manufactured industrial and commercial fans and blowers and air purification equipment. Sampling done as part of a closure plan for NYSDEC showed several areas of concern. Specifically, three leaching pool areas, eight floor drains, and five hazardous materials storage areas were sampled. The samples taken from these areas showed significant contamination with VOCs (mostly chlorinated solvents) and heavy metals (specifically chromium and lead). During the summer of 1996, a Remedial Investigation for soils was carried out. Based on the results of this investigation, an Interim Remedial Measure consisting of a Soil Vapor Extraction (SVE) system was installed in 1997. An investigation of groundwater contamination at the site was completed in the fall of 1998. Additional groundwater	

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	data collected in the spring of 1999, and a Focused Feasibility Study for on-site groundwater was completed in September 1999. A Proposed Remedial Action Plan selecting hydrogen peroxide injection as the IRM was presented to the public in February 2000. A Record of Decision was signed on March 30, 2000 for OU-2 on-site groundwater. A pilot test for hydrogen peroxide injection was run in December 2001. *Source:* NYSDEC Inactive Hazardous Waste Disposal Report (4/1/02) **(SYL00115253).**	
John Hassall, Inc. 609-1 Cantiague Rock Road Westbury, NY 11590 (bolts, nuts, screws, rivets)	When constructed, the plant was located in Westbury, Town of Oyster Bay, Nassau County, New York. "The lack of public sewers or streams in the Westbury area, necessitate[d] the discharge of industrial waste waters from the plant into the ground through a surface leaching basin." The construction plans for the facility depicted a leaching pool on the east side of the proposed building. *Source:* **NCDOH26225** and Letter from J. McCabe, Nassau County Department of Health Division of Sanitation to A. Dappert of the Water Pollution Control Board State Department of Health (July 1, 1953) **(NCDOH26016 – NCDOH26017).** According to an Industrial Water Use and Waste Water Disposal Practices Survey, dated July 23, 1965, John Hassall Inc. discharged process waste water to a "Settling Pond (Sand & Gravel)." (**NCDOH25996**). The "waste water treatment and disposal facilities" were described as follows in a July 1968 report:	Years of operation: 1953 to Unknown *Source:* NYSDEC Hazardous Substance Waste Disposal Site Study **(SYL00109328).**

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	"All waste waters discharged from the plating and cleaning rooms and a small portion of the cooling water from the heat treating room (overflow) [were] directed to one (1) 4" cast iron drain line by open troughs, pumps or overhead drain lines. The 4" drain line discharges the combined waste water, by gravity, into the first existing treatment unit, a below grade concrete reaction tank." Treatment facilities consisted of: "One (1) 1600 gallon, three (3) compartment reaction or mixing tank (capacity presently limited to 1600 gallons due to the existing invert elevation of the gravity drain); three (3) rapid mixers, one (1) in each compartment; an automatic pH electrode; and one (1) open leaching basin with an approximate storage capacity of 60,000 gallons and a side wall leaching area of approximately 1,000 square feet with a design leaching capacity of 4,000 gallons/day, based on a full rate soil leaching rate of 4 gallons/day/square foot. (Capacity of basin [was] limited by the invert elevation of gravity waste water effluent drain)." "[W]aste water treatment consist[ed] of settling in the reaction tank with sludge removed periodically by a scavenger waste disposal service." "Supervisory personnel estimated the past daily water usage at 10,000 gallons/day." After installation of a large industrial washing machine, the daily water usage was reduced to about 4,000 gal./day. *Source:* Engineering Study & Report Industrial Waste Treatment John Hassall, Incorporated, Westbury, Nassau County, New York (July, 1968) **(NCDOH26958 – NCDOH26980)**. The facility was listed in EPA's CERCLIS database with the following notes: "The wastewater produced is high in heavy metals. Spent cleaning solvents are the hazardous wastes produced. Testing performed in 1984 by Hassall on influent and a slurry from the treatment plant show high	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	amount." Hazardous substances associated with the site include: pesticides, TCA (15 ug/kg), toluene, benzoic acid, chlordane, PCB's, metals, cyanide, aluminum, chromium, copper, lead, nickel, and zinc. *Source:* Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109328 – SYL00109329)**. John Hassall Inc. submitted a Chemical/Solvent Waste Report for reporting period 1/1/86 – 12/31/86 to NCDOH. The report indicates that the facility purchased 1,800 pounds of 1,1,1 Trichloroethane **(NCDOH26020).** The Nassau County Department of Health Bureau of Land Resources Hazardous Chemical/Waste Storage Locations database printed on February 11, 1988, indicates that John Hassall Inc. stored 770 gallons of 1,1,1-Trichloroethane. Soil samples taken on July 18, 1991 and reported on August 6, 1991, in connection with the removal of a leaking wastewater treatment underground settling tank, revealed 990 ng/g of PCE and 780 ng/g of TCA **(NCDOH26289)**. According to the NYSDEC Manifested Waste Summary database, in 1991, the facility generated 774 pounds of PCE. In 1995, the facility generated 495 gallons of spent halogenated solvents used in degreasing. Also in 1995, the facility generated 217 gallons of PCE *Source*: Toxics Targeting Inc. Report (April 7, 2003) **(SYL00109103).** Soil samples taken on July 15, 1991 (precise location unknown) and	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	reported on July 26, 1991, revealed 290 ng/g of TCA **(NCDOH24683).** Soil samples taken on July 18, 1991 and reported on August 6, 1991, in connection with the removal of leaking wastewater treatment underground tank #1, revealed 990 ng/g of PCE and 780 ng/g of TCA **(NCDOH26289).** Soil samples taken on July 18, 1991 and reported on July 31, 1991, in connection with the removal of leaking wastewater treatment underground tank #7, revealed 3600 ng/g of PCE and 6200 ng/g of TCA **(NCDOH26302).** Eleven underground tanks and the surrounding soil (50 ' x 50' to a depth of 25') were removed in 1991. Low levels of TCA contamination were noted in soil and groundwater. *Source:* CA Rich Consultants Inc. Soil and Groundwater Investigation Report (April 1992) **(NCDOH27006 – NCDOH27044).** Nassau County Health Department Center for Laboratories and Research Environmental Health Laboratories Report (3/20/92) **(NCDOH24509).** Results of Monitoring Well MW-1A Resampling and Additional Monitoring Well Installation & Sampling Plan (July 1992), Table 1 **(NCDOH24523);** Nassau County Health Department Center for Laboratories and Research Environmental Health Laboratories Report (6/30/92) **(NCDOH24631).** Nassau County Health Department Center for Laboratories and Research Environmental Health Laboratories Reports (12/2/92) **(NCDOH24500, NCDOH24506, and NCDOH24503);** NCDOH Sampling Notes Prepared by Peter F. Paul (12/1/92) **(NCDOH24515 and NCDOH24516) and NCDOH24526.**	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Magazine Distributors, Incorporated 100 Cantiague Rock Road Hicksville, NY 11801 (formerly Harbor Distributors)	MDI operated at the site since 1992, and distributed magazines and operated a fleet of small delivery trucks. Aromatic solvents supplied by Safety Kleen were used for degreasing operations. There was bulk storage of diesel fuel, gasoline and waste oils on site. **[NYSDEC017787]** Harbor Distributors distributed beverages, operated a fleet of small delivery trucks and used mineral spirits for degreasing operations. There was bulk storage of diesel fuel, gasoline and waste oils on-site. **[NYSDEC017787]** **1999** - According to a Notification of Regulated Waste Activity form that was submitted by Safety Kleen on behalf of Magazine Dist. Corp. on June 17, 1999, Magazine Dist. Corp. generated between 100 to 1000 kg/month (220-2,200 lbs) of hazardous waste. The identified wastes were D018 (benzene), D039 (Tetrachloroethylene), and D040 (Trichloroethylene). ***See* USEPA 000303 – USEPA 000306.** **1991** - According to a January 1991 Environmental Investigation report for Gilbert Displays, as of October 4, 1977, Harbor Distributors used approximately 25 to 30 gallons per year of degreaser to clean truck parts. The degreaser was disposed of in cesspools **(GBT00118-GBT00151).**	1991 – 2006 1982-1991
Magnusonic Devices 290 Duffy Avenue Hicksville, NY 11801 (a/k/a Sport Stamp & The Closet)	Magnusonic Devices manufactured computer tape recording heads, an operation which generated both hazardous and non-hazardous wastes. Manufacturing processes at Magnusonic Devices consisted of 1) assembling of head housings; 2) photo etching of thin sheet metal (brass and copper) laminates in the fabrication of miniature coil wound	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
(located near the capture zone)	cores, 3) electroplating tape heads for magnetic shielding and wear resistance with copper and chrome; 4) assembling operations, such as coil winding, laminating, soldering, potting, lapping and polishing, and 5) various electrical and mechanical inspection operations to maintain product quality. All manufacturing activities ceased prior to May 1987. The site was closed and sold in 1987. *Source:* Phase II Investigation Magnusonic Devices, Inc. Draft Report (October, 1989) **(SW033277 – SW033388).** Between 1981 and 1985, Magnusonic Devices discharged solvents and metals in concentrations in excess of regulated limits into two leaching pools at the back of the facility. Numerous violations of SPDES requirements were cited by NYSDEC. Discharged solvents may have included volatile halogenated solvents, lead, copper, nickel, Freon, TF, 1,1,1-trichloroethane, methylene chloride, acetone, trichloroethylene and, possibly other organic compounds. Sometime in 1986, the facility was connected to the Nassau County sewer system. Their industrial wastewater discharge did not have a pretreatment permit. *Source:* Phase II Investigation Magnusonic Devices, Inc. Draft Report (October, 1989) **(SW033277 – SW033388).** The Nassau County Department of Health Bureau of Land Resources Hazardous Chemical/Waste Storage Locations database printed on February 11, 1988, indicates that Magnusonic Devices stored 5,330 pounds of 1,1,1-Trichloroethane onsite. The average amount used, stored, disposed, etc. since 1977: 660 gallons/year *Source:* Investigation of Contaminated Aquifer Segments Nassau County, NY (June 1986) **(SW03226).**	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	A Consent Order for an RI/FS was signed and a remedial design completed in August 2000. The remedial action began on July 19, 2001. The Bureau of Construction Services performed a final inspection on October 18, 2001. Exploratory boring B-10, placed through a storm drain which received plating waste effluent during Magnusonic Devices' operations, indicated the presence of a sludge layer at least six feet in thickness. A sample indicated the presence of chromium, hexavalent chromium, copper, lead, magnesium, nickel, zinc, 1,1-dichloroethane, tetrachloroethane, toluene, xylene, and 1,2,4-trichlorobenzene. **(SW033286).** Down-gradient monitoring wells indicate somewhat increased levels of TCA, chromium, and copper, when compared to analytical results for the upgradient monitoring wells…the concentrations of contaminants identified in the groundwater samples are typical of residual contamination persistent within the Upper Glacial aquifer for this part of Nassau County. The report concluded that the observed groundwater contamination identified within the subject site could not cannot be entirely attributed to past disposal activities by Magnusonic Devices, Inc. but it was possible that the past disposal activities may have contributed to the present day groundwater quality identified around the subject area **(SW033287 – SW033288).**	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Metco Inc. 325 Duffy Avenue Hicksville, NY 11801	The property was developed around 1959. According to the NCDOH, T.O.D. Manufacturing occupied the site for "at least 20 years until 1978" and "Our records show that they used Trichloroethylene." *Sources:* Letter from Nassau County Department of Health to NYSDEC (August 31, 1979) **(NYSDEC012771 – NYSDEC012772)**; Letter from Nassau County Department of Health to NYSDEC Region I (March 26, 1986) **(NYSDEC012796 – NYSDEC012800).** Metco commenced operations on the Site in 1978. Sulzer acquired Metco in 1994 and named the company Sulzer Metco. It is uncertain when operations ceased at the 325 Duffy Avenue location. Metco performed machine shop operation and tested new equipment by flame spraying. *Source:* SPDES Permit Fact Sheet (June 13, 1979) **(NYSDEC012779)** and Letter from Metco Inc. to NYSDEC (February 2, 1982) **(NYSDEC012816). .** According to the NCDOH: "This plant is the main manufacturing facility for assembling, cleaning and testing of flame spray and plasma guns. Several spray booths are located here for testing of guns using metal wires and/or powders of aluminum, brass, copper, zinc or steel. Process wastewater is the overflow of water from the spray booth air scrubbers and could contain Al, Cu, Zn or Fe. Discharge outfall 001 receives process wastewater, non-contact cooling water from air compressors and degreasers, and stormwater." *Source*: Letter from NCDOH to NYSDEC (November 29, 1979) **(NYSDEC012824 – NYSDEC012827).**	1978-unknown

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Metpar Steel Products Corporation 95, 97 and 99 State Street Westbury, NY 11590	Metpar Steel manufactures steel and formica partitions and doors. Production activities include fabrication, wood working, assembly, finishing and shipping. Large volumes of adhesives, paints and paint solvents are used as part of the process. NCDOH records indicate that Metpar used up to 2,000 gallons per year of TCA as a machine lubricant/cleaner. A NCDOH site inspection also revealed TCA waste in an on-site cesspool. Downgradient groundwater sampling performed by NYSDEC in 1994 showed elevated levels of TCA. *Source:* NYSDEC Site Remedial Status Report (1/9/96) **(SW005426).**	
Micro Contacts Inc. 62 Alpha Plaza Hicksville, NY 11801 (metal stampings)	***Chemicals Onsite.*** The TRI lists the quantity of chemical reported onsite for the years 1992 through 1996. <u>1992</u> Reports 1,000 – 9,999 pounds of TCA onsite during the 1992 calendar year. <u>1993</u> Reports 1,000 – 9,999 pounds of TCA onsite during the 1993 calendar year. Reports 1,000 – 9,999 pounds of TCE onsite during the 1993 calendar year. <u>1994</u> Reports 1,000 – 9,999 pounds of TCE onsite during the 1994 calendar year.	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	1995 Reports 1,000 – 9,999 pounds of TCE onsite during the 1995 calendar year. 1996 Reports 1,000 – 9,999 pounds of TCE onsite during the 1996 calendar year. The Nassau County Department of Health Bureau of Land Resources Hazardous Chemical/Waste Storage Locations database printed on February 11, 1988, indicates that Micro Contacts stored 464 gallons of solvent wastes onsite. Amount of 1,1,1-Trichloroethane used, stored, disposed, etc. since 1977: 1,920 gallons/year *Source:* Investigation of Contaminated Aquifer Segments Nassau County, NY (June 1986) **(SW03226).** According to a 1989 report, citing the NCDOH Industrial Survey Program and the NYSDEC Inactive Hazardous Waste Disposal Sites in New York State, Volume 1, Micro Contacts had used, stored, generated, or discharged 1,920 gallons of TCA since 1977. *Source:* Phase II Investigation Magnusonic Devices, Inc. Draft Report (October 1989) **(SW033313).**	
Old Country Cleaners 2 Levittown Parkway Hicksville, NY 11801	The facility received a violation on November 30, 1999 for "storing toxic and hazardous materials (perchloroethylene) without a storage permit.	Unknown

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
and 102 Levittown Parkway Hicksville, NY 11801	*Source:* Letter from NCDOH to Old Country Cleaners (Nov. 30, 1999) **(NCDOH25420).** According to 1993 and 1998 Applications for Renewal of a Toxic or Hazardous Materials Storage Facility Permit, the facility stored multiple chemicals in bulk areas. The chemicals are not identified on the application. *Source:* Application for Renewal of a Toxic or Hazardous Materials Storage Facility Permit, Division of Environmental Health, Nassau County Department of Health (2/1/93) (NCDOH25428); Application for Renewal of a Toxic or Hazardous Materials Storage Facility Permit, Division of Environmental Health, Nassau County Department of Health (2/15/98) **(NCDOH25431).** For the 1989 reporting period, the facility reported purchasing 250 gallons of perchloroethylene from Kleigman Brothers and 108 gallons of perchloroethylene from Safety Kleen. With respect to waste, the facility reported removing 135 pounds of R/Q Waste Perc Still Powder (F002) per month. Safety Kleen was the transporter and the waste was shipped to Hebron, Ohio. *Source:* Chemical/Solvent Waste Report, Bureau of Land Resources Management, Nassau County Department of Health (May 25, 1990) **(NCDOH25433).** An application submitted on March 2, 1988, indicates that the facility stored perchloroethylene indoors. The three categories are: perchloroethylene (dry cleaning machine), perchloroethylene waste (drum), and perchloroethylene (filter powder). The units are not identified. The numbers are respectively 40, 25, and 30.	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	Source: Nassau County Department of Health Application for a Toxic or Hazardous Materials Storage Facility Permit (March 2, 1988) **(NCDOH25441).** A letter from NCDOH to Old Country Cleaners, dated November 3, 1980, states, "It has been determined that wastewater containing tetrachloroethylene (perc or cleaning fluid), is being disposed of at this facility onto the surface of the ground or through plumbing into septic tank system and cesspools. Such methods of disposal are not acceptable and are in violation of the Environmental Conservation Law, Article 17, Titles 7 and 8, 5 NYCRR Parts 750-757. Accordingly, this discharge must be discontinued immediately…." **(NCDOH25451).**	
Old Country Cleaners 102 Levittown Parkway Hicksville, NY 11801	The facility stored 112 gallons of PCE in the dry cleaning machine as of December 9, 1999. *Source:* Nassau County Department of Health Application for a Toxic or Hazardous Materials Storage Facility Form 3 – Bulk and Container Storage Registration **(NCDOH25416).**	
Old Country Cleaners 193 Levittown Parkway Hicksville, NY 11801	An October 18, 1979 Dry Cleaner Survey indicates that the facility purchases 500 gallons of perchloroethylene annually. The survey also provides that the facility disposes of ½ gallon of liquid discharge per week "out on lawn." **(NCDOH25453).**	
Old Country Cleaners 198 Levittown Parkway Hicksville, NY 11801	The facility purchased 200 gallons of perchloroethylene per year according to an April 1985 Dry Cleaner Survey **(NCDOH25447).**	

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
Slantco Manufacturing Company 1500 Shames Drive Westbury, NY 11590	The NYSDEC Manifested Waste Summary database indicates that in 1995 the facility generated 30 gallons of PCE and 235 gallons of spent halogenated solvents used in degreasing. *Source*: Toxics Targeting, Inc. Report (April 7, 2003) **(SYL00109101).**	Unknown
Stokvis Multiton Corp. (SMC) 520 W. John Street Hicksville, NY 11801	This facility manufactured materials handling equipment, such as hydraulic hand trucks. The operations consisted of "welding, machining, stamping, assembling, and painting). *See* **NCDOH25729 and NCDOH25688.** In 1987, the facility reported storing 55 gallons of "waste chlorinated solvents" – "Meth. Chloride – Chlor. Solvents 96 – 98%, Oil 2 – 4%." *Source:* Nassau County Department of Health Application for a Toxic or Hazardous Materials Storage Facility Permit (Jan. 6, 1987) **(NCDOH25749).** An Application for Approval to Operate a Solid Waste Management Facility dated May 23, 1984, lists wastes generated. Included in this list is "Waste Chlorinated Solvent – NA 9189" – 10 gallons per month. *See* **NCDOH25674.** A Hazardous Waste Manifest dated December 6, 1983, provides that the facility generated 55 gallons of chlorinated solvents (F001). F001 includes TCE, TCA, and PCE. *See* **NCDOH25668.** Stokvis Multiton submitted an application to renew the facility's solid waste management facility permit on December 20, 1982. The application indicates that the facility generated used parts solvent (a blend of chlorinated and aromatic solvents), which, along with other hazardous	Reference to Hicksville Water Main Connection (development of property by Speigel – 3/1/67) HWD013951

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
	wastes, was removed by Chemical Pollution Control, Inc. two to three times per year. *See* **NCDOH25693.** A Chemical/Solvent Waste Report covering the reporting period January – June 1982 indicates that the facility purchased 110 gallons of Spartan degreaser on April 27, 1982. *See* **NCDOH25701.** According to the MSDS, Spartan CDS 43 Degreaser consists of 13% Methylene chloride, 32% Perchloroethylene, and >50% Mineral Spirits. *See* www.spartanchemical.com (site last checked on October 3, 2003). On March 22, 1982 and May 11, 1982, Herbert Welch of NCDOH wrote on two respective Comments Sheets: "Adequate spill control has not been initiated." On May 26, 1982, Herbert Welch wrote: "Spill control has been completed utilizing concrete pad." *Source:* NCDOH Comments Sheets (March and May 1982) **(NCDOH25703 and NCDOH25705).**	
* T.O.D. Manufacturing Co. 352 Duffy Avenue Hicksville, NY 11801 (occupied site prior to Metco)	According to the Nassau County Department of Health, Bureau of Land Resources "Hazardous Chemical/Waste Storage Locations" database printed on February 11, 1988, T.O.D. Manufacturing Co. stored 37,600 pounds of 1,1,1-trichloroethane (that year). According to NCDOH letter dated 3/26/86, T.O.D. used Trichloroethylene (NYSDEC012796).	around 1958 – 1978 According to the Nassau County Department of Health, T.O.D. occupied the site for "at least 20 years until 1978." *Source:* Letter from Nassau County Department of Health to NYSDEC Region I (March 26, 1986 (NYSDEC012796 – NYSDEC012800).

Entity Name	Potential Sources of Contamination to Site	Dates of Operation
		A New York Times obituary indicates that this company was founded by Allan Tod Gittleson, who also founded Allan Marine and Allan Manufacturing.

See CD of Supplemental Support Documentation for documents referenced above.

CERTIFICATION

On behalf of GTE Operation Support Incorporated, I have read the responses to the information request referenced in this document. The responses were prepared by or with the assistance of agents, employees, representatives and/or attorneys of GTE Operation Support Incorporated, or others believed to have relevant information. The responses set forth herein, subject to inadvertent or undiscovered errors or omissions are based on and therefore necessarily limited by the records and information still in existence, recently recollected, thus far discovered in the course of the preparation of these responses, and currently available to GTE Operation Support Incorporated. GTE Operation Support Incorporated reserves the right to make any changes in or additions to any of the responses if it appears that at any time errors or omissions have been made herein or that more accurate or complete information becomes available.

On behalf of GTE Operation Support Incorporated, I hereby certify that the answers to all of the foregoing questions are given in good faith and are truthful, full and complete to the best of my knowledge and belief.

3/2/04

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

BÖWE SYSTEC, INC.
Respondent.

ORDER
ON
CONSENT
INDEX # W1-0587-99-10

Site Code # 1-30-048

WHEREAS,

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

2. Böwe Systec, Inc. ("Respondent"), is a corporation existing under the laws of the State of New York. Respondent owns real property located at 200 Frank Road, Hicksville, New York 11801 (hereinafter referred to as "the Site") which is its current business address. A map showing the general location of the Site is attached to this Order as Appendix "A."

3. The Site is an inactive hazardous waste disposal site, as that term is defined at ECL 27-1301.2. The Site is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 1-30-048. The Department intends to reclassify the Site as a Classification "4" pursuant to ECL 27-1305.4.b.

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

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

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

5. Respondent previously entered into Order on Consent Index No. W1-0587-92-03 and conducted a Remedial Investigation Feasibility Study and Interim Remedial Measures at the Site pursuant to that Order on Consent.

6. Following a period of public comment, the Department selected a final remedial alternative for the Site in a Record of Decision ("ROD"). The ROD, attached to this Order as Appendix "B," is incorporated as an enforceable part of this Order.

7. The Department and Respondent agree that the goals of this Order are for Respondent to (i) implement, in accordance with the ROD, the selected remedial alternative; and (ii) reimburse the State's administrative costs.

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

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

I. Groundwater Monitoring Program

A. Respondent shall implement the Groundwater Monitoring Program contained in the selected final remedial alternative in the ROD. The Groundwater Monitoring Program shall be prepared by and have the signature and seal of a professional engineer who shall certify that the Groundwater Monitoring Program was prepared in accordance with this Order.

B. The Groundwater Monitoring Program shall include the following:

1. A quarterly sampling schedule for obtaining groundwater sample from on-Site monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8, and off-Site monitoring well OW-1;

2. Analysis of all groundwater samples by a New York State Department of Health ELAP certified laboratory utilizing the Department's Method ASP 95-1 for volatile organic compounds;

3. A statement of quality assurance and quality control ("QA/QC") procedures utilized by the laboratory conducting the analysis;

4. Provision for obtaining water level measurements from the groundwater monitoring wells listed above for the calculation and confirmation of groundwater flow direction; and

5. In compliance with citizen participation requirements of 6 NYCRR Part 375, a provision to provide a copy of all groundwater sampling results to the document repositories established for this Site.

II. Reporting of Sampling Results

A. Respondent shall submit to the parties identified in Subparagraph X.B in the numbers specified therein copies of all groundwater sampling results, including QAQC data, and the groundwater level measurements within fourteen days of receipt of same.

B. The Department shall review the groundwater sampling results, including QAQC data, and the groundwater level measurements to determine whether the work done to generate the data was done in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify Respondent in writing of its acceptance or rejection of the groundwater sampling results and the groundwater level measurements.

C. If the Department rejects groundwater sampling results and/or the groundwater level measurements, within 15 days after receiving written notice of rejection, Respondent shall re-sample and/or re-measure the groundwater monitoring wells using methods and procedures that address and resolve all of the Department's stated reasons for rejection.

III. Review of Submittals

A. 1. The Department shall review each of the submittals Respondent makes pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify Respondent in writing of its approval or disapproval of the submittal. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

2. a. If the Department disapproves a submittal, it shall so notify Respondent in writing and shall specify the reasons for its disapproval. If within 10 days of receiving written notice of the Departments disapproval Respondent so requests, the Department will meet with Respondent to discuss the disapproval. Within 30 days after such meeting or if no meeting is requested within 30 days after receiving written notice that Respondent's submittal has been disapproved, Respondent shall make a revised submittal to the Department that addresses and resolves all of the Department's stated reasons for disapproving the first submittal.

b. After receipt of the revised submittal, the Department shall notify Respondent in writing of its approval or disapproval. If the Department disapproves the revised submittal, Respondent shall be in violation of this Order and the Department may take any action or pursue whatever rights it has pursuant to any provision of statutory or common law. If the Department approves the revised submittal, it shall be incorporated into and become an enforceable part of this Order.

B. Respondent shall modify and/or amplify and expand a submittal upon the Department's direction to do so if the Department determines, as a result of reviewing data generated by an activity required under this Order or as a result of reviewing any other data or facts, that further work is necessary.

IV. Compliance

A. Respondent's failure to comply with any term of this Order constitutes a violation of this Order and the ECL.

B. Respondent shall not suffer any penalty under this Order or be subject to any proceeding or action if it cannot comply with any requirement hereof because of war, riot, or an unforeseeable disaster arising exclusively from natural causes which the exercise of ordinary human prudence could not have prevented. Respondent shall, within five days of when it obtains knowledge of any such condition, notify the Department in writing. Respondent shall include in such notice the measures taken and to be taken by Respondent to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such five-day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondent shall have the burden of proving that an event is a defense to compliance with this Order pursuant to Subparagraph IV.B.

V. Entry upon Site

Respondent hereby consents to the entry upon the Site or areas in the vicinity of the Site which may be under the control of Respondent by any duly designated employee, consultant, contractor, or agent of the Department or any State agency for purposes of inspection, sampling, and testing and to ensure Respondent's compliance with this Order. During Remedial Construction, Respondent shall provide the Department with suitable office space at the Site, including access to a telephone, and shall permit the Department full access to all non privileged records relating to matters addressed by this Order and job meetings. Raw data is not privileged.

VI. Payment of State Costs

Within 30 days after receipt of an itemized invoice from the Department, Respondent shall pay to the Department a sum of money which shall represent reimbursement for the State's expenses including, but not limited to, direct labor, fringe benefits, indirect costs,

travel, analytical costs, and contractor costs incurred by the State of New York for reviewing sampling results submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with this Order. Respondent's obligation to reimburse the State for expenses incurred in any one year under this Paragraph commencing from the effective date of this Order shall not exceed $5,000.00 per year. However, the Department may aggregate its billing for more than one year. Such payment shall be made by certified check payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010.

Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (e.g., supplies, materials, travel, contractual) and shall be documented by expenditure reports.

VII. Reservation of Rights

A. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's civil, criminal, or administrative rights (including, but not limited to, nor exemplified by, the right to recover natural resource damages) or authorities.

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

C. Nothing in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of Respondent's rights as against third parties.

VIII. Indemnification

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

malicious act or acts constituting gross negligence by the Department, the State of New York, and/or their representatives and employees during the course of any activities conducted pursuant to this Order.

IX. Public Notice

A. Within 30 days after the effective date of this Order, Respondent shall file a Notice with the Clerk of the County wherein the Site is located to give all parties who may acquire any interest in the Site notice of this Order, and shall provide a copy of this Order to Jodee Plastics, Inc.

B. Respondent is under contract of sale for the Site with Jodee Plastics, Inc. The terms of the contract of sale permit Respondent to remain in possession of the Site for several months after the closing and permits Respondent access to the Site to conduct all remediation and sampling pursuant to this Order.

X. Communications

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

1. Communication from Respondent shall be sent to:

Jamie Ascher
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 1
SUNY Campus
Loop Road, Building 40
Stony Brook, NY 11790-2356

with copies to:

G. Anders Carlson
Director, Bureau of Environmental Exposure Investigation
New York State Department of Health
Flanigan Square
547 River Street
Troy, NY 12203

Rosalie K. Rusinko, Esq.
New York State Department of
Environmental Conservation
Division of Environmental Enforcement
200 White Plains Road - 5th Floor
Tarrytown, NY 10591

2. Communication to be made from the Department to Respondent shall be sent to:

John Lombard
Böwe Systec
200 Frank Road
Hicksville, NY 11801

with copies to:

Charlotte Biblow, Esq.
Rivkin, Radler & Kremer
EAB Plaza
Uniondale, NY 11556

Gary Miller, P.E.
H2M Group
575 Broadhollow Road
Melville, NY 11747

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

Four copies (one unbound):
Jamie Ascher

Two copies to:
G. Anders Carlson

One copy to:
Rosalie K. Rusinko

D. The Department and Respondent reserve the right to designate additional or different addressees for communication or written notice to the other.

XI. Miscellaneous

A. Respondent shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and third party data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. The experience, capabilities, and qualifications of the firms or individuals selected by Respondent shall be submitted to the Department within 10 days after the effective date of this Order. The Department's approval of these firms or individuals shall be obtained before the start of any activities for which Respondent and such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondent shall rest solely with Respondent.

B. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Respondent, and the Department also shall have the right to take its own samples.

C. Respondent shall notify the Department at least 5 working days in advance of any field activities to be conducted pursuant to this Order.

D. Respondent shall obtain all permits, easements, rights-of-way, rights-of-entry, approvals, or authorizations necessary to perform Respondent's obligations under this Order.

E. Respondent and Respondent's officers, directors, shareholders, successors, and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall in no way alter Respondent's responsibilities under this Order. Respondent shall oblige its officers, directors, shareholders, successors, assigns, employees, servants, and agents to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondent.

F. Respondent shall provide a copy of this Order to each contractor hired to perform work required by this Order and to each person representing Respondent with respect to the Site and shall condition all contracts entered into in order to carry out the obligations identified in this Order upon performance in conformity with the terms of this Order. Respondent or Respondent's contractors shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Respondent shall nonetheless be responsible for ensuring that Respondent's contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

G. All references to "professional engineer" in this Order are to an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law. If such individual is a member of a firm, that firm must be authorized to offer professional engineering services in the State of New York in accordance with Article 145 of the New York State Education Law.

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

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

J. 1. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other

submittal shall be construed as relieving Respondent of Respondent's obligation to obtain such formal approvals as may be required by this Order.

2. If Respondent desires that any provision of this Order be changed, Respondent shall make timely written application, signed by Respondent, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be delivered or mailed to Rosalie K. Rusinko and to Jamie Ascher.

K. The effective date of this Order is the date the Commissioner or his designee signs it.

DATED: 3/31/2000

JOHN P. CAHILL
Commissioner
New York State Department
of Environmental Conservation

By: Michael J. O'Toole, Jr.

CONSENT BY RESPONDENT

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

BÖWE SYSTEC, INC.

By: _____
John Lombard

Title: PRESIDENT

Date: 3/2/00

STATE OF NEW YORK)
) s.s.:
COUNTY OF NASSAU)

On this 2nd day of MARCH, 2000, before me, the undersigned, personally appeared John Lombard, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

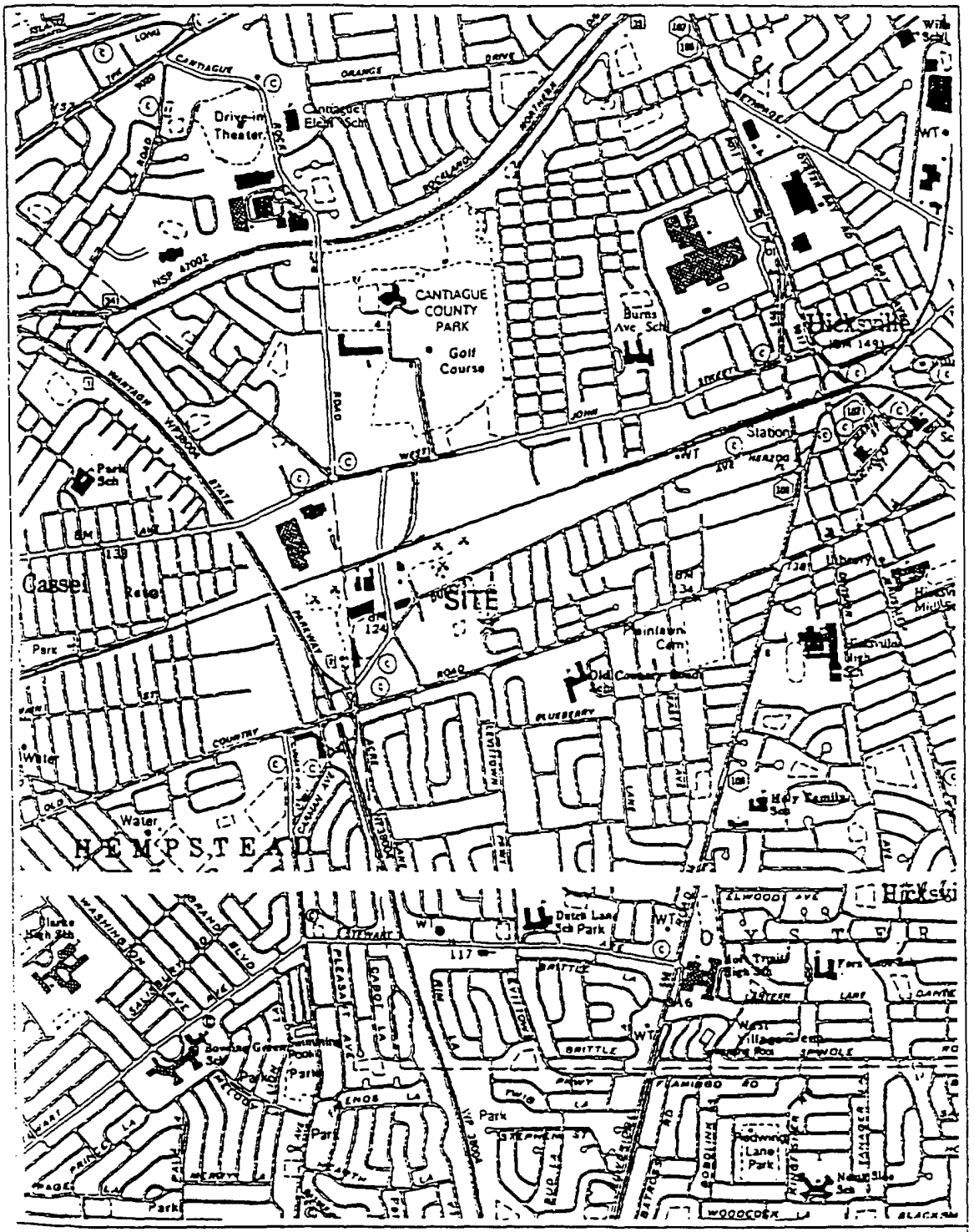
Barbara J. Fuller
Notary Public

BARBARA J FULLER
Notary Public - State of New York
NO. 01FU4626211
Qualified in Nassau County
My Commission Expires Jun 30, 2000

Map showing the general location of the Site

Appendix "A"

BOWE 000043



Site Location Map

130048 Bowe Systems and Machinery

NYSDOT Planimetric Quadrangle(s):
HICKSVILLE, FREEPORT

N

0 500 1000 1500 2000
FEET

Scale 1:24,000

The ROD

Appendix "B"

Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Bowe Systems and Machinery
Hicksville, Nassau County
Site Number 1-30-048

March 1999

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Bowe Systems and Machinery
Hicksville, Nassau County, New York
Site No. 1-30-048

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Bowe Systems and Machinery inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Bowe Systems and Machinery Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site have been addressed by implementing the interim response actions identified in this ROD. The removal of contaminated soil from the site has significantly reduced the threat to public health and the environment. Therefore, a groundwater monitoring program will be implemented to monitor the effectiveness of previous remedial actions in preventing further contamination of the groundwater.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Bowe Systems and Machinery site and the criteria identified for evaluation of alternatives, the NYSDEC has selected no further action with continued groundwater monitoring. The components of the remedy are as follows:

- Sampling and analysis of groundwater quality and flow direction from eight existing groundwater monitoring wells on a quarterly basis for a minimum of three years and up to ten years.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/16/99
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) has selected the remedy for the Bowe Systems and Machinery (Bowe) site. As more fully described in Sections 3 and 4 of this document, the testing of commercial dry cleaning machinery resulted in the disposal of the hazardous waste, tetrachloroethylene (PCE), at the site, some of which migrated from the site in the groundwater. These disposal activities resulted in the following significant threats to the public health and/or the environment:

- a significant threat to human health associated with exposure to contaminated soil and/or groundwater.

During the course of the investigation certain actions, known as Interim Remedial Measures (IRMs), were undertaken at the Bowe site in response to the threats identified above. IRMs are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. The IRMs undertaken at this site were the excavation of contaminated soil from four separate source areas.

Based upon the success of the above IRMs, the findings of the investigation of this site indicate that the removal of contaminated soil has significantly reduced the threat to public health and the environment. Therefore, No Further Action with groundwater monitoring was the remedy for this site. The groundwater monitoring program will be implemented to monitor the effectiveness of previous remedial actions in preventing further contamination of the groundwater. The NYSDEC will reclassify the site from a Class 2 to a Class 4 on the New York State Registry of Inactive Hazardous Waste Disposal Sites. A Class 4 site is a site that has been properly closed but requires continued operation, maintenance, and/or monitoring.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Bowe site #1-30-048 is located at 200 Frank Road in the City of Hicksville, Town of Oyster Bay, Nassau County, New York. The facility is located on a 2.1 acre parcel of land. The site is paved on the east and south sides and contains a one story masonry building approximately 25,000 square feet in size. Adjacent to the site to the north and west are light industrial and commercial facilities. Residential homes are situated to the southeast of the site. A site location map is presented in Figure 1.

Two inactive hazardous waste disposal sites are located within 0.25 miles of the site. They are:

- Magnusonic Devices, Inc., Site Number 1-30-031, 0.2 miles northeast

- Alsy Manufacturing, Site Number 1-30-027, 0.25 miles northeast

A public water supply wellfield is located approximately 4000 feet south of the site. The wellfield is operated by the Hicksville Water District. Residential homes and businesses are connected to the public water supply. There are no known private drinking water wells utilized in the area.

SECTION 3: SITE HISTORY

3.1: OPERATIONAL/DISPOSAL HISTORY

Bowe occupied the site from 1990 until 1991. The company vacated the facility in 1991 before returning again in 1994. Bowe sells automated mail processing equipment. American Permac, a subsidiary of Bowe, imported, assembled and tested dry cleaning machinery at the site during the late 1980s. American Permac ceased operations in 1990. During the testing of dry cleaning machinery, PCE was used. During routine operation and testing, PCE was not discharged at the site. However, in 1989, a spill of approximately 10 - 15 gallons of PCE occured into the floor drain system which discharged into an on-site leaching pool system (Figure 2, Area 1).

Prior to 1990: Site occupied by American Permac.

1990 - 1991: Site occupied by Bowe Systems and Machinery.

1991 - 1994: Building vacant.

1994 - 1998: Site occupied by Bowe Systems and Machinery.

3.2: REMEDIAL HISTORY

The following is a chronological listing of investigations performed at the site.

Chemical concentrations are reported in parts per billion (ppb) and parts per million (ppm).

December 1989: An environmental assessment was conducted in response to an accidental discharge of PCE at the site. The investigation revealed elevated concentrations of PCE in the soil in three on-site leaching pools DW-1, DW-2 and DW- 3 at 2400 ppm, 0.14 ppm and 10 ppm, respectively. Soil beneath a former spray paint booth was also found to be impacted by volatile organic compounds (VOCs). Four groundwater monitoring wells were installed on-site (MW-1, 2, 3, 4). Sampling and analysis of the monitoring wells detected PCE at 130 ppb and 8100 ppb in downgradient monitoring wells MW-3 and MW-4, respectively (Figure 2). Site specific groundwater flow direction was determined to be nearly due south.

March 1991: The NYSDEC oversaw the excavation and removal of approximately 450 tons of contaminated soil from leaching pools DW-1, DW-2 and DW-3 (Area 1, Figure 2). These leaching pools were connected in series and were the pools which received the documented spill of PCE. The soil was removed by a licensed waste hauler to an approved Treatment, Storage and Disposal Facility (TSDF). The final excavation extended to a maximum depth of 29 feet below land surface (bls) along the north side of the excavation and 17 feet bls along the south side. Upon completion of the excavation, a total of nine confirmatory soil samples were acquired for laboratory analysis. Three confirmatory soil samples were taken from the bottom of the excavation, two from the east sidewall, two from the west sidewall and one from the south sidewall. Laboratory analysis of the confirmatory soil samples revealed PCE concentrations below 1 ppm in all samples. NYSDEC Technical Administrative Guidance Memorandum (TAGM) #4046 recommends a soil cleanup level of 1.4 ppm for PCE for the protection of human health and the environment. Upon completion of the excavation, the piping from the building to the leaching pool system was disconnected and sealed.

October 18, 1991: Site is listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site.

August 1992: Prior to the initiation of the RI/FS, the PRP conducted a site screening investigation (SSI). The objectives of the SSI were to investigate the following areas of concern: Area 1 (DW-1, 2, 3); Area 2 (DW-8 in loading dock); Area 3 (former spray paint booth); Area 4 (sanitary leaching pool system on north side of building) (Figure 2). The results of the SSI are as follows:

- Area 1: VOC analysis of soil beneath Area 1 revealed the following detections: DW-1 (30'-32' bls) <1ppm total VOCs, (40'-42' bls) <1ppm total VOCs; DW-2 (14'-16' bls) <1ppm total VOCs; DW-3 (23'-25' bls) <1ppm total VOCs (Figure 2).

- Area 2: VOC analysis of the soil from DW-8 revealed the following detection: (10'-12' bls) 0.081 ppm of PCE.

- Area 3: A soil gas survey revealed elevated concentrations of VOCs. Two samples were acquired from locations exhibiting the highest photoionization detector (PID) responses and were analyzed for VOCs revealing the following detections: SB-1 (2'-4' bls) 2.3 ppm PCE; SB-2 (2'-4' bls) 0.91 ppm PCE (Figure 2).

- Area 4: sludge samples were acquired for VOC analysis from the bottom of the two sanitary leaching pool (LP-1, LP-2) and a septic tank (ST) and revealed the following detections: LP-1 <1ppm total VOCs; LP-2 1.98ppm total VOCs; ST <1ppm total VOCs (Figure 2).

SECTION 4: SITE CONTAMINATION

To evaluate the contamination present at the site and to evaluate alternatives to address the significant threat to human health and the environment, Bowe Systec, Inc. conducted a Remedial Investigation/Feasibility Study (RI/FS)

4.1: SUMMARY OF REMEDIAL INVESTIGATION

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two phases. The Phase I RI was conducted beginning in September, 1992. The Phase II RI began in September, 1993. A report entitled Remedial Investigation/Feasibility Study dated November, 1998 has been prepared which describes the field activities and findings of the RI in detail.

The Phase I RI and Phase II RI included the following activities:

- *Background information review.*

- *Advance soil borings in areas of concern and acquire soil samples for laboratory analysis.*

- *Install two additional on-site groundwater monitoring wells. Acquire groundwater samples for laboratory analysis and water levels to confirm groundwater flow direction.*

- *Install seven temporary off-site groundwater monitoring wells downgradient of the site. Acquire groundwater samples at discrete depth intervals to ascertain the areal extent of groundwater contamination.*

- *Install and sample one permanent off-site downgradient groundwater monitoring well.*

- *Conduct aquifer characteristics testing to further define groundwater flow conditions in the vicinity of the site.*

To determine which media (groundwater and soil) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater SCGs identified for the Bowe Systems and Machinery site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of the NYS Sanitary Code. Soil quality data was compared to NYSDEC TAGM #4046.

Based upon the results of the remedial investigation, in comparison to the SCGs and potential public health and environmental exposure routes, certain areas and media of the site require further monitoring. These are summarized below. More complete information can be found in the RI report.

For comparison purposes, where applicable, SCGs are provided for groundwater.

4.1.1: NATURE OF CONTAMINATION

As described in the RI report, soil and groundwater samples were collected at the site to characterize the nature and extent of contamination. Based upon past environmental investigations, PCE is the contaminant associated with past disposal practices.

Soil Quality:

- In order to determine soil quality in potential source areas which had not been previously investigated, a total of eight additional soil borings were conducted.

Groundwater Quality:

- In order to help further define the extent of groundwater contamination on-site, two additional groundwater monitoring wells (MW-8, MW-9) were installed (Figure 2). In order to evaluate the areal extent of groundwater contamination which may have migrated off-site, one permanent (OW-1) and seven temporary groundwater monitoring wells (EW-2, 3, 4, 5, 7, 8, 9) were installed (Figure 3).

4.1.2: EXTENT OF CONTAMINATION

The following are the media which were investigated during the RI and a summary of the findings of the investigations.

Soil Quality:

Confirmatory soil samples previously acquired from drywells DW-1, 2 and 3 (Area 1, Figure 2) revealed that the IRM conducted in March, 1991 was successful in reducing PCE concentrations to levels below those prescribed in TAGM #4046.

Soil borings advanced through drywells DW-4, 5, 6, 7 and 8 (Figure 2) revealed PCE concentrations below TAGM #4046 in all cases. Drywells DW-4, 5, 6, and 7 had not been investigated prior to the RI. DW-8 was the subject of an IRM conducted in September, 1992.

In order to determine the extent of contamination remaining around the former spray paint booth, a soil gas survey was conducted, two soil borings performed and two surface soil samples were acquired via hand auger. The highest concentration of PCE observed in any of these samples was 0.14 ppm, demonstrating the IRM was successful in removing soil contamination.

Based upon prior sampling of the sanitary leaching pool system (Area 4, Figure 2), leaching pool LP-2 was found to contain elevated levels of VOCs and was the subject of an IRM. A soil boring was advanced through this pool during the RI and revealed no detections of VOCs.

Groundwater Quality:

To help further define on-site groundwater quality, two additional monitoring wells (MW-8, MW-9) were installed during the Phase I RI to supplement previously installed wells (Figure 2). The VOC of concern was PCE which was detected at levels above the NYS groundwater standard of 5 ppb (Table 2).

In order to ascertain the areal extent of groundwater contamination which may have migrated off-site, one permanent and seven temporary groundwater monitoring wells were installed downgradient of the site during the Phase II RI. Temporary exploratory wells EW-2, 3 and 4 were installed and sampled in July, 1993. Temporary exploratory wells EW-5, 7, 8 and 9 were installed and sampled in July, 1995. Permanent monitoring well OW-1 was installed and sampled in July, 1997. The data and locations of these wells are presented Table 3 and Figure 3, respectively.

4.2: INTERIM REMEDIAL MEASURES

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure route can be effectively addressed before the completion of the RI/FS.

As a result of a site screening investigation (SSI) conducted in August, 1992 the following IRMs were undertaken in September, 1992. Area 1 (Figure 2) was the subject of an earlier IRM overseen by NYSDEC and discussed earlier in this document.

1. Area 2: In September, 1992, the bottom five feet of soil/sediment was removed from DW-8 (Figure 2). The contaminated soil was transported to Athens Hocking Reclamation Center, an approved TSDF. A confirmatory soil sample detected PCE below 1 ppm.

2. Area 3: In September, 1992, approximately 27 cubic yards of soil was excavated from the location of the former spray paint booth (Figure 2). The excavation measured approximately 4 feet deep x 12 feet wide x 15 feet long. Confirmatory soil samples revealed total VOCs below 1 ppm at the base of the excavation. The excavated soil was transported to the Athens Hocking Reclamation Center.

3. Area 4: In September, 1992, approximately 3000 gallons of sanitary liquid was removed from the sanitary leaching pool system and discharged with approval to the local publicly owned treatment works (Cedar Creek). A vacuum truck was utilized to remove the bottom three feet of sludge/sediment from leaching pool LP-2 (Figure 2). Confirmatory soil samples revealed total VOCs below 1 ppm in the bottom of the sanitary leaching pools. Thereafter, the facility was connected to the municipal sewer system.

4.3: SUMMARY OF HUMAN EXPOSURE PATHWAYS

This section discusses the potential pathways of exposure for people living near the Bowe site. A more detailed discussion of the exposure pathways can be found is Section 7 of the RI/FS Report.

An exposure pathway is how an individual may come in contact with a contaminant. The elements of an exposure pathway include: the source of contamination; the contaminated environmental media (i.e., soil, water, and air); the manner the contaminant migrates from the source; the location where one may be exposed to the contamination; how the contaminant enters the body (i.e., inhalation, ingestion, or absorption through the skin); and the population exposed to the contamination.

The potential pathways of exposure of concern at the Bowe site include the ingestion of contaminated groundwater and contact with contaminated soil. PCE associated with the site has been detected in on-site groundwater and subsurface soil.

The potential for exposure to site related contamination in soil has been significantly reduced since all areas of soil contamination identified during site investigations have been excavated and removed off-site. Residual soil contamination is located subsurface and the majority of the site is either paved or covered by the factory building, thus limiting the possibility of contact with on-site soil. Furthermore, residual levels of VOCs in on-site soils are below those levels identified in TAGM #4046 as protective of human health and the environment.

Exposure to site related contaminants in drinking water is not expected since homes and businesses near the site are connected to public water. The nearest public drinking water supply wells are located approximately 4000 feet downgradient from the site and are owned and operated by the Hicksville Water District. The public water supply is sampled on a quarterly basis and must meet New York State Department of Health (NYSDOH) drinking water standards.

The excavation and removal of contaminated soil from the Bowe site has significantly reduced the level of site related PCE in the groundwater. Based upon these observations it is highly unlikely that the low levels of PCE migrating from the site in groundwater could have a significant impact on the Hicksville Water District's wellfield.

4.4: SUMMARY OF ENVIRONMENTAL EXPOSURE PATHWAYS

There are no known environmental exposure pathways at this site.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRP) are those who may be legally liable for the contamination at a site. This may include past or present owners and operators, waste generators and haulers.

The following is the enforcement history of this site.

Orders on Consent

Date	Index	Subject
9/24/92	W1-0587-92-03	RI/FS/IRM

The NYSDEC and Bowe Systec, Inc. entered into a Order on Consent on September 24, 1992. The Order obligates the responsible party to implement a RI/FS. Upon issuance of the Record of Decision, the PRP will enter into an Order on Consent to implement the selected remedy.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to restore the site to pre-disposal conditions, to the extent feasible as authorized by law.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Mitigate the impacts of contaminated groundwater to the environment or human health.
- Provide for the attainment of SCGs for groundwater quality at the limits of the area of concern (AOC) to the extent practicable.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Bowe Systems and Machinery site were identified, screened and evaluated in the report entitled Remedial Investigation/Feasibility Study Report, November, 1998.

A summary of the detailed analysis follows. As presented below, the time to implement reflects only the time required to construct the remedy, and does not include the time required to design the remedy, procure contracts for the design and construction or to negotiate with responsible parties for the implementation and operation of the remedy.

7.1: DESCRIPTION OF REMEDIAL ALTERNATIVES

Alternative 1: No Further Action with Long Term Monitoring

Present Worth:	$ 83,010
Capital Cost:	$ None
Annual O&M:	$ 10,750
Time to Implement:	Immediately

This alternative recognizes remediation of the site conducted under previously completed IRMs and the effects of natural attenuation. Based upon RI/FS data, continued groundwater monitoring would be required to evaluate the effectiveness of past remedial activities at the site. Groundwater samples would be acquired from monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 and off-site well OW-1 on a quarterly basis for up to ten years. Groundwater levels would be taken during each sampling event in order to calculate and confirm groundwater flow direction.

Alternative 2a: Groundwater Extraction and Treatment by Air Stripping

Present Worth:	$ 899,370
Capital Cost:	$ 175,925
Annual O&M:	$ 93,690
Time to Implement:	6 - 12 months

Under this alternative groundwater treatment would be provided by a counter-current packed tower air stripper. Untreated groundwater would be pumped to the top of a packed column which contains a specified height and cross sectional area of inert packing material along with water distribution and collection systems. The column would receive ambient air under pressure in an upward vertical direction from the bottom of the column as the groundwater flows downward. This desorption process involves the mass transfer of contaminants from the liquid phase to the gaseous phase.

Groundwater recovery wells would be installed in the vicinity of MW-6, where the highest concentrations of PCE have been observed. On-site discharge of treated groundwater would require the installation of recharge basins to accommodate the daily volume of treated groundwater to be recharged. Remedial effectiveness would be evaluated through a groundwater monitoring program.

Alternative 2b: Groundwater Extraction and Treatment by Carbon Adsorption

Present Worth: $ 1,147,390
Capital Cost: $ 196,075
Annual O&M: $ 123,200
Time to Implement: 6 - 12 months

Groundwater treatment would be provided by a series of granular activated carbon (GAC) adsorption units. Based upon the estimated pumping rates and projected VOC loading, three 1000 pound carbon filters would be required. Two carbon units set in series would be on-line at any given time. A third unit would be in standby mode until the first unit requires regeneration.

Adsorption is a natural process in which molecules of a liquid or gas are attracted to and then held at the surface of a solid. Contaminants in the untreated water adsorb onto the GAC. The adsoptive capacity of the carbon varies with the nature and concentration of the contaminants. As the contaminant loading on the carbon reaches the adsorptive capacity of the carbon near the top of the filter, the interface between the saturated and the clean carbon moves downward through the carbon bed inside the pressure vessel. Once the carbon in the filter vessel is fully loaded with contaminants, carbon regeneration is necessary.

Groundwater recovery wells would be installed in the vicinity of MW-6, where the highest concentrations of PCE have been observed. On-site discharge of treated groundwater would require the installation of recharge basins to accommodate the daily volume of treated groundwater to be recharged. A groundwater monitoring program would be necessary to evaluate the effectiveness of the remedial alternative.

Alternative 2c: Groundwater Extraction and Treatment by UV Oxidation

Present Worth: $ 1,618,450
Capital Cost: $ 334,025
Annual O&M $ 166,340
Time to Implement: 6 - 12 months

Using ultraviolet (UV) oxidation, the groundwater treatment system would consist of a hydrogen peroxide feed system in conjunction with an oxygen or air source and a UV oxidation reactor. The combination of UV light and a chemical oxidant, such as hydrogen peroxide, breaks down VOCs by photochemical oxidation.

Based upon estimated pumping rates and VOC loading, a single UV lamp, 30 kilowatt unit, would be required. Pilot testing would be required during the design to determine the exact equipment sizing and whether any pretreatment would be required to remove naturally occurring metals which might impede the transmission of UV radiation.

Groundwater recovery wells would be installed in the vicinity of MW-6, where the highest concentrations of PCE have been observed. On-site discharge of treated groundwater would require the installation of recharge basins to accommodate the daily volume of treated groundwater to be recharged. A groundwater monitoring program would be necessary to evaluate the effectiveness of the remedial alternative.

Alternative 3: Groundwater Treatment by In-Situ Air Sparging

Present Worth: $ 501,410
Capital Cost: $ 137,020
Annual O&M: $ 47,190
Time to Implement: 6 months

Under this alternative, groundwater beneath the site would be treated using a series of air sparge points and vapor extraction wells. Air sparging is a process where air is introduced under pressure below the water table to increase the rate of volatilization of VOCs in the saturated zone. Air sparging is most commonly used at sites with unconsolidated overburden such as sand and gravel, or other relatively permeable formations. It is generally used in conjunction with vapor extraction to effectively capture VOCs volatilized from the saturated zone as well as reduce VOC levels in the unsaturated zone.

Air sparge wells would be installed in the vicinity of MW-6, where the highest concentrations of PCE have been observed. As with the groundwater pump and treatment alternatives, this alternative would also require a groundwater monitoring program to evaluate the effectiveness of the remedial alternative.

7.2: EVALUATION OF REMEDIAL ALTERNATIVES

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is included in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

Alternative 1 would not immediately meet the SCGs for groundwater quality standards. However, natural attenuation would restore the aquifer to the groundwater quality standards over a period of several years. The existing public water supply regulations are in effect to ensure that the drinking water standards are met within the public water supply distribution system. This would be the same regardless of the alternative selected. The existing wellhead treatment at the North Stewart Avenue wellfield ensures compliance with the NYS drinking water standards. Alternative 1, while not immediately meeting SCGs, would be an acceptable alternative given the relatively low concentrations of PCE recently observed in the downgradient monitoring wells on and off the site. Additionally, source removal, conducted under previous IRMs, will prevent further contamination of the groundwater.

Alternatives 2a, 2b, 2c and 3 would also result in groundwater eventually complying with the applicable SCGs.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

All remedial alternatives would be protective of human health and the environment. These alternatives rely upon the NYSDOH Part 5 drinking water requirements which must be met by community water suppliers. There are no drinking water wells on-site utilizing groundwater and there are no private residential drinking water wells in the surrounding area.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Worker exposure to contaminated groundwater during implementation of Alternatives 1, 2a, 2b, 2c or 3 would be controlled through the implementation of a site specific health and safety plan.

While all the alternatives pose little risk to public health, Alternatives 2a, 2b and 3 have the potential to require emission control systems if pilot testing of the alternative indicates that air emissions exceed SCGs.

The length of time it would take to maintain the remedial objectives utilizing any of the described alternatives is difficult to project. However, a period of no longer than ten years would be anticipated to meet and maintain current remedial objectives. Alternatives 2a, 2b and 2c would prevent further migration of PCE in groundwater.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternatives 2a, 2b, 2c and 3 would provide long term effectiveness and permanence. Under these alternatives, treated groundwater would have to meet applicable SCGs prior to being recharged to the aquifer. A groundwater monitoring program would evaluate the effectiveness of the remedial alternative.

The no action alternative does not reduce risks nor implement controls to limit them. However, natural attenuation would reduce the concentration and mass of PCE in groundwater over time. The Bowe Systems and Machinery site and the surrounding community are utilizing public water supplied by the Hicksville Water District for potable uses.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

None of the alternatives (1, 2a, 2b, 2c or 3) would reduce the toxicity of groundwater contaminants at the site.

Alternatives 2a, 2b and 2c would reduce the concentrations, mobility and mass of groundwater contaminants.

Alternatives 1 and 2 would reduce the concentration and mass of groundwater contaminants.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

All alternatives are implementable and would require periodic groundwater sampling to evaluate the effectiveness of the remedial alternative.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis.. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 1.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. **Community Acceptance** - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" included as Appendix A present the public comments received and the Department's response to the concerns raised. In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is selecting Alternative 1 as the remedy for this site.

While Alternative 1 does not immediately meet groundwater SCGs, the selection of this alternative is based upon the fact that four previously completed remedial actions have been successful in remediating on-site soil and will prevent further contamination of the groundwater. Groundwater samples acquired in April, 1997 continue to demonstrate decreasing concentrations of PCE as a result of source removal. The RI/FS also revealed that there are no private drinking water wells or environmental receptors downgradient of the site which are threatened by current or future groundwater conditions. The remedial actions were:

1. Under NYSDEC oversight, 450 tons of PCE contaminated soil were removed from leaching pools DW-1, DW-2 and DW-3. This source area was considered to be the major source of contamination affecting groundwater at the site.

2. Under NYSDEC oversight, approximately six cubic yards of VOC contaminated soil were removed from leaching pool DW-8.

3. Under NYSDEC oversight, approximately 27 cubic yards of VOC contaminated soil were excavated from an area which was the location of a former spray paint booth.

4. Under NYSDEC and NCDH oversight, approximately 3000 gallons of liquid were removed from the sanitary leaching pool system. Thereafter, three feet of sludge/sediment were removed from the bottom of leaching pool LP-2 by vacuum extraction.

Groundwater quality data generated during the RI reveals that remediation of on-site source areas has resulted in reducing the concentration of PCE in on-site groundwater.

Off-site groundwater quality data generated during the RI demonstrates that natural attenuation continues to reduce concentrations of VOCs to nearly the SCGs. Additionally, investigation of groundwater quality at depth within the aquifer reveals that VOCs do not pose a significant threat to public health or the environment.

The estimated present worth cost to implement the remedy is $83,010 if the program is required to extend the full ten years. The estimated average annual operation and maintenance cost for ten years of quarterly groundwater sampling is $10,750.

The elements of the selected remedy are as follows:

- Since the remedy results in untreated groundwater remaining at the site, a long term groundwater monitoring program will be instituted. This program will monitor the effectiveness of prior interim remedial measures and natural attenuation in reducing groundwater contaminant levels and will be a component of the operation and maintenance for the site. Additionally, the Department will reclassify the site from a Class 2 to a Class 4 on the New York State Registry of Inactive Hazardous Waste Disposal Sites. A Class 4 site is a site that has been properly closed but requires continued operation, maintenance, and/or monitoring.

- The RI confirmed the site specific groundwater flow direction. Based upon these results, groundwater samples will be acquired from monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 and off-site well OW-1 on a quarterly basis for a minimum of three years or until groundwater standards are achieved. Groundwater samples will be analyzed for VOCs by a NYSDOH certified laboratory. Water levels will also be taken from this suite of monitoring wells for calculation and confirmation of groundwater flow direction. Data will be evaluated annually to ensure that a decreasing trend of groundwater contaminant concentrations will continue and eventually result in groundwater quality in compliance with applicable SCGs. If groundwater concentrations do not exhibit a decreasing trend, the Department may consider the need for further investigation and/or further remediation of the site. At the end of the three year monitoring period, a determination will be made as to whether to continue or modify the groundwater monitoring program.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials local media and other interested parties.
- A RI Fact Sheet was distributed as per the site mailing list prior to the field implementation of the remedial investigation.
- A public meeting was held in February, 1999 to present the PRAP.
- In February, 1999 a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

Table 1
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
1.No Further Action - Monitor Only	$0	$10,750	$83,010
2a. Pump & Treat - Air Stripping	$175,925	$93,690	$899,370
2b. Pump & Treat - Carbon Adsorption	$196,075	$123,200	$1,147,390
2c. Pump & Treat - UV Oxidation	$334,025	$166,340	$1,618,450
3. In-situ - Air Sparge	$137,020	$47,190	$501,410

Table 2: PCE in On-Site Groundwater December 1989 - April 1997

	December 1989	July 1991	June 1992	November 1992	February 1993	July 1993	January 1994	November 1995	April 1997
EW-1						110			
MW-1	ND		ND	ND					
MW-2	ND								
MW-3	130		19	95	340		2		ND
MW-4	8100	320						280	130
MW-5		47		130	ND			90	40
MW-6		180	430	450	370		200	200	250
MW-7		110	130	ND					
MW-8				ND	ND		ND		2
MW-9				ND	ND		ND		

Notes:

1. All results in ppb
2. ND - non detect
3. SCG for PCE is 5 ppb

Table 3: PCE in Off-Site Groundwater

	EW-2	EW-3	EW-4
55' - 60' bls	ND	ND	ND
80' - 85' bls	ND	ND	ND
105' - 110' bls	ND	ND	ND
130' - 135' bls	ND	ND	ND
155' - 160' bls	ND	ND	ND

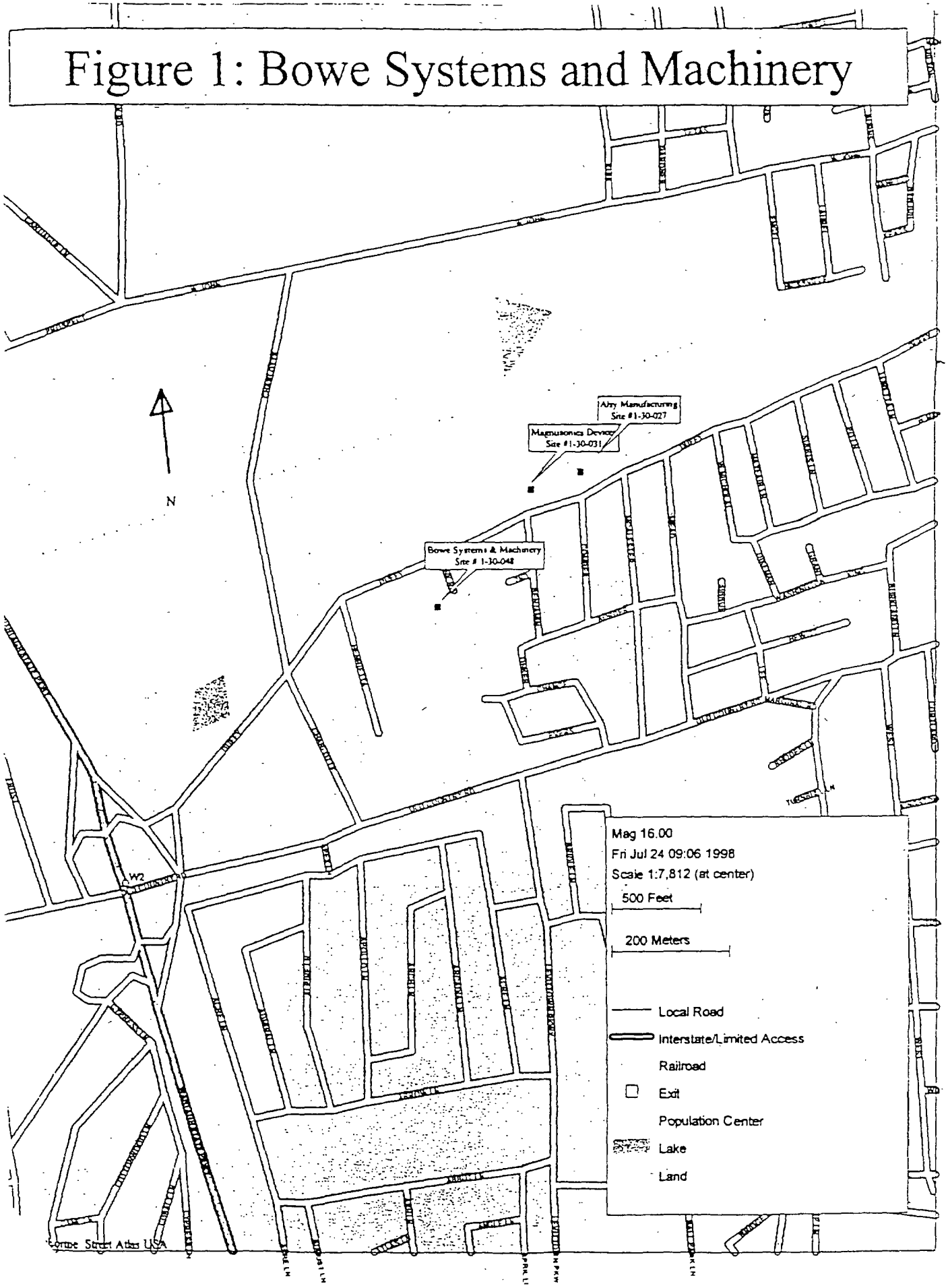
	EW-5	EW-7	EW-8	EW-9
65' bls	20	15	12	4
85' bls	8	10	5	5

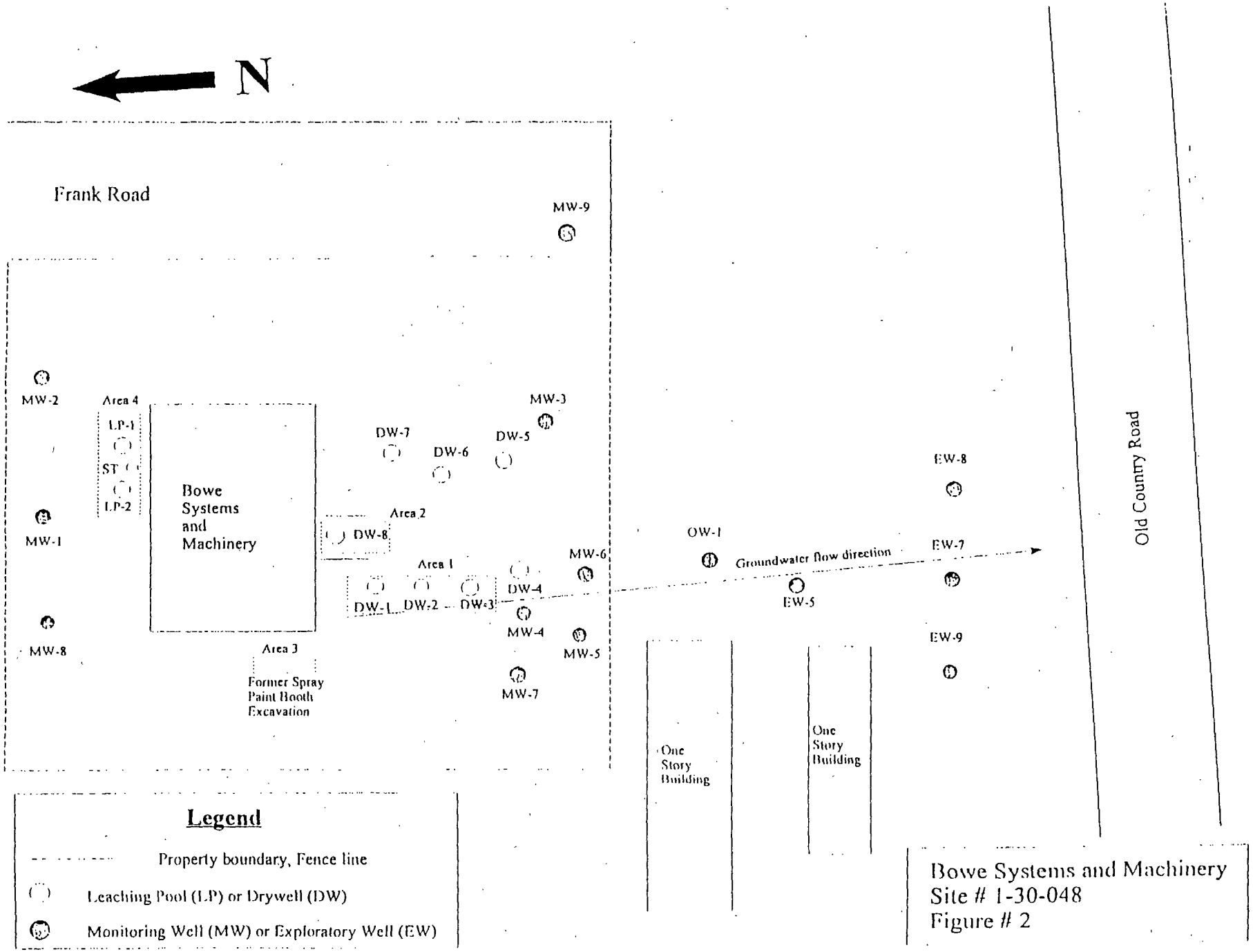
	OW-1
55' bls	34
77' bls	24
92' bls	ND

Notes:

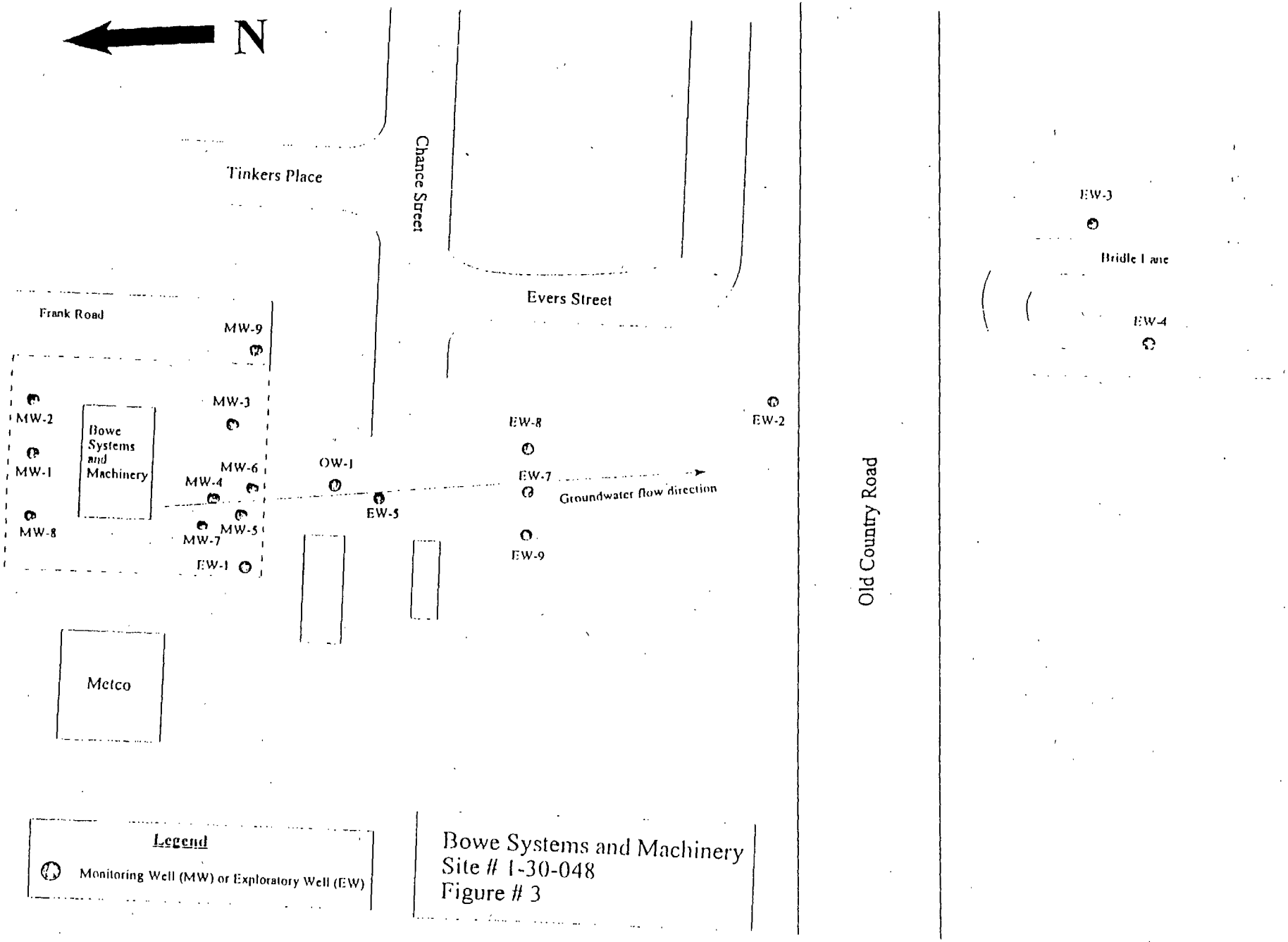
1. Results in ppb
2. ND - non detect
3. bls - below land surface
4. SCG for PCE is 5 ppb
5. EW - Exploratory (temporary) Well

Figure 1: Bowe Systems and Machinery





Bowe Systems and Machinery
Site # 1-30-048
Figure # 2



Bowe Systems and Machinery
Site # 1-30-048
Figure # 3

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Bowe Systems and Machinery
Proposed Remedial Action Plan
Hicksville, Nassau County
Site No. 1-30-048

The Proposed Remedial Action Plan (PRAP) for the Bowe Systems and Machinery site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on January 21, 1999. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil and groundwater at the Bowe Systems and Machinery site. The preferred remedy is No Further Action with continued groundwater monitoring.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on February 3, 1999 which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. Written comments were received from Mr. & Mrs. Proffe, Ms. Theresa Mahoney, Mr. & Mrs. W. Resoluski, Mrs. Marie Grebe and Ms. Karen Blicker. The public comment period for the PRAP ended on February 24, 1999.

This Responsiveness Summary responds to all questions and comments raised at the February 3, 1999 public meeting and to written comments received.

The following are the comments received at the public meeting, with the NYSDEC's responses:

COMMENT 1: Is there any knowledge of misuse of RCRA regulated substances?

RESPONSE 1: The only known record of non-compliance regarding the facility was the spill of approximately 10-15 gallons of tetrachloroethylene in 1989.

COMMENT 2: A neighborhood resident did not remember seeing field activities associated with the various IRMs.

RESPONSE 2: NYSDEC staff oversaw the field work associated with the various IRMs. Additionally, a homeowner who attended the PRAP meeting and lives adjacent to the site recalled seeing the field activities which were undertaken during the IRMs.

COMMENT 3: Would contaminants in the groundwater sink through the aquifer as groundwater migrates off-site?

RESPONSE 3: Yes. Because PCE tends to sink in groundwater, samples were acquired at a variety of depths within the aquifer to ascertain whether or not contaminants were migrating vertically through the aquifer.

COMMENT 4: Is there a mechanism for tracking which chemicals a facility purchases, stores on-site, and ultimately disposes of ?

RESPONSE 4: Although the Department does not track chemical purchases by a facility, the Chemical Bulk Storage Program requires that facilities register their chemical storage tanks with the Department depending on tank size and the chemicals being stored. The Division of Solid and Hazardous Materials implements the Resource Conservation and Recovery Act (RCRA) program which tracks the hazardous waste a facility disposes of. This program requires facilities disposing of hazardous waste to have the waste removed by a licensed hauler to an approved treatment, storage and disposal facility. The Department is notified of this activity by way of a copy of a manifest which accompanies the shipping and disposal of the hazardous waste.

COMMENT 5: Several letters from Hicksville residents included the following comment: 'Though the contamination is below the recommended cleanup level, I recommend it be cleaned up in its entirety'.

RESPONSE 5: Excavation of the contaminated areas has reduced residual soil contamination to levels protective of human health and the environment. Additionally, any remaining soil contamination on-site is well below land surface where contact with humans is highly unlikely. PCE concentrations in off-site groundwater either meet or just slightly exceed SCGs and do not pose a threat to the public water supply. These concentrations will be monitored and are expected to decrease with time.

APPENDIX B

Administrative Record

1. Environmental Assessment Report, Bowe Systems and Machinery, Soil Mechanics Drilling Corp., January, 1990

2. Soil Excavation Report, Bowe Systems and Machinery, Fenley & Nicol Co. Inc., April, 1991

3. Site Screening Investigation Report, Bowe Systems and Machinery, H2M Group, August, 1992

4. Interim Remedial Measure Workplan, Bowe Systems and Machinery, H2M Group, September, 1992

5. Phase I Remedial Investigation Workplan, Bowe Systems and Machinery, H2M Group, September, 1992

6. Interim Remedial Measure Report, Bowe Systems and Machinery, H2M Group, February, 1993

7. Phase II Remedial Investigation Workplan, Bowe Systems and Machinery, H2M Group, September, 1993

8. Remedial Investigation/Feasibility Study Report, Bowe Systems and Machinery, H2M Group, November, 1998

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by by BÖWE SYSTEC, INC. Respondent.	ORDER ON CONSENT INDEX # W1-0587-99-10

Site Code # 1-30-048

FINAL REMEDIAL INVESTIGATION WORK PLAN

FOR BÖWE SYSTEC, INC.

NYSDEC SITE # 1-30-048

SEPTEMBER 23, 1992

Project Requested By: New York State Department of Environmental Conservation

Project Manager: Martin O. Klein, C.P.G.

Project Quality Assurance Officer: Gerald A. Granzen, M.S.

Officer-in-Charge at H2M: John J. Molloy, P.E., Vice President

H2MGROUP

HOLZMACHER, McLENDON & MURRELL, P.C.

CONSULTING ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS

MELVILLE, N.Y. TOTOWA, N.J.

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- Fenley & Nicol Co., Inc. (April 17, 1991)
- H2M Group (August 1992)

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APPENDIX C Laboratory CLP Bottle, Chart and Detection Limits

APPENDIX D Health and Safety Plan (HASP)

FINAL REMEDIAL INVESTIGATION WORK PLAN
FOR
NYSDEC SITE # 1-30-048
(BÖWE SYSTEC, INC)
200 FRANK ROAD
HICKSVILLE, NEW YORK

SEPTEMBER 23, 1992

1.0 - BACKGROUND

This work plan provides a scope of work for the conductance of a remedial investigation at the former Bowe System and Machine (Bōwe Systec, Inc.) property located at 200 Frank Road, Hicksville, New York. The 200 Frank Road property ("the property") was included on the list of the New York State Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Sites as a Class 2 Site (DEC NO. 1-30-48) in October 1991 due to volatile organic contamination at the property.

The remedial investigation will provide data on current site conditions and will be used to recommend remedial measures, as appropriate. This remedial investigation will be conducted under an executed order on consent. Any deviation from the agreed upon protocols in this work plan will be discussed with the NYSDEC prior to implementation.

1.1 - Objectives

The overall objectives of the remedial investigation (RI) are to determine the nature, extent and concentration of volatile organics at the property. The information gathered during the investigation will be presented to NYSDEC and used by Bowe to initiate remedial measures, if appropriate. The specific objectives of the remedial investigation are as follows:

(1) Provide sufficient analytical data on the site so that areas that have been previously identified or suspected as potential source areas of contamination are confirmed or are determined to be either free of contamination or below regulatory levels.

(2) If source areas are present, determine the nature, type, physical extent and migratory path of contamination at and/or emanating from that location so that appropriate remedial measures can be implemented.

(3) Determine the impact of contamination quantified on human health and the environment.

(4) Areas that are free of contamination or already properly remediated will be documented to NYSDEC.

(5) If required, present and discuss the data necessary to support the development of remedial measures.

Analytical data will be collected to achieve these objectives using methods in accordance with NYSDEC protocols and analyzed by approved methods subject to NYSDEC ASP Contract Laboratory Protocol (CLP) procedures. The investigation will draw upon data acquired in previous investigations as well as the new data acquired during this study to the maximum extent possible.

The potential pathways of contaminant migration are air, soil and groundwater. This remedial investigation will concentrate on the soil and groundwater pathway, which has been shown to be the most significant at this site. Groundwater monitoring will be utilized to estimate if groundwater contamination exists, as well as to determine groundwater flow direction and velocity.

The subsequent RI Report will be formatted as outlined in the USEPA Guidance Document, "Guidance on Remedial Investigations Under CERCLA", EPA/540/G-89/004, October 1988. Development of this work plan, in conjunction with the site-specific Health and Safety Plan (bound under separate cover), are the initial requirements for an RI.

2.0 - SITE BACKGROUND AND HISTORY

2.1 - Site Description and Operation

The property located at 200 Frank Road in Hicksville, New York is shown in the attached location map included as Figure 2.1.1. Bōwe Systec, Inc. purchased the property in early 1980's. The previous property owner was reported as Dyna Magnetic Devices. The previous facility operation is not known; information available indicates an industrial profile developed by the Nassau County Department of Health (NCDH) in which Dyna Magnetic was identified as a user of trichloroethylene (TCE) on the order of 200 gallons per year.

The property is 2.098 acres in size and contains a one story masonry building that is 25,000 square feet as shown in Figure 2.1.2. The building was vacant when Bōwe purchased it. During Bōwe's occupancy, an office area encompassed 5,700 square feet of the building, with the remainder of the building being used for either warehousing or assembly/testing/rebuilding of dry cleaning machines.
American Permac (Permac), a dry cleaning equipment importer, previously shared the building with Bowe. Besides importing, Permac did some assembly, testing and rebuilding of dry cleaning machines on the premise. To accomplish this testing, tetrachloroethylene (PCE) was used and was contained in a 300 gallon above ground tank centered along the south wall of the building. In October 1990, this tank was removed and the PCE was sold to dry cleaners in the area.

During the testing of dry cleaning machines, municipally supplied non-contact cooling water was used to cool the tetrachloroethylene which was continuously reused in the testing process. The non-contact cooling water was then discharged to a floor drain that emptied into a drywell system that extends into the outside rear portion of the property. Under normal

operation, no cross connection between PCE and non-contact cooling water was possible. The location of the floor drain and drywell system is indicated on the site map (Figure 2.1.2).

Other chemical usage on-site was minor and consisted of very low quantities of paints, thinners, solvents and oils. Table 2.1.1 itemizes the limited chemical inventory and amounts historically used. Böwe has vacated the property which is currently only used for storage of printed paper, which does not require the use of any chemicals.

Surrounding land use has been identified as light industry to the southwest, residential to the southeast, Valley Transit (vacant) to the east, Jodee Plastics (manufacturing) to the north, and Metco (manufacturing) to the west.

2.2 - Previous Site Investigations and Remediation

Previous site investigations conducted at the property were reviewed and a summary is presented below. Copies of reports on pertinent site investigations or remediation are attached as Appendix A. Additional historic information was provided by Böwe.

Approximately 10 to 15 gallons of PCE was spilled inside the building into a floor drain. This drywell was determined to lead into drywell no. 1 by a dye tracer test. Other areas of volatile organic contamination may exist, including a small spill into the truck bay drywell (drywell no. 8), and the unpaved area located outside the former paint spray booth door, where solvents may have been spilled.

Groundwater monitoring wells installed as part of an environmental assessment conducted by Soil Mechanics Drilling Corporation in January 1990 indicated elevated concentrations of PCE in the groundwater at the original four monitoring wells (MW Nos. 1-4) installed on-site. The results of this testing program led to a supplemental investigation by Soil Mechanics in February 1990 which consisted of the collection of soil/sediment samples at

depths from the property drywells and an examination of an unpaved area outside the building. The soil/sediment samples were analyzed for priority pollutant metals and volatile organic compounds (VOCs).

Elevated concentrations of VOCs were reported at drywell nos. 1, 2, 3, 8 and at the unpaved area located outside the former paint spray booth door, to the southwest of the building. Analytical testing for metals indicated elevated levels of copper and zinc, only at drywell no. 1.

Analytical results for drywell nos. 4, 5, 6 and 7 indicated that VOCs were not present above detection levels at a depth of two to four feet below the bottom of the drywells. A recommendation was made to conduct site remediation to remove the source of VOC contamination present at drywell nos. 1, 2 and 3.

Site remediation, consisting of the excavation and removal of impacted soils surrounding drywell nos. 1, 2 and 3, was performed under the oversight of NYSDEC. This remediation program was conducted to the satisfaction of NYSDEC and documented in a report dated April 17, 1991 by Fenley & Nicol, Inc. The connection between drywell no. 1 and the floor drain inside the building was removed.

After this site remediation program, additional monitoring wells (MW Nos. 5, 6 & 7) were installed downgradient of the remediated drywells to provide supplemental monitoring of groundwater quality.

Subsequent to the services provided by the previous contractors, Holzmacher, McLendon & Murrell, P.C. (H2M) was retained to perform a Site Screening Investigation (SSI) prior to implementation of an approved Remedial Investigation work plan.

The objective of the (SSI) was to provide an overview of the existing conditions at the site by tentative identification of source areas and, to a limited degree, the extent of contamination. An additional objective was to provide data for the development of Interim Remedial Measures (IRMs) for the site. In order to accomplish this objective, four main areas of concern were investigated. These areas included: Area 1 (drywells 1, 2, and 3); Area 2 (drywell 8); Area 3 (stressed vegetation along southwest corner of building); and Area 4 (septic system). Drywells 4, 6, and 7 were also investigated, although past studies indicated little to no contamination at these locations. In addition, groundwater samples were collected from existing and temporary wells (that were installed during the SSI). Groundwater elevations were also measured in order to define the direction of groundwater flow and potential direction of contaminant transport (see Appendix A for SSI report).

The data collected during the SSI provided a timely assessment of potential future remedial efforts.

Based on the scope of work executed for the SSI, H2M concluded the following:

- Evidence of PCE contamination in drywell DW-8 indicates this area on site to be a potential source of groundwater contamination. The soil samples collected at 10'-12' (bottom of drywell) and 23'-25' both exhibited elevated VOC concentrations by the PID. Laboratory analysis of the sample from 10'-12' indicates that elevated levels of PCE, identifying DW-8 as a potential source area.

- Soil samples collected from Drywells DW-1, DW-2, DW-3, DW-4, DW-6 and DW-7 do not provide evidence of VOC contamination. These results support past investigations and remedial efforts.

- The shallow soils in the grassy area (near the former spray booth), have apparently been impacted by VOCs (within a limited area). This area may be a source of VOC contaminants to the groundwater since laboratory analysis of soil samples SB-1 (2'-4') and SB-2 (2'-4') indicated elevated levels of PCE.

- The results of the three (3) sanitary system samples indicate no source of PCE. However, in sample LP-2, VOCs were detected that are commonly found in sanitary waste streams. The presence of dichlorobenzenes could indicate evidence of aromatic toilet discs usually placed in restroom facilities. The absence of these VOCs in the groundwater indicates that the extent is limited.

- The groundwater flow direction indicates a localized influence from the recharge basin, located southwest of the site. Typically, a local groundwater mound results from groundwater recharging from a basin. The regional groundwater flow was measured to be south/southeast and may slightly fluctuate with changes in precipitation and amount of recharge over the area.

- Based on the groundwater flow direction, the groundwater sampling points selected for this SSI provided downgradient coverage of the areas of concern on site. The groundwater sampling results indicate a VOC plume (primarily PCE) at the property boundary to the south. This is evidenced by the concentrations of VOCs detected at the most downgradient wells (MW-6, T-1, and T-2). Concentrations of PCE detected in the groundwater are similar to past results (1991). However, the presence of other VOCs indicates the breakdown of PCE by natural degradation over time. The highest concentration of PCE in the groundwater was detected at MW-6, which is generally downgradient of both the grassy area (Area 3) and drywell DW-8.

Based on the findings of this SSI, H2M provided the following recommendations:

- If acceptable by NYSDEC, register and abandon/remove fuel oil UST, independent of the RI.

- If acceptable by NYSDEC, retain a licensed hauler to pump and clean (wash) out the entire sanitary system (septic tank and 2 leaching pools) independent of the RI. Material removed from the sanitary system should be disposed of at a licensed facility to accept such waste.

- Implement the RI Work Plan to collect additional data for deep soils and contact NYSDEC to discuss an Interim Remedial Measure (IRM) at the former spray booth area and DW-8. The IRM should be the excavation and disposal of shallow soils (5' depth). Once sufficient data has been obtained for deep soils, contact NYSDEC to discuss the possibility of additional IRMs for remediation (if necessary).

- Implement the RI Work Plan to collect additional data and evaluate alternatives for remediation of groundwater in order to capture contaminant groundwater on site. Once sufficient data has been obtained, contact NYSDEC to discuss alternatives to conduct an IRM for groundwater remediation (if necessary). Alternatives may include: no action; pump and treat with recovery wells and air stripper; pump and treat with carbon adsorption; or air sparging.

- Investigate the drainage patterns of the site area and determine the potential for the recharge basin to act as a source.

- Wells presently on site should be tested for hydraulic connection to the aquifer. Wells MW-1 through MW-4 may not provide accurate monitoring points due to

inadequate surface sealing. H2M will propose redrilling and/or repair to wells as necessary during the RI and upon approval by NYSDEC.

Since the SSI work has been completed and submitted to NYSDEC, the UST has been removed, the sanitary system has been cleaned and an IRM work plan has been submitted for the shallow soils at the former spray booth area and DW-8.

3.0 - HYDROGEOLOGY

The regional and local hydrogeology of the area surrounding the Hicksville property is presented below.

3.1 - Regional Hydrogeology

The geologic formations that underlie Nassau County are composed of a series of thick deposits of unconsolidated water bearing sediments of late Cretaceous and Pleistocene age. These unconsolidated deposits are underlain by crystalline bedrock of Precambrian age.

There are three primary water-yielding aquifers underlying Nassau County. These aquifers, from shallow to deep are, (1) Upper Glacial, (2) Magothy and (3) Lloyd Aquifer. These aquifers are considered to be hydraulically connected, with the Glacial and Magothy contributing recharge for the underlying aquifer.

The Upper Glacial aquifer, consisting of highly permeable sand and gravel with occassional thin clay beds, is not commonly used for drinking water supply in Nassau County due to impact of local industry and other forms of land use. The saturated Upper Glacial aquifer is approximately 100 feet thick in Nassau County. The Magothy aquifer is the principal water supply aquifer underlying Nassau County. It consists primarily of lenticular beds of very fine to medium sand that are interbedded with clay and sandy clay, silt and some gravel and sand. The majority of fine sediments are within the upper half of the aquifer. Beds of coarse sand with gravel are common in the lower 100 to 150 feet of the aquifer. The Magothy is absent in many areas along the north shore and reaches its maximum thickness of 1000 feet in the southern part of Nassau County.

Below the Magothy is the Raritan clay. It is a significant confining unit above the Lloyd aquifer that consists mainly of clay and silty clay from 0 to 200 feet in thickness. The clay has a very low hydraulic conductivity, but does not totally prevent movement of water between the Magothy and the underlying Lloyd aquifer.

The Lloyd aquifer is the oldest and deepest water-bearing unit. It rests on impermeable crystalline bedrock and consists of lenticular deposits of clay, silt, sandy clay, sand and gravel. The top of the aquifer dips southeast from about 500 feet below sea level in the northern part of the county to more than 1,400 feet below sea level at the southern portion. The Lloyd aquifer ranges from 200 to 300 feet in thickness within the county.

The groundwater flow direction in central Nassau County is to the northeast in the vicinity north of the groundwater divide and to the south, south of the divide.

3.2 - Regional Groundwater Quality

The geographic area surrounding the 200 Frank Road property has been identified by Nassau County Department of Health (NCDH) as a contaminated aquifer segment in a report entitled "Investigation of Contaminated Aquifer Segments, Nassau County, New York, June 1986". Records are available on numerous releases of VOCs in the West Hicksville area. As a result, this area has been extensively studied by NCDH and areas of VOC contamination were delineated in the report cited above. The groundwater underlying this area is documented as being impacted primarily by 1,1,1-trichloroethane (1,1,1-TCA), in excess of 5,000 ug/l. Based upon groundwater analytical data generated by NCDH, significant VOC contamination has migrated into the Magothy aquifer, up to at least 265 feet deep. The primary VOC present at depth within the Magothy is trichloroethene.

3.3 - Local Hydrogeology

The local hydrogeologic units correspond to the previously discussed regional hydrogeologic units. The major aquifers beneath the vicinity of the study area are the Upper Glacial and Magothy aquifers. The Upper Glacial aquifer is the most permeable with an estimated horizontal hydraulic conductivity of 270 ft/day (Franke and Cohen, 1972).

Deposits in the Magothy containing less well sorted sand and gravel with interbedded clay and silt deposits have much lower hydraulic conductivities.

The predominant groundwater flow direction as based upon groundwater elevation information from on-site monitoring wells range from south-southwest to south-southeast due to the nearby recharge basin and variable precipitation events as shown in Figures 3.3.1 and 3.3.2. The depth to groundwater underlying the Böwe property is approximately 50 feet below grade. Based upon elevation data collected from December 1991, an average hydraulic gradient of 0.0013 ft/ft exists across the site. On the basis of the hydraulic gradient data and an average hydraulic conductivity, a localized groundwater velocity of approximately 430 feet per year can be calculated. This velocity is consistent with the groundwater velocity values established in literature for this region.

H2M will supplement this information with additional aquifer testing during the RI (see (see Section 6.0).

3.4 - Public Water Supply

The site lies within the Hicksville Water District. A preliminary review of the public water supply wells within the Hicksville Water District indicates that 11 wells are located within a three mile radius down gradient of the site (refer to Figure 3.4.1). Table 3.4.1 presents a summary of the well depths and pumping capacities. As shown in Table 3.4.1, all

public supply wells are screened in the Magothy aquifer between 495 feet and 649 feet below grade.

The history of the water quality in the down gradient wells indicates that all 11 wells are on treatment systems. Treatment includes pH adjustment, disinfection, and iron capture. Five of these wells are subject to VOC removal when in use (two of these wells are currently inactive).

The five wells being treated for VOC contamination have shown traces of trichloroethene (TCE) and tetrachloroethene (PCE) contamination in the past. Two of these wells are also being treated for 1,1-dichloroethane and 1,1,1-trichloroethane.

4.0 - SCHEDULE AND PROJECT MANAGEMENT

4.1 - Schedule

A task-by-task schedule for remedial investigation activities is set forth in this Work Plan and is provided in the Milestone Chart (Figure 4.1.1).

4.2 - Project Management

General direction of the RI will be provided by Martin O. Klein, C.P.G. Mr. Klein has over 8 years of hydrogeological supervisory and project management experience with state and federal hazardous waste site remedial investigations. Mr Klein has extensive experience managing various hazardous/industrial waste investigations and remediation projects and has the authority within the firm to apply additional resources to the project as the need arises.

The proposed project organization is presented on Figure 4.2.1. The Project Manager (PM) has primary responsibility for plan development and implementation of the RI/FS, including coordination among the RI/FS leaders and support staff, development of bid packages, acquisition of engineering or specialized technical support, and all other aspects of the day-to-day activities associated with the project. The PM identifies staff requirements, directs and monitors site progress, ensures implementation of quality procedures and adherence to applicable codes and regulations, and is responsible for performance within the schedule.

The Quality Assurance officer (QAO) for this project will be Gerald A. Granzen of H2M. Mr. Granzen will be responsible for overall project quality including development of the project QA/QC plans, review of specific task QA/QC procedures, review of laboratory, vendor and subcontractor plans and procedures, and auditing specific tasks at established intervals. The QAO will report directly to the officers in charge of this project and will work

independent of the project manager's reporting structure. Appendix B includes the QAO's resume.

Susan Bianchetti will be the Senior Project Hydrogeologist and RI leader for H2M. At H2M, she has provided project management for hazardous waste and hydrogeologic investigations conducted as part of RI/FS processes at sites located in New York, and New Jersey. Ms. Bianchetti's past project management experience includes remedial efforts at numerous industrial state and federally regulated facilities associated with improper discharges to soil and groundwater.

The RI leader is responsible for on-site management for the duration of all site operations, including the activities conducted by H2M such as sampling, and the work performed by subcontractors, such as well drilling and surveying. The RI leader will provide consultation and decide on factors relating to sampling activities and changes to the field sampling program.

The RI leader and PM will ensure that the analytical laboratory will perform analyses as described in the Field Sampling Program (FSP). The QAO will be responsible for assuming that proper collection, packaging, preservation and shipping of samples is performed in accordance with EPA guidelines. Project progress meetings will be held, as needed, to evaluate project status, discuss current items of interest, and review major deliverables such as the FSP, Health and Safety Plan (HASP) and the RI report.

As Figure 4.2.1 shows, the project will be managed by Martin O. Klein, C.P.G. The review group at H2M will include John J. Molloy, P.E. and Vice President; and Gary J. Miller, P.E. and Assistant Vice President. The review group will be responsible for providing project oversight and checks on the project manager. This will include review of technical

work, scheduling, project billings and assessment of the level of effort for the project. The review group at H2M will provide feedback to the project manager as necessary.

The resumes of these and other key members of the remedial investigation team are presented in Appendix B.

5.0 - TECHNICAL WORK PLAN

The following scope of work has been developed to further characterize the Bowe property under the RI in order to assess current environmental conditions. Figure 5.1 illustrates the proposed locations of the areas identified on-site which will be further investigated.

5.1 - Data Quality Objective (DQO) Needs

The DQOs for the RI will be applicable for all data collection activities at the site. DQOs will be incorporated into the Field Sampling Program (FSP) and the Quality Assurance/Quality Control Section of the RI (Sections 6.0 and 8.0). All data collection activities for this project are anticipated to occur during the RI portion of the study.

The primary data users for this project will be H2M, NYSDEC and New York State Department of Health (NYSDOH). No secondary data users are contemplated at this time. The available data for the site was presented previously in Sections 2.0 and 3.0.

Data to be collected during the implementation of the FSP will characterize the nature and extent of contamination. This will allow for the preparation of the risk assessment (by H2M), the RI report, Treatability Study (if necessary), and the Feasibility Study report.

For this project, it is anticipated that Level I (screening) will be used during any soil sampling or groundwater monitoring well installation and sampling. Level I includes monitoring for total volatile organic vapor concentrations. Level I field monitoring for total VOCs (excluding methane) will be performed by using an HNu (photoionization detector - PID or a Century 128 OVA). The field monitoring results will be utilized for determining which soil samples are to be laboratory tested for select parameters as per Level IV DQO.

Laboratory methods for inorganics will be AA or ICP and methods for organics will be GC/MS in order to achieve low detection limits (ppb).

The analytical data to be obtained for this project will be analyzed by H2M Labs, Inc. to conform to analytical Level IV. The data used will be for risk assessment, site characterization, evaluation of alternatives, and engineering design.

5.2 - Preliminary Identification of ARARs and TBCs

5.2.1 - Potential Applicable or Relevant and Appropriate Requirements

The National Contingency Plan (NCP) (50 Federal Register 47912, November 20, 1985) and the SARA/CERCLA Compliance Policy guidance define applicable requirements as the federal and state requirements for hazardous substances, which would be legally binding at the site, if site response were to be undertaken regardless of CERCLA Section 104. Relevant and appropriate requirements are defined applicable, apply to facilities or problems similar to those encountered at this site, so that their use is well suited. In other words, requirements may be relevant and appropriate if they would be applicable except for jurisdictional restrictions associated with the requirements. With respect to the selection of remedial alternatives, relevant and appropriate requirements are to be afforded the same weight and consideration as applicable requirements.

The following federal and state regulatory requirements are potentially applicable or relevant and appropriate to the site:

1) Contaminant-Specific

Federal:

- Resource Conservation and Recovery Act (RCRA) Groundwater Protection Standards and Maximum Concentration Limits (40 CFR 264, Subpart F)
- Clean Water Act, Water Quality Criteria (Section 304) May 1, 1987 - Gold Book)
- National Ambient Air Quality Criteria (NAAQS) (40 CFR 50)
- Safe Drinking Water Act, Maximum Contaminant Levels (MCLs) 40 CFR 141.11-.16

New York State

- New York Groundwater Quality Standards (6 NYCRR 703)
- New York State Drinking Water Act Maximum Contaminant Levels (MCLs) (10 NYCRR 5)
- New York Surface Water Quality Standards (6 NYCRR 702)
- New York State Raw Water Quality Standards (10 NYCRR 170.4)
- New York RCRA Groundwater Protection Standards [6 NYCRR 373-2 6 (e)]
- New York Ambient Air Quality Standards (6 NYCRR 256 and 257)

2) Location-Specific

Federal

- Executive Orders on Floodplain Management and Wetlands Protection (CERCLA) Floodplain and Wetlands Assessments) # 11988 and 11990
- National Historic Preservation Act (16 USC 470) Section 106 et seq. (36 CFR 800)

- RCRA Location Requirements for 100-year Floodplains [40 CFR 264.18(b)]
- Wetlands Construction and Management Procedures (40 CFR 5, Appendix A)

New York State

- New York State Freshwater Wetlands Law (ECL Article 24, 71 in Title 23)
- New York State Freshwater Wetlands Permit Requirements and Classification (6 NYCRR 663 and 664)
- New York State Floodplain Management Act and Regulations (ECL Article 36 and 6 NYCRR 500)
- New York State Flood Hazard Area Construction Standard

3) Action-Specific

Federal

- RCRA Subtitle C Hazardous Waste Treatment Facility Design and Operating Standards for Treatment and Disposal Systems, (i.e., landfill incinerators, tanks, containers, etc.) (40 CFR 264 and 265) (Minimum Technology Requirements)
- RCRA Subtitle C Closure and Post-Closure Standards (40 CFR 264, Subpart G)
- RCRA Groundwater Monitoring and Protection Standards (40 CFR 264, Subpart F)
- RCRA Generator Requirements for Manifesting Waste for Off-site Disposal (40 CFR 263)

- RCRA Subtitle D Non-hazardous Waste Management Standards (40 CFR 257)
- RCRA Transporter Requirements for Off-site Disposal (40 CFR 270)
- Safe Drinking Water Act, Underground Injection Control Requirements (40 CFR 144 and 146)
- RCRA Land Disposal Restrictions (40 CFR 268) (On-and off-site disposal of excavated soil)
- Clean Water Act - NPDES Permitting Requirements for Discharge of Treatment System Effluent (40 CFR 122-125)
- Effluent Guidelines for Organic Chemicals, Plastics and Resins (Discharge limits) (40 CFR 414)
- Clean Water Act Discharge to Publicly - Owned Treatment Works (POTW)
- National Emissions Standards for Hazardous Air Pollutants (NESHAPSs) (40 CFR 61)
- DOT Rules for Hazardous Materials Transport (49 CFR 107, 171.1 - 171.500)
- Occupational Safety and Health Standard for Hazardous Response and General Construction Activities (29 CFR 1904, 1910, 1926)

New York State

- New York State Pollution Discharge Elimination Systems (SPDES) Requirements (Standards for Storm Water Runoff, Surface Water, and Groundwater Discharges) (6 NYCRR 750-757)
- New York State RCRA Standards for the Design and Operation of Hazardous Waste Treatment Facilities (i.e., landfills, incinerators, tanks,

containers, etc.). Minimum Technology Requirements (6 NYCRR 370-372)

- New York State RCRA Closure and Post-Closure Standards (Clean Closure and Waste-in-Place Closures) (6 NYCRR 372)
- New York State Solid Waste Management Requirements and Siting Restrictions (6 NYCRR 360-361)
- New York State RCRA Generator and Transporter Requirements for Manifesting Waste for Off-site Disposal (6 NYCRR 364 and 372)
- New York State Air Emission Requirements (VOC Emission from Air Strippers and Process Vents, General Air Quality) (6 NYCRR 200-212)

5.2.2 - Potential "To Be Considered" Material

When ARARs do not exist for a particular chemical or remedial activity or when the existing ARARs are not protective of human health or the environment, other criteria, advisories and guidance may be useful in designing and selecting a remedial alternative. The following criteria, advisories, and guidance were developed by the EPA and other federal and state agencies.

1) Federal

- Safe Drinking Water Act National Primary Drinking Water Regulations, Maximum Contaminant Level Goals (MCLGs)
- Proposed Maximum Contaminant Levels (50 Federal Register 46936-47022, November 13, 1985)
- Proposed Federal Air Emission Standards for Volatile Organic Control Equipment (52 Federal Register 3748)

- Proposed Requirements for Hybrid Structures (combined waste-in-place and clean closure) (52 Federal Register 8711)
- USEPA Drinking Water Health Advisories
- USEPA Health Effects Assessment (HEAs)
- TSCA Health Data
- Toxicological Profiles, Agency for Toxic Substances and Disease Registry, U.S. Public Health Service
- Policy for the Development of Water-Quality-Based Permit Limitations for Toxic Pollutants (49 Federal Register 9016)
- Cancer Assessment Group National Academy of Science) Guidance
- Groundwater Classification Guidelines
- Groundwater Protection Strategy
- Waste Load Allocation Procedures
- Fish and Wildlife Coordination Act Advisories
- Federal Guidelines for Specification of Disposal Site for Dredged or Fill Material.

New York State

- New York State Proposed Safe Drinking Water Standards Maximum Contaminant Levels for VOCs (10 NYCRR 5)
- New York State Underground Injection/Recirculation at Groundwater Remediation Sites (Technical Operating Guidance (TOG) Series 7.1.2)
- New York State Analytical Detectability for Toxic Pollutants (85-W-40-TOG)
- New York State Toxicity Testing for the SPDES Permit Program (TOG 1.3.2)

- New York State Regional Authorization for Temporary Discharges (TOG Series 1.6.1)
- New York State Air Guidelines for the Control of Toxic Ambient Air Contaminants (Air Guide 1)

5.3 - Potential Pathways of Contamination

As Sections 2.0 and 3.0 show, a significant amount of soil and groundwater sampling and analysis have been previously performed at the site. The chemical compounds known to be present in the soils and groundwater have been identified by the previous sampling and analysis effort. Therefore, the potential pathways of contamination can be assessed.

The alleged portions of the site affected has been noted as the drywells (DW-4 through 8), former spray booth area, and the septic system. In general, VOCs may be present in the vadose zone soils in these areas. The potential pathway of contamination by VOCs present is downward movement through the vadose zone in solution, due to recharge water from rain. VOCs in solution which reach the groundwater will move, with the groundwater, in the direction of groundwater flow.

The pathway of overland runoff of VOCs as solutes after rain events has been determined to be insignificant due to pavement on the site and the high soil permeability (and the lack of significant topographic gradients in the site area).

Metals and semi-VOCs may enter the groundwater from the vadose zone in the same manner as VOCs. VOCs may also be present in a gaseous state and migrate within the vadose zone or off-gas into the atmosphere or building.

VOCs which exist in the groundwater will travel generally in a south-southeast direction at a velocity equal to or less than the groundwater pore velocity.

A more detailed investigation of the potential pathways of contamination will be performed in the Health Risk Assessment (see Section 10.0).

5.4 - Work Plan Approach

The work plan approach is to present previous site data and evaluate the existing laboratory data, as appropriate for the respective DQOs. This information will be incorporated into the tasks necessary for completion of the RI. DQOs will be incorporated into the FSP and elsewhere, as necessary. Data previously collected (see Appendix A) will be supplemented by additional sampling and analyses in the RI.

The purpose of the RI is to determine the areal and vertical extent of soil and groundwater contamination at the site. Based upon the findings of this RI, remedial alternatives will be presented and the most feasible alternative(s) of remediation will be utilized, as necessary. Mitigation and elimination of any present or potential threat to human health or the environment will be completed.

H2M will provide details of the FSP to obtain data which satisfy the project DQOs (Level IV). The FSP will provide for the implementation of the NYSDEC approved work plan. This RI work plan also outlines field investigation Procedures and Methodology; Quality Assurance/Quality Control (QA/QC); the Fish and Wildlife Impact Assessment Plan; the Health Risk Assessment (HRS) Plan; the Health and Safety Plan (HASP); and the Citizen Participation Plan (CPP).

5.5 - Field Sampling Program (FSP)

Based upon the history of site operation and alleged VOC contamination, a remedial investigatory program has been developed. Areas suspected as potentially contaminated by

VOCs will be focused on as well as the soils beneath the septic system that have not been tested. In this manner, a complete characterization of the property will be completed and the need for additional remedial measures determined.

Borings will be utilized to both field screen and collect soil samples for laboratory analysis. Split spoon samples will be obtained during drilling with select soil/sediment samples collected for laboratory analysis. The procedures to collect split spoon samples are described in Section 6.0.

Monitoring wells will be installed to determine on-site groundwater quality conditions as detailed in Section 6.0. Based on on-site groundwater quality, off-site wells may be required.

A community well survey will be performed to determine if private wells are located downgradient of the site and if they are in use. Although the area is serviced by the Hicksville Water District, if a private well in the vicinity of the site is being used for potable water, a sample will be collected and analyzed for the same parameters as detected in the on-site wells. Public supply wells within a 3 mile radius downgradient of the site have been identified. The history of water quality will be researched and the most recent information will be obtained in order to further assess potential impacts from the Bōwe site.

A detailed description of the site investigation tasks are presented below. The NYSDEC will be notified at least five (5) working days prior to any field activities.

5.5.1 - Task 1 - Sampling of Drywell System

Soil borings will be utilized to characterize the drywell system at the Bōwe property. The locations of drywells to be investigated (drywell nos. 4, 5, 6, 7, & 8) are shown in Figure 5.1. Drywell nos. 1, 2, and 3 have been remediated (March 1991) under NYSDEC

oversight and will not be further examined under the RI. Full documentation of the remediation of these drywells and follow-up sampling are detailed in Appendix A. The present condition of the remaining connected drywell (no. 4) will be further tested as part of this program. In addition, an Interim Remedial Measure (IRM) Work Plan has been submitted to NYSDEC to excavate 5 feet of soil from the bottom of DW-8. However, DW-8 will be further investigated to determine the vertical extent of contamination during this RI.

Soil borings will be drilled either through the center of each drywell (if drywells are dry) or directly adjacent to the drywell locations. Split spoon samples will be collected at five foot intervals starting at the bottom of each drywell (drywell surface soil/sediment samples) or at an equivalent depth of 10 feet below grade at borings adjacent to the drywell. Sampling at DW-8 will begin at 10 or 15 feet below grade or 5 feet below the bottom sediment (due to the IRM to be performed at this location). Split spoon sampling will be conducted to a minimum of 17 feet below the bottom (or projected bottom) of each drywell (see Table 5.5.1.1 for summary of sampling). The split spoon sampling frequency will decrease to ten foot intervals until two consecutive samples exhibit photoionization detector (PID) responses not elevated above background. The PID will be calibrated daily to insure accurate readings.

The sampling will be conducted under the oversight of a qualified hydrogeologist. Split spoon samples will be immediately contained in laboratory-prepared sample bottles. Samples will be screened, upon opening the split spoon, with a PID. The split spoon samples exhibiting the most elevated PID reading at each boring (relevant to background levels) will be retained for laboratory analysis at H2M Labs, Inc. If no sample indicates elevated PID readings, the shallowest soil sample from the boring will be tested by the laboratory.

In addition, the deepest soil sample will also be retained for laboratory analysis. This deep soil sample will provide confirmatory end point samples at the bottom of each boring.

Two (2) soil/sediment samples will be collected for laboratory analysis from each of the drywells (DW-4, 5, 6, 7 and 8).

Soil/sediment samples will be collected in appropriate analytical sample jars and sealed for labeling. All samples will be analyzed for TCL VOCs, TCL semi-VOCs and TCL metals according to Contract Laboratory Protocols (CLP) (NYSDEC ASP 12-91).

The soil sample recorded with the highest PID reading within each boring will be retained for laboratory analysis. In the event that no PID readings are recorded, the shallowest soil sample will be tested. The deepest soil sample will also be tested by the laboratory.

In addition, the one soil sample out of all 10 soil samples (collected from the drywells) recorded with the highest PID reading will be selected for laboratory analysis for TCL pesticides and aroclors or polychlorinated biphenyls (PCBs). This analysis is to confirm that these chemicals were not used, stored, generated or disposed of at the site.

Appropriate QA/QC samples will be collected as specified in Section 8.0. QA/QC samples will include field blanks, trip blanks (one set of blanks per sampling event), a site specific matrix spike/matrix spike duplicate (MS/MSD), and a blind duplicate.

5.5.2 - Task 2 - Borings and Soil sampling at Unpaved Area Outside Former Spray Booth

The previous SSI performed by H2M (see Appendix A) included a PID soil gas survey for this area on site.

Based on the results, shallow soils (2'-4') in a limited area were detected with PCE concentrations only. An IRM work plan has subsequently been submitted to NYSDEC which proposes the excavation of shallow soils at this area of concern. During the implementation of

the IRM, a PID will be used to define the horizontal extent of the excavation. Two (2) soil samples will be collected at the base of the excavation in order to determine whether additional sampling will be necessary for delineation of the vertical extent of contamination in the vadose zone. Confirmatory soil samples will be laboratory tested for TCL VOCs, TCL semi-VOCs, and TCL metals. Should the results of the confirmatory sampling indicate no contamination at a five foot depth, this area will be eliminated from the RI.

In the event that confirmatory sampling indicates contamination at a five foot depth, deeper soil sampling will be performed during this RI. At a minimum, two soil borings will be drilled in this area. Split spoon samples will be collected every five feet for the first 19 feet, then every ten feet down to a depth when no PID response is obtained for two consecutive samples.

Two soil samples will be collected for laboratory analysis at each boring and submitted for analytical testing using CLP protocol. The soil sample recorded with the highest PID reading will be retained for TCL VOCs and other parameters as detected in the confirmatory sample. The deepest soil sample obtained from each boring will be tested for TCL VOCs and other parameters as detected in the shallower soil sample within that boring. A field blank and trip blank will be submitted for QA/QC.

During this task, one background soil sample will be collected from a location on site, approved by NYSDEC. The sample will be collected from 0'-2' depth and will be tested by the laboratory for TCL metals only. Background samples should not have natural concentrations of VOCs, semi-VOCs, pesticides or PCBs.

Drill cuttings generated during the drilling of borings (not used for well construction) will be backfilled following NYSDEC approved methods.

5.5.3 - Task 3 - Sampling of Septic System

The soils at the base of the septic system and associated leaching pools will be sampled for analytical testing to determine if there were any improper past discharges to this system. Samples will be collected by use of a hand auger to procure the sediment samples from 1 to 2 feet into the bottom. Analytical testing of sediments from the leaching pools will be conducted for TCL VOCs, TCL semi-VOCs, and TCL metals using CLP protocols.

5.5.4 - Task 4 - Groundwater Investigation

As depicted in Figures 3.3.1 and 3.3.2, elevation data from the groundwater monitoring wells on site indicated that the local groundwater flow direction ranges from south-southwest to south-southeast. Additional monitoring wells are proposed to monitor groundwater quality, upgradient and downgradient of the alleged source areas identified on site.

Based upon a groundwater flow direction to the south-southwest and south-southeast, one additional upgradient and three downgradient wells may be installed as shown in Figure 5.5.4.1. The new upgradient well will be placed at a location to better define upgradient groundwater quality with respect to localized groundwater flow direction (see Figure 5.5.4.1). One new downgradient well will be installed on site to provide a monitoring point east of MW-3. The existing wells will be investigated for the purpose of determining whether use for monitoring is appropriate. Wells may be repaired, abandoned or replaced as deemed necessary and approved by NYSDEC. Abandonment of wells would be conducted as per NYSDEC protocol, as necessary. The construction details of the proposed monitoring wells are described in Section 6.0.

Following the installation of MW-8 and MW-9 (on site), groundwater will be sampled from MW-1, 3, 5, 6, 8 and 9 and laboratory tested for TCL VOCs, semi-VOCs, TCL pesticides and PCBs, and TCL metals in order to accomplish project DQOs.

Wells will be resurveyed and groundwater level measurements will be collected on six occasions for contour maps. Aquifer tests will be conducted for the purpose of estimating hydraulic conductivity. This will be done by performing slug tests by withdrawing a slug of known volume and measuring recovery of the water levels. Data will be analyzed using the Bouwer and Rice Method. Hydraulic conductivities will be estimated and groundwater flow direction and velocity will be calculated. Soil samples from the aquifer will be collected during drilling for sieve analysis at select locations in order to determine grain size distribute and uniformity coefficients. The soil information will be compared to aquifer test results to determine ranges in aquifer characteristics (see Section 6.0 for detail of aquifer characterization).

Based on the groundwater data and aquifer characterization, estimates of contaminant migration will be projected in order to determine the placement of downgradient wells, as necessary. At this point in the RI, off-site wells may not be necessary. However, this will be determined by H2M and NYSDEC after initial aquifer testing. In the event that off-site wells are required by NSYDEC, the wells will be placed at appropriate locations within 1/4 mile downgradient of the site. Limitations to the downgradient well placement should apply as this area of Hicksville has been identified by NCDH as being tainted with VOCs and therefore the potential for other sources of VOCs in the groundwater increases with distance away from the Bōwe site.

Two additional downgradient off-site monitoring wells may be installed following the on-site groundwater investigation. The location of the off-site wells will depend upon the data collected from the on-site wells. It should be noted that a right-of-way (ROW) permit may have to be obtained for off-site wells. If the wells are located on a busy street, a construction zone traffic control plan will be set-up.

In the event that off-site wells are installed, a second round of groundwater samples will be collected and analyzed for parameters detected in the downgradient wells on the Bowe site.

All groundwater samples will be collected and analyzed following strict protocol outlined in Sections 6.0, 7.0 and 8.0 of this work plan (see Table 5.5.1.1 for summary sampling).

6.0 - INVESTIGATION PROCEDURES AND METHODOLOGY

This section of the work plan will outline soil/sediment sampling, well drilling and construction, groundwater sampling and aquifer characterization procedures and methodologies.

6.1 - Soil/Sediment Sampling

Soil borings will be performed at select locations utilizing a hollow stem auger drill rig. All drilling equipment will be decontaminated prior to use at each drilling location as described in Section 8.0. During soil boring, soil/sediment samples will be collected by use of a split spoon samples. Hand auger samples will also be collected from the sanitary system without the use of a drill rig.

6.1.1 - Split Spoon Sampling

Split spoon sampling will be conducted as described in the previous section. Split spoon samples are used to obtain representative soil samples for identification purposes and laboratory tests. Split spoon samples will also be measured for the resistance of the soil to penetration of the sampler by counting blow counts. ASTM procedures D1586-67 will be used for the collection of split spoon samples at locations described in the FSP. Samples will be contained in laboratory prepared sample jars and labeled. Discrete samples will be tested for TCL VOCs and composite samples will be tested for TCL semi-VOCs and TCL metals as required. Pending field screening results with the PID, select samples will be submitted to H2M Labs, Inc. for analysis. Deep samples will also be tested for TCL VOCs, TCL sem-VOCs, and TCL metals. Care will be taken to not exceed sample holding times (see Section 8.0 for outline of QA/QC).

A summary of the ASTM 1586-67 procedures is listed below.

1. Clear out hole to sampling elevation using equipment that will ensure that the material is not disturbed by the operation.

2. With the cleaned split spoon sampler resting on the bottom, drive the sampler with blows from a hammer falling 30-inches until either 18-inches has been penetrated or 100 blows have been applied.

3. This operation will be repeated at select 5-foot intervals during boring or well installation.

4. Record the number of blows required to effect each 6-inches of penetration or fractions thereof.

5. Bring the sampler to the surface and open. Scan with a photoionization detector (PID) or Flame Ionization Detector (FID) field instrument. Describe the PID or FID responses, collect typical samples of soils recovered with respect to composition, structure, consistency, color and soil condition; fill the appropriate sample jars and seal to prevent evaporation of soil moisture. Affix labels to the jars bearing job number, date, time, initials of sampler, boring number, sample number, depth of penetration and length of recovery.

6. Select samples will be chosen by the hydrogeologist and analyzed for particle size distribution. The particle size analysis of the soils will be in accordance with ASTM D422-63.

7. All samples collected will be retained and preserved for future analysis (if necessary).

6.1.2 - Hand Auger Sampling

A cleaned stainless steel hand auger with an appropriate length of extensions will be utilized to collect bottom sediment samples at the base of the two (2) leaching pools on site. This task will be performed after the septic system has been cleaned out. The hand auger will be used to obtain sediment samples at 1'-2' into the bottom sediment as outlined in Section 5.0.

Sediment samples collected from the septic system will be carefully removed from the hand auger by first removing the top and bottom sediment. The sediment in the central portion of the auger will be contained in laboratory-prepared sample bottles and tested for TCL VOCs, TCL semi-VOCs, and TCL metals (as required). Discrete samples will be tested for TCL VOCs and composite samples will be tested for TCL semi-VOCs and TCL metals.

6.1.3 - Field Reporting

Data obtained from borings and split spoon sampling will be recorded in the field log and include the following:

- Name, location and job number
- Date of boring (start, finish)
- Boring number and driller, if available
- Sample number and depth
- Method of advancing sampler, penetration and recovery and blow count
- Type and size of sampler

- PID or FID reading during field screening
- Description of soil
- Thickness of layer
- Depth to water surface
- Type and make of equipment (drill rig, etc.) use
- Size of casing, depth of cased hole.

6.2 - Well Drilling and Construction

The contractor for drilling and related well installation activities will be a licensed monitoring well driller. The driller will be made aware of the nature of the drilling activities and will be experienced in soil/groundwater investigations of this nature.

The monitoring wells will be installed by use of a hollow stem drill rig under the direction of a qualified hydrogeologist. The NYSDEC will be notified at least five (5) working days prior to any field activities.

Prior to commencement of drilling, site-specific underground structures, overhead structures and other surface features which may impede drilling will be identified. Appropriate utilities will be contacted for mark outs. Drill cuttings (soils) generated during the installation of the wells will be stockpiled on site and field screened with a PID for VOCs. If PID readings are not elevated above background readings, the cuttings will be disposed of at the area adjacent to the monitoring well location. If the field screening indicates elevated readings (above 5 part per million) the drill cuttings will be drummed and sampled for disposal characterization to determine the appropriate method of disposal. Drill cuttings generated

during the installation of the off-site wells will be screened with the PID and transported to the site for disposal.

All drilling equipment will be steam cleaned prior to work. An on-site potable water supply will be available for steam cleaning and other purposes as necessary.

The proposed monitoring wells will be constructed as 4-inch I.D. PVC flush-joint risers with .010 inch (#10) slot-size PVC well screens completed with 15 foot well screens, 5 feet above the water table and 10 feet below. A hollow stem auger rig will be utilized to drill these wells in accordance with New York State Department of Environmental Conservation (NYSDEC) specifications for wells in unconsolidated formations. Split spoon samples will be collected at 5-foot and 10-foot intervals according to the procedures described in Section 6.1.

At all of the monitoring wells, the threaded joints will be sealed using Teflon tape. The annular space around the well screens will be filled with a No. 2 grade sand pack extending from 6-inches below the bottom of the screen to a height of 2 feet above the top of screen. A 2 foot bentonite seal will be placed above the sand pack. The bentonite pellets will be continuously hydrated for sixty minutes prior to installation of the cement/bentonite grout. The depth to the bottom and top of each seal will be measured in the borehole to the nearest 0.1 foot using a weighted tape. The remaining annular space will be tremie grouted with a bentonite/cement slurry. The tremie pipe will be fitted with an elbow to deflect the grout towards the sidewall. A cement/bentonite surface seal will be constructed by filling the annular space of the borehole and will extend from approximately three feet below-grade to grade where a flush mounted well manhole will be installed. A water tight locking cap will be attached to the top of the PVC casing. A 6-inch diameter protective steel casing in a cement collar will be installed over each well. A flush to grade steel cover assembly will be set

around the well casing. This steel cover will be set into a sloped concrete pad, after the grout has been allowed to set.

Wells will be developed by pumping or bailing. Specific conductivity and pH measurements will be taken of the discharge until both parameters stabilize to confirm adequate development. Stabilization will be established when 2 consecutive well volume readings are within 10% of the last reading. Turbidity will also be monitored and the well will be developed until a measurement of less than 50 NTU is achieved or until turbidity stabilizes. Depth to groundwater measurements will be made before and after well development. Field data will be recorded in a bound field notebook.

6.3 - Groundwater Sampling

Following well construction, development, and a rest period of one week, groundwater samples will be collected from MW-1, 3, 5, 6, 8 and 9 on site. Samples will be submitted to H2M Labs, inc. to be tested for TCL VOCs, TCL semi-VOCs, TCL pesticides/PCBs, and TCL metals.

Pending the first round of groundwater sampling results, additional wells may be required off site. Resampling the wells may also be required for confirmation of first round results. However, the analysis may be limited to TCL VOCs only.

Prior to sampling the wells, a 4' x 4' plastic sheet will be placed at the foot of the well. This will be the designated work zone for the sampling event. All sampling equipment will be placed on this sheet to minimize the possibility of contaminating sampling equipment from the surrounding soils. Upon opening the monitoring wells, a PID will be used to screen for total volatile organic contaminants in the ambient atmosphere and in the headspace of the well.

Needle deflections will be recorded and compared to ambient background readings. The following procedure will be followed for groundwater sampling:

1. Prior to the purging of the wells for sample collection, a synoptic static water level measured to the nearest hundredth (0.01) foot in each monitoring well shall be taken.

2. To ensure a representative sample from the monitoring well, purging of the well is required. In general, the groundwater standing in the well casing prior to the sample collection will be similar in quality to that in the surrounding aquifer or local groundwater, but it may not be representative.

3. A volume of water equal to three or more times that standing in the casing will be purged from the well before taking the sample. If the monitoring well has a low yield, standing water will be evacuated while the well is dry and a sample collected upon recovery. Wells with high yield can be sampled immediately after evacuation. A decontaminated pump or dedicated polyethylene bailer shall be used to remove the required well volumes. Prior to the sampling event, sampling equipment shall be decontaminated as outlined in Section 8.0. All water removed during the evacuation process shall be discharged to the ground in close proximity to the sampling location, while preventing the water from draining to other locations. Purge water removed from the off-site wells will be containerized and disposed of on-site.

4. Dedicated, laboratory cleaned, polyethylene, disposable bailers will be attached to dedicated polypropylene rope or nylon line. The fourth bailer volume shall be placed in a precleaned, glass jar dedicated to each sampling point, and used to conduct analytical field tests (temperature, pH, turbidity, and specific

conductivity). The measurements will be recorded in the field book. All field instruments shall be calibrated daily prior to the sampling events, and cleaned between each sampling point.

The pH probe will first be field calibrated with a No. 7 buffer solution and then with either a No. 10 or No. 4 buffer solution, depending on the anticipated pH of the groundwater sample. The specific conductivity probe will be calibrated with an ionic solution that is closest in conductivity to that anticipated in the groundwater sample. A mercury thermometer will be used to measure temperature and will be tested in the laboratory for accuracy prior to sampling.

The TCL VOC sample will be collected first, followed by any samples to receive TCL semi-VOCs and/or TCL metals analysis. Samples receiving TCL metals analysis will be unfiltered. If groundwater turbidity exceeds 50 NTUs at the time of sample acquisition, a field decision regarding the filtering of samples will be made in consultation with NYSDEC's field geologist and chemist. Samples to be filtered will be filtered in the field immediately after sample collection.

The field filtering apparatus generally consists of a battery-operated peristaltic pump or hand vacuum which forces the sediment-bearing water through flexible tygon tubing onto a plate-type filter. The sediment is retained by the filter, while the filtrate passes through the tygon tubing to a sample container. The filter should have a standard mean pore diameter size of 0.45 micron (um). Most filters are known to leach contaminants in small quantities and some exhibit ion exchange properties for some of the substances in water. Therefore, care must be taken to thoroughly equilibrate the filter with sample water when the filtrate is to be analyzed. Generally, 100 to 250 milliliters (ml) of sample passed through the filter is sufficient for equilbration. This rinse water should then be discarded and an additional

quantity of sample filtered to provide the filtrate for chemical analysis. The following procedure will be used for filtering samples:

1. Using a bailer, a clean glass or plastic container will be filled with water.

2. The sample will be filtered and the initial 100 to 250 ml of filtrate will be discarded.

3. The sample bottle will be plastic for metals, will be filled through the discharge line, and the preservative (nitric acid) will be added to reduce pH to <2.

4. The filtering apparatus will then be disassembled and the filter discarded. The apparatus will be rinsed with distilled water and reassembled without the filter so that 100 to 200 ml of distilled water can be pumped through it to clean the internal parts. A new filter will then be installed and the above procedure will be followed for the next sample.

Appropriate QA/QC methodology and sampling protocol for these water quality analyses is reported in Section 8.0 (QA/QC). After all sample bottles are filled, they will be appropriately labeled and put in ice-filled coolers for delivery to the laboratory for analysis. These coolers will be chain-of-custody sealed after closing according to CLP procedures. Completed chain-of-custody forms will accompany all samples.

Site-specific Matrix Spike Duplicate (MS/MSD) samples will be collected in accordance with CLP procedures. One (1) trip blank will accompany the groundwater samples per sampling day. The trip blank vials will be filled in the laboratory using analyte free distilled/deionized water and will accompany the glassware from the laboratory to the field and back to the laboratory. One field blank will be collected per disposable polyethylene bailer lot. The field blank vial(s) will be filled during sampling by adding distilled/deionized water

to one of the bailers and then filling the field blank vials from the bailer. The field blank sample will be analyzed for the same parameters as the groundwater. Trip blank samples will be analyzed for TCL VOCs only. In lieu of separate environmental duplicate samples, MS/MSD duplicate samples will be site-specific and will be used and analyzed for the same parameters as the groundwater at a frequency of one for every twenty (20) samples collected. The well cap shall be secured and the above process shall be repeated at the next sampling point.

6.4 - Aquifer Characterization

6.4.1 - Well Elevation Survey

Following installation of the groundwater monitoring wells, a well survey will be performed. It will include all wells to be utilized as part of the remedial investigation. The horizontal distance between each well will be surveyed. Also, the elevation of the top of the riser pipe of the wells will be measured to the nearest 0.01 foot as well as the ground elevation to the nearest 0.1 foot. The survey points will be tied into the closest U.S. Coast and Geodetic survey datum point in relation to the site.

6.4.2 - Groundwater Elevation Measurements

Depth to water measurements will be taken at each of the well locations six (6) times during the RI. These measurements will be taken using a Fischer M-Scope water sensitive probe (or equivalent). The depth to water will be measured to the nearest 0.01 foot and referenced to the top of the well pipe. After use in each well, the measuring device will be cleaned to prevent cross contamination between wells. The probe will be cleaned with a phosphate-free detergent and rinsed with distilled water in between each measurement point.

6.4.3 - Groundwater Level Contour Mapping

Groundwater elevation data collected during measurements will be used to construct groundwater contour maps. Contour maps will depict the water table elevation during the six episodes and used to study flow direction and gradient variation.

6.4.4 - Aquifer Testing

A total of four (4) wells swill be tested for hydraulic conductivity by a slug test. The slug tests will provide data for determining hydraulic conductivity (K) estimates for the screened interval of the aquifer. The slug test will be performed by plugging a decontaminated, 5-foot section of PVC (water-filled and capped at both ends) in the wells. Measurements of water level change will be recorded. The slug will be decontaminated, then introduced into the well and the water level will be given sufficient time to recover to static conditions. Once this is recorded, the slug will be quickly and smoothly removed from the well and the rising head rate of recovery will be recorded. The results will be graphed and K values calculated using the Bouwer and Rice method of analysis. Hydraulic conductivities will be used to calculate groundwater flow velocity and aquifer yield (for potential groundwater recovery systems).

Each groundwater monitoring well will be surveyed to a horizontal and vertical datum (true U.S. Coast and Geodetic Survey Datum).

Depth to water in each of the wells (along with date and time) will be measured using a decontaminated water level indicator (accurate to 0.01 ft). Synoptic measurements will be obtained on the same day of testing.

In addition, select soil samples from the aquifer will be collected and seived for grain size distribution and uniformity coefficient estimates. These estimates will be used for

comparison to the slug test data and for remedial design criteria, if necessary. The information obtained from the aquifer characterization and water quality data will enable H2M and NYSDEC to determine the need (and placement) for off-site wells.

7.0 - ANALYTICAL PROCEDURES AND LABORATORY REPORTING

7.1 - The Laboratory

The samples will be analyzed at H2M Labs, Inc. in Melville, New York. H2M Labs, Inc. is a NYSDOH-ELAP-CLP certified laboratory, proficient in all aspects of the 1991 Analytical Services Protocol including the ability to perform continuous liquid-liquid extraction.

The Laboratory Director, John J. Molloy, P.E., has overall responsibility for all operational activities. The Laboratory Quality Assurance Manager, Joann M. Slavin, will review all data and be responsible for laboratory report and quality control.

Analysis is separated into two sections utilizing two Senior Analysts. Ursula Middle will directly supervise the organic laboratory and technicians, and review all analytical and QC data. Sal Badalamenti will supervise the analyses of all inorganics. He will review all raw data, calculations and QC analyses.

A copy of this RI work plan will be supplied to the laboratory prior to analyses.

7.2 - Parameters and Frequency of Analysis

7.2.1. - Soil Matrix

During the well installation and soil borings, the split-spoon soil samples recorded with the highest PID reading from each borehole will be retained. In the absence of elevated PID readings, the shallowest sample will be retained. Also, the deepest soil sample collected from each borehole will also be tested. Selected samples will be analyzed for TCL VOCs, TCL

semi-VOCs and TCL metals. Table 7.2.1.1 illustrates the appropriate laboratory methods used for soil sample analysis.

7.2.2 - Water Matrix

The wells to be sampled for the RI will be analyzed according to CLP procedures. At a minimum, one (1) round of sampling will occur. Sampling Event 1 will begin one (1) week after all the wells have been installed and developed, and if necessary, Event 2 may occur 30 days after Event 1. See Table 7.2.2.1 for the appropriate laboratory methods used for water sample analysis.

All groundwater samples collected during the first round will be analyzed for TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs and TCL metals. During each round of sampling, strict QA/QC protocols must be followed. A trip blank will be carried along with the samples every day which will determine if outside contamination has been introduced. Trip blanks will be analyzed for TCL VOCs only. A field equipment blank will be collected for each method of sampling and analysis, and tested for the same parameters collected that day. A site-specific MS/MSD sample will also be collected at a minimum of one per every twenty samples collected and analyzed for all respective parameters. Field tests will include temperature, pH, turbidity, and specific conductivity and will be taken immediately upon collection.

7.3 - Laboratory Procedures

7.3.1 - Calibration Practices

Instruments and equipment used in H2M Labs, Inc. are controlled by a formal calibration program. The program verifies that equipment is of the proper type, range, accuracy, and precision to provide data compatible with specified requirements. All

level) are subject to calibration. Calibration may be performed by H2M personnel using reference standards or externally by calibration agencies or equipment manufacturers.

Implementation of the laboratory calibration program is the responsibility of the Laboratory Manager and Analysts. The Laboratory Quality Assurance (QA) Manager shall review the implementation of the program.

There are two (2) types of calibration pertinent to these laboratory procedures - operational and periodic.

1) Operational Calibration which is routinely performed as part of instrument usage, such as the development of a standard curve for use with an Atomic Absorption Sectrophotometer. Operational calibration is generally performed for instrument systems.

2) Periodic Calibration which is performed at prescribed intervals for equipment, such as balances and ovens. In general, equipment which can be calibrated periodically is a distinct single purpose unit and is relatively stable in performance.

Whenever possible, recognized procedures, such as those published by American Society for Testing and Materials (ASTM) or USEPA, or procedures provided by manufacturers shall be utilized.

7.3.2 - Equipment Identification

Equipment that is subject to calibration shall be uniquely identified so that calibration records can be designated with a specific instrument.

7.3.3 - Calibration Frequency

Instruments and equipment shall be calibrated at prescribed intervals and/or as part of the operational use of the equipment. Frequency shall be based on the type of equipment, inherent stability, manufacturer's recommendations, values provided in recognized standards, intended use, effect of error upon the measurement process, and prior experience.

7.3.4 - Calibration Reference Standards

Two (2) types of reference standards are used within the H2M laboratory for calibration - physical and chemical:

1. Physical Standards, such as weights for calibrating balances and certified thermometers for calibrating working thermometers and ovens, which are generally used for periodic calibration.

2. Chemical Standards primarily used for operational calibration.

Whenever possible, physical and chemical reference standards shall be known relationships to nationally recognized standards (e.g., National Bureau of Standards) or accepted values of natural physical constants. If national standards do not exist, the basis for the reference standard shall be documented.

7.3.5 - Calibration Failure

Equipment that fails calibration or becomes inoperable during use shall be removed from service and segregated to prevent inadvertent use, or shall be tagged to indicate it is out of calibration. Such equipment shall be repaired and satisfactorily recalibrated before reuse.

7.3.6 - Calibration Records

Records shall be prepared and maintained for each piece of equipment subject to calibration. Records demonstrating accuracy of reference standards shall also be maintained.

For instruments and equipment that are calibrated on an operational basis, calibration generally consists of determining instrumental response against compounds of known composition and concentration or the preparation of a standard response curve of the same compound at different concentrations. Records of these calibration can be maintained in several ways:

1. The calibration data can be kept with analytical sample date.

2. A log book can be prepared for each instrument which contains all calibration data.

Method 1 provides response factor information, etc., directly with analytical data so that the data can be readily processed and verified. Also, the raw data package is completed as a unit.

Method 2 provides an on-going record of calibration undertaken for a specific instrument; however, to process and verify the analytical data, the log must be used in conjunction with the raw data.

For operational calibration of instrumentation used for this project, calibration data will be included with the raw analytical data and maintained in project files.

7.4 - Analytical Methods

The analytical procedures for the parameters associated with this project will be from the "New York State Department of Environmental Conservation Analytical Services Protocol, September 1989 12/91 Revisions" (see Appendix C).

7.5 - Laboratory Data Processing and Reporting

7.5.1 - Review of Data Processing

The following is a discussion of the method to be used for reviewing (checking) data processing. At least 20% of all data shall be checked in this manner. If, during the checking process, errors are determined, checking shall be completely (100%) performed for the data set.

The analyst performing the data processing shall give an analyst, independent of the work, the data package. The package shall include, as appropriate, raw data, data sheets, strip charts, computer input/output, calculations, sources for input parameters such as response factors, etc.

The independent analyst (checker) shall review the data for:

1. Appropriateness of equations used.

2. Correctness of numerical input.

3. Numerical correctness of all calculations. This should be done by reperforming numerical computations.

The checking process must be thorough enough to validate that the results are correct. If the checker disagrees with any part of the computations, the checker shall mark through the number with a single line and place the revised number above it.

Any changes made by the checker shall be back-checked by the originator. If the originator agrees with the change, no action is necessary. If the originator disagrees, the originator and checker must resolve the difference so they agree with the result presented.

7.5.2 - Data Reduction

Laboratory data reduction and analysis for organic analyses involves relating a "peak area" to the mass of a constituent. This is accomplished by digital computers. The computer hardware and software is designed to allow the analyst to create libraries or files of calibration standards, and then compare raw sample data against these libraries to produce a report which contains the identification and qualification of constituents present in the sample. The computer-reduced data are manually checked by the analysts.

Inorganic analyses are performed with instruments of varying electronic sophistication, but in all instances, data reduction and analysis involves essentially the generation of a standard calibration curve, and then comparing the instrument readout against the calibration curve to obtain a "Quantity" of constituent. The concentration is then manually calculated. The calculated results are manually entered into the computer system.

For laboratory reporting, the results of the inorganic analyses are entered in a computer and the report is printed. The organic analyses are typed. All reports list the date the sample was received, date collected and the date reported.

7.5.3 - Data Reporting

The following are applicable to data presentation:

1. The final presentation shall be checked in accordance with data verification requirements and approved by the Laboratory QA Manager.

2. Data presentation will include:

   a) Sample identification number used by H2M Labs, Inc. and/or the sample identification provided to the laboratory, if different than identification used in the laboratory.

   b) Chemical parameters analyzed, reported values, and units of measurements.

   c) Detection limit of the analytical procedure, if the reported value is less than the detection limit (see Appendix C for CLP detection limits).

   d) Data for a chemical parameter are reported with consistent significant figures for all samples.

   e) Results of quality control sample analysis, if appropriate.

   f) Footnotes referenced to specific data, if required to explain reported values.

The format for reporting will follow that the NYSDEC Contract Laboratory Program (CLP).

The laboratory QA officer will provide the Project Manager with a QA summary sheet including a narrative of data rejection or acceptance.

7.5.4 - Review of Data Reporting

Review of data reports is required to verify that information reported by H2M Labs, Inc. corresponds with processed analytical results. Review is only required of the data as it is presented for issuance. Intermediate steps performed after the processed data are checked to prepare the data report (such as data summarizes) do not require validation.

After the draft data report is prepared (generally in tabular form), the reported results should be checked against the reviewed processed data so that transcription errors do not occur. The checking process follows:

1. Using the draft report, all data entries are checked. The checker is not required to be independent of the work because only the transcription from the reviewed data to the data report is being checked.

2. The draft data report should be checked so that the items cited for data presentation are complete and correct. Corrected entries are marked through with a single line and the correct entry provided. The reviewer will indicate that corrections have been made in the report by placing a second check mark by the correction after comparing the change with the revised copy. The checker shall sign and date every page of the data report in ink.

3. Use of the draft data report results in a check-print which should be maintained as a record to demonstrate the review.

4. If data printouts, such as chromatographs or GC/MS data processing, are included in the data report, review is not required for the data report, review is not required for the data printout.

5. If computer output is used directly as the data report without further transcription, only the input requires review.

After checking of the data report is complete, it is given to the Laboratory QA Manager or her designated representative for final review. This step is not intended for verifying the reported data. This review is intended to determine that the report meets project requirements. The data report is approved for issue by the Laboratory QA Manager.

7.5.5 - Documentation, Data Reduction and Reporting Field Data

All information pertinent to any field activities will be recorded in bound, waterproof field books. Duplicates of all notes will be prepared each night and kept in a secure place away from the site. Proper documentation will consist of all field personnel maintaining detailed records of all work accomplished including:

(1) data and time of work events
(2) purpose of work
(3) names and addresses of people relevant to the project
(4) description of all methods
(5) description of all samples
(6) number and size of samples
(7) description of sampling point
(8) date and time of collection of sample
(9) sample collector's name
(10) reference to site map and/or photograph

(11) field observations

(12) any field measurements with portable instruments.

Each sample collected in the field will be labeled using waterproof ink. Each bottle will be labeled with a number of location, parameter to be analyzed, sampling time and date. The field hydrogeologist will be responsible for ensuring that hydrogeological data are properly recorded.

The data reporting scheme and key individuals who will handle the data are as follows:

(1) data collection by the field hydrogeologist

(2) data reduction, also be the field hydrogeologist

(3) data review by the Project Manager

(4) data validation by independent qualified validator

(5) data usability by the quality assurance officer

(6) Final data interpretation by project manager

8.0 - QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN

The overall QA/QC plan objective is to produce data at the highest quality level to provide direct support for the feasibility study. All sampling activities used directly to support the RI will use Level IV Data Quality Objectives. These activities include groundwater sampling and soil/sediment sampling (see Table 8.1 for summary of QA/QC for sampling).

Specifically, all data will be gathered or developed using procedures appropriate for the intended use. Standard procedures are used so that known and acceptable levels of accuracy, precision, representatives, completeness, and comparability are maintained for each data set. Descriptions of these criteria are presented in the following subsections.

8.1 - Field QA/QC

In order to ensure that data collected in the field is consistent and accurate, forms will be utilized for repetitive data collection, such as depth to water in wells, well locations, etc. These field forms include Well Logging, Field Sampling and Water Level Data Records.

The accuracy of the data collected will be checked by using an additional degree of definition than the minimum wherever possible. For example, if two distances are needed to locate a well, three will be used so that if one distance is inaccurate, the well can still be located and the field measurements can be re-taken. For measurements where this is not possible (i.e., depth to water), measurements will be taken and recorded three times.

Blanks and duplicate samples will be used to verify the quality of the field sampling results. A brief description of these samples follows.

8.1.1 - Blank Samples

A field equipment blank will be used to determine the effectiveness of the decontamination of the sampling devices (i.e., bailers and/or split-spoon samplers). Analyte free water will be poured into the sampling device and then transferred to sample containers before use in sampling. Sampling bailers will be dedicated to each well, however, these equipment blanks will be used to ensure proper laboratory cleaning.

The analyte free water used as blanks (for both field and trip blanks) will depend upon the type of analysis. Distilled and deionized water will be used as blanks for the inorganic analysis. For organic analysis, the blanks will be HPLC grade water.

8.1.2 - Duplicate Samples

One blind duplicate sample will be prepared during soil sampling. Site-specific Matrix spikes (MS) and MS duplicates (MSDs) will be collected and submitted to the laboratory as separate samples. One MS/MSD will be collected for every 20 samples, per matrix.

8.1.3 - Field Records

All information pertinent to any field activities will be recorded in bound, waterproof field books. Duplicates of all notes will be prepared and kept in a secure place away from the site. Proper documentation will consist of all field personnel maintaining records of all work accomplished including the items listed below:

- date and time of work events
- purpose of work
- description of methods

- description of samples
- number and size of samples
- description of sampling point
- date and time of collection of sample
- sample collector's name
- field observations
- any field measurements with portable instruments

Each sample collected in the field will be labeled using waterproof ink. Each bottle will be labeled with a number, location, parameter to be analyzed, sampling time and date. Packaging, shipping and chain-of-custody requirements for the samples shall be in accordance with National Enforcement Investigation Center (NEIC) procedures.

8.2 - Preparation and Preservation of Sample Containers

The scope of this project necessitates that several types of sampling containers will be used. Sample containers will be provided by H2M Labs, Inc. Each sample container will be provided with a label for sample identification purposes. The amount of information on the label will include a sample identification number, time, date and initials of the sample collector. All sample containers will be accompanied by a full chain-of-custody.

All sample containers will be thoroughly cleaned prior to sampling. Appropriate sample preservatives will be pre-added in the bottles. Procedures vary according to the type of analysis to be performed. Individual procedures are outlined below. It is lab practice to pre-preserve sample containers in order to minimize potential contaminants in the field and to

reduce unnecessary sample handling in the field (see Table 7.2.1.1 and 7.2.2.1 for description of sample analysis methods, holding time and preservation procedures).

8.3 - Decontamination

8.3.1 - Decontamination Zone

The decontamination zone will be located at the southern end of the property. The driller will prepare a decontamination station whose perimeter is diked to prevent ground contamination from wash waters running out of the area. All drilling equipment shall be decontaminated in this zone.

Wash waters from equipment (i.e., split-spoons, pumps, etc.) requiring decontamination will be contained and stored in 55 gallon drums pending laboratory analyses.

8.3.2 - Decontamination Procedures

All field equipment, with the exception of drilling equipment, split-spoons, dedicated polythylene bailers, hoses, pumps, well casings, well screenings and personnel protective equipment, shall be decontaminated for field use according to the following procedures:

- Non-phosphate detergent and tap water wash.
- Tap water rinse.
- Distilled/deionized water rinse.
- 10% nitric acid rinse.**
- Methanol rinse.

- Total air dry or nitrogen blowout.
- Distilled/deionized water rinse.

** Only if sample is to be analyzed for metals.

Field Decontamination for Drilling Equipment and Split Spoon Samplers:

Field decontamination will consist of steam cleaning and/or a manual scrubbing to remove foreign material and steam cleaning inside and out. These items will then be stored in such a manner as to preserve their pristine condition.

Field Decontamination for the Pumps and Hoses:

The procedures for the field decontamination of the pumps and hoses shall consist of a manual scrubbing to remove foreign materials followed by an Alconox scrub and tap water rinse. All wash fluid will be collected and disposed of properly.

Personnel Protective Equipment Decontamination Procedures:

The personnel protective equipment decontamination procedure shall consist of the minimum decontamination stations outlined in the Site Health and Safety Plan (Appendix D).

8.4 - Sample Custody

To maintain and document sample possession, chain-of-custody procedures will be followed. A chain-of-custody form contains the signatures of individuals who have possession of the samples after collection and identification in the field.

A sample is under custody if:

1) it is in one's actual possession; or

2) it is in one's view, after being in your physical possession; or

3) it was in one's physical possession and then was locked up or sealed to prevent tampering; or

4) it is in a designated secure place restricted to authorized personnel.

H2M personnel will preserve and retain the unused portions of all samples in their original containers. These samples will be stored until project closeout, at which time they shall be properly packaged and, at the direction of the H2M representative, transported to an off-site location for disposal.

Each person involved with the samples will know chain-of-custody procedures. A detailed discussion of the stages of possession; (1) field collection, (2) transfer, and (3) laboratory custody is presented below:

8.4.1 - Field Chain-of-Custody

Chain-of-Custody procedure for (2) field notebook and boring logs, (2) well key chain, (3) split-spoon sediment samples from well drilling, and (4) environmental samples are included as part of field collection.

Field Notebook and Boring Log Notebook Chain-of-Custody

Dedicated field and log books will be used for the duration of the project. These will be numbered and assigned to the field personnel. A log of the notebook number, the

personnel assigned to the notebooks and their affiliation, and the date and time signed out and signed in will be kept. Maintenance of the notebook log will be the responsibility of the field hydrogeologist. Sufficient numbers of notebooks will be provided to allow for reviews of the field data by the project hydrogeologist during the field operations.

All water level data and field notes will be recorded in bound field notebooks. Drilling data will be recorded in boring logs which will be kept in ring binders. Soil sample chain-of-custody forms will also be kept in a ring binder.

Well Key Chain-of-Custody

The field hydrogeologist will be responsible for placing the locks on the protective casings and maintaining chain-of-custody of the keys. The project hydrogeologist will initiate a log tracking each set of keys from the wells. The log will contain the well number, the date and time the lock was installed on the well, the person who received the key, and the date, time and person to whom the key was given for the duration of the project. Each of the people to whom a key is assigned during the project will maintain a separate chain-of-custody log for the key(s) that they are assigned.

Split-Spoon Soil Samples

All split-spoon soil samples taken during drilling will be recorded on both the boring log forms and a chain-of-custody form. The field hydrogeologist will be responsible for the custody of the soil samples. The chain-of-custody form will report the sample I.D., date and time taken, person who received the sample, and date, time and person to whom the sample was released. The sample chain-of-custody forms will be kept in ring binders.

Environmental Samples Chain-of-Custody

When collecting samples for analysis or evidence, only a number which provides a fair representation of the media being sampled will be collected.

The field sampler initiates the chain-of-custody procedure in the field and is the first to sign the from upon collection of samples.

The field sampler is personally responsible for the care and custody of the samples until they are transferred and properly dispatched. Sample tags shall be completed for each sample, using waterproof ink, subjected to proper preservation, and packaged to preclude breakage during shipment. Every sample shall be assigned a unique identification number that is entered on the chain-of-custody form. Samples can be grouped for shipment using a single form.

The record shall be completed in the field as to indicate: project number, unique sample number, sample location (borehole, depth, grid coordinates), sampling date and time, person obtaining the sample, and method of sample preservation. The paperwork will be done and checked at an on-site location.

8.5 - Transfer of Custody and Shipments

All samples will be accompanied by a chain-of-custody record. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date and note the time of transfer. This record documents transfer of custody of samples from the sampler to another person, to a mobile laboratory or to the permanent laboratory.

Samples will be properly packed for shipment and dispatched to the appropriate laboratory for analysis, with a separate signed custody record enclosed in each sample box or

cooler. If samples are shipped directly to the laboratory, the chain-of-custody forms will be kept in possession of the person delivering the samples.

For samples shipped by commercial carrier, the chain-of-custody form will be sealed in a watertight envelope, placed in the shipping container, and the shipping container sealed prior to being given to the carrier. The waybill will serve as an extension of the chain-of-custody record between the final field person and receipt in the laboratory.

Whenever samples are split with a facility or government agency, a separate chain-of-custody record will be prepared for those samples and marked to indicate with whom the samples were split.

8.6 - Laboratory Sample Custody

H2M Labs, Inc. has standard operating procedures for documenting receipt, tracking and compilation of sample data. Sample custody related to sampling procedures and sample transfer are described below.

1) Shipping or Pickup of Cooler By Client

(a) Cooler packed at H2M after contact with client.

(b) Cooler wrapped with evidence tape.

(c) Chain-of-Custody form filled out by H2M personnel.

(d) Client supplied with evidence tape to seal cooler prior to shipment back to the laboratory.

2) Delivery of Cooler to H2M

(a) Samplers check for any external damage (such as leaking).

(b) The outside of the cooler is checked with a Geiger counter.

(c) Samplers sign for cooler from shipper.

3) Final Steps

(a) Raw data stored on file.

The samples will be stored at the proper temperature and not longer than the required holding time before analysis. It is the responsibility of the laboratory to properly dispose of samples beyond the holding period.

8.7 - Data Validation

Data validation will be performed by Ms. Judy Harry of Laboratory Validation Services. Data review starts with an analyst, independent of the data acquisition and processing, reviewing and confirming that data processing has been correctly performed. It continues through verifying that the reported analytical results correspond to the data required and processed. The data validation report will present the critical points with respect to compliance with data holding times, detection limits, and quantification values. All validation procedures and reports will conform to NYSDEC approved methods.

8.8 - Quality Assurance Officer and Data Usability

The QAO for the project is Mr. Gerald A. Granzen (see Appendix B for Mr. Granzen's resume). Mr. Granzen will be responsible for:

A) Informing the NYSDEC Division of Hazardous Waste Remediation (DHWR) Bureau of Technical Services (BTS) of the frequency in which he will be present on site during implementation of the FSP.

B) Submitting his field check list prior to sampling.

C) Submitting a field audit report for each field check to NYSDEC (DHWR, BTS).

D) Reviewing laboratory results for the soil/sediment and groundwater samples pertaining to the site from a data usability standpoint. EPA's "Laboratory Data Validation, Functional Guidelines for Evaluating Organics Analyses" and EPA's "SOP No. HW-2, Evaluation of Metals Data for the Contract Laboratory Program (CLP)," will be used to determine data usability. Based upon the evaluation, the QAO will determine whether all data are usable. The QAO will determine which data should be considered as estimated and flagged with J D. The QAO will submit a Data Usability Report to NYSDEC after each round of data and prior to the development of the final RI report.

E. Filling out and signing of the Quality Assurance Officer's (QAO) signature page (see following page).

F. Notifying the NYSDEC - QAO prior to the deviation from any accepted protocols contained in the final RI Work Plan (this document).

QUALITY ASSURANCE OFFICER (QAO)

SIGNATURE PAGE

I, Gerald Granzen, hereby certify that I am an employee of Holzmacher, McLendon, Murrell, P.C. and that I have acted in conjunction with the project manager to develop this site specific Quality assurance/Quality control (QA/QC) plan. As an employee of Holzmacher, McLendon & Murrell, P.C. (H2M) and independent of H2M Labs, Inc.

I understand that I shall derive my responsibility and authority from a source other than the project manager and have the authority to override the project manager's decision in areas where QA/QC elements may be compromised.

I certify that my education and experience fulfill the minimum requirements of the New York State Department of Environmental Conservation as indicated on my resume (see Appendix B).

I have audited H2M Labs, Inc. and have determined that it is a NYSDOH-ELAP-CLP certified laboratory qualified to provide the analytical services as outlined in this RI Work Plan.

I agree to assist the project manager in the development of the field sampling program (FSP) and anlytical portion of the QA/QC Plan, interface with the data validator and develop a project specific data usability report.

Gerald Granzen
Signature of QAO

Gerald Granzen
Print Name

9-9-92
Date

9.0 FISH AND WILDLIFE IMPACT ASSESSMENT PLAN

9.1 - Objective

This Fish and Wildlife Impact Assessment Plan is intended to evaluate fish and wildlife concerns associated with the selected and alternative remediation methods of the Bōwe Systec, Inc. site. The work plan is presented in a phased approach in order to lead to an efficient ecological evaluation of the site (and the surroundings) and to evaluate the potential impacts on fish and wildlife resources.

Analysis of the impact of the potential contaminant pathway and site remediation in the ecology begins with an inventory and report of identifiable fish and wildlife resources that may be affected by site-related contaminants. If a descernable pathway of contaminant migration and exposure to significant fish and wildlife resources can be identified, detailed analysis would follow. If no significant resources or potential pathways are identifiable, impact on resources may be minimal. Demonstration of minimal impact may eliminate the need for further analysis and the remainder of the phased scope under this plan.

Coordination and consultation with regulatory and non-regulatory fish and wildlife authorities, including the stsaff of the Inactive Hazardous Waste Evaluation Unit and the NYSDEC Division of Fish and Wildlife are provided for under this proposed work plan.

9.2 - General Ecology

The landscape of the area surrounding and including the 200 Frank Road property has changed drastically over the past 50 years. Extensive housing developments, shopping centers, industrial complexes and office parks now dominate and blanket areas where once deciduous oak forests and then vast acreage of potato and other crop farms once flourished. Rapid

urbanization has created isolated fragments of the natural forest replacing it with typical track housing developments and the associated wildlife, opportunistic and adaptable to the introduced ornamental vegetation and the severely fragmented nature of the undisturbed open space. The proximity of the fragmented wooded open space to extensive residential areas and high speed roadways limits the occurrence of significant wildlife populations. Associated with the remnant stands of oak, birch, cherry and maple are songbirds, which are the most common wildlife throughout the area. Back yards that have trees, shrubs, and evergreens are generally attractive to a variety of birds. English sparrows, grackles, red-wing black birds, mocking birds, cardinals, house finches, starlings, morning doves, and pigeons are the dominant species.

Isolated and distant areas of open land include several recreational ball fields and golf courses to the north, east and south and the Wantagh State Parkway right-of-way to the west. Typical wildlife which may be attracted to these areas include bobwhite quail, meadow vole, meadowlark, field sparrow, cottontail rabbit, raccoon, opossum, red fox, as well as those mentioned earlier above.

9.3 - Scope of Work

9.3.1 - Phase I - Baseline Information

Task 1 - Site Maps

A topographic map will be prepared for the site and a two mile radius around the project site, demonstrating all NYSDEC juridical designations including but limited to Critical Environmental Areas, Freshwater Wetlands, and Significant Habitats. In addition, a cover type map will be prepared demonstrating dominant vegetative cover on site and in a 0.5 mile

radius from the boundary of the project site. Habitats will be preliminary designated by analyzing areal photography and subsequently field verified for accuracy and refinement.

Task 2 - The Description of Fish and Wildlife Resource, Field Investigations and Reports

Habitats and vegetative fragments identified as significant resources will be inventoried by walking line transects across the habitat. A compass heading perpendicular to a base line will be established and sample circular plots with a radius of approximately 40 feet would be sampled at intervals along the transect. Inventories will be conducted until no new plant species are observed. Dominant plant species will be noted for each vegetative unit and each unit would be categorized in accordance with the food, nesting and cover resources provided by the dominant vegetation.

Fauna will be identified by visual observations including direct siting or by observation of browse markings, scat, nests, tracts, or dens. In addition, fauna as well as flora identified in the field will be supplemented by literature file searches and communication with NYSDEC, USF&W Service and local wildlife experts. Special Concern, Threatened or Endangered animal and plant species will be specifically targeted in the inventory and listed if appropriate.

Habitats will be qualitatively assessed for ecological value to wildlife in terms of food, nesting, den, and cover resources, and to humans in terms of hunting, recreation, scientific study and wildlife observation.

Observations of stress potentially related to site contaminants will be noted and described as to its effect on the biota.

Potential fish and wildlife regulatory criteria applicable to remediation (if warranted) will be identified in the R.I. including permit and buffer requirements.

9.3.2 - Phase II - Contaminant-Specific Impact Analysis

H2M will conduct a pathway analysis to determine the potential and feasibility of routes of contaminants migration into the biota. Contaminants of concern, contaminant source, potential pathway, likelihood of exposure and exposure frequency will be analyzed as it relates to likely receptors in the biota.

9.3.3 - Phase III - Criteria-Specific Analysis

If it is concluded that a pathway for fish and wildlife impacts exists, criteria-specific analysis and analysis of toxicological effects will be determined pursuant to "Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites" (NYSDEC DF&W 1991).

9.3.4 - Phase IV - Ecological Effects of Remedial Alternatives, Implementation and Monitoring

Analysis of the proposed remedial action as well as alternatives, will be performed as to its effect on indicator species identified as significant in phases I, II and III. Effects related to contaminants and non-contaminant impacts of remediation will be determined including clearing, grading, excavating, construction or laydown for construction. Natural resource, regulatory setbacks and/or constraints will be discussed as they effect remediation alternatives. All alternatives including the proposed remediation will be compared to baseline conditions established at the beginning of the remedial investigation. This section will conclude with an assessment of the overall risk of the alternative remedial actions to the productivity of fish and wildlife resources. Positive and negative effects will be compared for all remedial alternatives.

After implementation of the selected alternative, fish and wildlife resources will be monitored periodically for the duration of the remediation.

10.0 - BASELINE HEALTH RISK ASSESSMENT (HRA) PLAN

A baseline HRA evaluation will be conducted and will follow 5 basic steps as recommended in the Superfund Public Health Evaluation Manual (EPA 540/1-86/060, 1986). These are: (1) select indicator chemicals at the site; (2) assess exposure concentrations and compare to ARARs (applicable or relevant and appropriate requirements); (3) estimate human intakes; (4) assess toxicity; and (5) characterize risks.

In Step 1, the indicator chemicals are selected and are based on toxicity, site concentration and environmental mobility. This involves identifying the chemicals present at the site, determining representative concentrations from site monitoring data, calculating indicator scores based on maximum and representative concentrations and route specific toxicity data, and finally selecting indicator chemicals based on indicator scores and physical/chemical property data. The chosen indicator chemical represents the most prevalent, toxic, mobile and persistent chemicals at the site.

In Step 2, the exposure point concentration is estimated using actual conditions at the site, thus reflecting both background and site-specific contamination. First, potential human exposure pathways are identified, exposure point concentrations of indicator chemicals are estimated using environmental monitoring and appropriate models, and then the projected concentrations are compared to ARARs. If there are ARARs for all indicators, then the baseline evaluation is considered complete. A community well survey will be performed for the area downgradient of the site in order to identify potential receptors of groundwater. The survey will be performed for an area up to 1/2 mile downgradient of the site. Should any private wells be identified, H2M will collect samples and test them for the same parameters as detected at Böwe.

The public Health Evaluation Manual also recommends a second procedure. This is to estimate exposure point concentrations for water using "background" chemical concentrations. Background conditions are based on "natural" conditions instead of anthropogenic conditions.

Step 3 is the estimation of chemical intakes. This involves adjusting standard intake assumptions for site-specific factors; if appropriate, combining adjusted assumptions with projected chemical concentrations to estimate intakes (i.e., chronic and subchronic daily intakes across exposure routes, as appropriate.

Step 4 is the toxicity assessment. On this step the critical toxicity values from EPA approved sources are identified, and toxicity values are developed for additional chemicals, if necessary. The toxicity values are for sub-chronic and chronic acceptable intake rates.

Step 5 is the risk characterization step. All estimated intakes for non-carcinogens are compared to reference levels. For carcinogens, estimated intakes with upper bound carcinogenic potency factors are combined in order to calculate risk.

Figure 10.1 is a flow chart which outlines the steps to be undertaken for the baseline Health Risk Evaluation.

11.0 - GENERIC OUTLINE OF RI REPORT

EXECUTIVE SUMMARY

1. INTRODUCTION
   - 1.1 Purpose of Report
   - 1.2 Site Background
     - 1.2.1 Site Description
     - 1.2.2 Site History
     - 1.2.3 Previous Investigations
   - 1.3 Report Organization

2. STUDY AREA INVESTIGATION
   - 2.1 Surface Features (topographic mapping, etc) (natural and manmade features)
   - 2.2 Contaminant Source Investigations
   - 2.3 Hydrogeological Investigations
   - 2.4 Soil Investigations
   - 2.5 Groundwater Investigations
   - 2.6 Human Population Surveys
   - 2.7 Water Supply Surveys
   - 2.8 Ecological Investigations

3. PHYSICAL CHARACTERISTICS OF THE STUDY AREA
   - 3.1 Surface Features
   - 3.2 Surface Water Hydrology
   - 3.3 Geology

3.4 Soils

3.5 Hydrogeology

3.6 Demography and Land Use

3.7 Ecology

4. NATURE AND EXTENT OF CONTAMINATION

4.1 Sources

4.2 Soils

4.3 Groundwater

4.4 Biota

5. QA/QC, DATA VALIDATION, AND DATA USABILIY

5.1 QA/QC

5.2 Data Validation

5.3 Data Usability

6. CONTAMINANT FATE AND TRANSPORT

6.1 Potential Routes of Migration (i.e., air, groundwater, etc.)

6.2 Contaminant Persistence

6.3 Contaminant Migration

7. BASELINE HEALTH RISK ASSESSMENT

7.1 Public Health Evaluation

7.1.1 Exposure Assessment

7.1.2 Toxicity Assessment

7.1.3 Risk Characterization

7.2 Environmental Assessment

8. SUMMARY AND CONCLUSIONS

8.1 Summary

8.1.1 Nature and Extent of Contamination

8.1.2 Fate and Transport

8.1.3 Risk Assessment

8.2 Conclusions

8.2.1 Data Limitations and Recommendations for future work

8.2.2 Recommended Remedial Action Objectives

APPENDICES

A. Boring Logs

B. Hydrogeological Data

C. Analytical Data QA/QC Evaluation Results

D. Risk Assessment Models

E. Toxicity Profiles

12.0 - HEALTH AND SAFETY PLAN (HASP)

The primary health and safety concerns at the Bõwe Systec, Inc. site are: inhalation or dermal-contact exposure to hazardous materials and physical hazards.

1. Inhalation: Ambient air will be monitored using an OVA or HNu during any ground breaking activities. All work will be performed in Level D. Level C (air-purifying respirators) will be considered if ambient air concentrations of VOCs exceed appropriate guidelines.

2. Dermal Contact: Synthetic gloves with low permeability to liquids and regular Tyvek suits will be used by all field staff in contact with on-site soil or water.

3. Physical Hazards: Hard hats and steel-toed safety boots will be mandatory during excavation or drilling activities. Safety glasses will be used during equipment decontamination. Air monitoring using an OVA or HNu will be used during drilling activities.

Personnel will adhere to corporate health and safety guidelines during field activities.

A Health and Safety Plan (HASP) has been developed for the implementation of the work plan by H2M personnel (see Appendix D for HASP). This HASP establishes a protocol for protecting field personnel and the public from incidents that may arise while performing field activities at the Bõwe Systec, Inc. site. This plan establishes personnel protection standards, mandatory operation procedures, and provides for contingencies that may arise while field work is being conducted at the site. All H2M field crews and all subcontractors will be provided a copy of the HASP. In addition, all subcontractors must provide their own

HASP or provide written acceptance of the H2M HASP. Any visitors will be required to abide by the procedures outlined in the HASP.

Should contractors wish to follow their own HASP, it must include safety guidelines, contingency plans, a hospital route map and emergency telephone numbers. The HASP must adhere to Federal OSHA and New York State Department of Labor hazardous materials requirements for hazard communication and health and safety, and address measures to protect nearby residents.

13.0 - CITIZEN PARTICIPATION PLAN (CPP)

13.1 - Introduction

The following Citizen Participation Plan (CPP), affecting the investigation and remediation of the Bõwe Systec, Inc. inactive hazardous waste disposal site (NYSDEC identification number 1-30-048 listed in the Registry as the Bowe Systems and Machinery site), has been prepared in order to provide a clear set of opportunities and procedures for citizens to receive information about and provide input to the remedial investigations and activities which will take place at this site. The plan seeks to assure an open process for the interested and possibly affected public. This includes public officials at all levels, citizen interest groups, commercial interests, individuals in the area of the site and the media. These parties need to be a part of the decision-making process for this site, and to be informed about on-site activities.

The site is located in an area of light industrial activity, and has not been a focus of particular citizen concern. The plan presented here briefly describes the site history and condition as it is now known, as well as currently proposed remedial investigation activities. It also identifies community officials, groups and individuals who may be affected by or have interest in these investigations, and identifies locations where these parties can obtain additional information about the remedial program for this site. Specific opportunities for public and community input into the decision-making process are indicated. The CPP is a working document. It can be adjusted to accomodate major changes either in public attitude or in the nature and scope of technical activities at the site.

13.2 - Site Background and History

13.2.1 - Site Description and Operation

The property located at 200 Frank Road in Hicksville, in the Town of Oyster Bay, New York is shown in Figure 2.1.1. Böwe Systec, Inc. (Bowe) purchased the property in the early 1980s. The previous property owner was reported as Dyna Magnetic Devices. Information available at the Nassau County Department of Health (NCDH) identifies Dyna Magnetic as a user of trichloroethylene (TCE) on the order of 200 gallons per year.

The property is 2.098 acres in size and contains a one story masonry building that is 25,000 square feet (as shown in Figure 2.1.2). The building was vacant when Böwe purchased it. During Böwe's occupancy, an office area encompassed 5,700 square feet of the building, with the remainder of the building being used for either warehousing or assembly/testing/rebuilding of dry cleaning machines.

American Permac (Permac), a dry cleaning equipment importer, previously shared the building with Böwe. Besides importing, Permac did some assembly, testing and rebuilding of dry cleaning machines on the premises. To accomplish this testing, tetrachloroethylene (PCE) was used and was contained in a 300 gallon above ground tank centered along the south wall of the building. In October 1990, this tank was removed and PCE was sold to dry cleaners in the area.

During the testing of dry cleaning machines, municipally supplied non-contact cooling water was used to cool the PCE, which was continuously reused in the testing process. The non-contact cooling water was then discharged to a floor drain that emptied into a drywell system that extended into the outside rear portion of the property. Under normal operation, no

cross-contamination between PCE and non-contact cooling water was possible. The former location of the floor drain and drywell system is indicated on the site plan (Figure 2.1.2).

On or about October 1, 1990, a release of tetrachloroethene (PCE) occurred into the on-site leaching pool system at the facility. This spill was subsequently reported to the Spill Response Unit of New York State Department of Environmental Conservation (NYSDEC) Region I on February 22, 1991, whereupon it was referred to NYSDEC's Division of Hazardous Waste Remediation. In March 1991, Bōwe conducted an Interim Remedial Measure (IRM). This entailed excavating and removing PCE-contaminated sub-soils from the leaching pool system. Based on the analysis of soil and groundwater quality at the site, the site was listed in the New York State Registry of Inactive Hazardous Waste Disposal sites on October 31, 1991.

Other chemical usage on-site was minor and consisted of very low quantities of paints, thinners, solvents and oils. Table 2.1.1 itemizes the limited chemical inventory and amounts historically used. Bōwe has vacated the property which is currently only used for limited storage of printed of paper (forms). Its current operation therefore does not require the use of any chemicals.

13.2.2 - Regional Groundwater Quality

The geographic area surrounding the 200 Frank Road property has been identified by NCDH as a contaminated aquifer segment in a report entitled "Investigation of Contaminated Aquifer Segments, Nassau County, New York, June 1986". Records are available on numerous releases of volatile organic compounds in the West Hicksville area. As a result, this area has been extensively studied by NCDH and areas of volatile organic contamination were delineated in the report cited above. The groundwater underlying this area is documented as being impacted primarily by 1,1,1-trichloroethane, in excess of 5,000 ug/l (or parts per

billion). Based upon groundwater analytical data generated by NCDH, significant organic contamination has migrated into the Magothy Aquifer, up to at least 265 feet deep. The primary organic contaminant present within the Magothy is Trichloroethylene (TCE).

13.2.3 - Previous Site Investigations and Remediation

In 1990, environmental assessments and sampling indicated elevated concentrations of PCE in groundwater at four (4) monitoring wells (MW Nos. 1-4) installed on site. Also, elevated concentrations of volatile organics were detected in the soils within several drywells and at the unpaved area located outside the paint spray booth door (to the southwest of the building). Analytical testing for metals indicated elevated levels of copper and zinc only at one drywell. Analytical results for drywell Nos. 4, 5, 6 and 7 indicated that volatile organic compounds were not present above detection levels at a depth of two to four feet below the bottom of the drywells. A recommendation was made to conduct site remediation to remove the source of volatile organic contamination present at drywell Nos. 1, 2 and 3 (see Figure 2.1.2).

Site remediation consisting of the excavation and removal of impacted soils surrounding drywells 1, 2 and 3 was performed under the oversight of the New York State Department of Environmental Conservation (NYSDEC). This remediation program was conducted to the satisfaction of NYSDEC and documented in a report dated April 17, 1991. The connection between drywell no. 1 and the floor drain inside the building was removed. Following the remedial effort, additional monitoring wells (MW nos. 5, 6, & 7) were installed, downgradient of the remediated drywells, to provide supplemental monitoring of groundwater quality.

In June and July of 1992, H2M performed a site screening investigation (SSI) at the site. The objective of the (SSI) was to provide an overview of the existing conditions at the site by tentative identification of source areas and, to a limited degree, the extent of

contamination. An additional objective was to provide data for the development of Interim Remedial Measures (IRMs) for the site. In order to accomplish this objective, four main areas of concern were investigated. These areas included: Area 1 (drywells 1, 2, and 3); Area 2 (drywell 8); Area 3 (stressed vegetation along southwest corner of building); and Area 4 (septic system). Drywells 4, 6, and 7 were also investigated, although past studies indicated little to no contamination at these locations. In addition, groundwater samples were collected from existing and temporary wells (that were installed during the SSI). Groundwater elevations were also measured in order to define the direction of groundwater flow and potential direction of contaminant transport (see Appendix A for SSI report).

The data collected during the SSI, provided a timely assessment of potential future remedial efforts.

Based on the scope of work executed for the SSI, H2M concluded the following:

- Evidence of PCE contamination in drywell DW-8 indicates this area on site to be a potential source of groundwater contamination. The soil samples collected at 10'-12' (bottom of drywell) and 23'-25' both exhibited elevated VOC concentrations by the PID. Laboratory analysis of the sample from 10'-12' indicates that elevated levels of PCE, identifying DW-8 as a potential source area.

- Soil samples collected from Drywells DW-1, DW-2, DW-3, DW-4, DW-6 and DW-7 do not provide evidence of VOC contamination. These results support past investigations and remedial efforts.

- The shallow soils in the grassy area (near the former spray booth), have apparently been impacted by VOCs (within a limited area). This area may be a

source of VOC contaminants to the groundwater since laboratory analysis of soil samples SB-1 (2'-4') and SB-2 (2'-4') indicated elevated levels of PCE.

- The results of the three (3) sanitary system samples indicate no source of PCE. However, in sample LP-2, VOCs were detected that are commonly found in sanitary waste streams. The presence of dichlorobenzenes could indicate evidence of aromatic toilet discs usually placed in restroom facilities. The absence of these VOCs in the groundwater indicates that the extent is limited.

- The groundwater flow direction indicates a localized influence from the recharge basin, located southwest of the site. Typically, a local groundwater mound results from groundwater recharging from a basin. The regional groundwater flow was measured to be south/southeast and may slightly fluctuate with changes in precipitation and amount of recharge over the area.

- Based on the groundwater flow direction, the groundwater sampling points selected for this SSI provided downgradient coverage of the areas of concern on site. The groundwater sampling results indicate a VOC plume (primarily PCE) at the property boundary to the south. This is evidenced by the concentrations of VOCs detected at the most downgradient wells (MW-6, T-1, and T-2). Concentrations of PCE detected in the groundwater are similar to past results (1991). However, the presence of other VOCs indicates the breakdown of PCE by natural degradation over time. The highest concentration of PCE in the groundwater was detected at MW-6, which is generally downgradient of both the grassy area (Area 3) and drywell DW-8.

Based on the findings of this SSI, H2M provided the following recommendations:

- If acceptable by NYSDEC, register and abandon/remove fuel oil UST, independent of the RI.

- If acceptable by NYSDEC, retain a licensed hauler to pump and clean (wash) out the entire sanitary system (septic tank and 2 leaching pools) independent of the RI. Material removed from the sanitary system should be disposed of at a licensed facility to accept such waste.

- Implement the RI Work Plan to collect additional data for deep soils and contact NYSDEC to discuss an Interim Remedial Measure (IRM) at the former spray booth area and DW-8. The IRM should be the excavation and disposal of shallow soils (5' depth). Once sufficient data has been obtained for deep soils, contact NYSDEC to discuss the possibility of additional IRMs for remediation (if necessary).

- Implement the RI Work Plan to collect additional data and evaluate alternatives for remediation of groundwater in order to capture contaminant groundwater on site. Once sufficient data has been obtained, contact NYSDEC to discuss alternatives to conduct an IRM for groundwater remediation (if necessary). Alternatives may include: no action; pump and treat with recovery wells and air stripper; pump and treat with carbon adsorption; or air sparging.

- Investigate the drainage patterns of the site area and determine the potential for the recharge basin to act as a source.

- Wells presently on site should be tested for hydraulic connection to the aquifer. Wells MW-1 through MW-4 may not provide accurate monitoring points due to

inadequate surface sealing. H2M will propose redrilling and/or repair to wells as necessary during the RI and upon approval by NYSDEC.

Since the SSI was completed and submitted to NYSDEC, the UST has been removed, the sanitary system has been cleaned and an IRM work plan has been submitted for the shallow soils at the former spray booth area and DW-8.

13.3 - Project Description

13.3.1 - Objectives of the Remedial Investigation

Böwe has agreed to enter into and carry out the elements of an Order on Consent with the NYSDEC in order to further characterize site conditions and determine if the site poses a significant threat to public health or the environment for which further action is required. Böwe has retained Holzmacher, McLendon & Murrell, P.C. (H2M) to conduct a remedial investigation (RI) with the following specific objectives:

1) To provide sufficient data on the site so that areas either previously identified or suspected as potential source areas of contamination are either confirmed or are determined to be below regulatory levels of concern.

2) To determine, if source areas are found to be present, the nature, type, physical extent and migratory path of contamination, in order to develop and implement appropriate remedial measures.

3) To document areas found to be free of contamination, or which have been previously remediated.

13.3.2 - Description of Proposed Remedial Investigation Activities

The remedial investigation (RI) will primarily focus on three areas of suspected sources of volatile organic contamination: drywells; stressed vegetation area; and the septic system. Borings will be used to field screen and collect soil samples for analysis. Monitoring wells will be installed to determine groundwater quality conditions. A new upgradient well is proposed west of monitoring well MW-1. One new downgradient well will be installed to the east of MW-3. Two additional downgradient wells may be located off site along TEC Street as determined necessary (following initial groundwater sampling).

Groundwater samples will be collected following installation of the wells and will be analyzed for the target compound list volatile organic compounds (TCL VOCs), TCL semi-VOCs, TCL pesticides and PCBs, and TCL metals.

As part of the field investigations, a health and safety program for air monitoring will be conducted to test for airborne organic vapors. Since contamination has been detected in the soil and groundwater, the program will apply the use of a photoionization detector (PID) or flame ionization detector (FID). Details regarding the health and safety program for field investigations are presented in Appendix D.

13.4 - Preliminary Contact List of Potentially Affected/Interested Public

1) Federal Elected Officials

Senator Daniel P. Moynihan (212) 661-5150
733 Third Avenue
New York, NY 10017
(State office)

Senator Alfonse M. D'Amato (212) 947-7393
7 Penn Plaza, Suite 600
New York, NY 10001
(State office)

Congressman Norman F. Lent (516) 223-1616
2280 Grand Avenue
Baldwin, NY 11510
(District office)

2) State Elected Officials

Governor Mario Cuomo (518) 474-8418
State Capitol Executive Chamber
Executive Chamber
Albany, NY 12224

State Senator Ralph Marino (518) 455 2392
State Capitol, Room 330 CAP
Albany, NY 12247

Assemblyman Frederick E. Parola, Jr. (516) 731-3434
3700 Hempstead Turnpike
Levittown, NY 11756

3) County and Town Officials

County Executive Thomas S. Gulotta
1 West Street
Mineola, NY 11501
(516) 535-3131

Nassau County Department of Health
Donald H. Myott, P.E.
240 Old Country Road
Mineola, NY 11501
(516) 535-3410

Town Supervisor Lewis Yevoli
Town of Oyster Bay
54 Audrey Avenue
Oyster Bay, NY 11771
(516) 922-5800

Councilman Tom Clark
Town of Oyster Bay
Town Hall
54 Audry Avenue
Oyster Bay, NY 11771
(516) 922-5800

4) Media

John W. Garger, Editor
Hicksville Illustrated News
Long Island Community Newspapers
135 Liberty Avenue
Mineola, NY 11501
(516) 747-8282

Robert L. Morgan, Publisher
Mid Island Times: Levitton Times
81 E. Barclay Street
Hicksville, NY 11801
(516) 931-0012

Newsday
235 Pinelawn Road
Melville, NY 11747

5) Public Interest and Community Organizations

Mr. David M. Staton, President
Duffy Park Civic Association
c/o 349 W. Nicholai
Hicksville, NY 11801
(516) 822-2380

Ivan Czipott, President
Hicksville Chamber of Commerce
252 Old Country Road
Hicksville, NY 11801
(516) 731-7170

Mr. Joseph Aversano
Hicksville Terrace Civic Association
50 Cornell Lane
Hicksville, NY 11801

Ms. Eleanor Draycott
Coalition of Hicksville Civice Associations
12 Jolan Avenue
Hicksville, NY 11801

Ms. Margaret Kelly
West Green Civic Association
93 Lantern Road
Hicksville, NY 11801

Mrs. Rosella Maggio
Hicksville Gardens Civic Association
650 Field Avenue
Hicksville, NY 11801

Mr. Thomas McGovern
Giese Park Civic Association
10 Brooks Street
Hicksville, NY 11801

Northwest Civic Association
95 Kuhl Avenue
Hicksville, NY 11801

Mr. Harry Single
Midland Civic Association
20 Jolan Avenue
Hicksville, NY 11801

Ms. Joyce Wagner
Twin Lawns Civic Association
44 Twin Lawns Avenue
Hicksville, NY 11801

Long Island Citizens Advisory Committee on Hazardous Waste
c/o NYSDEC, Dr. Joshua Epstein
SUNY - Building 40
Stony Brook, NY 11790

6) Area Residents and Businesses (list in development)

Properties Contiguous to the site and downgradient to Old Country Road (north side) including any residences on Henrietta Street, Frank Avenue, Tec Street, Benjamin Street (west side), Timkers Place, Chance and Evers Streets.

7) Other

Mr. Salvator Mugavero
Superintendent of Schools
Hicksville Union Free School District
Hicksville, NY 11801

Postmaster
Hicksville Post Office
Hicksville, NY 11801

Patrick Seaulon, Chief
Hicksville Fire Department
20 East Marie Street
Hicksville, NY 11801

8) New York State Department of Environmental Conservation and Department of Health Contacts

Joshua Epstein
Citizen Participation Specialist
Region 1, NYSDEC
Building 40, SUNY Campus
Stony Brook, NY 11790-2356
(516) 751-4078

Jamie Ascher, Project Manger
Region 1, NYSDEC
Building 40, SUNY Campus
Stony Brook, NY 11790-2356
(516) 751-4078

Louis P. Oliva, Esq., Senior Attorney
NYSDEC, Division of Environmental Enforcement
202 Mamaroneck Avenue
Room 304
White Plains, NY 10601
(914) 761-3575

Maureen Reynolds
New York State Department of Health
Bureau of Environmental Exposure Investigation
Room 205, 2 University Place
Albany, NY 12203
1(800) 458-1158 (x310)

Nina Knapp
New York State Department of Health
Health Liason Program
Room 240, 2 University Place
Albany, NY 12203
1(800) 458-1158 (x402)

SUGGESTED DOCUMENT REPOSITORY

1) Hicksville Public Library
169 Jerusalem Avenue
Hicksville, NY 11801-4999
(516) 931-1417

Hours of Operation:

Monday through Friday	10:00 AM to 9:00 PM
Saturday	10:00 AM to 5:00 PM
Sunday	Closed

2) Region I - NYSDEC
Hazardous Waste Remediation Unit
SUNY Campus, Building 40
Stony Brook, NY 11790-2356
(516) 751-4078
Hours of Operation 8:30 a.m. - 4:45 p.m.

13.5 - Description of Citizen Participation Activities for the Remedial Investigation Phase of the Remedial Program

Table 13.5.2.1 illustrates the activities to be carried out as part of the Citizen Participation Plan for the Bowe site. Bowe will be responsible for implementing the plan under the oversight of NYSDEC.

A copy of the draft final remedial investigation (RI) work plan will be placed in the document repositories. A notice to the identified media and a public notice detailing the availability of the plan and summarizing the contents will be mailed to the preliminary contact list. This mailing will include information about the document repositories, the name and address of the citizen participation coordinator at H2M, as well as the NYSDEC Citizen Participation Specialist, Project Manager and NYS Department of Health contact, and will request information and comments from the public. A fact sheet on the site and information on the regulations and procedures which govern the investigation and remedial process will be included in this mailing. Individuals or groups who respond to this mailing expressing interest in the site, will be added to the contact list.

When field activities have been carried out, an informal meeting will be held to discuss the project status, the work completed compared to the requirements of the work plan and the established schedule, and summarizing the progress of the investigation. If the program continues to a full RI/FS, or in any case, before any final remedial program is selected, the following Citizen Participation activities will take place: A fact-sheet, explaining the remedial

alternatives considered and the reasons for one being preferred, will be distributed to the public contact list. A legal notice, doing the same, will be placed in a paper of general circulation (i.e., Newsday), while a fact-sheet or press notice will be distributed to the local weeklies. Through these means, the public will also be noticed at least 15 days in advance of a public meeting, to present any proposed remedial action plan (or it's equivalent in this case). It will also be notified of a public comment period consisting of 30 days, and of the relevant documents being placed into the information repositories. A transcript of any such meeting will be prepared, and will be placed into the information repositories. A responsiveness summary will be prepared and will be placed into the repositories.

13.6 - Glossary of Key Terms and Major Program Elements

13.6.1 Key Terms

AQUIFER: A geologic formation that is sufficiently permeable to conduct groundwater and to yield significant quantities of water to wells and springs.

CITIZEN PARTICIPATION: A process to inform and involve the interested/affected public in the decision-making process during the investigation and remediation of sites. The process helps to assure that the best decisions are made from an environmental, human health, economic, social and political perspective.

CITIZEN PARTICIPATION PLAN: A document that describes the site-specific citizen participation activities that will occur in order to complement remedial activities. It also provides site background and the rationale for the selected citizen participation program for the site.

CITIZEN PARTICIPATION SPECIALIST: An NYSDEC staff member within the Division of Hazardous Waste who provides guidance, evaluation and assistance to the project manager in carrying out the site-specific Citizen Participation Plan.

CONTACT LIST: Names, addresses, and telephone numbers of individuals, groups, organizations and media interested and/or affected by a particular site in the remedial program. It is used to inform and involve the interested/affected public.

DOCUMENT REPOSITORY: Typically a regional NYSDEC office and/or public building, such as a library, at which documents related to site remedial and citizen participation activities are available for public review.

FACT SHEET: A written discussion of a site's remedial process, or some part of it, prepared for the public and written in easily understandable language. A sheet may be prepared for the general public or a particular sector. Its uses may include discussion of an element of the remedial program, opportunities for public involvement, availability of a report or other information, or announcement of a public meeting. It may be mailed to all or part of the interested public, distributed at meetings or during sampling efforts, or sent when requested.

NYSDEC PROJECT MANAGER: A NYSDEC staff member, usually an engineer, geologist, or hydrogeologist within the Division of Hazardous Waste Remediation who is responsible for the day to day administration and ultimate disposition of one or more hazardous waste sites. The project manager works with the Office of Public Affairs as well as fiscal and legal staff to accomplish site-related goals and objectives.

PUBLIC MEETING: A scheduled gathering of the NYSDEC staff and the public to give and receive information, ask questions and discuss concerns. A public meeting may take many forms and could be a large group meeting or a workshop.

PUBLIC NOTICE: A written informational technique used to inform the public of an important upcoming activity or phase in a site's remedial program. Some public notices are formal and meet legal requirements, such as those published in a local newspaper of general circulation. Others are informal notices, which may be made through telephone calls to key citizen leaders or through targeted mailings.

RESPONSIVENESS SUMMARY: A formal or informal written or verbal summary and response to public questions and comments. It is usually prepared during or after important elements in site's remedial program. The responsiveness summary may list and respond to each question or summarize and respond to questions in categories.

13.6.2 Major Program Elements

(Note: The following eight definitions represent major elements of the remedial process. They are presented in the order in which they occur, rather than in alphabetical order, to provide a context to aid in their definition)

SITE PLACED ON REGISTRY OF INACTIVE HAZARDOUS WASTE SITES:

Each inactive site known or suspected of containing hazardous wastes must be included in the Registry. Therefore all sites which state or county environmental or public health agencies identify as known or suspected to have received hazardous waste should be listed in the Registry as they are identified. Whenever possible, the NYSDEC carries out an initial evaluation of the site before listing.

PHASE I SITE INVESTIGATION: An investigation that includes preliminary characterizations of hazardous substances present at a site, identifies pathways by which contaminants may be migrating away from the original area of disposal, identifies resources or populations that may be affected by site contamination, and researches waste disposal practices and potentially responsible parties. The investigation therefore involves research of records from all agencies known to be involved with a site and interviews with site owners, employees, and local residents to gather pertinent information about a site. Information gathered is summarized in a Phase I report.

After a Phase I investigation, the NYSDEC may choose to initiate an emergency response, to nominate the site for the National Priorities List (NPL) or, where additional information is needed to determine site significance, to conduct a Phase II site investigation.

PHASE II SITE INVESTIGATION: An order by the NYSDEC when the results from a Phase I investigation are insufficient for properly classifying a site. Information gathered is summarized in a Phase II report and is used to arrive at a final hazard ranking score to classify the site. A Phase II investigation is not sufficiently detailed, however, to determine the full extent of the contamination, evaluate remedial alternatives, or prepare a conceptual design for construction.

REMEDIAL INVESTIGATION (RI): A process to determine the existence, nature and extent of contamination through data collection and analysis. The process may include sampling, monitoring, and other information-gathering techniques which are used to determine the necessity for, and proposed extent of, a remedial program for the site.

FEASIBILITY STUDY: A process for developing, evaluating and selecting remedial actions. Data gathered during the remedial investigation are used to: define the objectives of the site remedial program and broadly develop remedial action alternatives; perform an initial

screening of alternatives; and perform a detailed analysis of a limited number of alternatives which remain after the initial screening stage.

REMEDIAL DESIGN: Once a remedial action has been selected, technical drawings and specification for remedial construction at a site are developed in accordance with the final RI/FS report. Design documents are used to bid and construct the chosen remedial actions. Remedial design is prepared by consulting engineers with experience in inactive hazardous waste site remediation.

CONSTRUCTION: The selection and supervision of contractors who work to carry out the designed remedial alternative. Construction may be a straightforward as excavation of contaminated soil with disposal at a permitted hazardous waste facility. One the other hand, it may involve drum sampling and identification, complete encapsulation, leachate collection, storage and treatment, groundwater management, or other technologies. MONITORING/MAINTENANCE: Denotes post-closure activities to ensure continued effectiveness of remedial actions. Typical monitoring/maintenance activities include quarterly inspection by an engineering technician, collection of groundwater or surface water samples, water quality analysis, and other indices of possible site contamination.

CONSENT ORDER: A legal, enforceable, negotiated agreement between NYSDEC and responsible parties where the latter agrees to undertake or pay for the costs of an investigation and/or cleanup of a site. The order includes a description of the remedial actions to be undertaken at the site and the schedule for implementation.

DELISTING: Removal of a site from the state Registry based on study which shows the site does not contain hazardous waste or levels of hazardous wastes that pose a significant threat to public health or the environment.

POTENTIALLY RESPONSIBLE PARTY-LEAD SITE: A site at which those legally liable have accepted responsibility for the investigation and/or the development and implementation of its remedial program. Potentially Responsible Parties (PRPs) may be current owners, past and present site operators, or those who generated waste placed at the site. Remedial programs developed and implemented by PRPs generally result from an enforcement action taken by the state. PRPs usually incur the costs associated with the remedial program.

RANKING SYSTEM: The United States Environmental Protection Agency uses a Hazard Ranking System (HRS) to assign numerical scores to each inactive hazardous waste site. The scores express the relative risk or danger from the site.

RESPONSIBLE PARTIES: Those individuals or groups responsible for, or contributing to, the contamination of a hazardous waste site.

STATE LEAD SITE: An inactive hazardous waste site at which the NYSDEC has responsibility for investigating problems at the site and for developing and implementing the site's remedial program.

TABLES

TABLE 2.1.1
BOWE SYSTEC, INC. PREVIOUS CHEMICAL INVENTORY AND TYPICAL QUANTITIES HICKSVILLE, NEW YORK
1/4 55 GAL. DRUM PERC SLUDGE, THINNER, ETC.
20 GAL. "OPYSAT FX" ANTI-FOAM
7 GAL. URATHANE PAINT PART A (PAINT SUPPLIES
6 GAL. ACRYLIC LACQUER (PAINT SUPPLIES)
1 GAL. AC REDUCER (PAINT SUPPLIES)
10 GAL. LACQUER THINNER (PAINT SUPPLIES)
4 QTS. TEXTURE ADDITIVE (PAINT SUPPLIES)
5 GAL. "DRY TOUCH" RUST PREVENTATIVE (OIL)
5 GAL. MILES "CUMULUS 75" OIL
2 1/2 GAL. CUTTING OIL
1 GAL. GREASE
1 GA. INDUSTRIAL DETERGENT
30 GAL. DRY SIZING (FOR DRY CLEANING)
1/4 55 GAL. DRUM ESO "ESSTIC 150"
1/2 55 GAL. DRUM UNKNOWN (DEGREASER)
1/5 55 GAL. DRUM UNKNOWN (DEGREASER)

TABLE 3.4.1

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

EXISTING HICKSVILLE WATER DISTRICT SUPPLY WELLS WITHIN A 3-MILE RADIUS DOWNGRADIENT OF BÖWE SYSTEC, INC. LOCATION

WELL NO.	NYSDEC NO.	LOCATION	DEPTH (FEET)	AUTHORIZED CAPACITY (GPM)
2-2	N-5336	Newbridge Road	545	1,200
3-2	N-8525	Jerusalem Avenue	505	1,400
4-2	N-8526	Newbridge Road	600	1,400
5-2	N-7561	Stewart Avenue	550	1,400
5-3	N-9212	Stewart Avenue	610	1,400
8-1	N-6192	Dean Street	637	1,400
8-3	N-9180	Dean Street	635	1,400
9-1	N-8778	Alicia Street	500	1,400
9-2	N-8779	Alicia Street	585	1,400
9-3	N-10208	Alicia Street	649	1,750

WELLS HELD IN RESERVE BY THE DISTRICT

8-2*	N-6193	Dean Street	477	1,400

NOTES:

All wells screened in Magothy formation

* This well is of marginal water quality.

TABLE 5.5.1.1

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

SUMMARY OF SAMPLING

SAMPLE ID #	NO. OF SAMPLES	TYPES OF SAMPLES (MATRIX)	DEPTH (FEET)	ANALYTICAL PARAMETERS	PID ANALYSIS
TASK 1 - SAMPLING OF DRYWELL SYSTEM					
DW-4	2	Soil	0-2; 7-9; 15-17; 27-29; 39-41	TCL VOCs, TCL semi-VOCs, TCL metals	Yes
DW-5	2	Soil	0-2; 7-9; 15-17; 27-29; 39-41	TCL VOCs, TCL semi-VOCs, TCL metals	Yes
DW-6	2	Soil	0-2; 7-9; 15-17; 27-29; 39-41	TCL VOCs, TCL semi-VOCs, TCL metals	Yes
DW-7	2	Soil	0-2; 7-9; 15-17; 27-29; 39-41	TCL VOCs, TCL semi-VOCs, TCL metals	Yes
DW-8	2	Soil	7-9; 15-17; 27-29; 39-41	TCL VOCs, TCL semi-VOCs, TCL metals	Yes

NOTE: The depth of the samples is presented as feet below the dry well bottom surface or equivalent. Split spoon soil samples will be screened with a PID and the sample from each boring recorded with the highest reading will be tested by the laboratory for TCL VOCs, TCL semi-VOCs and TCL metals. If no PID readings are recorded, the shallowest soil sample will be tested by the laboratory. The depth of the deepest soil sample will be determined in the field after 2 consecutive samples exhibit no PID response. In the event that no PID responses are recorded for any samples within the boring, drilling will continue to a depth of 17 feet below the bottom of the pool. The deepest soil sample from each boring will be tested by the laboratory for TCL VOCs, TCL semi-VOCs and TCL metals. The one soil sample out of the 10 collected during this task recorded with the highest PID reading will also be tested for TCL pesticides and PCBs.

TABLE 5.5.1.1 (CONT'D.)

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

SUMMARY OF SAMPLING

SAMPLE ID #	NO. OF SAMPLES	TYPES OF SAMPLES (MATRIX)	DEPTH (FEET)	ANALYTICAL PARAMETERS	PID ANALYSIS
TASK 2 - BORINGS AND SOIL SAMPLING AT UNPAVED AREA OUTSIDE FORMER SPRAY BOOTH					
SB-1	2 (or none)	Soil	10-12; 17-19; 29-31; 41-43	TCL VOCs (and possibly TCL semi-VOCs and metals)	Yes
SB-2	2 (or none)	Soil	10-12; 17-19; 29-31; 41-43	TCL VOCs (and possibly TCL semi-VOCs and metals)	Yes
SB-3*	1	Soil	0-2	TCL metals only	Yes

NOTE: The depth of the samples is presented as depth from grade. The sampling for this task is dependent on the results of confirmatory sampling during the IRM. Should this task be implemented, split spoon soil samples will be screened with a PID and the sample from each boring recorded with the highest reading will be tested by the laboratory for TCL VOCs and other parameters as detected in the confirmatory samples from the IRM. In the event that no PID response is recorded during boring, the shallowest soil sample will be analyzed and the boring will be advanced to a maximum depth of 19 feet. The deepest soil sample from each boring will be tested for TCL VOCs and other parameters as detected in the shallower sample.

* Sample SB-3 is a background soil sample.

SAMPLE ID #	NO. OF SAMPLES	TYPES OF SAMPLES (MATRIX)	DEPTH (FEET)	ANALYTICAL PARAMETERS	PID ANALYSIS
TASK 3 - SAMPLING OF SEPTIC SYSTEM					
LP-1	1	Sediment	1-2	TCL VOCs, TCL semi-VOCs and TCL metals	Yes
LP-2	1	Sediment	1-2	TCL VOCs, TCL semi-VOCs and TCL metals	Yes

NOTE: Depth of samples is presented as feet below leaching pool bottom surface.

TABLE 5.5.1.1 (CONT'D.)

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

SUMMARY OF SAMPLING

SAMPLE ID #	NO. OF SAMPLES	TYPES OF SAMPLES (MATRIX)	DEPTH (FEET)	ANALYTICAL PARAMETERS	PID ANALYSIS
TASK 4 - GROUNDWATER AND AQUIFER INVESTIGATION					
MW-1	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
MW-3	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
MW-5	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
MW-6	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
MW-8	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
MW-9	1-2	Groundwater	50-60	TCL VOCs, TCL semi-VOCs, TCL pesticides and PCBs, TCL metals	Yes
OFF-SITE WELLS					
MW-10	0-1	Groundwater	50-60	TCL VOCs (and possibly TCL semi-VOCs, TCL pesticides and PCBs, TCL metals)	Yes
MW-11	0-1	Groundwater	50-60	TCL VOCs (and possibly TCL semi-VOCs, TCL pesticides and PCBs, TCL metals)	Yes

NOTE: The number of samples for each well is dependent on the first round results. Should a second round of samples be collected, the analytical parameters may be reduced to include TCL VOCs only.

TABLE 7.2.1.1

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

SOIL SAMPLE*

ANALYSIS METHODS, HOLDING TIMES, PRESERVATION AND CONTAINER PROCEDURES

PARAMETER	METHOD	HOLDING TIME	PRESERVATION	CONTAINER-IZATION
TCL Pesticides and PCBs	NYSDEC Method 91-3	5 days after VTSR until extraction; 40 days for analysis	Cool to 4°C	8-oz. amber glass
TCL Metals Mercury	Method 91-200.7 CLP-M Method 91-200.7 CLP-M	6 months 26 days	Cool to 4°C Cool to 4°C	8-oz. amber glass 8-oz. amber glass
TCL Semi-Volatiles	NYSDEC Method 91-2	5 days after VTSR until extraction; 40 days for analysis	Cool to 4°C	8-oz. amber glass
TCL Volatiles	NYSDEC Method 91-1 (and possibly NYSDEC Method 91-4 as required)	7 days	Cool to 4°C	8-oz. amber glass

* See Appendix C for CLP bottle chart and contract required quantification limits.

H2MGROUP

TABLE 7.2.2.1

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

GROUNDWATER SAMPLES*

ANALYSIS METHODS, HOLDING TIMES, PRESERVATION AND CONTAINER PROCEDURES

PARAMETER	METHOD	HOLDING TIME	PRESERVATION	CONTAINER-IZATION
TCL Pesticides and PCBs	NYSDEC Method 91-3	5 days after VTSR until extraction; 40 days for analysis	Cool to 4°C	1-qt. amber glass bottle
TCL Metals Mercury	Method 200.7 CLP-M Method 200.7 CLP-M	6 months 26 days	Field filter; cool to 4°C; HNO_3 to pH <2 Cool to 4°C; HNO_3 to pH <2	1,000 ml round plastic
TCL Semi-Volatiles	NYSDEC Method 91-2	5 days after VTSR until extraction; 40 days for analysis	Cool to 4°C	1-qt. amber glass bottle
TCL Volatiles	NYSDEC Method 91-1 (and possibly NYSDEC Method 91-4 as required)	7 days	Cool to 4°C	40 ml vial with teflon lined cap

* See Appendix C for CLP bottle chart and contract required quantification limits.

TABLE 8.1

BÖWE SYSTEC, INC.

HICKSVILLE, NEW YORK

SUMMARY OF QA/QC FOR SAMPLING

TASK	MATRIX	NO. OF SAMPLES	PARAMETERS
1. Sampling of dry well system	Soil	9	TCL VOCs, TCL semi-VOCs, TCL metals
	Soil	1	TCL VOCs, TCL semi-VOCs, TCL metals, TCL pesticides/PCBs
QA/QC			
MS/MSD	Soil	1	TCL VOCs, TCL semi-VOCs, TCL metals
Trip blank	Aqueous	1	TCL VOCs only
Field blank	Aqueous	1	TCL VOCs, TCL semi-VOCs, TCL metals
Duplicate	Soil	1	TCL VOCs, TCL semi-VOCs, TCL metals
2. Borings and soil sampling at unpaved area outside former spray booth	Soil	0-4	TCL VOCs, TCL semi-VOCs, TCL metals (possibly none, some or all parameters depending on IRM confirmatory sample results)
QA/QC			
Background	Soil	1	TCL metals only
Trip blank	Aqueous	0-1	TCL VOCs only
Field blank	Aqueous	0-1	Same as samples collected the day of sampling
3. Sampling of septic system	Sediment	2	TCL VOCs, TCL semi-VOCs, TCL metals
QA/QC			
Trip blank	Aqueous	1	TCL VOCs only
Field blank	Aqueous	1	TCL VOCs, TCL semi-VOCs, TCL metals
4. Groundwater and aquifer investigation	Aqueous	6-14	TCL VOCs, TCL semi-VOCs, TCL metals, TCL pesticides/PCBs
QA/QC			
MS/MSD	Aqueous	1	TCL VOCs, TCL semi-VOCs, TCL metals, TCL pesticides/PCBs
Trip blank	Aqueous	1	TCL VOCs only
Field blank	Aqueous	1	TCL VOCs, TCL semi-VOCs, TCL metals, TCL pesticides/PCBs
Duplicate	Aqueous	1	TCL VOCs, TCL semi-VOCs, TCL metals, TCL pesticides/PCBs

H2MGROUP

TABLE 13.5.2.1

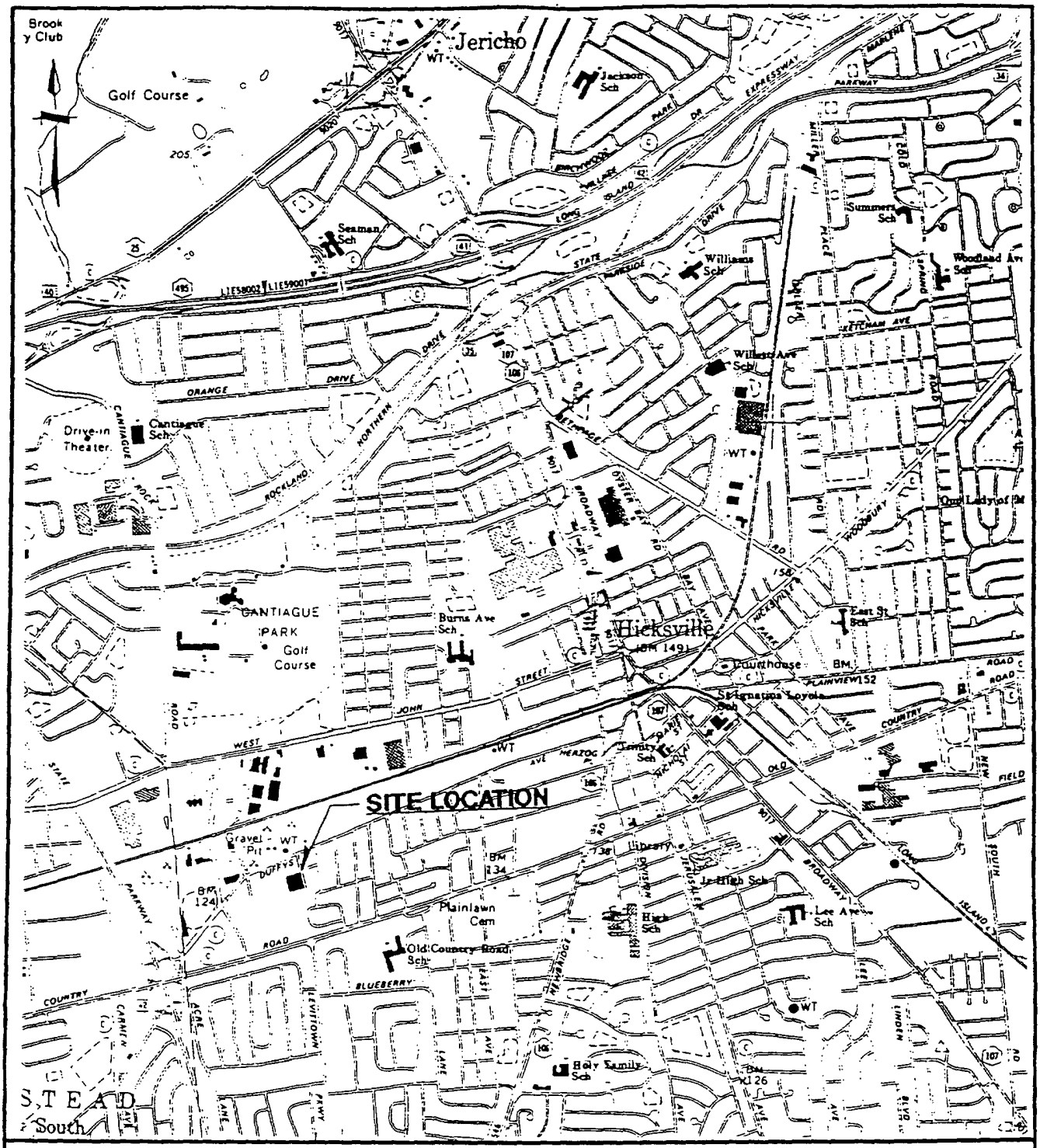
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK

SPECIFIC CITIZEN PARTICIPATION ACTIVITIES			
	FINAL DRAFT RI WORK PLAN	FINAL RI WORK PLAN	FINAL DRAFT RI REPORT
Copy placed in document repositories	X	X	X
Public notice mailing to contact list	X	X	X
Fact Sheet distribution	X		X
Mailing of activities summary			X
Public comment period (30 days)			X
Transcript Responsiveness Summary			X

H2MGROUP

FIGURES

FIGURE 2.1.1



LOCATION MAP

SCALE: 1" = 2000'

BÖWE SYSTEC, INC.

200 FRANK ROAD

HICKSVILLE, NEW YORK

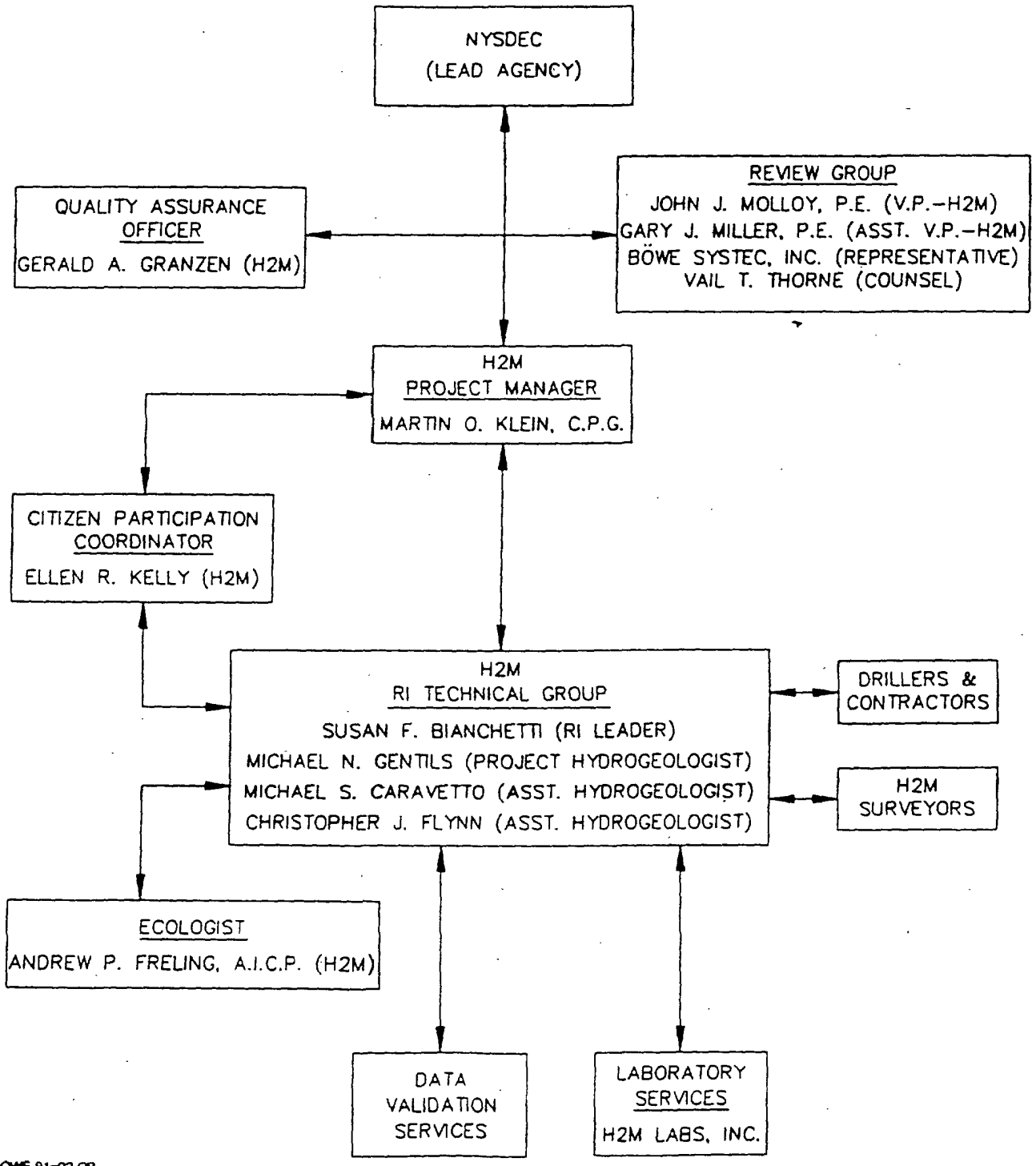
BOWE 91-02 OP

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS

MELVILLE, N.Y. TOTOWA, N.J.

FIGURE 4.2.1

PROJECT MANAGEMENT CHART FOR BÖWE SYSTEC, INC. RI



BOWE 91-02 OP

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MELVILLE, N.Y. TOTOWA, N.J.

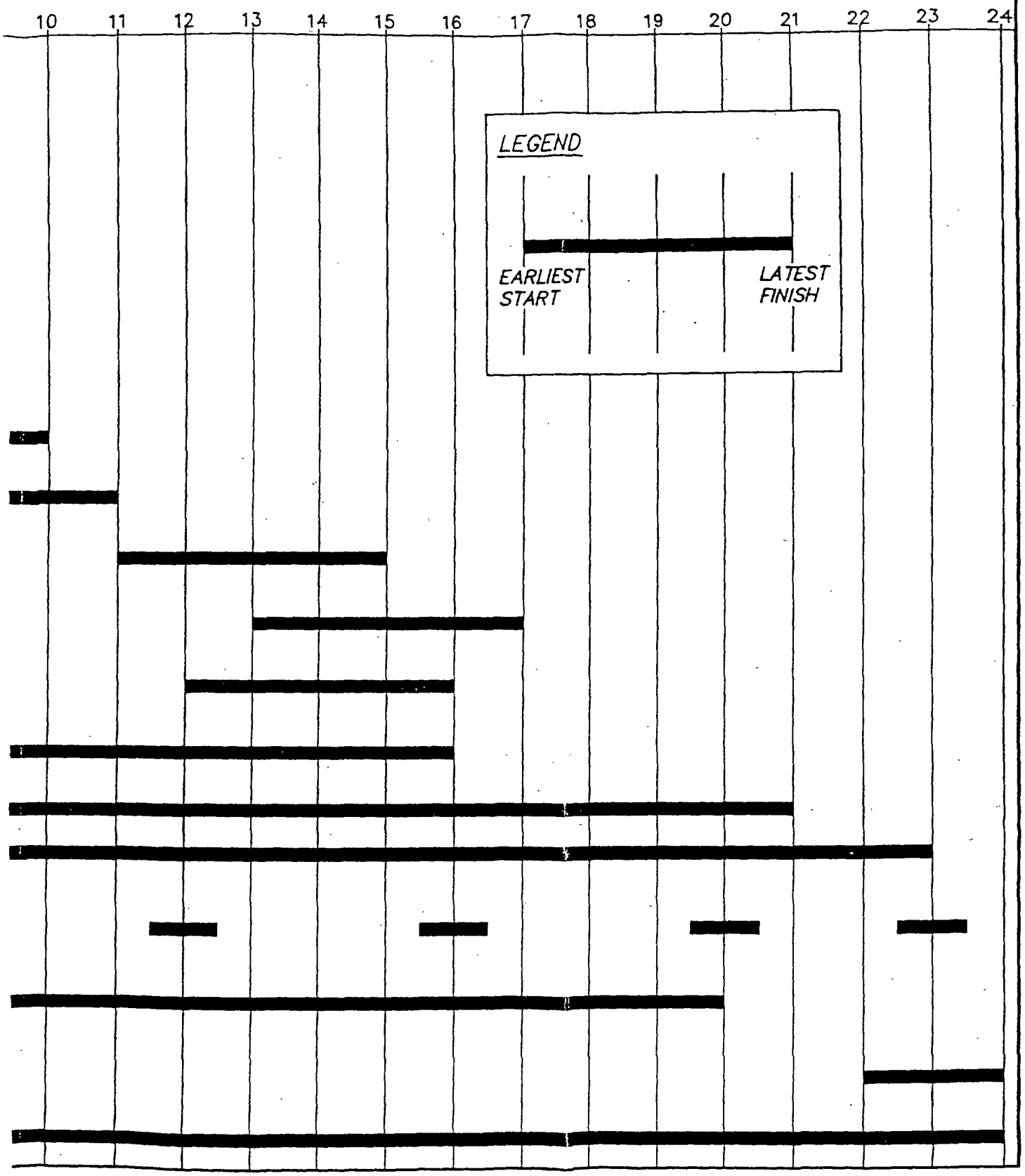
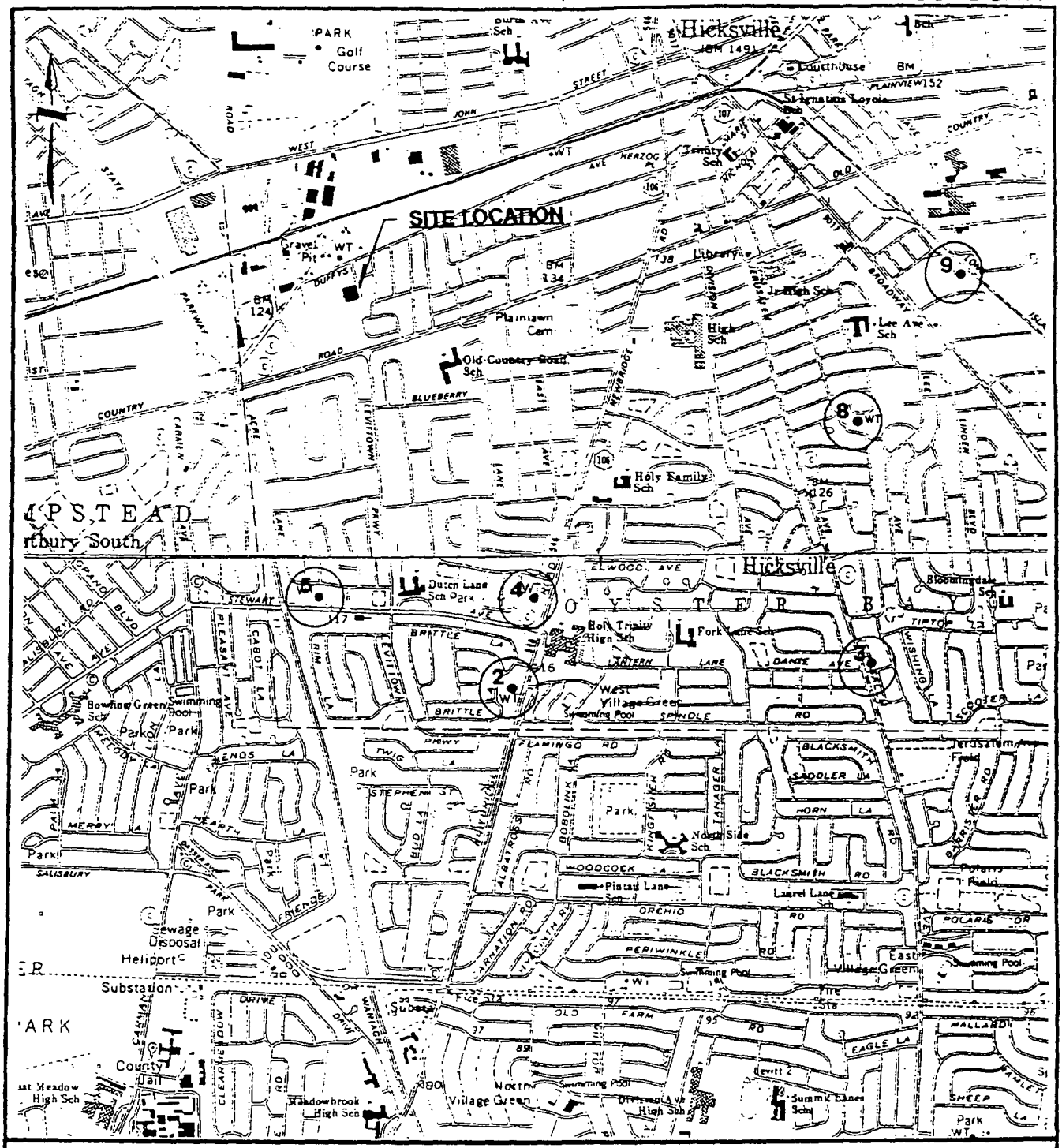


FIGURE 3.4.1



LOCATION OF PUBLIC SUPPLY WELLS WITHIN 3 MILE RADIUS DOWN GRADIENT OF BÖWE SYSTEC INC.

SCALE: 1" = 2000'

LEGEND

(2) HICKSVILLE WATER DISTRICT PUMPING STATION LOCATIONS & ID NUMBERS

BOWE 91-02 OP

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

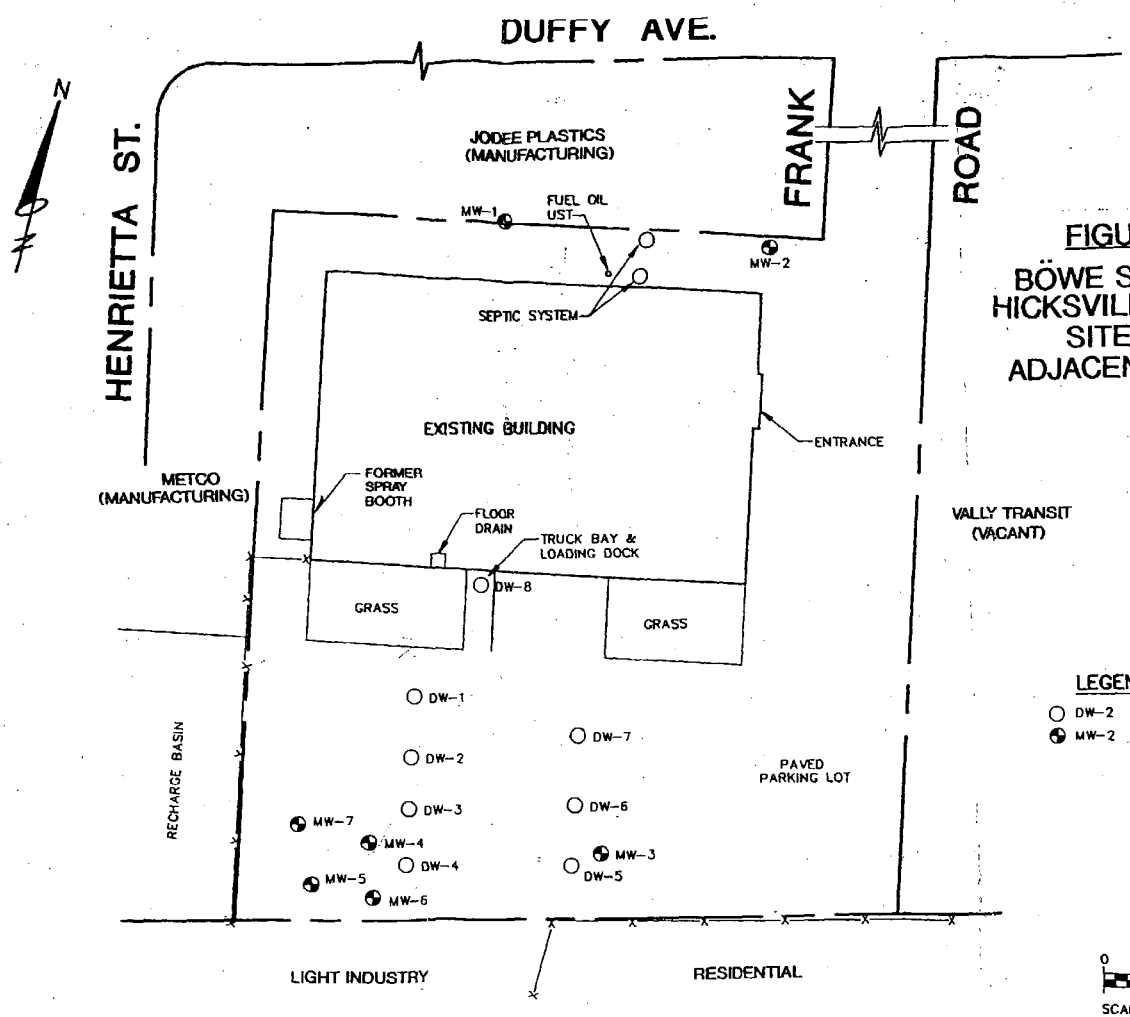


FIGURE 2.1.2

BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
SITE PLAN &
ADJACENT LAND USE

LEGEND

DW-2 DRYWELL

MW-2 MONITORING WELL

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

BOWE 91-02 QP

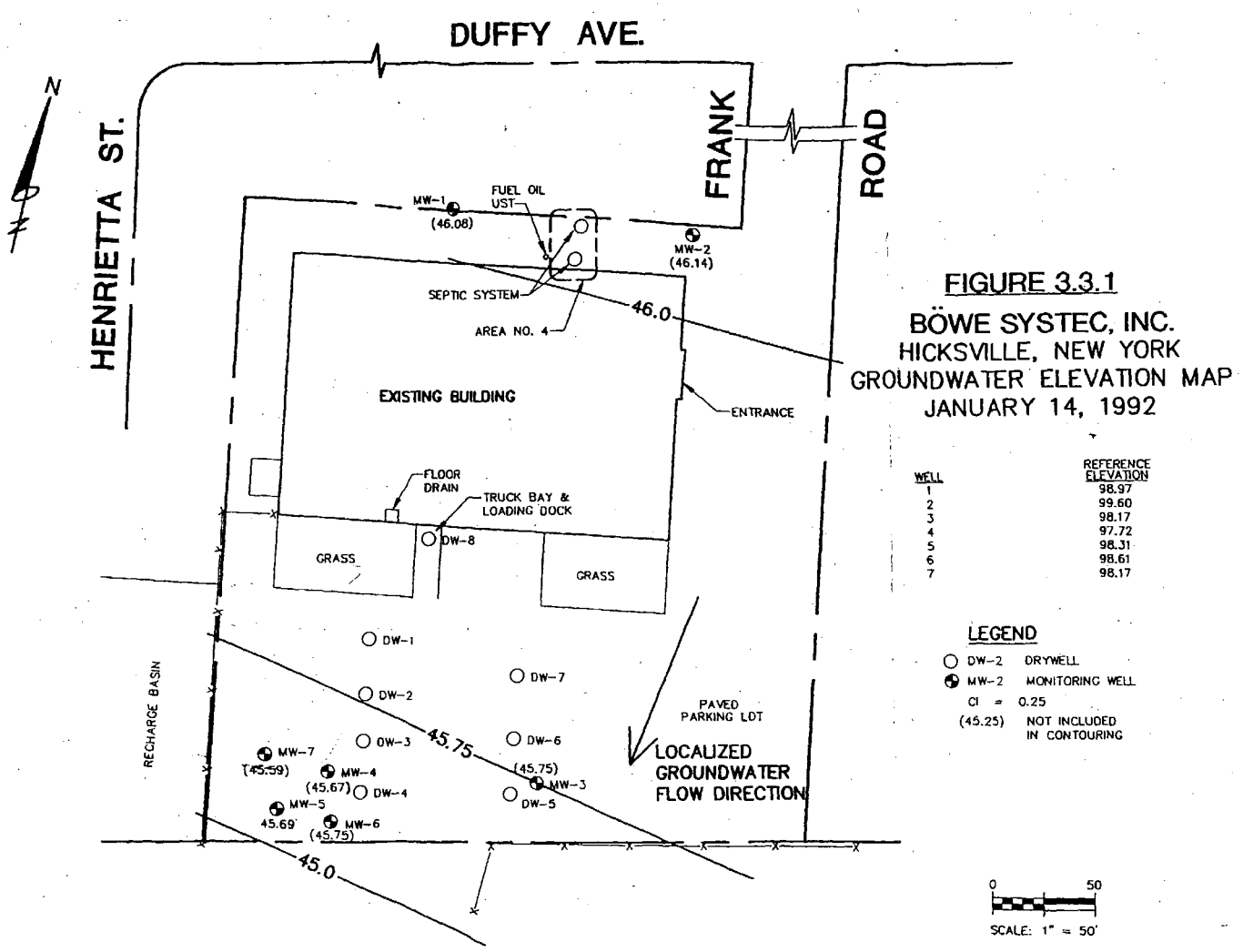


FIGURE 3.3.1

BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
GROUNDWATER ELEVATION MAP
JANUARY 14, 1992

WELL	REFERENCE ELEVATION
1	98.97
2	99.60
3	98.17
4	97.72
5	98.31
6	98.61
7	98.17

LEGEND

- DW-2 DRYWELL
- MW-2 MONITORING WELL
- CI = 0.25
- (45.25) NOT INCLUDED IN CONTOURING

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

BOWE 91-02 GP

3.5

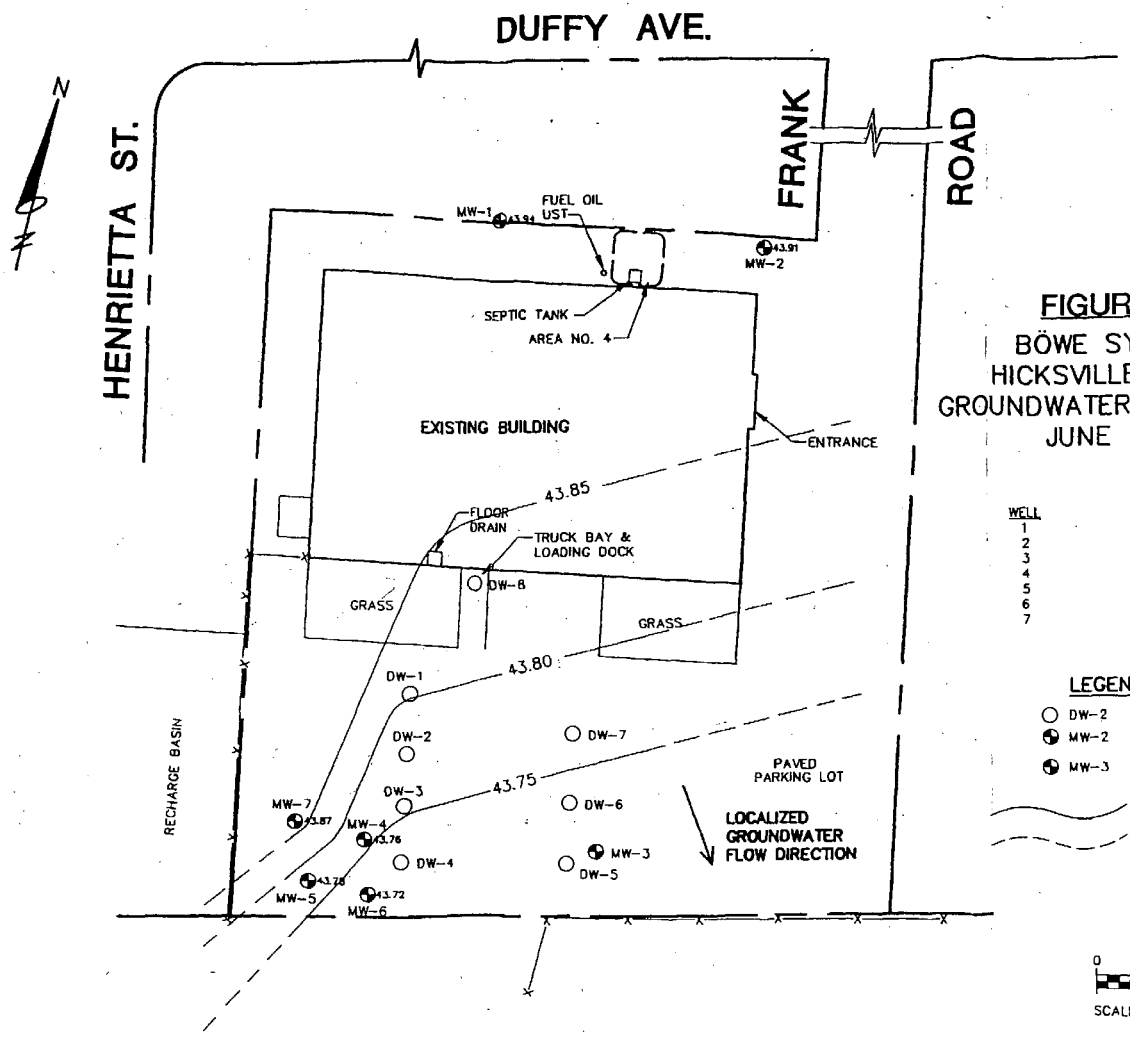


FIGURE 3.3.2

BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
GROUNDWATER ELEVATION MAP
JUNE 23, 1992

WELL	REFERENCE ELEVATION
1	98.97
2	99.60
3	98.17
4	97.72
5	98.31
6	98.61
7	98.17

LEGEND

- DW-2 DRYWELL
- MW-2 MONITORING WELL
- MW-3 NOT INCLUDED IN CONTOURING
- EXISTING GROUNDWATER CONTOUR
- ESTIMATED GROUNDWATER CONTOUR

0 50
SCALE: 1" = 50'

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

BOWE6-23.DWG
BOWE 91-02 QP

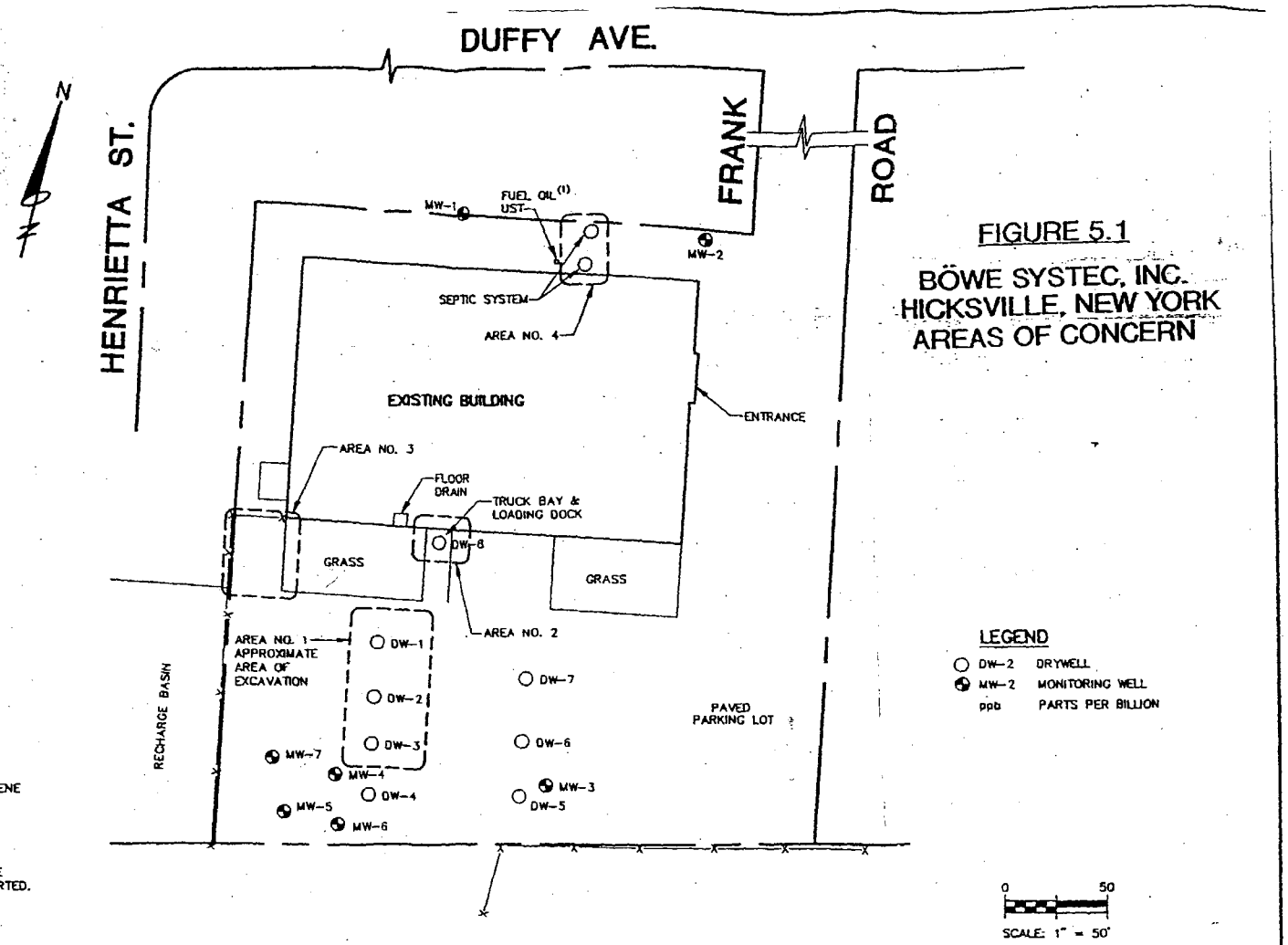


FIGURE 5.1

BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
AREAS OF CONCERN

LEGEND

DW-2	DRYWELL
MW-2	MONITORING WELL
ppb	PARTS PER BILLION

AREA NO. 1 – DRYWELLS 1,2 AND 3 WERE ADEQUATELY REMEDIATED BY EXCAVATION AND REMOVAL OF TETRACHLOROETHENE IMPACTED SOILS DURING MARCH 1991.

AREA NO. 2 – SOIL SAMPLES FROM TRUCK BAY DRYWELL WERE TESTED BY SOIL MECHANICS IN FEBRUARY 1990 AND REPORTED AS IMPACTED BY TETRACHLOROETHENE.

AREA NO. 3 – STRESSED VEGETATION AREA WHERE IMPACT DUE TO TETRACHLOROETHENE WAS REPORTED.

AREA NO. 4 – THE SEPTIC SYSTEM INCLUSIVE OF LEACHING POOLS NEEDS TO BE TESTED.

FOOTNOTES:
(1) TANK WILL BE EXCAVATED AND REMOVED INDEPENDANT OF R.I.

BOWE 91-02.DP

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MELVILLE, N.Y. TOTOWA, N.J.

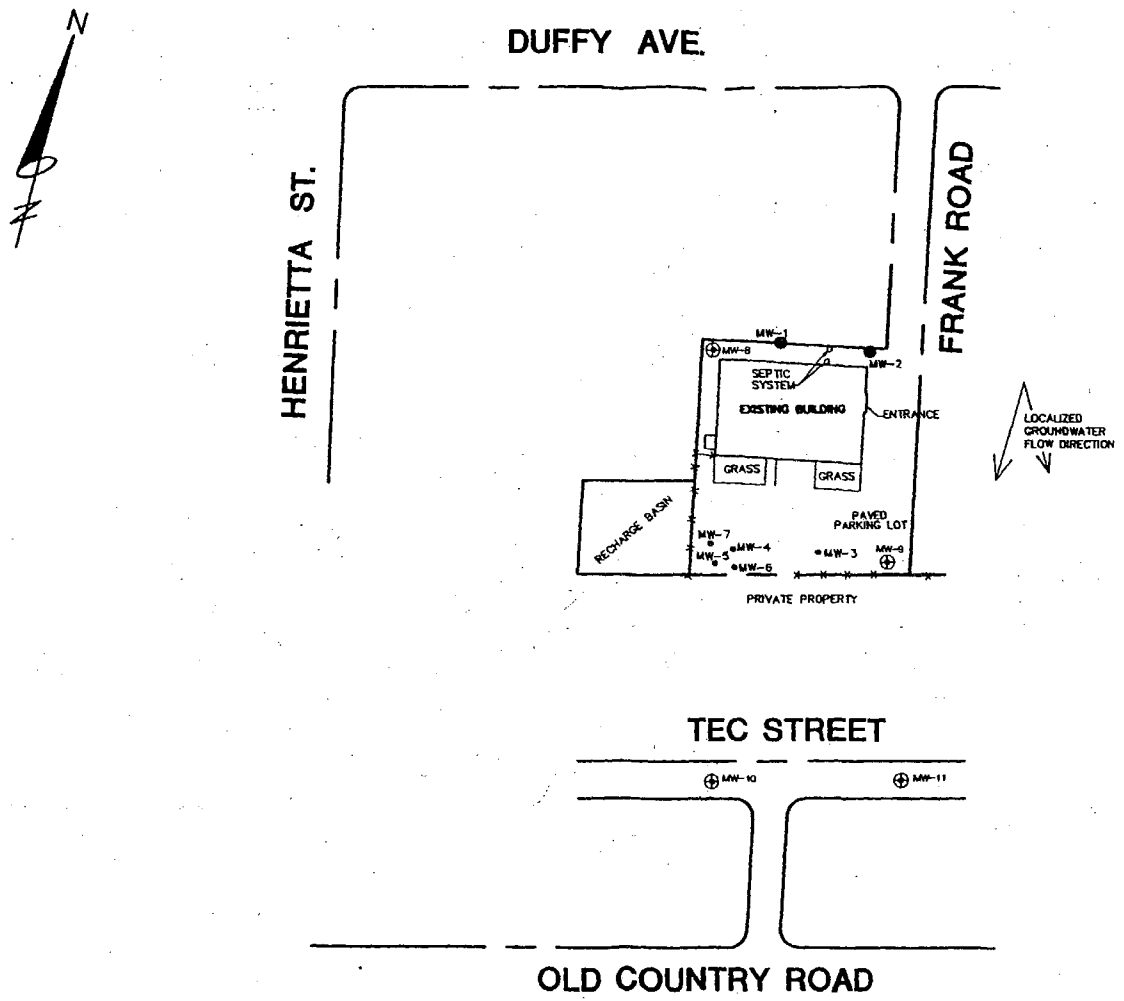


FIGURE 5.5.4.1
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
SITE MAP WITH PROPOSED MONITORING WELL LOCATIONS

LEGEND

- MW-2 EXISTING GROUNDWATER MONITORING WELL
- MW-8 PROPOSED GROUNDWATER MONITORING WELL

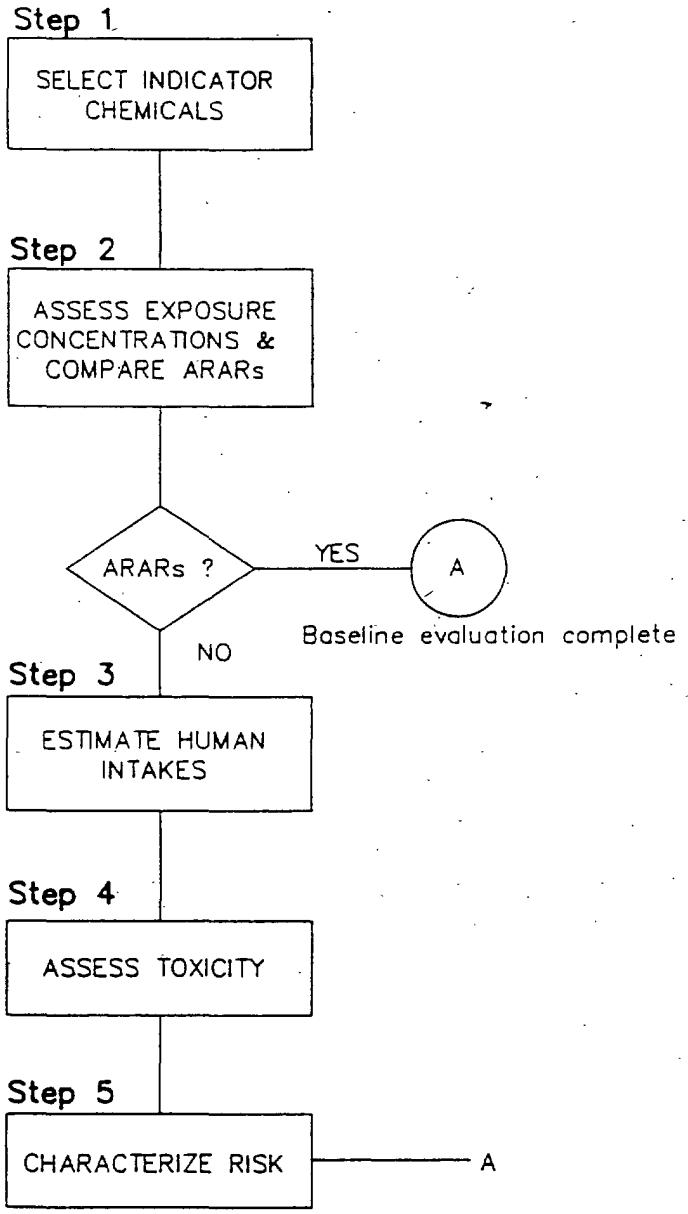
0 75 150
SCALE: 1" = 150'

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

BOWE 81-02 OP

FIGURE 10.1

FLOWCHART OF THE PUBLIC HEALTH EVALUATION PROCESS



BOWE9101 FLOWCHT.DWG

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

H2MGROUP

APPENDIX A

PREVIOUS SITE INVESTIGATIONS AND REMEDIATION

H2MGROUP

Soil Mechanics Drilling Corp. (February 1990)

SUBSOIL
INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L. I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, N.Y.

DATE OF BORINGS: 2-1-90

DATE OF TESTING: 2-1-90

INSTRUMENT:
- [x] FOXBORO CENTURY OVA 128 GC
- [ ] HNU PHOTO-IONIZER P I - 101/I L7
- [ ] _____

BORING # DW-5

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0-2	0-10	5 (S)
* 2	2-4	0-10	ND*
3	4-6	0-10	ND
4	6-8	0-10	ND

ND = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C. NEHRIG

BUDSOIL
INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L. I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB #89-806A

JOB LOCATION: HICKSVILLE, N.Y.

DATE OF BORINGS: 2-1-90

DATE OF TESTING: 2-1-90

INSTRUMENT:
- [x] FOXBORO CENTURY OVA 128 GC
- [ ] HNU PHOTO-IONIZER P I - 101/I 1.7
- [ ] _____

BORING # DW -6

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0-2	0-100	65 (S)
*2	2-4	0-10	4 *
3	4-6	0-10	ND
4	6-8	0-10	ND

ND - NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR G. NEHRIG

BUUSOIL
NVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L. I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, NY

DATE OF BORINGS: 2-1-90

DATE OF TESTING: 2-1-90

INSTRUMENT:
- [x] FOXBORO CENTURY OVA 128 GC
- [ ] HNU PHOTO-IONIZER P I - 101/I L7
- [ ] _____

BORING # DW-7

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0-2	0-10	3 (S)
*2	2-4	0-10	ND *
3	4-6	0-10	ND
4	6-8	0-10	ND

ND - NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C NEHRIG

SUBSOIL INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L.I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, NY

DATE OF BORINGS: 2-5-90

DATE OF TESTING: 2-5-90

INSTRUMENT:
- [x] FOXBORO CENTURY OVA 128 GC
- [ ] HNU PHOTO-IONIZER P I - 101/I L7
- [ ] _____

BORING # DW-8

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0-2	0-1000	650
*2	2-4	0-1000	450 *
3	4-6	0-100	25
4	6-8	0-10	5

ND = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C NEHRIG

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD • SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-5-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-1

SURFACE ELEVATION:

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0 – 6	6 – 12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	2	3		Gray Silty Sludge (ML)		
		2	5				
	2	6	8				
		9	11		Brown Gravelly Sand (SP)		
5	3	5	8				
		11	13				
	4	11	10		Tan Gravelly Sand (SP)		
		10	12				
	5	8	10				
10		11	14				
	6	16	19				
		16	20				
					END 12'		
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD · SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-5-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-2

SURFACE ELEVATION

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	3	3		Black Silty Sludge (ML)		
		3	8				
	2	12	15		Tan/Brown Gravelly Sand (SP)		
		13	12				
5	3	7	9		Tan Gravelly Sand (SP)		
		12	13				
	4	11	11				
		14	13				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD • SEAFORD, L.I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-1-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-3

SURFACE ELEVATION

GROUND WATER OBSERVATION		
DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0 – 6	6 – 12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	3	2		Black Sandy Sludge (SM)		
		2	3				
	2	4	6				
		9	10		Brown Gravelly Sand (SP)		
5	3	8	12				
		9	15				
	4	13	13		Tan Gravelly Sand Trace Silt (SP)		
		15	15				
	5	6	8				
10		8	9				
					END 10'		
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD • SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-1-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-4

SURFACE ELEVATION:

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	3	2		Gray/Black Silty Sludge (ML)		
		2	6				
	2	6	8		Tan Gravelly Sand (SP)		
		9	10				
5	3	5	7				
		10	10				
	4	10	12				
		14	18				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

JOB No. [illegible]

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD • SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-1-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-5

SURFACE ELEVATION

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	3	4		Black Silty Sludge (ML)		
		9	12				
	2	12	15		Brown Gravelly Sand (SP)		
		24	22				
5	3	16	18		Tan Gravelly Sand (SP)		
		18	20				
	4	22	26				
		23	26				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD · SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-1-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-6

SURFACE ELEVATION

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	1	2		Black Sandy Sludge (ML)		
		2	3				
	2	5	5		Gray/Brown Gravelly Sand Trace Silt (SP)		
		6	11				
5	3	5	8				
		9	14		Tan Gravelly Sand (SP)		
	4	15	13				
		12	15				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD · SEAFORD, L. I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-1-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-7

SURFACE ELEVATION:

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	4	3		Brown/Gray Silty Sludge (ML)		
		3	5				
	2	7	9		Brown Gravelly Sand (SP)		
		10	11				
5	3	6	9		Tan Gravelly Sand (SP)		
		12	13				
	4	15	14				
		13	19				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

SOIL MECHANICS DRILLING CORP.

SUBSOIL INVESTIGATIONS

3770 MERRICK ROAD · SEAFORD, L.I., NEW YORK 11783

JOB LOCATION: HICKSVILLE

DATE: 2-3-90

DRILLER:

INSPECTOR:

ENGINEER:

TYPE RIG:

BORING # DW-8

SURFACE ELEVATION:

GROUND WATER OBSERVATION

DATE	TIME	DEPTH

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER 0-6	6-12	CASING BLOWS PER FT.	DESCRIPTION	SYMBOL	REMARKS
0	1	5	6		Black Sandy Sludge (SM)		
		22	30				
	2	35	100+		Tan Silty Gravelly Sand (SP)		
		REFUSAL					
5	3	11	22		Tan Gravelly Sand (SP)		
		24	21				
	4	17	23				
		25	24				
					END 8'		
10							
15							
20							
25							
30							
35							
40							

SOIL MECHANICS

3770 MERRICK ROAD · SEAFORD, L.I., NEW YORK 11783 · (516) 221-2333

CHAIN OF CUSTODY

LABORATORY: ELCOTEST LABS

PROJECT NAME: HICKSVILLE

PROJECT NO. 89-806A

ANALYSIS

SAMPLE I.D. NUMBER	DATE	TIME	COMP.	GRAB	MATRIX	SAMPLE LOCATION	NUMBER OF CONTAINERS	P.P. METALS	LEAD	TPHC	CYANIDE	VOA + KETONES	BTX	PCB	PEST.	HERB.	A/E	B/N	OTHER *	ADDITIONAL REQUIREMENTS
DW-1	1-29-90	900		/	LIQUID	Drywell #1	1	/				/							/	* ETOX EX for PP METALS
DW-2		922		/		Drywell #2	1					/								
DW-3		930		/		Drywell #3	1					/								
DW-4		940		/		Drywell #4	1					/								
DW-5		955		/		Drywell #5	1					/								
DW-6		1025		/		Drywell #6	1					/								
DW-7		1035		/		Drywell #7	1					/								
DW-8		1045		/		Drywell #8	1	/				/								
HA-10	—	1115		/	—	Auto # HA-80	1	/				/								

RELINQUISHED BY (SIGNATURE)	DATE/TIME	AGENT OF:	REC'D. BY (SIGNATURE)	DATE/TIME	AGENT:
PRINTED NAME			PRNT. NME.		
REL. BY (SIG.)	DATE/TIME	AGENT OF:	REC'D. BY (SIGN.)	DATE/TIME	AGENT:
PRNT. NME.			PRNT. NME.		
REL. BY (SIG.)	DATE/TIME	RECEIVED FOR LAB BY:	DATE/TIME	REMARKS:	
PRNT. NME. CHARLES NEHRIG	1-29-90 1545	PRNT. NME. E. STAVROULAKIS	1-29-90 1545	INV # 2718 ET	
SAMPLER (SIGNATURE)		SAMPLER NAME (PRINT) CHARLES NEHRIG			

BOWE 000216

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/5 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-5, 955

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	34
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<10	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	7			

cc:

REMARKS:

DIRECTOR

rn= 1278 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/6 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-6, 1025

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	32
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<10	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	24			

cc:

REMARKS:

DIRECTOR Thomas Bowe

rn= 1280 NYSDOH ID# 10320

SUMMARY OF LABORATORY RESULTS

SLUDGE SAMPLES - VOLATILE ORGAINCS

HICKSVILLE, NEW YORK

PLATE #2 - CONTINUED

	DW-6	DW-7	DW-8	HA-10
Vinyl Chloride	<5	<5	<5	<100
Methyl Chloride	<10	<10	<10	<200
1,2 Dichloroethene	<10	<10	<10	14000
Trichloroethylene	<5	<5	<5	1800
Tetrachloroethene	24	24	2600	300000
Toluene	32	<10	<10	<200
m Xylene	<10	<10	<10	<200
o+p Xylene	<20	<20	<20	<400

Results in ug/Kg

SUMMARY OF LABORATORY RESULTS

SLUDGE SAMPLES - METALS

HICKSVILLE, NEW YORK
PLATE #3

	DW-1	DW-1*	DW-8	HA-10
Antimony	<0.10	<0.01	<0.10	0.08
Arsenic	1.9	<0.005	5.3	5.6
Beryllium	0.21	<0.001	0.11	0.20
Cadmium	4.4	0.076	1.1	0.32
Chromium	700	0.15	13	10
Copper	1300	6.2	60	50
Lead	380	0.10	100	45
Mercury	0.69	<0.001	0.007	0.19
Nickel	1400	0.50	16	75
Selenium	3.4	0.017	0.098	0.35
Silver	1.8	<0.01	0.95	0.60
Thallium	<0.05	<0.005	<0.05	0.07
Zinc	2000	32	220	78

Results in mg/Kg

*E P Toxicity

SOIL MECHA[illegible]CS DRILLING CORP
3770 MERRICK ROAD • SEAFORD, L.I., NEW YORK 11783 • (516) 221-233

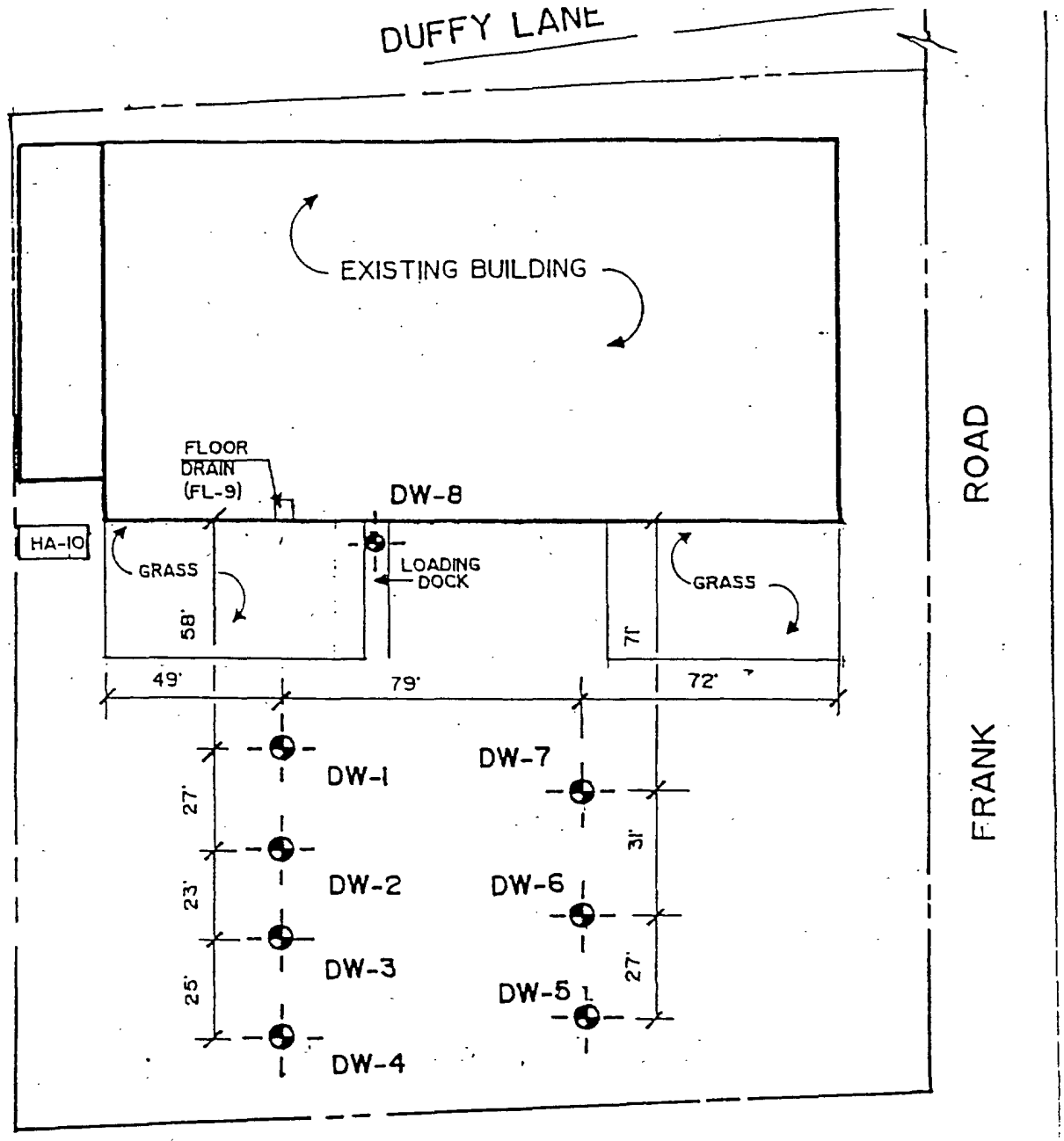
February 13, 1990

BOWE SYSTEMS & MACHINERY
200 Frank Road
Hicksville, New York 11801

RE: 200 Frank Road
Hicksville, New York

the presence of organic vapor (Note: as a survey instrument, the OVA does not provide quantitative measurements of specific chemical parameters). One soil sample from each test boring was selected for laboratory analysis based on OVA readings and subject to the discretion of the field technician. The results of field screening are presented in the attachment. The laboratory results pertaining to the test borings were not yet available during the preparation of this interim report. They will be submitted as soon as they are made available.

All the samples were collected by qualified Soil Mechanics' technicians in accordance with proper decontamination and sampling protocol. The samples were delivered to Ecotest Laboratories, (New York State certified), in accordance with appropriate chain of custody procedures, for laboratory analysis. The analytical parameters included thirteen (13) priority pollutant metals (samples DW-1, DW-8, and HA-10), E P toxicity (extraction procedure) for priority pollutant metals (sample DW-1), and volatile organics (all samples).



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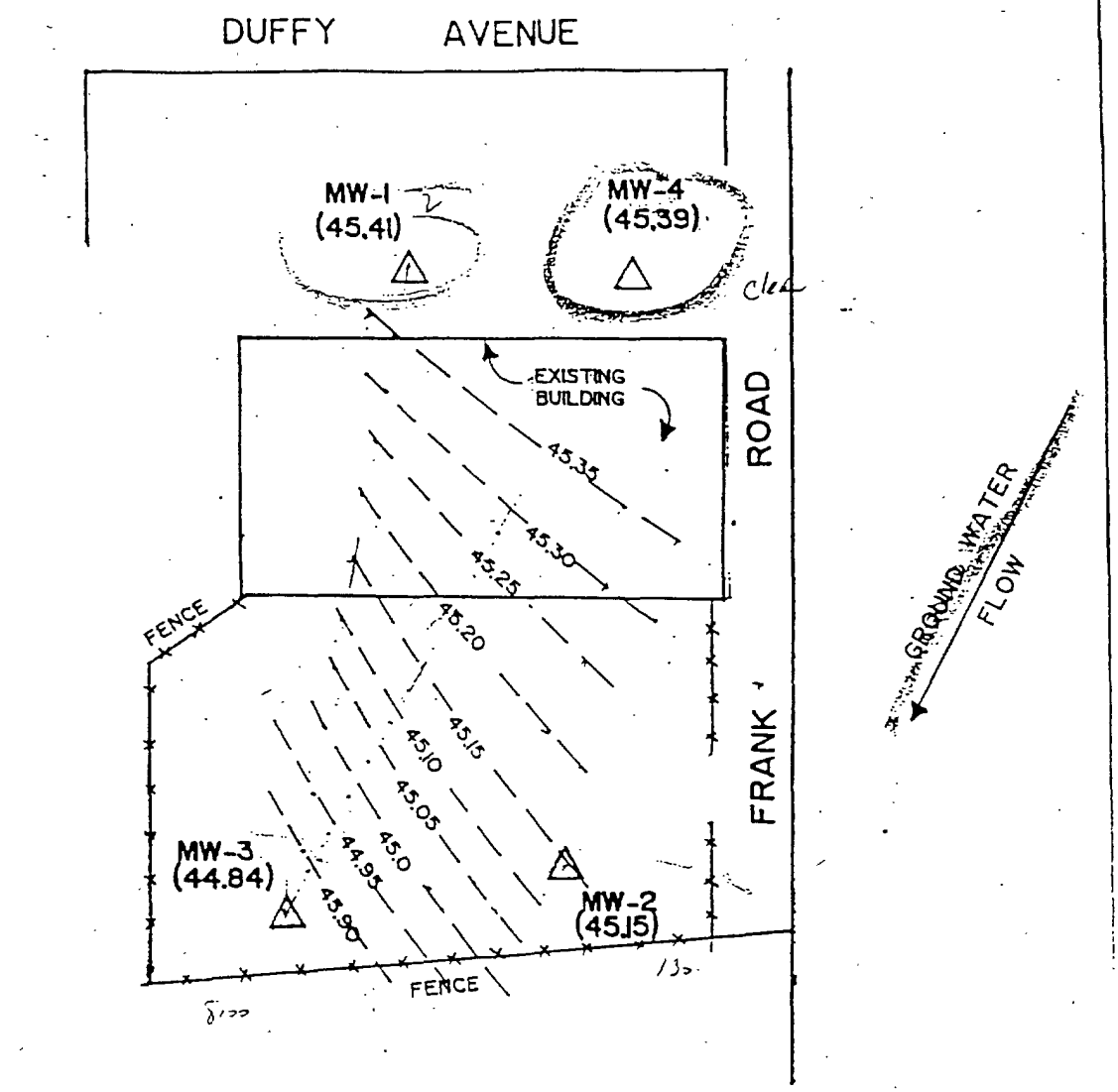
SOIL MECHANICS DRILLING CORP.
SUBSOIL INVESTIGATIONS
3770 MERRICK ROAD ○ SEAFORD, N.Y. ○ 516 221-2333

DRAIN LOCATION PLAN

HICKSVILLE, NEW YORK

SCALE 1"=40' | DATE FEBRUARY 13, 1990 | DRAWING NO. 89S806



SOIL MECHANICS DRILLING CORP.
SUBSOIL INVESTIGATIONS
3770 MERRICK ROAD ○ SEAFORD, N.Y. ○ 516 221-2333

MONITORING LOCATION PLAN AND
GROUND WATER CONTOUR MAP.
HICKSVILLE, NEW YORK.

PLATE # 4

SCALE: N.T.S. | DATE: FEBRUARY 13, 1990 | DRAWING NO. 89S806

SUBSOIL INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L.I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, NY

DATE OF BORINGS: 2-5-90

DATE OF TESTING: 2-5-90

INSTRUMENT:
- ☒ FOXBORO CENTURY OVA 128 GC
- ☐ HNU PHOTO-IONIZER P I - 101/1 L7
- ☐ _____

BORING # DW-1

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0 - 2'	0 - 1000	950
2	2 - 4'	0 - 1000	940
3 *	4 - 6'	0 - 1000	850
4	6 - 8'	0 - 1000	220
5	8 - 10'	0 - 1000	130
6	10 - 12'	0 - 100	25

NO = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C. NEHRIG

SUBSOIL
INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L.I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, N.Y.

DATE OF BORINGS: 2-5-90

DATE OF TESTING: 2-5-90

INSTRUMENT: ☒ FOXBORO CENTURY OVA 128 GC
☐ HNU PHOTO-IONIZER P I - 101/I L7
☐ _____

BORING # DW-2

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0 - 2'	0 - 100	95
2 *	2 - 4'	0 - 10	9
3	4 - 6'	0 - 10	3
4	6 - 8'	0 - 10	N D

ND = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C. NEHRIG

SUBSOIL
INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L. I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, NY

DATE OF BORINGS: 2-5-90

DATE OF TESTING: 2-5-90

INSTRUMENT: ☒ FOXBORO CENTURY OVA 128 GC
☐ HNU PHOTO-IONIZER P I - 101/I L7
☐ _____

BORING # DW-3

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0 - 2'	0 - 1000	725 (S)
2	2 - 4	0 - 100	95
* 3	4 - 6	0 - 100	25 *
4	6 - 8	0 - 10	6
5	8 - 10	0 - 10	ND

ND = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C. NEHRIG

SUBSOIL
INVESTIGATIONS

SOIL MECHANICS
3770 MERRICK ROAD · SEAFORD, L. I.,
NEW YORK 11783 · (516) 221-2333

HEAD SPACE ORGANIC VAPOR ANALYSIS

JOB # 89-806A

JOB LOCATION: HICKSVILLE, NEW YORK

DATE OF BORINGS: 2 - 1-90

DATE OF TESTING: 2 - 1-90

INSTRUMENT:
- [x] FOXBORO CENTURY OVA 128 GC
- [ ] HNU PHOTO-IONIZER P I - 101/1 L7
- [ ] _____

BORING # DW-4

SAMPLE #	DEPTH (FT.)	DETECTION RANGE	DETECTED CONCENTRATION (PPM)
1	0-2	0-10	9 (S)
* 2	2-4	0-10	4 *
3	4-6	0-10	ND
4	6-8	0-10	ND

ND = NOT DETECTED
*LABORATORY ANALYSIS

INSPECTOR C. NEHRIG

cc: file
5/1/90

SUBSOIL INVESTIGATIONS

SOIL MECHANICS DRILLING CORP.

3770 MERRICK ROAD • SEAFORD, L. I., NEW YORK 11783 • (516) 221-2333

February 13, 1990

BOWE SYSTEMS & MACHINERY
200 Frank Road
Hicksville, New York 11801

RE: 200 Frank Road
Hicksville, New York

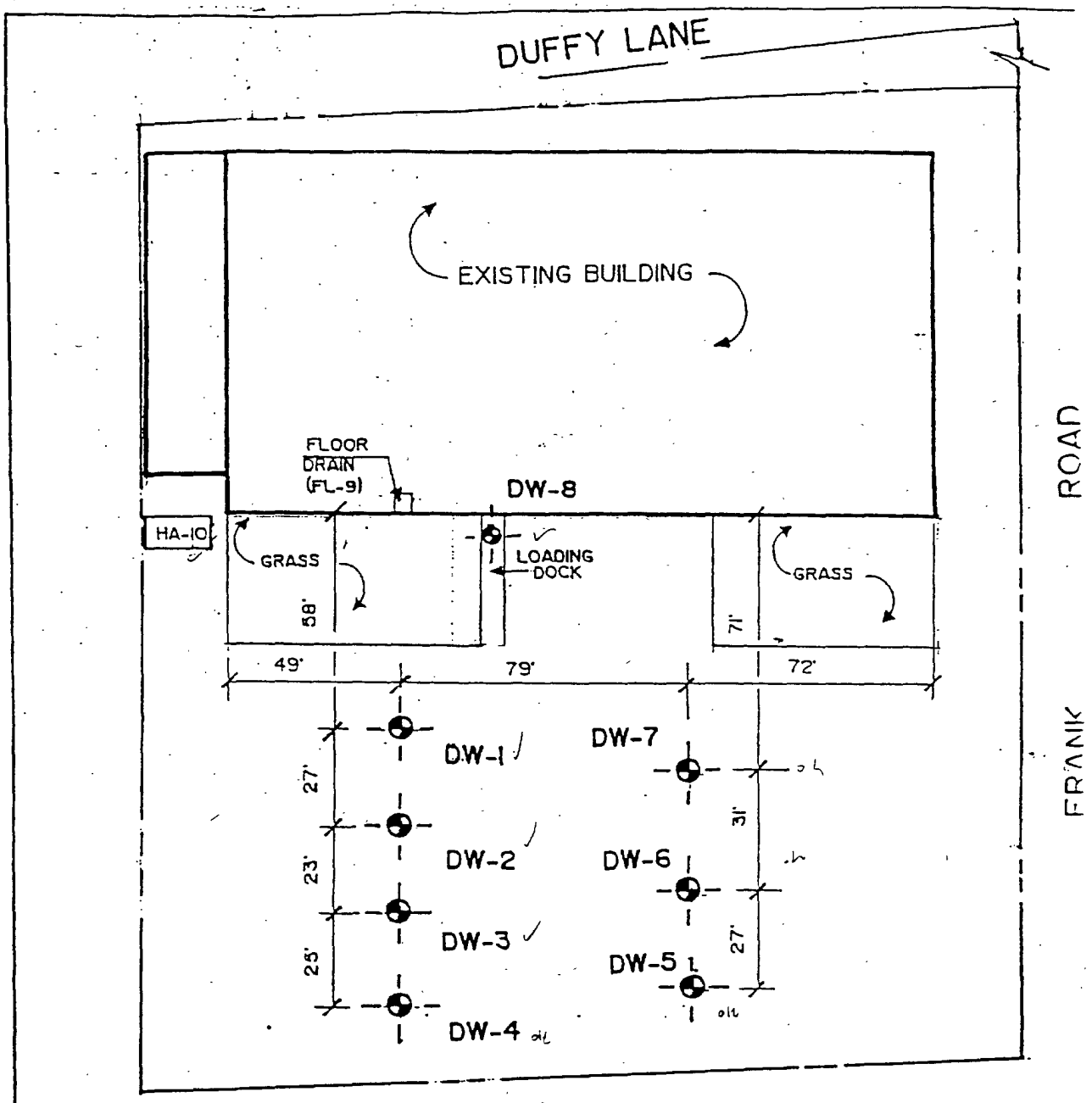
Att: Mr. Bernhard Preisser

Gentlemen:

Presented herein are the preliminary findings of the supplementary investigation conducted at the above referenced location. As part of this investigation grab samples were collected from each drywell location, DW-1 through DW-8, and surface location HA-10 (see Plate #1). No sample was collected from location FL-9 (internal floor drain) as there was no aqueous or sludge fraction available. The results of laboratory analysis are presented in the attachment accompanying this report (see Plates #2 & #3).

Test borings were drilled into the subsoil beneath the sludge material in each drywell location (DW-1 - DW-8). Subsoil samples were collected at continuous two-foot intervals to depths ranging from eight to twelve (8-12) feet below the bottom of the drywell, i.e., top of sludge material. Each sample was screened in the field, using a Foxboro Century 128 GC organic vapor analyzer, for

(Continued)



SOIL MECHANICS DRILLING CORP.
SUBSOIL INVESTIGATIONS
3770 MERRICK ROAD ○ SEAFORD, N.Y. ○ 516 221-23

DRAIN LOCATION PLAN

HICKSVILLE, NEW YORK

PLATE # 1

SCALE: 1"=40' | DATE: FEBRUARY 13, 1990 | DRAWING NO. 8958

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900376/5 02/20/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2721

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:02/01/90 RECEIVED:02/02/9

SAMPLE: Soil Sample, DW-3S-3, 1400, 4-6'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<5	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<5	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	6			
Chloroform	ug/Kg	<5			
12 Dichloroethane	ug/Kg	<5			
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<5			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<5			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	220			

cc:

REMARKS:

DIRECTOR

rn= 1681 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900376/1 02/20/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2721

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:02/01/90 RECEIVED:02/02/90

SAMPLE: Soil Sample, DW-4S-2, 845, 2-4'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<5	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<5	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<5			
Chloroform	ug/Kg	<5			
12 Dichloroethane	ug/Kg	<5			
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<5			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<5			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	<5			

cc:

REMARKS:

DIRECTOR

rn= 1677 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900376/2 02/20/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2721

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:02/01/90 RECEIVED:02/02/90

SAMPLE: Soil Sample, DW-5S-2, 1100, 2-4'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<5	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<5	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<5			
Chloroform	ug/Kg	<5			
12 Dichloroethane	ug/Kg	<5			
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<5			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<5			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	<5			

cc:

REMARKS:

DIRECTOR Thomas R. Bowe

rn= 1678 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900376/3 02/20/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2721

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:02/01/90 RECEIVED:02/02/90

SAMPLE: Soil Sample, DW-6S-2, 1145, 2-4'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<5	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<5	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<5			
Chloroform	ug/Kg	<5			
12 Dichloroethane	ug/Kg	<5			
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<5			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<5			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	<5			

cc:

REMARKS:

DIRECTOR Thomas R. Blume

rn= 1679 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900376/4 02/20/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2721

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:02/01/90 RECEIVED:02/02/90

SAMPLE: Soil Sample, DW-7S-2, 1308, 2-4'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<5	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<5	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<5			
Chloroform	ug/Kg	<5			
12 Dichloroethane	ug/Kg	<5			
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<5			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<5			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	<5			

cc:

REMARKS:

DIRECTOR

rn= 1680 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900398/3 02/21/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2724

SOURCE OF SAMPLE: Hicksville, Project #89-8067
COLLECTED BY: Client DATE COL'D:02/05/90 RECEIVED:02/05/90

SAMPLE: Soil Sample, DW-8/S-2, 2-4', 1000

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5000	Chlorobenzene	ug/Kg	<5000
Bromomethane	ug/Kg	<5000	13 Dichlorobenzene	ug/Kg	<5000
Dichlordifluomethane	ug/Kg	<5000	12 Dichlorobenzene	ug/Kg	<5000
Vinyl Chloride	ug/Kg	<5000	14 Dichlorobenzene	ug/Kg	<5000
Chloroethane	ug/Kg	<5000	Benzene	ug/Kg	<5000
Methylene Chloride	ug/Kg	<5000	Toluene	ug/Kg	<10000
Trichlorofluomethane	ug/Kg	<10000	Ethyl Benzene	ug/Kg	<5000
11 Dichloroethene	ug/Kg	<5000	m Xylene	ug/Kg	<10000
11 Dichloroethane	ug/Kg	<5000	o+p Xylene	ug/Kg	<20000
12 Dichloroethene	ug/Kg	<5000			
Chloroform	ug/Kg	<5000			
12 Dichloroethane	ug/Kg	<5000			
111 Trichloroethane	ug/Kg	<5000			
Carbon Tetrachloride	ug/Kg	<5000			
Bromodichloromethane	ug/Kg	<5000			
12 Dichloropropane	ug/Kg	<5000			
t 13 Dichloropropene	ug/Kg	<10000			
Trichloroethylene	ug/Kg	<5000			
Chlorodibromomethane	ug/Kg	<5000			
112 Trichloroethane	ug/Kg	<10000			
c 13 Dichloropropene	ug/Kg	<10000			
2chloroethvinylether	ug/Kg	<10000			
Bromoform	ug/Kg	<5000			
1122Tetrachloroethan	ug/Kg	<10000			
Tetrachloroethene	ug/Kg	6000000			

cc:

REMARKS:

DIRECTOR

rn= 1738 NYSDOH ID# 10320

SOIL MECHANICS

3770 MERRICK ROAD · SEAFORD, L. I., NEW YORK 11783 · (516) 221-2333

CHAIN OF CUSTODY

LABORATORY: ECOTEST LABS

PROJECT NAME: HICKSVILLE

PROJECT NO. 89 806A

SAMPLE I.D. NUMBER	DATE	TIME	COMP.	GRAB	MATRIX	SAMPLE LOCATION	NUMBER OF CONTAINERS	P.P. METALS	LEAD	TPHC	CLHNOC	VOA	BTX	PCB	PEST.	HERB.	A/E	B/N	OTHER	ADDITIONAL REQUIREMENTS
DW-4S2	2-1-90	8:45		/	SOIL	DW-4 (S-2 2'-4')	1					/								
DW-5S2		11:00		/	SOIL	DW-5 (S-2 2'-4')	1					/								
DW-6S2		11:45		/	SOIL	DW-6 (S-2 2'-4')	1					/								
DW-7S2		13:00		/	SOIL	DW-7 (S2 2'-4')	1					/								
DW3S3		14:00		/	SOIL	DW-3 (S-3 4-6')	1					/								

RELINQUISHED BY (SIGNATURE)	DATE/TIME	AGENT OF:	RECD. BY (SIGNATURE)	DATE/TIME	AGENT:
PRINTED NAME			PRNT. NAME		
REL. BY (SIG.)	DATE/TIME	AGENT OF:	RECD. BY (SIGN.)	DATE/TIME	AGENT:
PRNT. NAME			PRNT. NAME		
REL. BY (SIG.)	DATE/TIME 2-2-90 14:15	RECEIVED FOR LAB BY:	DATE/TIME 2-2-90 14:15	REMARKS: INV # 2721 ET	
PRNT. NAME CHARLES NETHERLY		PRNT. NAME Tom Treutlein			
SAMPLER (SIGNATURE)		SAMPLER NAME (PRINT) CHARLES NETHERLY			

BOWE 000236

SOIL MECHANICS

3770 MERRICK ROAD · SEAFORD, L.I., NEW YORK 11783 · (516) 221-2333

CHAIN OF CUSTODY

LABORATORY: ECOTEST LABS

PROJECT NAME: HICKSVILLE

PROJECT NO. 89 206A

SAMPLE I.D. NUMBER	DATE	TIME	COMP.	GRAB	MATRIX	SAMPLE LOCATION	NUMBER OF CONTAINERS	P.P. METALS	LEAD	TPHC	CLHCE	VOA	BTX	PCB	PEST.	HCBS	A/E	B/N	OTHER	ADDITIONAL REQUIREMENTS
DW-1S3	2-5-90	8:00		/	SOIL	DW-1 (S3 4'-6')	1					/								
DW-2S2	2-5-90	8:42		/	SOIL	DW-2 (S2 2'-4')	1					/								
DW-8S2	2-5-90	10:00		/	SOIL	DW-8 (S2 2'-4')	1					/								

RELINQUISHED BY (SIGNATURE)	DATE/TIME	AGENT OF:	RECD. BY (SIGNATURE)	DATE/TIME	AGENT:
PRINTED NAME			PRINT. NME.		
REL. BY (SIG.)	DATE/TIME	AGENT OF:	RECD. BY (SIGN.)	DATE/TIME	AGENT:
PRINT. NME.			PRINT. NME.		
REL. BY (SIG.)	DATE/TIME	RECEIVED FOR LAB BY:	DATE/TIME	REMARKS:	
PRINT. NME. CHARLES NEHRIL	2-5-90 16:20	PRINT. NME. E. STAVROULAKIS	2-5-90 16:20	INV# 2724 ET	
SAMPLER (SIGNATURE)		SAMPLER NAME (PRINT) CHARLES NEHRIL			

BOWE 000237

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/7 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-7, 1035

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<10	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	24			

cc:

REMARKS:

DIRECTOR

rn= 1282 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/8 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-8, 1045

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Antimony as Sb	mg/Kg	<0.10	
Arsenic as As	mg/Kg	5.3	
Beryllium as Be	mg/Kg	0.11	
Cadmium as Cd	mg/Kg	1.1	
Chromium as Cr	mg/Kg	13	
Copper as Cu	mg/Kg	60	
Lead as Pb	mg/Kg	100	
Mercury as Hg	mg/Kg	0.007	
Nickel as Ni	mg/Kg	16	
Selenium as Se	mg/Kg	0.098	
Silver as Ag	mg/Kg	0.95	
Thallium as Tl	mg/Kg	<0.05	
Zinc as Zn	mg/Kg	220	

cc:

REMARKS:

DIRECTOR Thomas R. Bowe

rn= 1283 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/8 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-8, 1045

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<10	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	2600			

cc:

REMARKS:

DIRECTOR

rn= 1284 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/9 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, HA-10, 1115

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Antimony as Sb	mg/Kg	0.08	
Arsenic as As	mg/Kg	5.6	
Beryllium as Be	mg/Kg	0.20	
Cadmium as Cd	mg/Kg	0.32	
Chromium as Cr	mg/Kg	10	
Copper as Cu	mg/Kg	50	
Lead as Pb	mg/Kg	45	
Mercury as Hg	mg/Kg	0.19	
Nickel as Ni	mg/Kg	75	
Selenium as Se	mg/Kg	0.35	
Silver as Ag	mg/Kg	0.60	
Thallium as Tl	mg/Kg	0.07	
Zinc as Zn	mg/Kg	78	

cc:

REMARKS:

Page 1 of 2.

DIRECTOR Thomas R. Gentile

rn= 1285 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/9 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, HA-10, 1115

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<100	Chlorobenzene	ug/Kg	<100
Bromomethane	ug/Kg	<100	13 Dichlorobenzene	ug/Kg	<200
Dichlordifluomethane	ug/Kg	<100	12 Dichlorobenzene	ug/Kg	<200
Vinyl Chloride	ug/Kg	<100	14 Dichlorobenzene	ug/Kg	<200
Chloroethane	ug/Kg	<100	Benzene	ug/Kg	<100
Methylene Chloride	ug/Kg	<200	Toluene	ug/Kg	<200
Trichlorofluomethane	ug/Kg	<200	Ethyl Benzene	ug/Kg	<100
11 Dichloroethene	ug/Kg	<200	m Xylene	ug/Kg	<200
11 Dichloroethane	ug/Kg	<200	o+p Xylene	ug/Kg	<400
12 Dichloroethene	ug/Kg	14000	Acetone	ug/Kg	<2000
Chloroform	ug/Kg	<100	Methyl Ethyl Ketone	ug/Kg	<2000
12 Dichloroethane	ug/Kg	<200	methylisobutylketone	ug/Kg	<2000
111 Trichloroethane	ug/Kg	<100			
Carbon Tetrachloride	ug/Kg	<100			
Bromodichloromethane	ug/Kg	<100			
12 Dichloropropane	ug/Kg	<200			
t 13 Dichloropropene	ug/Kg	<200			
Trichloroethylene	ug/Kg	1800			
Chlorodibromomethane	ug/Kg	<100			
112 Trichloroethane	ug/Kg	<200			
c 13 Dichloropropene	ug/Kg	<200			
2chloroethvinylether	ug/Kg	<200			
Bromoform	ug/Kg	<200			
1122Tetrachloroethan	ug/Kg	<200			
Tetrachloroethene	ug/Kg	300000			

cc:

REMARKS:

Page 2 of 2.

DIRECTOR

rn= 1286 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/1 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-1, 905

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Antimony as Sb	mg/Kg	<0.10	
Arsenic as As	mg/Kg	1.9	
Beryllium as Be	mg/Kg	0.21	
Cadmium as Cd	mg/Kg	4.4	
Chromium as Cr	mg/Kg	700	
Copper as Cu	mg/Kg	1300	
Lead as Pb	mg/Kg	380	
Mercury as Hg	mg/Kg	0.69	
Nickel as Ni	mg/Kg	1400	
Selenium as Se	mg/Kg	3.4	
Silver as Ag	mg/Kg	1.8	
Thallium as Tl	mg/Kg	<0.05	
Zinc as Zn	mg/Kg	2000	

cc:

REMARKS:

DIRECTOR Thomas P. Stone

rn= 1268 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/1 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-1, 905

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5000	Chlorobenzene	ug/Kg	<5000
Bromomethane	ug/Kg	<5000	13 Dichlorobenzene	ug/Kg	<10000
Dichlordifluomethane	ug/Kg	<5000	12 Dichlorobenzene	ug/Kg	<10000
Vinyl Chloride	ug/Kg	<5000	14 Dichlorobenzene	ug/Kg	<10000
Chloroethane	ug/Kg	<5000	Benzene	ug/Kg	<5000
Methylene Chloride	ug/Kg	<10000	Toluene	ug/Kg	<10000
Trichlorofluomethane	ug/Kg	<10000	Ethyl Benzene	ug/Kg	<5000
11 Dichloroethene	ug/Kg	<10000	m Xylene	ug/Kg	<10000
11 Dichloroethane	ug/Kg	<10000	o+p Xylene	ug/Kg	<20000
12 Dichloroethene	ug/Kg	<10000	Acetone	ug/Kg	<100000
Chloroform	ug/Kg	<5000	Methyl Ethyl Ketone	ug/Kg	<100000
12 Dichloroethane	ug/Kg	<10000	methylisobutylketone	ug/Kg	<100000
111 Trichloroethane	ug/Kg	<5000			
Carbon Tetrachloride	ug/Kg	<5000			
Bromodichloromethane	ug/Kg	<5000			
12 Dichloropropane	ug/Kg	<10000			
t 13 Dichloropropene	ug/Kg	<10000			
Trichloroethylene	ug/Kg	<5000			
Chlorodibromomethane	ug/Kg	<5000			
112 Trichloroethane	ug/Kg	<10000			
c 13 Dichloropropene	ug/Kg	<10000			
2chloroethvinylether	ug/Kg	<10000			
Bromoform	ug/Kg	<10000			
1122Tetrachloroethan	ug/Kg	<10000			
Tetrachloroethene	ug/Kg	2400000			

cc:

REMARKS:

DIRECTOR Thomas P. Gesse

rn= 1269 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/1 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A (eptox)
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-1, 905

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Antimony as Sb	mg/L*	<0.01	
Arsenic as As	mg/L*	<0.005	
Beryllium as Be	mg/L*	<0.001	
Cadmium as Cd	mg/L*	0.076	
Chromium as Cr	mg/L*	0.15	
Copper as Cu	mg/L*	6.2	
Lead as Pb	mg/L*	0.10	
Mercury as Hg	mg/L*	<0.001	
Nickel as Ni	mg/L*	0.50	
Selenium as Se	mg/L*	0.017	
Silver as Ag	mg/L*	<0.01	
Thallium as Tl	mg/L*	<0.005	
Zinc as Zn	mg/L*	32	

cc:

REMARKS: * Analysis performed on EP Extract according to USEPA EP Toxicity procedure (40 CFR Part 261-Appen. II).

DIRECTOR

rn= 1270 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/2 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-2, 927

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	17	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	19	Toluene	ug/Kg	<10
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	850	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	140			

cc:

REMARKS:

DIRECTOR

rn= 1272 NYSDOH ID#. 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/3 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-3, 930

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	80
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	85
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	60
12 Dichloroethene	ug/Kg	1500	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	3500			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	10000			

cc:

REMARKS:

DIRECTOR Thomas R. Gillette

rn= 1274 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900306/4 02/06/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2718

SOURCE OF SAMPLE: Hicksville, Project #89-806A
COLLECTED BY: Client DATE COL'D:01/29/90 RECEIVED:01/29/90

SAMPLE: Soil sample, sludge, DW-4, 940

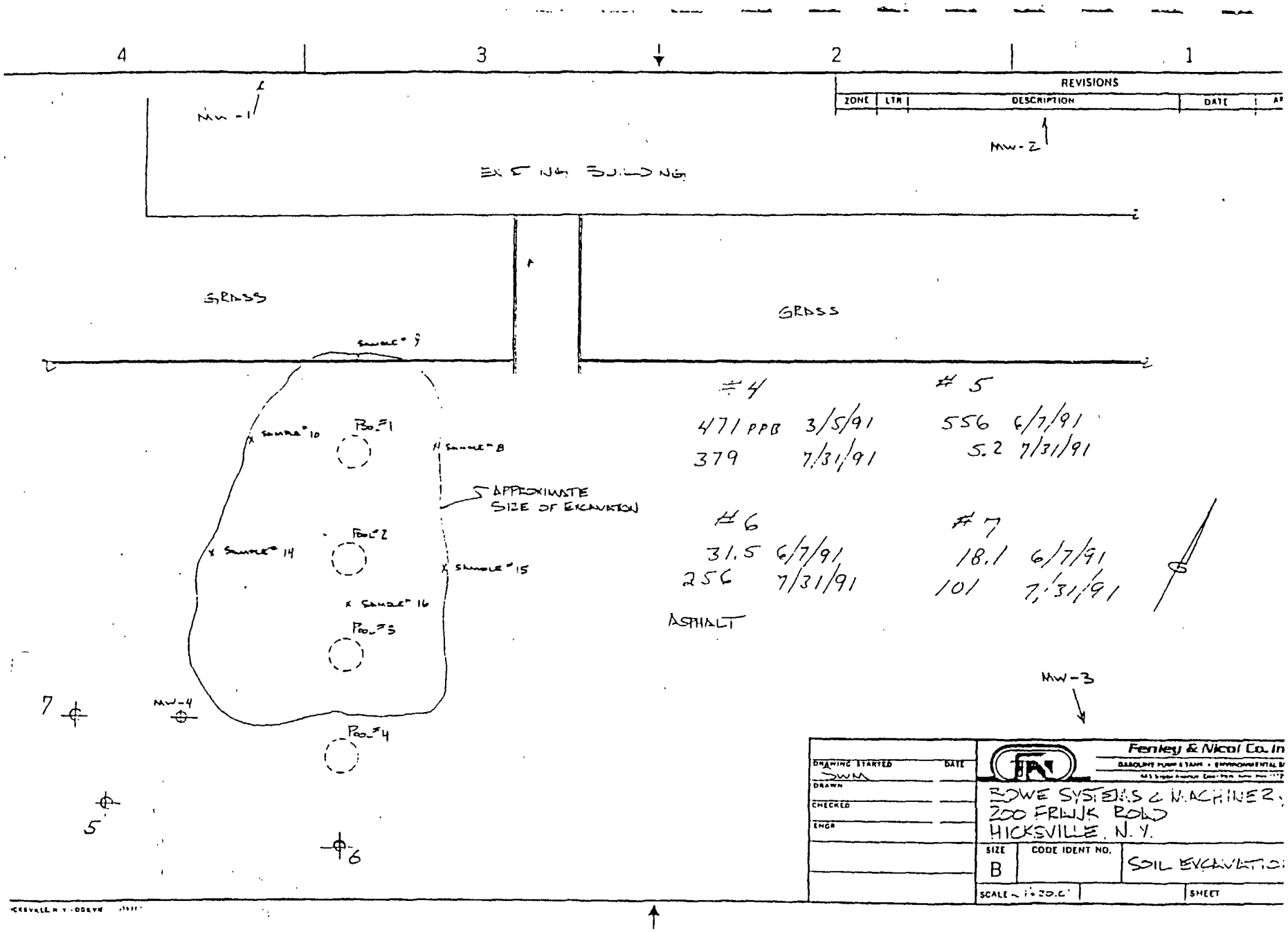
ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5	Chlorobenzene	ug/Kg	<5
Bromomethane	ug/Kg	<5	13 Dichlorobenzene	ug/Kg	<10
Dichlordifluomethane	ug/Kg	<5	12 Dichlorobenzene	ug/Kg	<10
Vinyl Chloride	ug/Kg	<5	14 Dichlorobenzene	ug/Kg	<10
Chloroethane	ug/Kg	<5	Benzene	ug/Kg	<5
Methylene Chloride	ug/Kg	<10	Toluene	ug/Kg	12
Trichlorofluomethane	ug/Kg	<10	Ethyl Benzene	ug/Kg	<5
11 Dichloroethene	ug/Kg	<10	m Xylene	ug/Kg	<10
11 Dichloroethane	ug/Kg	<10	o+p Xylene	ug/Kg	<20
12 Dichloroethene	ug/Kg	<10	Acetone	ug/Kg	<100
Chloroform	ug/Kg	<5	Methyl Ethyl Ketone	ug/Kg	<100
12 Dichloroethane	ug/Kg	<10	methylisobutylketone	ug/Kg	<100
111 Trichloroethane	ug/Kg	<5			
Carbon Tetrachloride	ug/Kg	<5			
Bromodichloromethane	ug/Kg	<5			
12 Dichloropropane	ug/Kg	<10			
t 13 Dichloropropene	ug/Kg	<10			
Trichloroethylene	ug/Kg	<5			
Chlorodibromomethane	ug/Kg	<5			
112 Trichloroethane	ug/Kg	<10			
c 13 Dichloropropene	ug/Kg	<10			
2chloroethvinylether	ug/Kg	<10			
Bromoform	ug/Kg	<10			
1122Tetrachloroethan	ug/Kg	<10			
Tetrachloroethene	ug/Kg	87			

cc:

REMARKS:

DIRECTOR

rn= 1276 NYSDOH ID# 10320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REVISIONS
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DESCRIPTION
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MW-1
MW-2
EXISTING BUILDING
GRASS
GRASS
SAMPLE #9
SAMPLE #10
POOL #1
SAMPLE #8
APPROXIMATE SIZE OF EXCAVATION
SAMPLE #14
POOL #2
SAMPLE #15
SAMPLE #16
POOL #3
POOL #4
MW-4
MW-3
7
5
6
#4
471 PPB 3/5/91
379 7/31/91
#5
556 6/7/91
5.2 7/31/91
#6
31.5 6/7/91
256 7/31/91
#7
18.1 6/7/91
101 7/31/91
ASPHALT
DRAWING STARTED
DATE
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ENGR
Fenley & Nicol Co. In
BOWE SYSTEMS & MACHINERY
200 FRANK ROAD
HICKSVILLE, N.Y.
SIZE
B
CODE IDENT NO.
SOIL EXCAVATION
SCALE
SHEET

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/05/91 Analyzed 3/05/91 Report 3/11/91

Sampling Point

1. Sample #1 - Soil Sample #1 (Dry Well 1 at 4' deep)
2. Sample #2 - Well #3
3. Sample #3 - Well #4 SOIL MECHANICS
4. Sample #4 - Well #2
5. Sample #5 - Well #1

Parameters		1	2	3	4	5
Tetrachloroethulene	ppb	< 1.0	0.57	471	0.06	0.37

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69798

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1515 NINTH AVENUE P.O. BOX 205 BOHEMIA, N.Y. 11716 (516) 467-8477
AFTER 5 P.M. (516) 567-5579

June 10, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

Date: Collected 6/7/91 Analyzed 6/7/91 Report 6/10/91

Sampling Point

1. Bowe Systems, 200 Frank Street, Hicksville, NY - FN-5
2. Bowe Systems, 200 Frank Street, Hicksville, NY - FN-6
3. Bowe Systems, 200 Frank Street, Hicksville, NY - FN-7
4.
5.

Parameters		1	2	3	4	5
Tetrachloroethylene	ug/L	556	31.5	18.1		

Job No. 60523

Purchase Order No. 39926

JOHN PEDNEAULT
Lab Director

Lab Number 71783

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1618 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5679

August 2, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road, Hicksville, NY

Date: Collected 7/31/91 Analyzed 7/31-8/2/91 Report 8/2/91

Sampling Point

1. Well #4
2. Well #5
3. Well #6
4. Well #7
5.

Parameters		1	2	3	4	5
Tetrachloroethylene	ppb	379	5.2	256	101	

JOHN PEDNEAULT
Lab Director

Lab Number 73206

jm

SUMMARY OF LABORATORY ANALYSIS

TEST BORING SAMPLES

HICKSVILLE, NEW YORK

PLATE #1

	DW-1/S-3	DW-2/S-2	DW-3/S-3	DW-4/S-2	DW-5/S-2	DW-6/S-2	DW-7/S-2	DW-8/S-2
Depth (ft)	4-6	2-4	4-6	2-4	2-4	2-4	2-4	2-4
1 2 Dichloroethene	<250	<50	6	<5	<5	<5	<5	<5000
Trichloroethylene	<250	<50	5	<5	<5	<5	<5	<5000
Tetrachloroethene	150,000	1200	220	<5	<5	<5	<5	6,000,000

Results in ug/Kg

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900398/1 02/21/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2724

SOURCE OF SAMPLE: Hicksville, Project #89-8067
COLLECTED BY: Client DATE COL'D:02/05/90 RECEIVED:02/05/90

SAMPLE: Soil Sample, DW-1/S-3, 4-6', 820

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<250	Chlorobenzene	ug/Kg	<250
Bromomethane	ug/Kg	<250	13 Dichlorobenzene	ug/Kg	<250
Dichlordifluomethane	ug/Kg	<250	12 Dichlorobenzene	ug/Kg	<250
Vinyl Chloride	ug/Kg	<250	14 Dichlorobenzene	ug/Kg	<250
Chloroethane	ug/Kg	<250	Benzene	ug/Kg	<250
Methylene Chloride	ug/Kg	<250	Toluene	ug/Kg	<500
Trichlorofluomethane	ug/Kg	<500	Ethyl Benzene	ug/Kg	<250
11 Dichloroethene	ug/Kg	<250	m Xylene	ug/Kg	<500
11 Dichloroethane	ug/Kg	<250	o+p Xylene	ug/Kg	<1000
12 Dichloroethene	ug/Kg	<250			
Chloroform	ug/Kg	<250			
12 Dichloroethane	ug/Kg	<250			
111 Trichloroethane	ug/Kg	<250			
Carbon Tetrachloride	ug/Kg	<250			
Bromodichloromethane	ug/Kg	<250			
12 Dichloropropane	ug/Kg	<250			
t 13 Dichloropropene	ug/Kg	<500			
Trichloroethylene	ug/Kg	<250			
Chlorodibromomethane	ug/Kg	<250			
112 Trichloroethane	ug/Kg	<500			
c 13 Dichloropropene	ug/Kg	<500			
2chloroethvinylether	ug/Kg	<500			
Bromoform	ug/Kg	<250			
1122Tetrachloroethan	ug/Kg	<500			
Tetrachloroethene	ug/Kg	150000			

cc:

REMARKS:

DIRECTOR Thomas R. Stone

rn= 1736 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C900398/2 02/21/90

Soil Mechanics
3770 Merrick Road
Seaford, NY 11783
ATTN: Robert Cardinale PO #2724

SOURCE OF SAMPLE: Hicksville, Project #89-8067
COLLECTED BY: Client DATE COL'D:02/05/90 RECEIVED:02/05/90

SAMPLE: Soil Sample, DW-2/S-2, 2-4', 849

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<50	Chlorobenzene	ug/Kg	<50
Bromomethane	ug/Kg	<50	13 Dichlorobenzene	ug/Kg	<50
Dichlordifluomethane	ug/Kg	<50	12 Dichlorobenzene	ug/Kg	<50
Vinyl Chloride	ug/Kg	<50	14 Dichlorobenzene	ug/Kg	<50
Chloroethane	ug/Kg	<50	Benzene	ug/Kg	<50
Methylene Chloride	ug/Kg	<50	Toluene	ug/Kg	<100
Trichlorofluomethane	ug/Kg	<100	Ethyl Benzene	ug/Kg	<50
11 Dichloroethene	ug/Kg	<50	m Xylene	ug/Kg	<100
11 Dichloroethane	ug/Kg	<50	o+p Xylene	ug/Kg	<200
12 Dichloroethene	ug/Kg	<50			
Chloroform	ug/Kg	<50			
12 Dichloroethane	ug/Kg	<50			
111 Trichloroethane	ug/Kg	<50			
Carbon Tetrachloride	ug/Kg	<50			
Bromodichloromethane	ug/Kg	<50			
12 Dichloropropane	ug/Kg	<50			
t 13 Dichloropropene	ug/Kg	<100			
Trichloroethylene	ug/Kg	<50			
Chlorodibromomethane	ug/Kg	<50			
112 Trichloroethane	ug/Kg	<100			
c 13 Dichloropropene	ug/Kg	<100			
2chloroethvinylether	ug/Kg	<100			
Bromoform	ug/Kg	<50			
1122Tetrachloroethan	ug/Kg	<100			
Tetrachloroethene	ug/Kg	1200			

cc:

REMARKS:

DIRECTOR Thomas R. Gillette

rn= 1737 NYSDOH ID# 10320

H2MGROUP

Fenley & Nicol Co., Inc. (April 17, 1991)

Fenley & Nicol Co. Inc.

445 Brook Avenue. Deer Park. New York 11729 (516) 586-4900 • (718) 204-4993 Gasoline Pump & Tank • Environmental Services

SOIL EXCAVATION REPORT

AT

BOWE SYSTEMS & MACHINERY
200 FRANK ROAD
HICKSVILLE, NEW YORK

PREPARED FOR: BOWE SYSTEMS & MACHINERY

200 Frank Avenue

Hicksville, New York

PREPARED BY: FENLEY & NICOL CO., INC.

445 Brook Avenue

Deer Park, New York 11729

(516) 586-4900

PREPARED ON: April 17, 1991

INTRODUCTION

Fenley & Nicol Co., Inc. was retained by Bowe Systems & Machinery of 200 Frank Avenue, Hicksville, N.Y. to review historical information and previously collected data on possible soil contamination caused by the activities at this site. Fenley & Nicol's objectives were to confirm the findings in the Environmental Site Assessment Report prepared by Soil Mechanics Drilling Corp. dated January, 1990, and supplemental investigations. Fenley & Nicol's recommendations included additional soil borings to delineate the horizontal and vertical extent of the contamination and to develop a work plan to perform the necessary soil removal and disposal to satisfy the NYS-DEC.

WORK PERFORMED

Fenley & Nicol (F&N) drilled eight soil borings near the west group of four interconnected leaching pools to confirm the findings in the Environmental Site Assessment Report and to determine the extent of the soil remediation work plan. The locations and depths of the borings were based on the location and total depths of the leaching pools.

Soil cuttings were collected by a geologist on site and screened using a Photovac portable field gas chromatograph targeting tetrachloroethylene. Health and safety air monitoring at the drill rig was also performed using the field gas chromatograph. The workers were able to maintain OSHA level D protection during the drilling and sampling of the borings. The results of the borings and soil head space analysis indicated elevated levels of tetrachloroethylene in the soils around leaching pools #1, #2 and #3 (see site sketch) to a depth of approximately 20 feet and a horizontal distance of approximately 12 feet from each leaching pool.

A work plan in the form of a bid package was prepared describing the scope of work required to remediate the contaminated soil. The method of soil remediation preferred by Bowe was to excavate and dispose of all contaminated soils associated with the discharge from the leaching pools. After acceptance of the scope of work and the bid package by Bowe, Fenley & Nicol contacted the New York State Department of Environmental Conservation Hazardous Waste Remediation Division and the Nassau County Department of Health Services to review the work plan and provide guidance.

The soil excavation commenced on March 4, 1991, with the removal of the surface asphalt. Based on the Soil Mechanics reports and F&N's soil borings, the soils from grade to a depth of five feet were considered to be clean, laboratory analysis confirmed this. The soil was stock pilled on plastic for future use as backfill material. On March 5, 1991, soil excavation continued with a NYS-DEC Hazardous Waste Remediation Division representative present to observe the soil removal handling and sample location and collection procedures.

Fenley & Nicol contracted Pedneault Associates of Bohemia, N.Y. to provide a mobile laboratory and chemist to analyze the excavation samples on site for immediate determination of contamination levels. The soils were segregated into contaminated (>1.0 ppb) and non-contaminated (<1.0 ppb) piles on plastic for disposal or use as backfill material.

Soil samples were collected approximately every 4 feet (depth of each pool ring) and analyzed. Excavation continued in depth until the analysis indicated <1.0 ppb tetrachloroethylene or until NYS-DEC approval to backfill. With the end point samples meeting NYS-DEC approval, side wall samples were collected from the excavations at the depth of greatest concentration of tetrachloroethylene penetraction to insure complete horizontal soil removal.

The excavation of all contaminated soils was completed on March 7, 1991. The excavation was backfilled using available materials on site, with additional clean fill material delivered to the site as needed. The leaching pools were steam cleaned, reinstalled and connected for service. New asphalt returned the site to original condition.

The stock pilled contaminated soil was sampled and tested for TCLP Volatiles, TCLP Semi-volatiles, TCLP Pesticides/Herbicides, EP Toxicity for heavy metals and PCB's for landfill disposal facility approval. Approximately 450 tons of soil was manifested to Athens Hocking Landfill in Ohio.

LABORATORY RESULTS

The laboratory results of all the samples collected is tabulated below. The locations of the leaching pools are indicated on the site sketch.

Leaching Pool #1		Leaching Pool #2		Leaching Pool #3	
Depth (ft.)	Tetrachloroethylene (ppb)	Depth (ft.)	Tetrachloroethylene (ppb)	Depth (ft.)	Tetrachloroethylene (ppb)
4	<1.0	4	<1.0	4	<1.0
8	1.11				
12	0.95	12	0.29		
16	6.96	17	2.67	17	0.18
20	11.23	20	0.73		
25	6.43	20	0.73		
29	5.00				
East	0.78	East	<1.0		
West	0.02	West	0.03		
North	0.06	South	0.37		

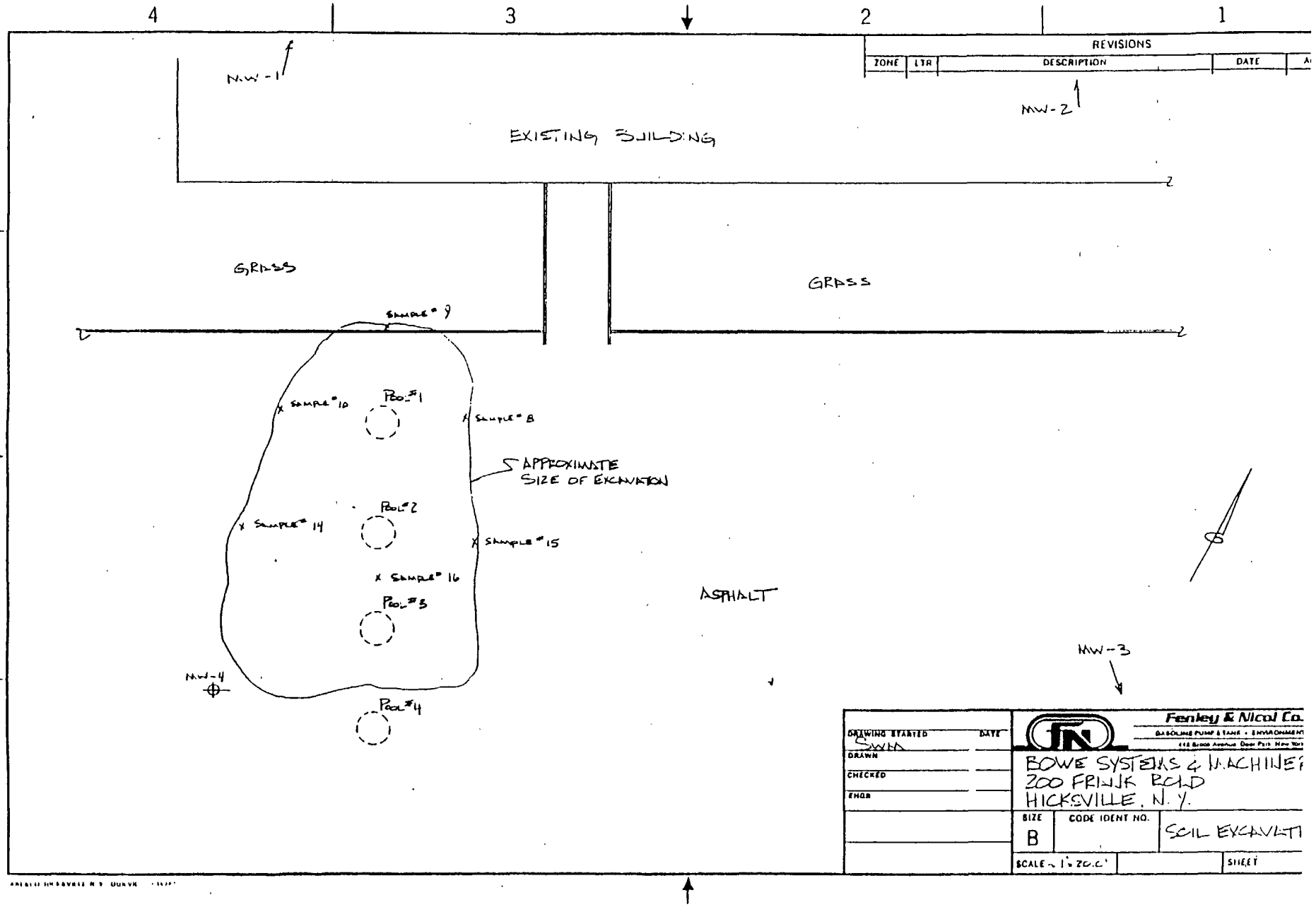
During the soil excavation and in addition to the scope of work, Pedneault Associates sampled and analyzed the groundwater collected from four existing monitoring wells installed by Soil Mechanics Drilling Corp. as part of the site assessment. The results of this testing is listed below:

Well #	Tetrachloroethylene (ppb)
1	0.37
2	0.06
3	0.57
4	471

CONCLUSION

The soil excavation project performed at this site has removed all contaminated soil in the vicinity of the leaching pools per NYS-DEC requirements. This was demonstrated through the use of an on-site certified mobile laboratory collecting and analyzing end point samples. The width and total depth of the excavation was approved by the NYS-DEC representative who was present during the excavation and approved the backfilling and restoration of the site.

The sampling and analysis of the groundwater has indicated elevated levels above 1.0 ppb tetrachloroethylene in well #4, located down gradient from the leaching pools. Detectable levels below 1.0 ppb were indicated in wells #1 through #3. Since well #4 is the most down gradient well from the source of the contamination, Fenley & Nicol recommends the installation of additional groundwater monitoring wells down gradient of well #4. A complete proposal with specifications and work plan will be prepared under a separate cover.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MW-1
MW-2
MW-3
MW-4
EXISTING BUILDING
GRASS
GRASS
ASPHALT
SAMPLE # 9
SAMPLE # 10
SAMPLE # 8
SAMPLE # 14
SAMPLE # 15
SAMPLE # 16
POOL #1
POOL #2
POOL #3
POOL #4
APPROXIMATE SIZE OF EXCAVATION
DRAWING STARTED
DATE
DRAWN
CHECKED
ENGR
Fenley & Nicol Co.
BOWE SYSTEMS & MACHINE
200 FRANK ROAD
HICKSVILLE, N. Y.
SIZE
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SOIL EXCAVATI
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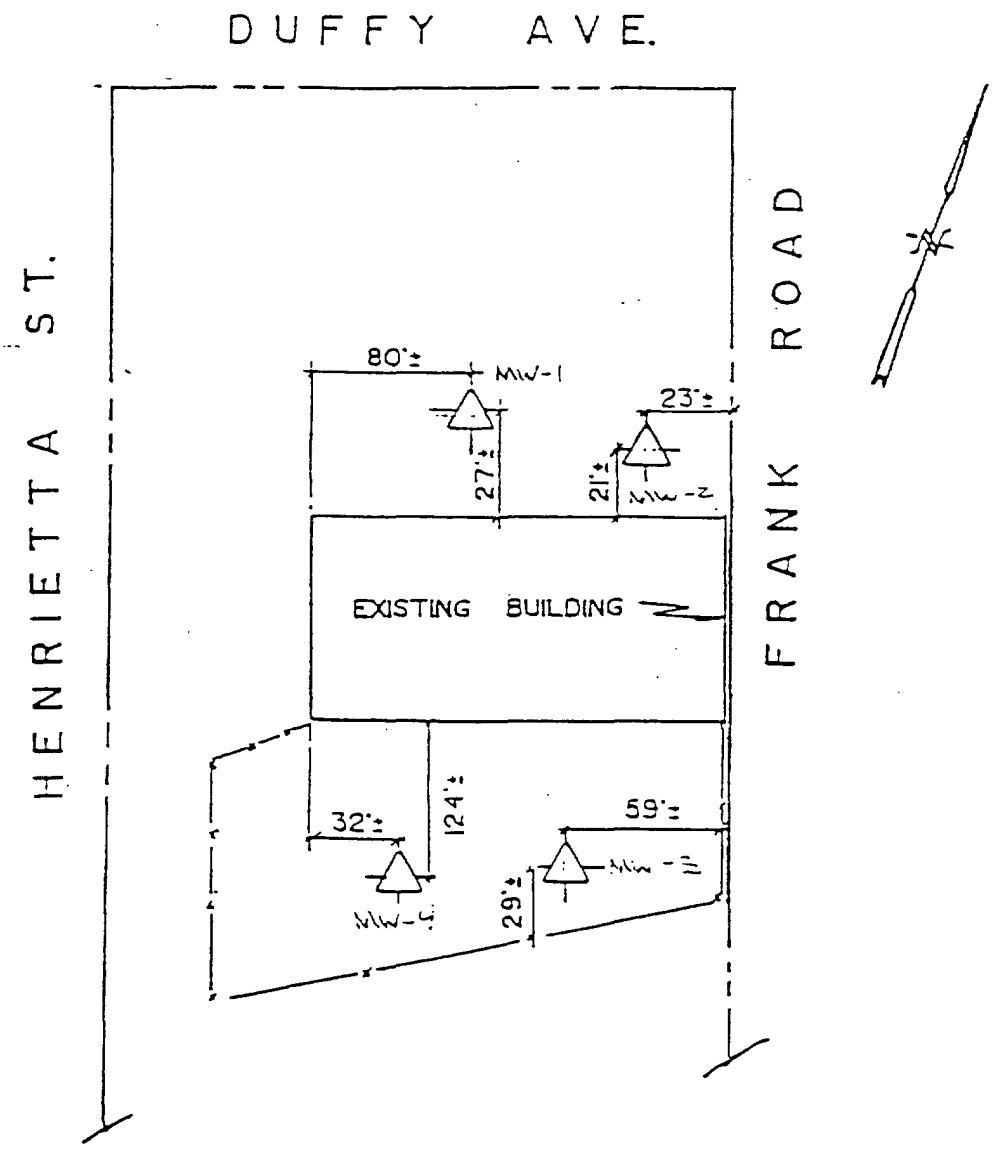

SOIL MECHANICS DRILLING CORP.
subsoil investigations
3770 MERRICK ROAD · SEAFORD, NEW YORK 11783 · 516 221-33

MONITORING WELL LOCATION PLAN
DUFFY AVE.
HICKSVILLE, NEW YORK

SCALE: N.T.S.
DRAWING DATE: JANUARY 4 1990
DRAWING NUMBER

LABORATORY DATA

Fenley & Nicol Co. Inc.

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/05/91 Analyzed 3/05/91 Report 3/11/91

Sampling Point

1. Sample #1 - Soil Sample #1 (Dry Well 1 at 4' deep)
2. Sample #2 - Well #3
3. Sample #3 - Well #4
4. Sample #4 - Well #2
5. Sample #5 - Well #1

Parameters		1	2	3	4	5
Tetrachloroethulene	ppb	< 1.0	0.57	471	0.06	0.37

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69798

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1815 NINTH AVENUE P.O. BOX 205 BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
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200 Frank Road
Hicksville, NY

Date: Collected 3/05/91 Analyzed 3/05/91 Report 3/11/91

Sampling Point

1. Sample #6 - Soil Sample #2 (Dry Well 1 at 8' deep)
2. Sample #7 - Soil Sample #3 (Dry Well 1 at 12' deep)
3.
4.
5.

Parameters		1	2	3	4	5
Tetrachloroethylene	ppb	1.11	0.95			

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69798

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1815 NINTH AVENUE P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/06/91 Analyzed 3/06/91 Report 3/11/91

Sampling Point

1. Sample #8 - Soil Sample #4 (Dry Well 1 at 16' deep)
2. Sample #9 - Soil Sample #5 (Dry Well 1 at 20' deep)
3. Sample #10 - Soil Sample #6 (Dry Well 1 at 25' deep)
4. Sample #11 - Soil Sample #7 (Dry Well 1 at 29' deep)
5. Sample #12 - Soil Sample #8 (East Dry Well 1 at 20' deep)

Parameters		1	2	3	4	5
Tetrachloroethylene	ppb	6.96	11.23	6.43	5.00	0.78

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69795

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8427
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/06/91 Analyzed 3/06/91 Report 3/11/91

Sampling Point

1. Sample #13 - Soil Sample #9 (North Dry Well 1 at 20' deep)
2. Sample #14 - Soil Sample #10 (West Dry Well 1 at 20' deep)
3. Sample #15 - Soil Sample #11 (Dry Well 2 at 13' deep)
4.
5.

Parameters		1	2	3	4	5
Tetrachloroethylene	ppb	0.06	0.02	0.29		

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69793

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1815 NINTH AVENUE · P.O. BOX 205 BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/07/91 Analyzed 3/07/91 Report 3/11/91

Sampling Point

1. Sample #16 - Soil Sample #12 (Dry Well 2 at 17' deep)
2. Sample #17 - Soil Sample #13 (Dry Well 2 at 20' deep)
3. Sample #18 - Soil Sample #14 (West Dry Well 2 at 20' deep)
4. Sample #19 - Soil Sample #15 (East Dry Well 2 at 20' deep)
5. Sample #20 - Soil Sample #16 (South Dry Well 2 at 20' deep)

Parameters	1	2	3	4	5
Tetrachloroethylene ppb	2.67	0.73	0.03	<1.0	0.37

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69798

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 11, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

RE: Bowe Systems
200 Frank Road
Hicksville, NY

Date: Collected 3/07/91 Analyzed 3/07/91 Report 3/11/91

Sampling Point

1. Sample #21 - Soil Sample #17 (Dry Well 3 at 16' deep)
2.
3.
4.
5.

Parameters		1	2	3	4	5
Tetrachloroethylene	ppb	0.18				

P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69798

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 6, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

Date: Collected 3/5/91 Analyzed 3/5-3/6/91 Report 3/6/91

Sampling Point

1. Bowe Systems, 200 Frank Road, Hicksville, NY (soil) - EP Toxicity
2.
3.
4.
5.

Parameters		1	2	3	4	5
Silver	mg/L	<0.0005				
Arsenic	mg/L	<0.0005				
Lead	mg/L	<0.0005				
Cadmium	mg/L	0.0001				
Chromium	mg/L	<0.02				
Mercury	mg/L	<0.0005				
Selenium	mg/L	<0.001				
Barium	mg/L	<0.1				
Flash Point	°C	>100°				
	°F	>212°				

Job No. 53575
P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69674

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE P.O. BOX 205 BOHEMIA, N.Y. 11716 (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 6, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, NY 11729

Date: Collected 3/5/91 Analyzed 3/5-3/6/91 Report 3/6/91

Sampling Point

1. Bowe Systems, 200 Frank Road, Hicksville, NY (soil)
2.
3.
4.
5.

Parameters		1	2	3	4	5
PCBs						
1016	ug/kg	< 1.0				
1221	ug/kg	< 1.0				
1232	ug/kg	< 1.0				
1242	ug/kg	< 1.0				
1248	ug/kg	< 1.0				
1254	ug/kg	< 1.0				
1260	ug/kg	< 1.0				

Job No. 53575
P.O.# E-38597

JOHN PEDNEAULT
Lab Director

Lab Number 69674

jm

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 13, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, New York 11729

Date: Collected 3/7/91 Analyzed 3/7-3/13/91 Report 3/13/91

Sampling Point

1. Bowe Systems - 200 Frank Road, Hicksville, New York - TCLP Extraction
2.
3.
4.
5.

CONTAMINANT		Regulatory Level (mg/l)	1	2	3	4	5
Acetone	mg/l	NA	<0.01				
Benzene	mg/l	0.5	<0.01				
n-Butylalcohol	mg/l	NA	<0.01				
Carbon disulfide	mg/l	NA	<0.01				
Carbon tetrachloride	mg/l	0.5	<0.01				
Chlorobenzene	mg/l	100.0	<0.01				
Chloroform	mg/l	6.0	<0.01				
1,2-Dichloroethane	mg/l	0.5	<0.01				
1,1-Dichloroethylene	mg/l	0.7	<0.01				
Ethyl acetate	mg/l	NA	<0.01				
Ethyl benzene	mg/l	NA	<0.01				
Ethyl ether	mg/l	NA	<0.01				
Isobutanol	mg/l	NA	<0.01				
Methanol	mg/l	NA	<0.01				
Methylene chloride	mg/l	NA	<0.01				

NA = Not Available
P.O. #E-36597
Job #53575

T.C.L.P. Volatile Analytes

JOHN PEDNEAULT
Lab Director

Lab Number 69738
mcs

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P O BOX 205 BOHEMIA, N Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-3579

March 13, 1991

TO: Fenley and Nicol Comapany, Inc.
445 Brook Avenue
Deer Park, New York 11729

Date: Collected 3/7/91 Analyzed 3/7-3/13/91 Report 3/13/91

Sampling Point

1. Bowe Systems - 200 Frank Road, Hicksville, New York - TCLP Extraction
2.
3.
4.
5.

CONTAMINANT		Regulatory Level (mg/ℓ)	1	2	3	4	5
Methul ethul ketone	mg/ℓ	200.0	<0.01				
Methul isobutul ketone	mg/ℓ	NA	<0.01				
Tetrachloroethulene	mg/ℓ	0.7	<0.01				
Toluene	mg/ℓ	NA	<0.01				
1,1,1-Trichloroethane	mg/ℓ	NA	<0.01				
Trichloroethulene	mg/ℓ	0.5	<0.01				
Trichlorofluoromethane	mg/ℓ	NA	<0.01				
1,1,2-Trichloro-1,2,2-trifluoroethane		NA	<0.01				
Vinul chloride	mg/ℓ	0.2	<0.01				
Xulene	mg/ℓ	NA	<0.01				

NA = Not Available
P.O. #E-38597
Job #53575

T.C.L.P. Volatile Analytes

JOHN PEDNEAULT
Lab Director

Lab Number 59738
mts

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 13, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, New York 11729

Date: Collected ....3/7/91..... Analyzed ..3/7-3/13/91..... Report ..3/13/91.....

Sampling Point

1. Bowe Systems - 200 Frank Road, Hicksville, New York - TCLP Extraction
2.
3.
4.
5.

CONTAMINANT		Regulatory Level (mg/ℓ)	1	2	3	4	5
Total Cresol	mg/ℓ	200.0	<0.01				
1,4-Dichlorobenzene	mg/ℓ	7.5	<0.01				
2,4-Dinitrotoluene	mg/ℓ	0.13	<0.01				
Hexachlorobenzene	mg/ℓ	0.13	<0.01				
Hexachloro-1,3-butadiene	mg/ℓ	0.5	<0.01				
Hexachloroethane	mg/ℓ	3.0	<0.01				
Nitrobenzene	mg/ℓ	2.0	<0.01				
Pentachlorophenol	mg/ℓ	100.0	<0.01				
Puridine	mg/ℓ	5.0	<0.01				
2,4,5-Trichlorophenol	mg/ℓ	400.0	<0.01				
2,4,6-Trichlorophenol	mg/ℓ	2.0	<0.01				

P.O. #E-38597
Job #53575

T.C.L.P. Semi-Volatile Analytes

JOHN PEDNEAULT
Lab Director

Lab Number 69738
mcs

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE · P.O. BOX 205 · BOHEMIA, N.Y. 11716 · (516) 467-8477
AFTER 5 P.M. (516) 567-5579

March 13, 1991

TO: Fenley and Nicol Company, Inc.
445 Brook Avenue
Deer Park, New York 11729

Date: Collected 3/7/91 Analyzed 3/7-3/13/91 Report 3/13/91

Sampling Point

1. Bowe Systems - 200 Frank Road, Hicksville, New York - TCLP Extraction
2.
3.
4.
5.

CONTAMINANT		Regulatory Level (mg/ℓ)	1	2	3	4	5
Chlordane	mg/ℓ	0.03	<0.001				
Endrin	mg/ℓ	0.02	<0.001				
Heptachlor	mg/ℓ	0.008	<0.001				
Heptachlor epoxide	mg/ℓ	0.008	<0.001				
Lindane	mg/ℓ	0.4	<0.001				
Methoxychlor	mg/ℓ	10.0	<0.001				
Toxaphene	mg/ℓ	0.5	<0.001				
2,4-D	mg/ℓ	10.0	<0.001				
2,4,5-TP (Silvex)	mg/ℓ	1.0	<0.001				

P.O. #E-38597
Job #53575

T.C.L.P. Pesticide/Herbicide Analytes

JOHN PEDNEAULT
Lab Director

Lab Number 69738
mCs

WASTE MANIFEST

Fenley & Nicol Co. Inc.

PLEASE TYPE OR PRINT CLEARLY USING A BALLPOINT PEN — PRESS HARD

DOCUMENT NO. A.H. № 5133

ERATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR . OWNER

ENERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 55 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 3-18-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.

1. ITEM TYPE
2. ITEM TYPE BOWES SVS
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 77.07 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

NSPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

POSAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE 3-19-91
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
   IF YES PLEASE REMARK

RATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ndition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS PROVED FOR DISPOSAL AT A.H. LANDFILL, BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the tor's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.

TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

— PRESS HARD

DOCUMENT NO. A.H. № 6461

GENERATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206

GENERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK 11542
2.
3.

GENERATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME _____ TITLE _____
2. PHONE NUMBER — Area Code ( ) - _____
3. DATE SHIPPED FROM SERVICE LOCATION 3/18/91
4. TIME SHIPPED FROM SERVICE LOCATION _____ A.M. _____ P.M. _____
5. GENERATOR SIGNATURE _____

GENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES

1. ITEM TYPE BOWE SYSTEM
2. ITEM TYPE 200 FRANK ROAD
3. ITEM TYPE HICKSVILLE, NY
4. ITEM TYPE
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS NA TONS 28.75 OTHER _____
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO. _____

TRANSPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

TRANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP 3/18/91
4. TIME OF THE LOAD PICKUP _____ A.M. _____ P.M. _____
5. GENERATOR SERVICE LOCATION _____
6. DRIVER'S NAME _____
7. DRIVER'S SIGNATURE _____

TRANSPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY 3/20/91
2. TIME OF THE DELIVERY _____ A.M. _____ P.M. _____
3. DRIVER'S NAME _____
4. DRIVER'S SIGNATURE _____
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO. _____
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES _____ NO _____

FINAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE 3/20/91
2. TIME OF DELIVERY _____ A.M. _____ P.M. _____
3. A.H. SUPERVISOR INSPECTOR NAME [illegible]
4. INSPECTOR SIGNATURE [illegible]
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES ✓ NO _____
6. REJECTED LOAD — YES _____ NO ✓
7. IF YES PLEASE REMARK _____

GENERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio D.E.R. THE WASTE DESCRIBED ABOVE WAS DELIVERED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing is true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the generator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.

TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

BOWE 000277

DOCUMENT NO. A.H. № 6459

JOB # 91-13

NERATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206

ENERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK 11542
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME _____ TITLE _____
2. PHONE NUMBER — Area Code ( ) -
3. DATE SHIPPED FROM SERVICE LOCATION 3/1/91
4. TIME SHIPPED FROM SERVICE LOCATION _____ A.M. _____ P.M. _____
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.

1. ITEM TYPE BOWES SYSTEM
2. ITEM TYPE 200 FRANK RD,
3. ITEM TYPE HICKSVILLE, NY
4. ITEM TYPE
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 39.16 OTHER _____
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO. _____

NSPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP 3/1/91
4. TIME OF THE LOAD PICKUP _____ A.M. _____ P.M. _____
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY 3/1/91
2. TIME OF THE DELIVERY _____ A.M. _____ P.M. _____
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO. _____
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES ✓ NO _____

OSAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE 3/1/91
2. TIME OF DELIVERY _____ A.M. _____ P.M. _____
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES ✓ NO _____
6. REJECTED LOAD — YES _____ NO ✓
IF YES PLEASE REMARK _____

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS PROVED FOR DISPOSAL AT A.H. LANDFILL, BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing ie and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the rator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.

TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

BOWE 000278

DOCUMENT NO. A.H.

JOB #91-13

IERATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206

ENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK 11542
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME _____ TITLE _____
2. PHONE NUMBER — Area Code ( ) -
3. DATE SHIPPED FROM SERVICE LOCATION 3/18/91
4. TIME SHIPPED FROM SERVICE LOCATION _____ A.M. _____ P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES
1. ITEM TYPE BOWES SYSTEM
2. ITEM TYPE 200 FRANK RD.
3. ITEM TYPE HICKSVILLE, NY
4. ITEM TYPE
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 34.11 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

RANSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

RANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP 3/18/91
4. TIME OF THE LOAD PICKUP _____ A.M. _____ P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME H. Davis
7. DRIVER'S SIGNATURE H. Davis

RANSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY 3/19/91
2. TIME OF THE DELIVERY _____ A.M. _____ P.M.
3. DRIVER'S NAME H. Davis
4. DRIVER'S SIGNATURE H. Davis
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES ✓ NO

POSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE 3/17/91
2. TIME OF DELIVERY _____ A.M. _____ P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES ✓ NO
6. REJECTED LOAD — YES NO ✓
IF YES PLEASE REMARK

NERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper dition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS PROVED FOR DISPOSAL AT A.H. LANDFILL, BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the enerator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

DOCUMENT NO. A.H. 0109

ERATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWES

ENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWES
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 32.9 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

NSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

RANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES ✓ NO
6. REJECTED LOAD — YES NO ✓
IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS APPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing s true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the erator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

BOWE 000280

DOCUMENT NO. A.H. 0100

IERATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWES

ENERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.

1. ITEM TYPE
2. ITEM TYPE BOWES
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 40.79 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

RANSPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

RANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

RANSPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

POSAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO

IF YES PLEASE REMARK

NERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ndition for transportation according to the applicable regulations of the Department of Transportation, U.S.E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS APPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the ierator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.

TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy *(2) Generator's Copy* *(3) Transporter's Copy*

DOCUMENT NO. A.H. N° 5137

ENERATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWE'S

GENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

GENERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 7-19-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWEE Syc
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 30.17 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

ANSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

RATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper tion for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS ..OVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing rue and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the rator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

DOCUMENT NO. A.H. 0100

ERATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR COPY

ENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

ERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 2-16-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWES
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 26.67 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

NSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ...ition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS PPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the rator's expense.

INSTRUCTIONS

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TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

ERATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWES

ENERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 55 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

ENERATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 3-18-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.

1. ITEM TYPE
2. ITEM TYPE BOWES NYS
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 38.66 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

NSPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

RANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO

IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper ition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS APPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing s true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the erator's expense.

INSTRUCTIONS

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TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

PEN — PRESS HARD
DOCUMENT NO. A.H. № 5134

GENERATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR — BOWES

GENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

GENERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 3-15-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

GENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWES
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 38.17 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

TRANSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

TRANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

TRANSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

DISPOSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE 3-17-91
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

TOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS OVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the r's expense.

INSTRUCTIONS
GENERATOR'S COPY — Mailed from A.H. Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

DOCUMENT NO. A.H.

RATOR NAME

1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWES

NERATOR ADDRESS — FOR THE SERVICE LOCATION

1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

RATOR CONTACT SUPERVISOR — SERVICE LOCATION

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION 3-10-91
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

NERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.

1. ITEM TYPE
2. ITEM TYPE BOWES NYS
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 39.84 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

ISPORTER NAME AND ADDRESS

1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR

1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

ISPORTER DELIVERY SCHEDULE

1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL

1. DELIVERY RECEIVED DATE 3-10-91
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS APPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing is true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the generator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H. Inc. after disposal process, and with the monthly billing.

TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.

DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

LATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWE

NERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

NERATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

NERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWE SVC
3. ITEM TYPE FRANK WARD
4. ITEM TYPE HICKSVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS N/A TONS 38.97 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

SPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

ANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

SPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper tion for transportation according to the applicable regulations of the Department of Transportation, U.S.E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS PPROVED FOR DISPOSAL AT A.H. LANDFILL BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing true and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the ator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

DOCUMENT NO. A.H.

RATOR NAME
1. JIMMY BYRNE NYS DEC 1A-206 (TRANSPORTER) GENERATOR - BOWE

ENERATOR ADDRESS — FOR THE SERVICE LOCATION
1. 65 GLEN COVE AVENUE GLEN COVE, NEW YORK
2.
3.

RATOR CONTACT SUPERVISOR — SERVICE LOCATION
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area Code (516) - 671-7799
3. DATE SHIPPED FROM SERVICE LOCATION
4. TIME SHIPPED FROM SERVICE LOCATION A.M. P.M.
5. GENERATOR SIGNATURE

ENERATOR IDENTIFICATION OF WASTE TYPE OR TYPES.
1. ITEM TYPE
2. ITEM TYPE BOWE DYE.
3. ITEM TYPE FRANK ROAD
4. ITEM TYPE BROOKVILLE, NEW YORK
5. QUANTITY — CHECK ONE (✓) CUBIC YARDS TONS 29.67 OTHER
6. SHIPPED IN CONTAINER TYPE TRAILER ID NO.

NSPORTER NAME AND ADDRESS
1. JIMMY BYRNE
2. 7 CARLISLE DRIVE
3. OLD BROOKVILLE, N.Y. 11545
4.

RANSPORTER CONTACT SUPERVISOR
1. NAME JIMMY BYRNE TITLE OWNER
2. PHONE NUMBER — Area code (516) - 671-7799
3. DATE OF THE LOAD PICKUP
4. TIME OF THE LOAD PICKUP A.M. P.M.
5. GENERATOR SERVICE LOCATION
6. DRIVER'S NAME
7. DRIVER'S SIGNATURE

NSPORTER DELIVERY SCHEDULE
1. DATE OF THE DELIVERY
2. TIME OF THE DELIVERY A.M. P.M.
3. DRIVER'S NAME
4. DRIVER'S SIGNATURE
5. DELIVERY IN CONTAINER TYPE TRAILER ID NO.
6. IDENTIFICATION OF WASTE MUST BE THE SAME AS GENERATOR IDENTIFICATION YES NO

OSAL FACILITY — A.H. LANDFILL
1. DELIVERY RECEIVED DATE
2. TIME OF DELIVERY A.M. P.M.
3. A.H. SUPERVISOR INSPECTOR NAME
4. INSPECTOR SIGNATURE
5. THE LOAD WAS RECEIVED AS STATED BY THE GENERATOR YES NO
6. REJECTED LOAD — YES NO
IF YES PLEASE REMARK

ERATOR'S CERTIFICATION. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. E.P.A. and the Ohio O.E.R. THE WASTE DESCRIBED ABOVE WAS APPROVED FOR DISPOSAL AT A.H. LANDFILL, BASED ON THE AGREEMENT BETWEEN BOTH THE GENERATOR AND THE DISPOSAL FACILITY. I certify that the foregoing rue and correct to the best of my knowledge. If the waste shipment is not as stated I accept the RETURN of the COMPLETE LOAD to the generator's service location, at the erator's expense.

INSTRUCTIONS

GENERATOR'S COPY — Mailed from A.H., Inc. after disposal process, and with the monthly billing.
TRANSPORTER'S COPY — Given to the transporter driver when shipment is inspected and unloaded.
DISPOSAL FACILITY — Filed in customer - generator master file.

(1) Disposal Facility Copy (2) Generator's Copy (3) Transporter's Copy

H2MGROUP

H2M Group (August 1992)

H2MGROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

ACEC Member
Sustaining Excellence
in Engineering

575 Broad Hollow Road, Melville, NY 11747-5076
(516) 756-8000 • Fax: (516) 694-122

August 10, 1992

Mr. Jamie Ascher
Engineering Geologist
New York State Department of Environmental Conservation
Building 40-SUNY
Stony Brook, New York 11790-2356

RE: Site Screening Investigation
Bowe Systec, Inc. Site
200 Frank Road, Hicksville, New York
NYSDEC site No. 1-30-048

Dear Mr. Ascher:

As per our conversation on Friday, July 24, 1992, enclosed herewith please find two (2) copies of the above-referenced report. After you have completed your review of the enclosed, please contact me so that we can discuss the implementation of the recommendations therein.

Thank you in advance for your prompt attention regarding this matter. Should you have any questions please feel free to call either myself at 756-8000 (Ext. 480) or Mr. Gary J. Miller (Ext. 620).

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Martin O. Klein, C.P.G.
Groundwater Resources/Hydrogeology
Section Supervisor
MOK/cdr
Enclosures
cc: Mr. Richard Reilly
Mr. William Mahoney
Vail T. Thorne, Esq.
Mr. Stanley Rosenthal

SITE SCREENING INVESTIGATION
BOWE SYSTEM AND MACHINE
(BÖWE SYSTEC, INC.)

I INTRODUCTION

The Bowe System and Machine property is located at 200 Frank Road in Hicksville, New York as shown in Figure 1. The property is 2.098 acres in size and contains a one story masonry building. The building was vacant when Bowe purchased the property in the early 1980s. The previous property owner was reported as Dyna Magnetic Devices which reportedly used trichloroethylene (TCE) in their operations.

American Permac, a dry cleaning equipment importer, shared the building with Bowe. As part of Permac's operations, they assembled, tested and rebuilt dry cleaning equipment. Tetrachloroethylene (PCE) was utilized during the testing operations. The PCE was stored in a 300 gallon above ground tank centered along the south wall of the building. In October 1990, this tank was removed and the PCE was sold to dry cleaners in the area. The dry cleaning equipment part of Bowe relocated to Texas in 1990.

Currently, the site is vacant, except for limited operations conducted by Bowe System which is in the paper handling business.

In October 1991, the New York State Department of Environmental Conservation (NYSDEC) designated the Bowe site as a Class 2 Inactive Hazardous Waste Disposal Site (DEC# 130048) due to volatile organic contamination.

II PREVIOUS INVESTIGATIONS

In January 1990, an environmental site assessment was conducted by Soil Mechanics Drilling Corporation. The results of this investigation indicated elevated concentrations of PCE in the groundwater. A supplemental investigation by Soil Mechanicas in February 1990, indicated elevated concentrations of volatile organics in drywell nos. 1, 2, 3, and 8 in addition to the unpaved area outside the paint spray booth door, to the southwest of the building.

Site remediation consisting of the excavation and removal of impacted soils surrounding drywells 1, 2, and 3 was performed under the oversight of NYSDEC. The connection between drywell no. 1 and the floor drain inside the building was removed. Additional monitoring wells were installed, downgradient of the remediated drywells, to provide supplemental monitoring of groundwater quality.

III OBJECTIVE

The objective of this Site Screening Investigation (SSI) was to provide an overview of the existing conditions at the site by tentative identification of source areas and, to a limited degree, the extent of contamination. An additional objective was to provide data for the development of Interim Remedial Measures (IRMs) for the site. In order to accomplish this objective, four main areas of concern were investigated. These areas included: Area 1 (drywells 1, 2, and 3); Area 2 (drywell 8); Area 3 (stressed vegetation along southwest corner of building); and Area 4 (septic system). Drywells 4, 6, and 7 were also investigated, although past studies indicated little to no contamination at these locations. In addition, groundwater samples were collected from temporary wells that were installed during the SSI. Groundwater elevations were also measured in order to define the direction of groundwater flow and potential direction of contaminant transport.

The tasks completed during the SSI were not conducted under the pending Order on Consent that is to be issued for this site and, therefore, may not be acceptable to the NYSDEC as part of the required Remedial Investigation (RI). However, the data collected during this SSI provided a timely assessment of potential future remedial efforts.

Subsurface Investigation at Drywells 1 Through 3, (Area 1) 4, 6, 7 and 8 (Area 2)

Four (4) soil borings were executed in Areas 1 and 2 (see Figure 2) to estimate the degree of volatile organic compound (VOC) contamination present within the upper 25 feet of soil and to determine the potential for drywells 1, 2, 3, and 8 to act as a source of VOC contamination to the groundwater.

This was accomplished by drilling to a depth of 25' below grade. A soil sample was taken at the bottom of each drywell and at the 23' to 25' interval. Each sample was screened with a photoionization detector (PID) yielding results in estimated parts per million (ppm). One sample from each boring with the highest PID reading was submitted for laboratory analysis (EPA Method 8010 and 8020). In the case of identical PID readings being found in the same soil borings, the shallowest of the two samples was taken.

The borings, labeled DW-1/T-3, DW-2, DW-3, and DW-8, respectively, were drilled by Aquifer Drilling and Testing, Inc. (ADT). The augers, the bit, and the split spoons were steam cleaned between each use and the split spoons were then washed with an alconox/distilled-deionized solution and rinsed with distilled-deionized water to further ensure the integrity of all the samples. For a review of the field results, please refer to the Hydrogeologist's Logs in Appendix A.

The samples submitted from the soil borings executed through dry wells 1, 2, 3, and 8 were labelled DW-1/T-3 (16'-18', 30'-32', and 40'-42'), DW-2 (14'-16'), DW-3 (23'-25'), and DW-8 (10'-12'). In addition, shallow soil samples were collected from the bottom of DW-4, DW-6 and DW-7. Drywell DW-5 was not accessible. Soil samples from DW-4, DW-6 and DW-7 were screened with the PID for total VOCs and the results recorded. PID results did not indicate high VOC concentrations and therefore no soil samples from these three (3) drywells (4, 6 and 7) were submitted for analysis.

Soil Sampling & Screening at Area 4 (Sanitary System)

The septic system (Area 4 on Figure 2) was screened and sampled to confirm and identify possible sources of VOC contamination to groundwater. Bottom samples from the

two leaching pools (LP-1 and LP-2) and the septic tank were collected by using a dredge which was decontaminated between uses with an alconox/distilled-deionized water wash and a distilled-deionized water rinse. The samples were submitted to the lab for EPA Methods 8010 and 8020.

Soil Gas Survey and Soil Sampling at Area 3 (Grassy Area)

A soil gas survey at Area 3 was conducted to identify potential contamination within the area of the former spray booth (see Figure 3).

Twenty-three locations were surveyed for estimated VOC concentrations in soil. This was accomplished by creating a small 1/4" size hole extending 2.5' below grade, inserting a length of dedicated Teflon tubing into the hole, and monitoring the air escaping through the tube with a PID. The PID was calibrated on a daily basis prior to field activities.

Areas recorded with elevated VOCs were delineated. Background readings ranged from 0.2 to 0.4 ppm. Two (2) of the 23 locations were further targeted for split spoon sampling and for VOC analysis as per EPA Method 8010 and 8020.

The results of the soil gas survey ranged from 0.2 to greater than 50.0 ppm. The areas exhibiting the highest readings were located in the north-eastern section of the survey area. Based upon these results, soil borings were conducted to a depth of 10 feet at soil gas points 6 (SB-2) and 8 (SB-1). A split spoon sample was collected from 2 to 4 feet and 8 to 10 feet below grade at each location and screened with the PID.

The two samples submitted for analysis were SB-1 (2'-4') and SB-2 (2'-4') due to the PID results and the presence of volatile organics as registered in the first 2.5' of soil in the soil gas survey.

Groundwater Flow Direction and Sampling

On June 23 and 24, 1992, groundwater elevation measurements were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6 and MW-7 to ascertain and confirm the direction of groundwater flow present at the site. Based upon the groundwater flow direction, three (3) temporary monitoring wells were installed to aid in gathering contaminant levels in groundwater in conjunction with the sampling of four (4) existing wells on site.

Based upon the two (2) rounds of groundwater elevation data, groundwater flow direction was observed to be south/southeast at the site. Monitoring well MW-3 was damaged and therefore was excluded from the groundwater contour calculations (please refer to the groundwater contour maps labelled Figures 4 and 5).

On June 24, 1992, groundwater samples were collected from monitoring wells MW-1, MW-3, MW-6, MW-7, and the temporary monitoring wells T-1, T-2, and T-3. The pre-existing wells were purged of three to five well volumes of groundwater with a submersible pump and sampled with a dedicated bailer. The pump was decontaminated with an alconox/distilled-deionized water solution and rinsed with distilled-deionized water. The temporary wells were drilled with a 3 1/4" ID auger and cuttings were screened with a PID. The cuttings exhibited readings equal to or less than background levels. The wells were sampled with a dedicated bailer and then backfilled with the drill cuttings. A field blank

was also prepared during groundwater sampling. All samples were submitted to the laboratory for VOC analysis as per EPA Method 601/602 and xylene.

IV SAMPLING RESULTS

The results of the SSI are shown in Tables 1 and 2. The original analytical sheets are attached as Appendix B. All the soil samples were analyzed for volatile organics using EPA Methods 8010 and 8020 (gas chromatography). A total of six (6) soil samples were collected and lab tested from four (4) of the on site drywells. Drywell nos. 1, 2, and 3 were remediated back in 1990. The results of the soil samples from these drywells indicate that the remediation was successfully completed and that the drywells are no longer acting as a source of VOC contamination. Samples were collected from depths of 16'-18', 30'-32', and 40'-42' in DW-1/T-3; 14'-16' in DW-2; and 23'-25' in DW-3. None of the parameters analyzed were above the detection limit of the laboratory. A soil sample was collected at a depth of 10'-12' in DW-8, located in the truck bay near the loading dock. PCE was detected at 81 ug/kg at this location.

Three (3) sludge samples were collected from the septic system located along the northern portion of the building. One (1) sample was collected from the septic tank and two (2) samples from the associated leaching pools. Of the volatile organics analyzed, none were above the detection limit in either the septic tank or in leaching pool LP-1. In leaching pool LP-2, the following contaminants were detected: m-dichlorobenzene (480 ug/kg); p-dichlorobenzene (1100 ug/kg); o-dichlorobenzene (220 ug/kg); and 1,3-xylene (180 ug/kg).

A soil gas survey was conducted in Area 3, located along the southwest portion of the building. The results of this survey indicated three (3) readings above background. These readings were located along the northern portion of Area 3. Based on these results, two (2) soil samples were collected, one (1) desginated SB-1 and the other, SB-2. Both

samples were collected at a depth of 2'-4'. The results indicate elevated levels of PCE at both locations. The results for SB-1 were 2,300 ug/kg and for SB-2, 910 ug/kg.

Groundwater samples were collected from four (4) existing monitoring wells, MW-1, MW-3, MW-6, MW-7, and from three (3) temporary wells, T-1, T-2, and T-3. Monitoring well MW-1 was designated the background well. The samples were analyzed for VOCs using EPA Method 601 and 602. The results, listed in Table 2, indicated evidence of contamination in MW-3, MW-6, MW-7, T-1, T-2, and T-3. The background well, MW-1, did not show evidence of contamination.

The predominant contaminant detected in the groundwater was PCE at levels ranging from 19 ug/l in MW-3 to 430 ug/l in MW-6. Additional concentrations were detected in T-3 (20 ug/l), T-1 (45 ug/l), T-2 (110 ug/l) and MW-7 (130 ug/l). Other organics detected included 1,1-dichloroethane (MW-7, T-1, and T-3), trichloroethene (MW-6, MW-7, T-1, and T-3), 1,1,1-trichloroethane (T-1), and cis-1,2,-dichloroethene (T-3).

V CONCLUSIONS

Based on the scope of work executed for this SSI, we provide the following conclusions:

- Evidence of PCE contamination in drywell DW-8 indicates this area on site to be a potential source of groundwater contamination. The soil samples collected at 10'-12' (bottom of drywell) and 23'-25' both exhibited elevated VOC concentrations by the PID. Laboratory analysis of the sample from 10'-12' indicates elevated levels of PCE, identifying DW-8 as a potential source area.

- Soil samples collected from Drywells DW-1, DW-2, DW-3, DW-4, DW-6, and DW-7 do not provide evidence of VOC contamination. These results support past investigations and remedial efforts.

- The shallow soils in the grassy area (near the spray booth), have apparently been impacted by VOCs (within a limited area). This area may be a source of VOC contaminants to the groundwater since laboratory analysis of soil samples SB-1 (2'-4') and SB-2 (2'-4') indicated elevated levels of PCE.

- The results of the three (3) sanitary system samples indicate no source of PCE. However, in sample LP-2 VOCs were detected that are commonly found in sanitary waste streams. The presence of dichlorobenzenes could indicate evidence of aromatic toilet discs usually placed in restroom facilities. The absence of these VOCs in the groundwater indicates that the extent is limited.

- The groundwater flow direction indicates a localized influence from the recharge basin, located southwest of the site. Typically, a local groundwater mound results from groundwater recharging from a basin. The regional groundwater flow was measured to be south/southeast and may slightly fluctuate with changes in precipitation and amount of recharge over the area.

- Based on the groundwater flow direction, the groundwater sampling points selected for this SSI provided downgradient coverage of the areas of concern on site. The groundwater sampling results indicate a VOC plume (primarily PCE) at the property boundary to the south. This is evidenced by the concentrations of VOCs detected at the most downgradient wells (MW-6, T-1, and T-2). Concentrations of PCE detected in the groundwater are similar to past results (1991). However, the presence of other VOCs indicates the breakdown of PCE by natural degradation over time. The highest concentration of PCE in the groundwater was detected at MW-6, which is generally downgradient of both the grassy area (Area 3) and drywell DW-8.

VI RECOMMENDATIONS

Based on the findings of this SSI, we provide the following recommendations:

- If acceptable by NYSDEC, register and abandon/remove fuel oil UST, independent of the RI.

- If acceptable by NYSDEC, retain a licensed hauler to pump and clean (wash) out the entire sanitary system (septic tank and 2 leaching pools) independent of the RI. Material removed from the sanitary system should be disposed of at a licensed facility to accept such waste.

- Implement the RI Work Plan to collect additional data for deep soils and contact NYSDEC to discuss an Interim Remedial Measure (IRM) at the former spray booth area and DW-8. The IRM should be the excavation and disposal of shallow soils (5' depth). Once sufficient data has been obtained for deep soils, contact NYSDEC to discuss the possibility of additional IRMs for remediation (if necessary).

- Implement the RI Work Plan to collect additional data and evaluate alternatives for remediation of groundwater in order to capture contaminated groundwater on site. Once sufficient data has been obtained, contact NYSDEC to discuss alternatives to conduct an IRM for groundwater remediation (if necessary). Alternatives may include: no action; pump and treat with recovery wells and air stripper; pump and treat with carbon adsorption; or air sparging.

- Investigate the drainage patterns of the site area and determine the potential for the recharge basin to act as a source.

TABLES

H2MGROUP

TABLE 1

VOLATILE ORGANIC COMPOUNDS
QUANTIFIED IN SOIL AT
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK

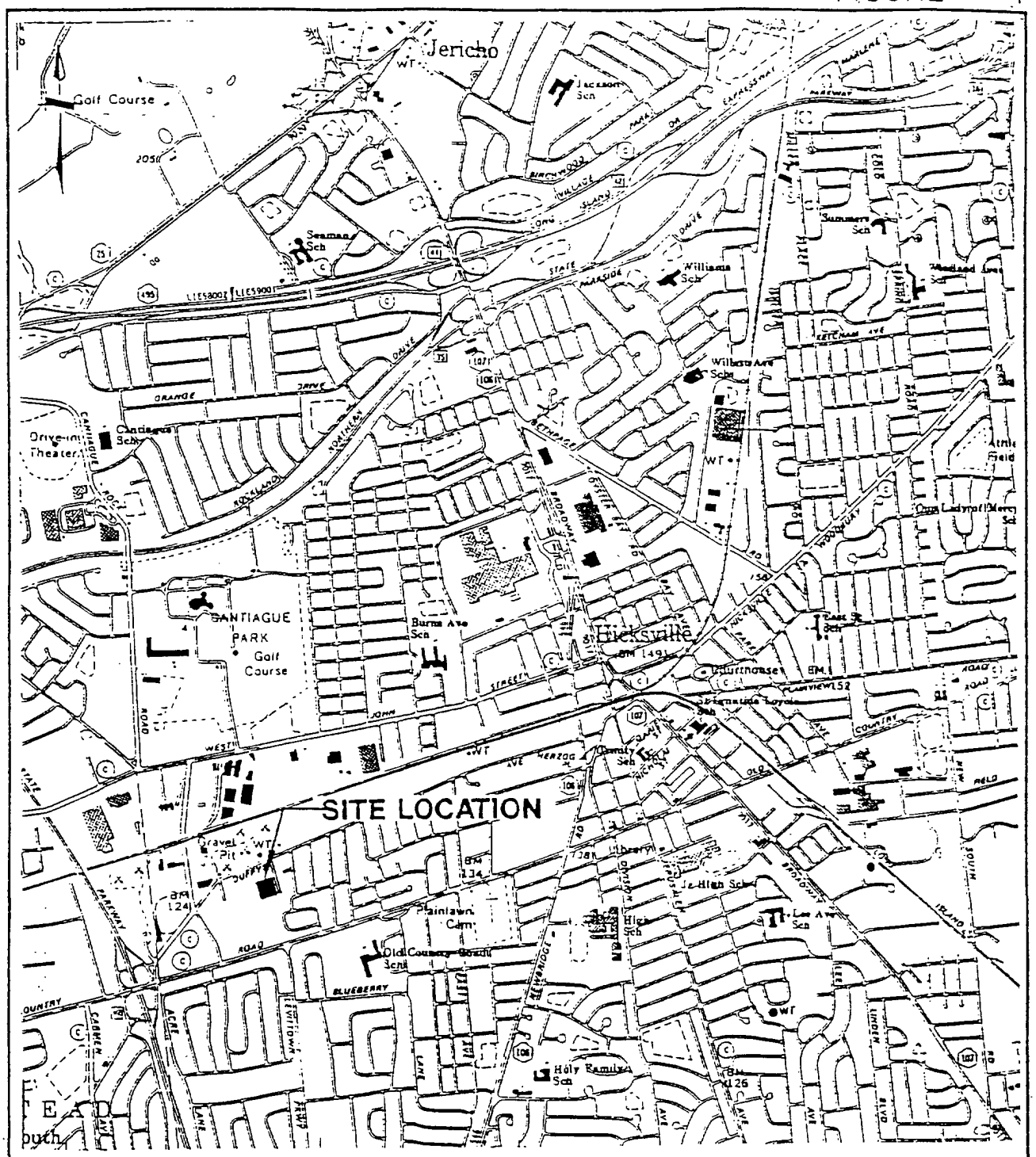
COMPOUNDS	SB-1 (2'-4')	SB-2 (2'-4')	LP-1	LP-2	DW-8 (10'-12')
Tetrachloroethene	2300	910	ND	ND	81
M-Dichlorobenzene	ND	ND	ND	480	ND
P-Dichlorobenzene	ND	ND	ND	1100	ND
O-Dichlorobenzene	ND	ND	ND	220	ND
1,3-Xylene	ND	ND	ND	180	ND

Notes:

ND = Not detected
All readings in ug/kg

FIGURES

FIGURE 1



LOCATION MAP

SCALE: 1" = 2000'

BOWE SYSTEM AND MACHINE
200 FRANK ROAD
HICKSVILLE, NEW YORK

OCT. 19, 1989

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

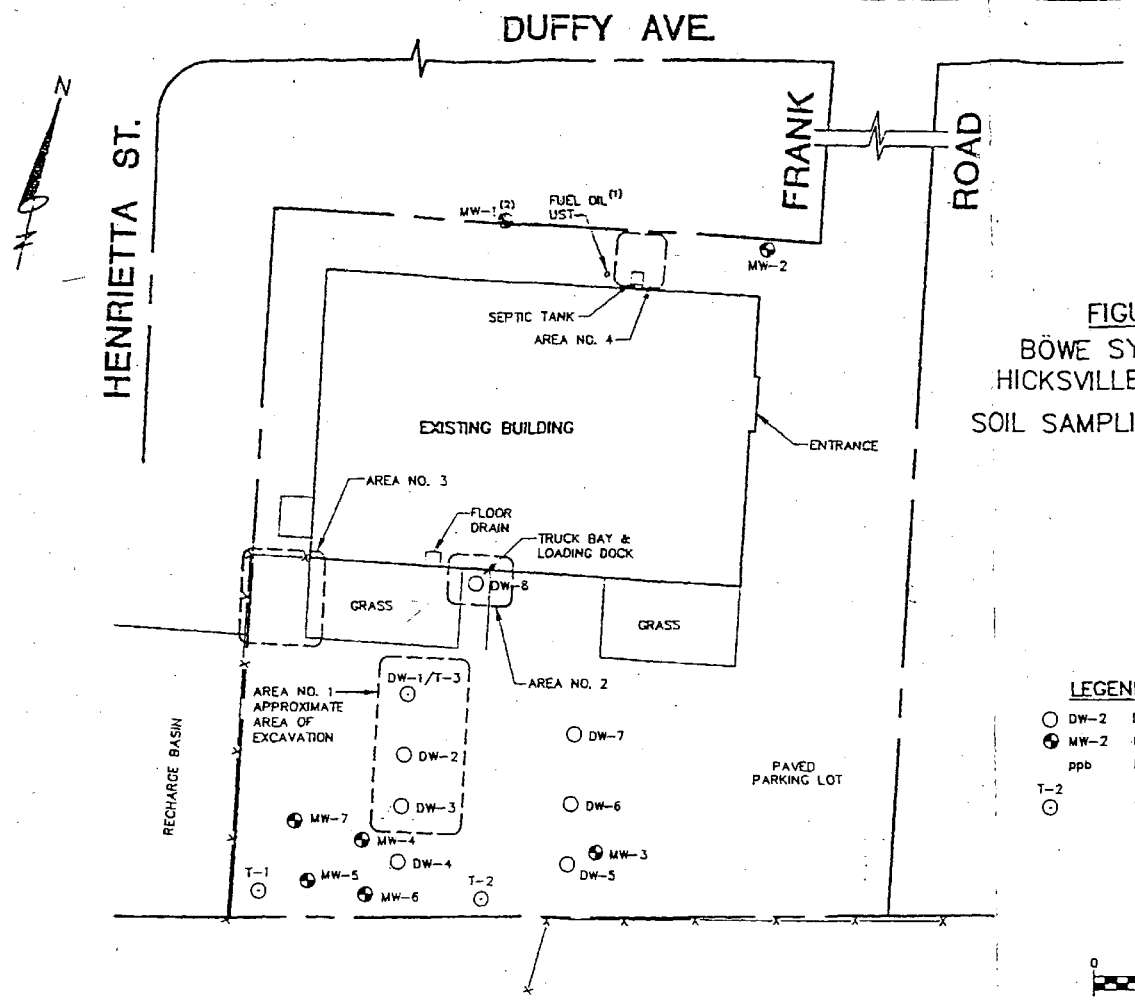


FIGURE 2
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
SOIL SAMPLING LOCATIONS

LEGEND

DW-2	DRYWELL
MW-2	MONITORING WELL
ppb	PARTS PER BILLION
T-2	TEST WELL

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

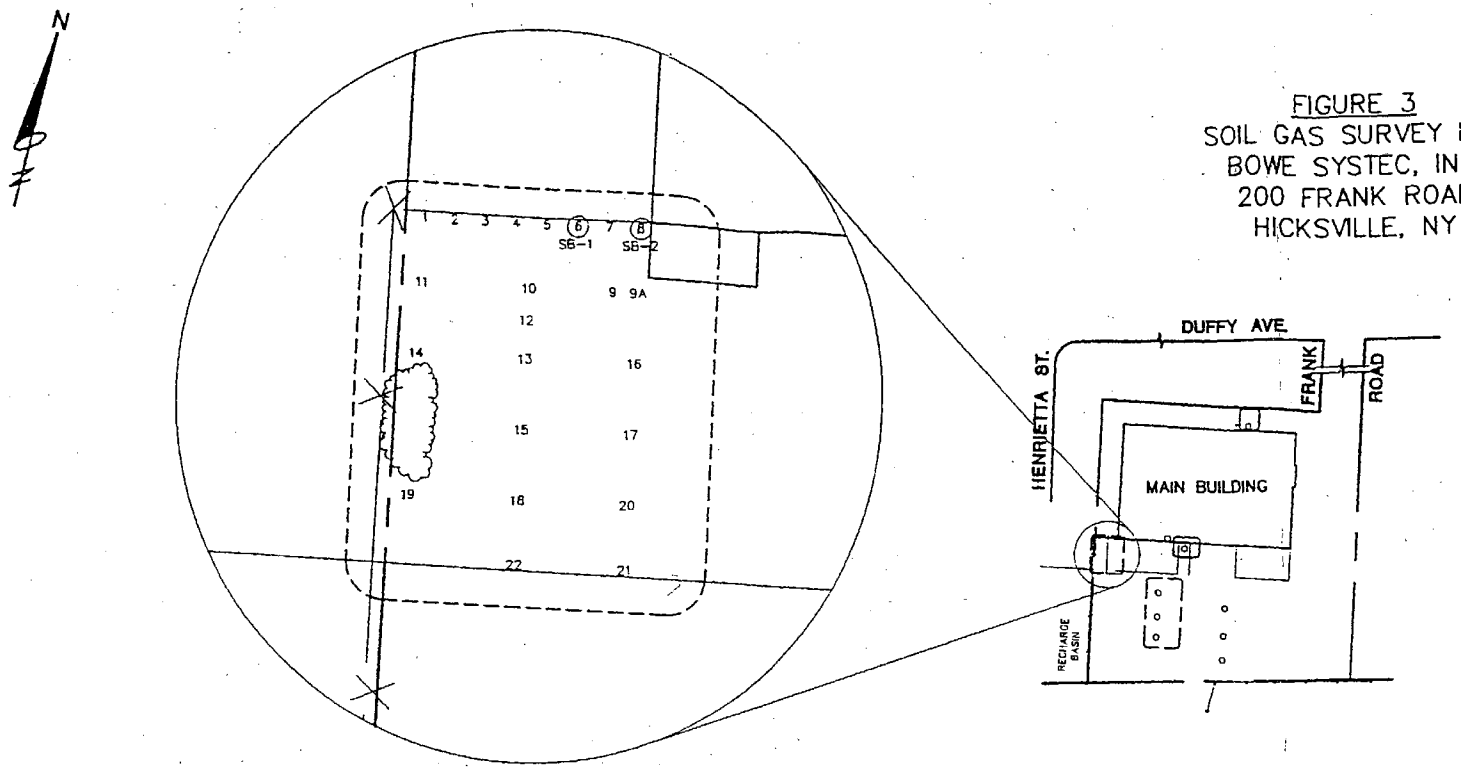


FIGURE 3
SOIL GAS SURVEY FOR
BOWE SYSTEC, INC.
200 FRANK ROAD
HICKSVILLE, NY

LOCATION	PID READINGS	LOCATION	PID READINGS
1	0.8	9A	18.0
2	1.4	12	10.2
3	1.0	13	0.8
4	0.2	14	0.8
5	1.0	15	2.1
6	>20.0	16	1.0
7	>20.0	17	0.4
8	>50.0	18	0.4
9	1.0	19	0.6
10	0.6	20	1.4
11	1.2	21	1.0
		22	0.2

LEGEND

ALL PID READINGS IN EPPM

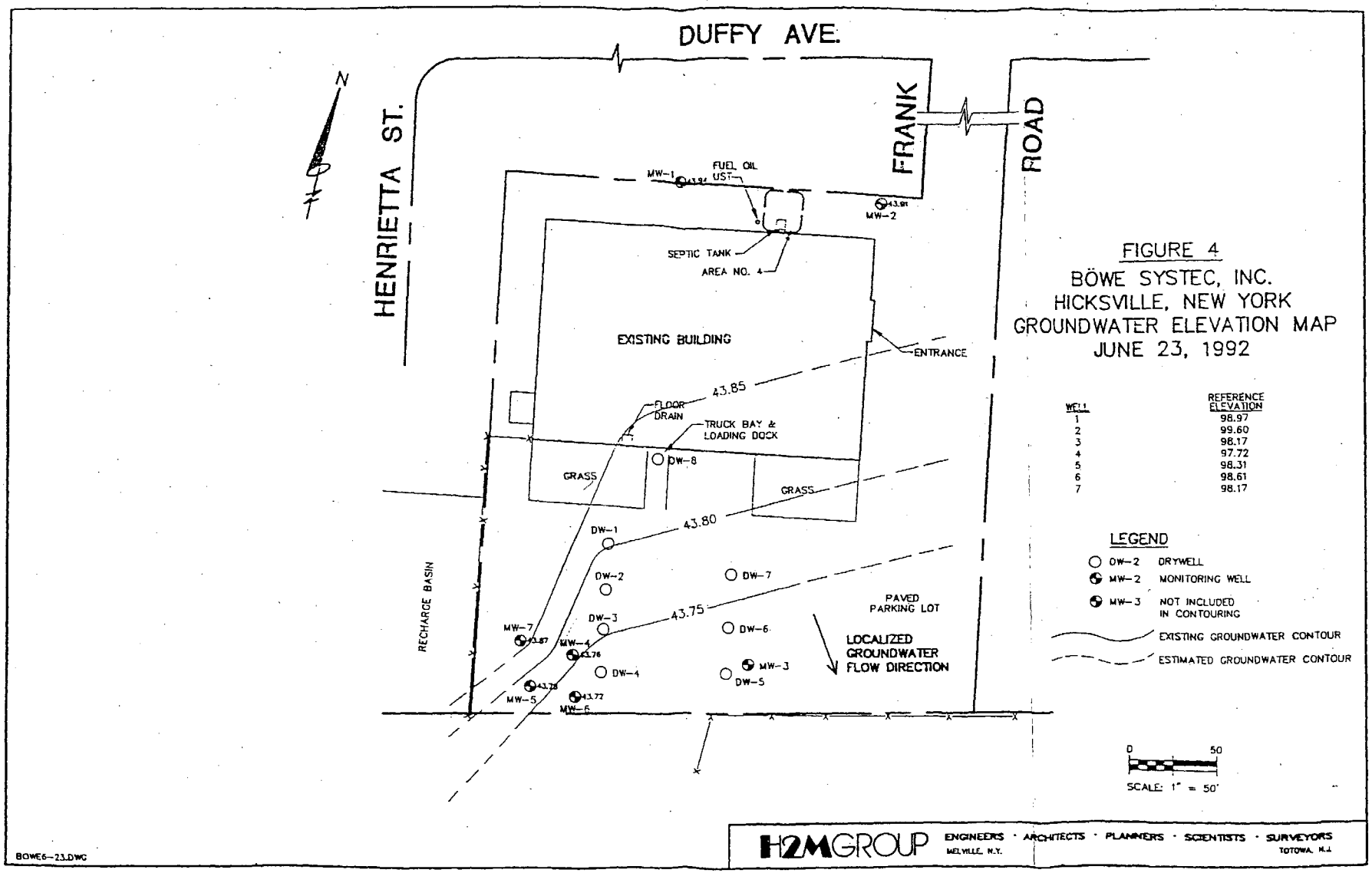
2 SOIL GAS SAMPLING POINT

6 SB-1 LOCATION OF SOIL BORING

VEGETATION

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

BOWEDET1.DWG


DUFFY AVE.
HENRIETTA ST.
FRANK ROAD
N
MW-1
FUEL OIL UST
MW-2
SEPTIC TANK
AREA NO. 4
EXISTING BUILDING
ENTRANCE
43.85
FLOOR DRAIN
TRUCK BAY & LOADING DOCK
DW-8
GRASS
GRASS
43.80
DW-1
DW-2
DW-7
43.75
DW-3
DW-6
MW-7
MW-4
MW-3
DW-4
DW-5
MW-5
MW-6
RECHARGE BASIN
PAVED PARKING LOT
LOCALIZED GROUNDWATER FLOW DIRECTION
FIGURE 4
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
GROUNDWATER ELEVATION MAP
JUNE 23, 1992
WELL | REFERENCE ELEVATION
1 | 98.97
2 | 99.60
3 | 98.17
4 | 97.72
5 | 98.31
6 | 98.61
7 | 98.17
LEGEND
DW-2 DRYWELL
MW-2 MONITORING WELL
MW-3 NOT INCLUDED IN CONTOURING
EXISTING GROUNDWATER CONTOUR
ESTIMATED GROUNDWATER CONTOUR
0
50
SCALE: 1" = 50'
BOWE6-23.DWG
H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y.
TOTOWA, N.J.

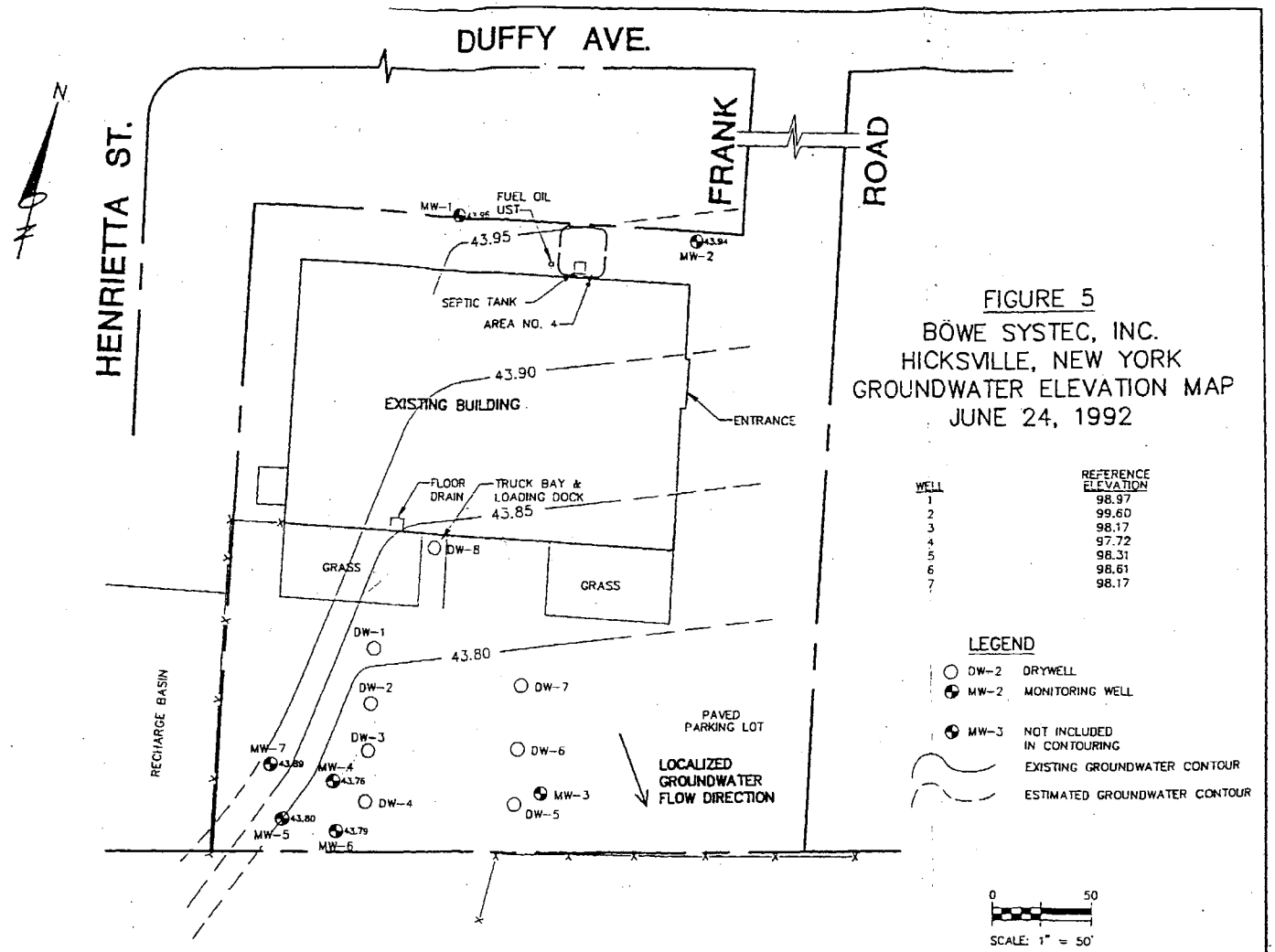


FIGURE 5
BÖWE SYSTEC, INC.
HICKSVILLE, NEW YORK
GROUNDWATER ELEVATION MAP
JUNE 24, 1992

WELL	REFERENCE ELEVATION
1	98.97
2	99.60
3	98.17
4	97.72
5	98.31
6	98.61
7	98.17

H2MGROUP

APPENDIX A

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220708

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SEPTIC TANK
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220625

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-2(14'-16')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	96.0	%

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

Stanley Feaver
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220625

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE

METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-2(14'-16')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220626

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-3(23'-25')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	96.4	%

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LAB NO: 9220626

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-3(23'-25')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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LAB NO: 9220627

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-8(10'-12')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	91.3	%

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LAB NO: 9220627

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-8(10'-12')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	81		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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LAB NO: 9220628

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE

METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SB-1(2'-4')

REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	91.1	%

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LAB NO: 9220628

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SB-1(2'-4')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	2300		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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LAB NO: 9220629

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SB-2(2'-4')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	95.0	%

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

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LAB NO: 9220629

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SB-2(2'-4')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	910		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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LAB NO: 9220698

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-1
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	4		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	23		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	45		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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ORIGINAL

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LAB NO: 9220699

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-2
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	<3		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	<3		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	110		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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LAB NO: 9220700

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-3
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	3		
CIS-1,2-DICHLOROETHENE	3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	20		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	270		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Isaacson
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ORIGINAL

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LAB NO: 9220701

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: MW-7
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	3		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	17		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	130		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Isaacson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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LAB NO: 9220702

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: MW-6
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	<3		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	11		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	430		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220703

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: MW-3
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	<3		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	<3		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	19		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

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575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220704

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: MW-1
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<3	1,4-XYLENE	<3
CHLOROMETHANE	<3	1,2-XYLENE	<3
VINYL CHLORIDE	<3		
BROMOMETHANE	<3		
CHLOROETHANE	<3		
FLUOROTRICHLOROMETHANE	<3		
1,1-DICHLOROETHENE	<3		
METHYLENE CHLORIDE	<3		
TRANS-1,2-DICHLOROETHENE	<3		
1,1-DICHLOROETHANE	<3		
CIS-1,2-DICHLOROETHENE	<3		
CHLOROFORM	<3		
1,1,1-TRICHLOROETHANE	<3		
CARBON TETRACHLORIDE	<3		
1,2-DICHLOROETHANE	<3		
TRICHLOROETHENE	<3		
1,2-DICHLOROPROPANE	<3		
BROMODICHLOROMETHANE	<3		
TRANS-1,3-DICHLOROPROPENE	<3		
CIS-1,3-DICHLOROPROPENE	<3		
1,1,2-TRICHLOROETHANE	<3		
TETRACHLOROETHENE	<3		
CHLORODIBROMOMETHANE	<3		
CHLOROBENZENE	<3		
BROMOFORM	<3		
1,1,2,2-TETRACHLOROETHANE	<3		
M-DICHLOROBENZENE	<3		
P-DICHLOROBENZENE	<3		
O-DICHLOROBENZENE	<3		
BENZENE	<3		
TOLUENE	<3		
ETHYLBENZENE	<3		
1,3-XYLENE	<3		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/29/92

Stanley Teacher
LABORATORY DIRECTOR

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220709

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... BLANK
ROUTINE

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: FIELD BLANK
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<1	1,4-XYLENE	<1
CHLOROMETHANE	<1	1,2-XYLENE	<1
VINYL CHLORIDE	<1		
BROMOMETHANE	<1		
CHLOROETHANE	<1		
FLUOROTRICHLOROMETHANE	<1		
1,1-DICHLOROETHENE	<1		
METHYLENE CHLORIDE	<1		
TRANS-1,2-DICHLOROETHENE	<1		
1,1-DICHLOROETHANE	<1		
CIS-1,2-DICHLOROETHENE	<1		
CHLOROFORM	<1		
1,1,1-TRICHLOROETHANE	<1		
CARBON TETRACHLORIDE	<1		
1,2-DICHLOROETHANE	<1		
TRICHLOROETHENE	<1		
1,2-DICHLOROPROPANE	<1		
BROMODICHLOROMETHANE	<1		
TRANS-1,3-DICHLOROPROPENE	<1		
CIS-1,3-DICHLOROPROPENE	<1		
1,1,2-TRICHLOROETHANE	<1		
TETRACHLOROETHENE	<1		
CHLORODIBROMOMETHANE	<1		
CHLOROBENZENE	<1		
BROMOFORM	<1		
1,1,2,2-TETRACHLOROETHANE	<1		
M-DICHLOROBENZENE	<1		
P-DICHLOROBENZENE	<1		
O-DICHLOROBENZENE	<1		
BENZENE	<1		
TOLUENE	<1		
ETHYLBENZENE	<1		
1,3-XYLENE	<1		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/29/92

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220732

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/25/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-1(16'-18')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	97.9	%

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LABORATORY DIRECTOR

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
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LAB NO: 9220732

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/25/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: DW-1(16'-18')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9221207

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/30/92
COLLECTED BY... CJF03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: LP-2
CESSPOOL
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	23.6	%

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DATE ISSUED 07/02/92

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9221207

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/30/92
COLLECTED BY... CJF03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: LP-2
CESSPOOL
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<150	\ 1,4-XYLENE	-
CHLOROMETHANE	<150	1,2-XYLENE	<150
VINYL CHLORIDE	<150		
BROMOMETHANE	<150	/ REPORTED VALUE	
CHLOROETHANE	<150	\ REPRESENTS TOTAL	
FLUOROTRICHLOROMETHANE	<150		
1,1-DICHLOROETHENE	<150		
METHYLENE CHLORIDE	<150		
TRANS-1,2-DICHLOROETHENE	<150		
1,1-DICHLOROETHANE	<150		
CIS-1,2-DICHLOROETHENE	<150		
CHLOROFORM	<150		
1,1,1-TRICHLOROETHANE	<150		
CARBON TETRACHLORIDE	<150		
1,2-DICHLOROETHANE	<150		
TRICHLOROETHENE	<150		
1,2-DICHLOROPROPANE	<150		
BROMODICHLOROMETHANE	<150		
TRANS-1,3-DICHLOROPROPENE	<150		
CIS-1,3-DICHLOROPROPENE	<150		
1,1,2-TRICHLOROETHANE	<150		
TETRACHLOROETHENE	<150		
CHLORODIBROMOMETHANE	<150		
CHLOROBENZENE	<150		
BROMOFORM	<150		
1,1,2,2-TETRACHLOROETHANE	<150		
M-DICHLOROBENZENE	480		
P-DICHLOROBENZENE	1100		
O-DICHLOROBENZENE	220		
BENZENE	<150		
TOLUENE	<150		
ETHYLBENZENE	<150		
/ 1,3-XYLENE	180		

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DATE ISSUED 07/02/92

DATE RUN..... 07/01/92
DATE REPORTED.. 07/01/92

Stanley Isaacson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220707

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
ROUTINE

METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: LP-1

REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	19.0	%

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DATE ISSUED 06/29/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220707

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: LP-1
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<200	1,4-XYLENE	<200
CHLOROMETHANE	<200	1,2-XYLENE	<200
VINYL CHLORIDE	<200		
BROMOMETHANE	<200		
CHLOROETHANE	<200		
FLUOROTRICHLOROMETHANE	<200		
1,1-DICHLOROETHENE	<200		
METHYLENE CHLORIDE	<200		
TRANS-1,2-DICHLOROETHENE	<200		
1,1-DICHLOROETHANE	<200		
CIS-1,2-DICHLOROETHENE	<200		
CHLOROFORM	<200		
1,1,1-TRICHLOROETHANE	<200		
CARBON TETRACHLORIDE	<200		
1,2-DICHLOROETHANE	<200		
TRICHLOROETHENE	<200		
1,2-DICHLOROPROPANE	<200		
BROMODICHLOROMETHANE	<200		
TRANS-1,3-DICHLOROPROPENE	<200		
CIS-1,3-DICHLOROPROPENE	<200		
1,1,2-TRICHLOROETHANE	<200		
TETRACHLOROETHENE	<200		
CHLORODIBROMOMETHANE	<200		
CHLOROBENZENE	<200		
BROMOFORM	<200		
1,1,2,2-TETRACHLOROETHANE	<200		
M-DICHLOROBENZENE	<200		
P-DICHLOROBENZENE	<200		
O-DICHLOROBENZENE	<200		
BENZENE	<200		
TOLUENE	<200		
ETHYLBENZENE	<200		
1,3-XYLENE	<200		

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DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

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H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220708

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SLUDGE
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: SEPTIC TANK
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	75.5	%

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2MGROUP

FIELD REPORT

LOCATION:	BOWE SYSTEMS AND MACHINERY 200 Frank Road Hicksville, NY	
DATE:	June 23, 1992	
WEATHER:	Clear and sunny	
H2M REPS:	Michael S. Caravetto Christopher J. Flynn Michael Gentils	Hydrogeologist Asst. Hydrogeologist H2M Field Manager
CONTACTS:	Steven Wolf Jim Bitic Richard Reilly	Driller, ADT Asst. Driller, ADT Bowe Representative

Soil borings were installed in drywell nos. 1, 2, 3 and 8 utilizing a hollow-stem auger. Prior to installation of the borings, the drywells were visually inspected to determine if they contained standing liquid. Drywell nos. 1, 2, 3 and 8 were dry and a boring was installed in each drywell. The borings were drilled to a depth of 25′ below mean grade. Split spoon samples were collected at two intervals, the bottom of the drywell and at a depth of 23′ to 25′ below mean grade. The split spoon samples were screened with a PID meter for total volatile organic compounds with the exception of methane. Based on the results of the PID, the soil sample with the highest equivalent parts per million (eppm) was submitted for analysis for USEPA Method 8010 and 8020.

The hollow-stem auger was steam cleaned between drywells to prevent cross contamination. The split spoon sampler was steam cleaned and washed with a deionized water/Alconox rinse for further decontamination.

The septic system, located along the north wall of the building, was visually inspected. The septic tank cover was removed and sludge/liquid was identified in the bottom of the tank. In addition, two leaching pools were also identified.

Depth to groundwater measurements were obtained from the seven existing on-site monitoring wells. It was noted that MW-3

H2MGROUP

appeared to have been damaged. The protective casing was not intact and it appeared that the PVC pipe had been damaged.

Certified Correct: _____ Date: 6/25/92

Michael S. Caravetto
Hydrogeologist

H2MGROUP

FIELD REPORT

LOCATION:	BOWE SYSTEMS AND MACHINERY 200 Frank Road Hicksville, New York	
DATE:	June 24, 1992	
WEATHER:	Rain	
H2M REPS:	Michael S. Caravetto Christopher J. Flynn	Hydrogeologist Asst. Hydrogeologist
CONTACTS:	Steven Wolf Jim Bitic Richard Reilly	Driller, ADT Asst. Driller, ADT Bowe Representative

Prior to the start-up of field activities, a second round of groundwater measurements was conducted to confirm the direction of groundwater flow. Based on the results, three temporary groundwater monitoring wells (T-1, T-2 and T-3) were installed using a 3 1/4" ID hollow stem auger. The wells were drilled to groundwater, located at a depth of approximately 54 feet. The augers were steam cleaned between wells to prevent cross contamination. During drilling, the drill cuttings were screened with a PID for total volatile organic compounds with the exception of methane. No readings above background were recorded. Following collection of the groundwater sample the boring was backfilled with the drill cuttings.

The grab groundwater samples were collected following installation of a temporary PVC screen and riser. Since this was a grab sample no well purging was conducted. The sample was collected using a disposable polyethylene bailer which was discarded after sample collection from the well. Field parameters were collected from the groundwater samples and the visual charecteristics of the sample were noted. The groundwater samples were submitted for VOC analysis using USEPA Method 601/602 plus xylene.

During installation of temporary well T-3, split spoon samples were collected and screened with the PID. Two samples, at depths of 30' to 32' and 40'to 42', showed slightly elevated readings of

H2MGROUP

1.0 eppm and 0.6 eppm, respectively. These samples were submitted for VOC analysis using USEPA method 8010 and 8020.

Groundwater samples were collected from MW-1, MW-3, MW-6 and MW-7. Prior to collection, the wells were purged of three volumes of water as per NYSDEC protocol. The pump used to purge the wells was decontaminated by steam cleaning and with an alconox/deionized water solution and rinsed with both deionized and distilled water. The samples, in addition to a field blank, were submitted for VOC analysis using USEPA Method 601/602 plus xylenes.

Samples were also collected from the septic system and associated leaching pools. Bottom samples were collected using a dredge. This dredge was decontaminated as described for the groundwater pump. One sample each was collected from the septic tank, leaching pool one (LP-1) and leaching pool two (LP-2). The samples were submitted for VOC analysis using USEPA Method 8010 and 8020.

Drywell nos. 4, 6 and 7 were sampled with a dredge and screened for the presence of volatile organics using a PID. The values ranged from 0.2 to 0.4 eppm. Since these values are below background no samples were submitted for analysis. The dredge was decontaminated, as previously described, between drywells.

Certified Correct: _____ Date: 6/26/92

Michael S. Caravetto
Hydrogeologist

PAGE 1 of 1 | H2M GEOLOGIC LOG | JOB NO. BOWE 9201

Borehole Location: DW-1 | Completion Depth: 25'
Elevation: N/A Ref Point: N/A | Logged by: MSC Checked by: ____

Depth to Groundwater: ____ Date: ____ Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6"	Emu Res	Recov (in)	Sample Description	Lithology
16'-18'		7/8	1.2	6"	Medium yellow, gravelly, poorly	GW
		10/12	Back 1.0		sorted, medium to coarse	
					grained sand.	
23'-25'		11/7	1.0	3"	Medium yellow, gravelly, poorly	GW
		4/3	Back 1.0		sorted, medium to coarse	
					grained sand.	

SIGNATURE: DATE:

PAGE 1 of 1 | H2M GEOLOGIC LOG | JOB NO. BOWE 9201

Borehole Location: DW-2 | Completion Depth: 25'
Elevation: N/A Ref Point: N/A | Logged by: msc Checked by: ____

Depth to Groundwater: ____ Date: ____ Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6"	Enu Res	Recov (in)	Sample Description	Lithology
14'-16'		7/7	0.8	6"	Medium yellow, gravelly, poorly	GW
		7/12	Back 0.8		sorted, medium to coarse	
					grained sand.	
23'-25'		12/11	0.8	1'	Medium yellow, gravelly,	GW
		15/16	Back 0.8		poorly sorted, medium to	
					coarse grained sand	

SIGNATURE: DATE:

BOWE 000344

PAGE 1 of 1 | H2M GEOLOGIC LOG | JOB NO. BowE 9201

Borehole Location: DW-3 | Completion Depth: 25'
Elevation: N/A Ref Point: N/A | Logged by: msc Checked by: ____

Depth to Groundwater: ____ Date: ____ Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6"	Hnu Res	Recov (in)	Sample Description	Lithology
17'-19'		10/12	0.8	4"	First 1/4" asphalt. Dark	GW
		11/16	Back 0.6		yellow, gravelly, poorly sorted	
					medium to coarse grained	
					sand. Sample is moist.	
23'-25'		17/21	0.9	1'	Medium yellow, gravelly,	GW
		23/19	Back 0.6		poorly sorted, coarse to	
					medium grained sand. Moist.	

SIGNATURE: DATE:

PAGE 1 of 1 — E2M GEOLOGIC LOG — JOB NO. BowE 9201

Borehole Location: DW-8 | Completion Depth: 25'
Elevation: N/A Ref Point: N/A | Logged by: MSC Checked by:

Depth to Groundwater: ____ Date: ____ Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6"	Enu Res	Recov (in)	Sample Description	Lithology
10'-12'		30 total	4.2	1.0'	Dark Brown, gravelly, poorly sorted	
					medium to coarse grained sand.	
					Moist.	
23' to 25'		50 tot	1.0	6"	Medium Yellow, gravelly, poorly sorted	
					medium to coarse grained sand.	
					Moist.	

SIGNATURE: DATE:

PAGE 1 of 1 HDM GEOLOGIC LOG JOB NO. BOWE 9201

Borehole Location: SB-2 Completion Depth: 10'
Elevation: N/A Ref Point: N/A Logged by: CJF Checked by: ____

Depth to Groundwater: ____ Date: ____ Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6" -	Enu Res	Recov (in)	Sample Description	Lithology
2'-4'		15/15	0.2		loam, medium coarse,	SW
		10/8	background 0.2		light brown sand and	
					gravel, trace silt	
8'-10'		8/8,	0.2		medium coarse, light	SW
		11/13	background 0.2		brown sand and gravel,	
					trace silt	

SIGNATURE: DATE:

PAGE 1 of 1 | E2M GEOLOGIC LOG | JOB NO. BowE 9201

Borehole Location: SB-1 | Completion Depth: 10'
Elevation: N/A Ref Point: N/A | Logged by: CJF Checked by: ____

Depth to Groundwater: ____ Date: 6/23/92 Time: ____ Aquifer: ____

Sample Depth	Sampl No.	Blows 6"	Enu Res	Recov (in)	Sample Description	Lithology
2'-4'		6/6	0.2		loam, medium coarse	SW
		8/3	background 0.2		light brown sand and	
					gravel, trace silt	
8'-10'		15/21	0.2		medium coarse, light	SW
		23/24	background 0.2		brown sand and gravel,	
					trace silt	

SIGNATURE: DATE:

FIELD REPORT

BOWE SYSTEMS - Site investigation field notes
6/23 and 6/24/92 CJF

1) Soil Gas Survey: 23 soil gas readings taken in Area 3 (see attached grid).

Date of Survey: 6/23/92

Readings: (background/real-time)

Location	Readings (ppm)
1	0.2/0.8
2	0.2/1.4
3	0.2/1.0
4	0.2/0.2
5	0.2/1.0
6	0.2/>20.0 * soil boring taken
7	0.2/>20.0
8	0.2/20 - >50 * soil boring taken
9	0.2/1.0
9A	0.2/18.0
10	0.2/0.6
11	0.2/1.2
12	0.2/0.2
13	0.6/0.8
14	0.2/0.8
15	0.2/2.1
16	0.2/1.0
17	0.4/0.4
18	0.2/0.4
19	0.2/0.6
20	0.2/1.4
21	0.2/1.0
22	0.2/0.2

2) Soil Borings: Collected in vicinity of 2 highest soil gas readings. Borings drilled at location 8 (SB-1) and location 6 (SB-2). Soil borings conducted on 6/23/92.

SB-1: Collected at soil gas location 8. First 1-2 feet were hand augered. Slight solvent odor noted. Split spoon samples collected at intervals of 2-4' and 8-10'. PID reading of 0.2 ppm (at or near background) in 2-4' split spoon samples but >20 on auger. Split spoon samples collected at 8-10' showed PID reading of 0.2 ppm. 2-4' split spoon sample submitted for analysis. See attached drill log.

SB-2: Collected at soil gas location #6. Split spoon samples were collected at intervals of 2-4' and 8-10'. PID readings on both samples were 0.2 ppm (at or near background). Split spoon sample collected at 2-4' submitted for analysis. Split spoon sample collected at 8-10' had slight odor. See attached drill log.

3) Sanitary System: Samples collected from septic tank, L.P. 1 (first leaching pool), and a second leaching pool (L.P. 2). Septic tank and L.P.1 samples submitted for analysis.

Septic tank: Appears to have been backfilled and abandoned in place. No odor evident.

L.P. 1: Some sand, mostly dark sediment & sludge. No odor evident. Pool contained liquid. Oily sheen noticeable.

L.P. 2: Pool had liquid, bottom sediments consisted of dark sludge. Head space analysis showed 18 ppm on PID. No odor evident.

4) Monitoring Wells

MW#7 depth to water: 54.30'
depth to bottom: 62.0'

pH: 6.0 Conductivity: 160 Temperature 18.1° C

MW#6 depth to water: 54.82'
depth to bottom: 66.5'

pH: 6.1 Conductivity: 120 Temperature 17.8° C

MW#3 damaged (cover & casing)
depth to botom: 67.65'

pH: 6.01 Conductivity: 130 Temperatorure 18.1° C

---

*MW#1 damaged (cover)
depth to water: 55.04'
depth to bottom: 60.25'

pH: 6.1 Conductivity 290 Temperature: 18.2° C

---

* Purge water appeared olive-green and sheen was evident. Pump had grout on it when it was pulled out of monitoring well.

Additional Information

A) Weather conditions: 6/23/92 (clear, light breeze, dry, temperatures in mid 70s) 6/24/92 (rainy, damp, humid, cloudy, temperatures in 70s, partial clearing later in day).

B) Drilling Company: Aquifer Drilling and Testing, Inc. (ADT)

C) Persons present

Richard Reilly - Bowe System (6/23 only)
Chris Flynn -H2M
Mike Caravetto - H2M
Mike Gentils - H2M (6/23 only)
Leonard Rexrode - ADT (6/23 only)
Steve - Driller - ADT
Pete - Helper - ADT

Respectfully submitted by,

Christopher Flynn

7/2/92

H2MGROUP

APPENDIX B

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220630

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... BLANK

DATE COLLECTED. 06/23/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: FIELD BLANK
REMARKS:

VOL. ORGANICS(601/602 & XYLENES) - (ug/l)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<1	1,4-XYLENE	<1
CHLOROMETHANE	<1	1,2-XYLENE	<1
VINYL CHLORIDE	<1		
BROMOMETHANE	<1		
CHLOROETHANE	<1		
FLUOROTRICHLOROMETHANE	<1		
1,1-DICHLOROETHENE	<1		
METHYLENE CHLORIDE	<1		
TRANS-1,2-DICHLOROETHENE	<1		
1,1-DICHLOROETHANE	<1		
CIS-1,2-DICHLOROETHENE	<1		
CHLOROFORM	<1		
1,1,1-TRICHLOROETHANE	<1		
CARBON TETRACHLORIDE	<1		
1,2-DICHLOROETHANE	<1		
TRICHLOROETHENE	<1		
1,2-DICHLOROPROPANE	<1		
BROMODICHLOROMETHANE	<1		
TRANS-1,3-DICHLOROPROPENE	<1		
CIS-1,3-DICHLOROPROPENE	<1		
1,1,2-TRICHLOROETHANE	<1		
TETRACHLOROETHENE	<1		
CHLORODIBROMOMETHANE	<1		
CHLOROBENZENE	<1		
BROMOFORM	<1		
1,1,2,2-TETRACHLOROETHANE	<1		
M-DICHLOROBENZENE	<1		
P-DICHLOROBENZENE	<1		
O-DICHLOROBENZENE	<1		
BENZENE	<1		
TOLUENE	<1		
ETHYLBENZENE	<1		
1,3-XYLENE	<1		

COPIES TO:

DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220705

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-3(30'-32')
REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	98.2	%

COPIES TO: SFB/MOR

DATE ISSUED 06/29/92

Stanley Teodoro
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220705

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-3(30'-32')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Pearson
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220706

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE

METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-3(40'-42')

REMARKS:

PARAMETER (S)	RESULTS	UNITS
TOTAL SOLIDS	97.7	%

COPIES TO: SFB/MOR

DATE ISSUED 06/29/92

Stanley Teadow
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9220706

BOWE SYSTEM & MACHINE INC.
RICHARD REILLY
200 FRANK RD.
HICKSVILLE, NY 11803

TYPE..... SOIL
ROUTINE
METHOD....

DATE COLLECTED. 06/24/92
DATE RECEIVED.. 06/24/92
COLLECTED BY... MSC03
PROJECT NO..... BOWE9201

POINT NO:
LOCATION: T-3(40'-42')
REMARKS:

VOLATILE ORGANIC COMPOUNDS - (ug/kg)

PARAMETER (S)	RESULT	PARAMETER (S)	RESULT
DICHLORODIFLUOROMETHANE	<50	1,4-XYLENE	<50
CHLOROMETHANE	<50	1,2-XYLENE	<50
VINYL CHLORIDE	<50		
BROMOMETHANE	<50		
CHLOROETHANE	<50		
FLUOROTRICHLOROMETHANE	<50		
1,1-DICHLOROETHENE	<50		
METHYLENE CHLORIDE	<50		
TRANS-1,2-DICHLOROETHENE	<50		
1,1-DICHLOROETHANE	<50		
CIS-1,2-DICHLOROETHENE	<50		
CHLOROFORM	<50		
1,1,1-TRICHLOROETHANE	<50		
CARBON TETRACHLORIDE	<50		
1,2-DICHLOROETHANE	<50		
TRICHLOROETHENE	<50		
1,2-DICHLOROPROPANE	<50		
BROMODICHLOROMETHANE	<50		
TRANS-1,3-DICHLOROPROPENE	<50		
CIS-1,3-DICHLOROPROPENE	<50		
1,1,2-TRICHLOROETHANE	<50		
TETRACHLOROETHENE	<50		
CHLORODIBROMOMETHANE	<50		
CHLOROBENZENE	<50		
BROMOFORM	<50		
1,1,2,2-TETRACHLOROETHANE	<50		
M-DICHLOROBENZENE	<50		
P-DICHLOROBENZENE	<50		
O-DICHLOROBENZENE	<50		
BENZENE	<50		
TOLUENE	<50		
ETHYLBENZENE	<50		
1,3-XYLENE	<50		

COPIES TO: SFB/MOK

DATE ISSUED 06/29/92

DATE RUN..... 06/25/92
DATE REPORTED.. 06/26/92

Stanley Feaver
LABORATORY DIRECTOR

ORIGINAL

APPENDIX B

RESUMES OF H2M'S KEY PERSONNEL

JOHN J. MOLLOY, P.E.

President and Chief Executive Officer: H2M Labs, Inc.
Vice President: Holzmacher, McLendon & Murrell, P.C.; H2M Associates, Inc.

EXPERIENCE: **H2M GROUP**
(1974 - Present)

As President and Chief Executive Officer of H2M Labs, Inc., the environmental analytical laboratory, Mr. Molloy is responsible for all facets of management including planning and development; budgeting; marketing and sales; and quality control/quality assurance. Upon assuming its direction in the late 1970's, Mr. Molloy has been the key principal responsible for its growth and development.

As Vice President of Holzmacher, McLendon & Murrell, P.C., Mr. Molloy directs environmental engineering. His experience includes all phases of project engineering and management including feasibility studies, pilot studies, cost estimating, design, construction and startup. These disciplines have been provided to government and industrial clients covering most facets of environmental engineering - air pollution, water and wastewater, and solid and hazardous waste.

Mr. Molloy began his professional career as a project engineer in the chemical process industry. He also served as an air pollution control engineer for the City of New York where he was involved in the testing and evaluation of air emissions for industrial processes.

Since joining H2M in 1974, Mr. Molloy has participated in and managed hundreds of projects related to water quality protection, supply, treatment and system development; industrial wastewater treatment; hazardous and solid waste management; and site evaluation and remediation.

He was also the project manager for a major Long Island water project (in excess of 5 million gpd) to remove organics by air stripping. This was one of the first such treatment systems in the region, operational in the Spring of 1985.

Mr. Molloy applied the same treatment expertise to additional air-stripping systems for treatment of contaminated public supply wells for others experiencing contamination with volatile organics. Systems capable of handling in excess of 10 million gpd are currently in operation.

Mr. Molloy has been responsible for the assessment of numerous industrial sites. The extent and severity of site contamination has been assessed both privately and with regulatory agency review. These assessments have been for sites throughout the eastern region of the United States and have included all phases of investigation, including soil borings and analysis, groundwater monitoring well installation, sampling and analysis, and remediation. Project scope has included efforts ranging from Phase I real estate liability assessments through formal remedial investigation/feasibility studies.

Mr. Molloy directed the efforts of H2M in a hazardous waste assessment which resulted in the need to contract with a remediation contractor and manage a complex cleanup. This project required a sampling program (Level "B" protection) and an expedited determination of hazardous waste characteristics; the development of a work plan, health and safety plan, and contract documents for remediation of a hazardous waste site. Efforts included interfacing with contractors on removal and securing of waste drums, contaminated liquids and contaminated soils. Field work was Level "C" with Level "B" available on-site. Waste materials were characterized for offsite approved disposal.

EDUCATION: B.E., Chemical Engineering
Manhattan College

REGISTRATIONS/ CERTIFICATIONS: Licensed Professional Engineer-New York
Director, Environmental Laboratory-New York, New Jersey
Connecticut, Massachusetts, Pennsylvania and Delaware
Certified Health And Safety Operations at Hazardous Waste Sites (OSHA)

OFFICES: Chairman, 1989-1992
New York State Association of Approved Environmental Laboratories
Director, 1989-1992
Huntington Township Chamber of Commerce
Member, 1989-1992
Town of Hempstead Business Council

MEMBERSHIPS: American Institute of Chemical Engineers
American Water Works Association
Long Island Water Conference
National Asbestos Council
National Society of Professional Engineers
New York State Society of Professional Engineers
Water Pollution Control Federation

PROFESSIONAL PAPERS:

Molloy, John J. and John E. Osborn. *Hazardous Waste, Soil & Groundwater Contamination: The Law, Strategies and Technology Solutions for the 1990s.* National Asbestos Council, Pittsburgh, Pennsylvania, April 1991.

Molloy, John J. *Industrial Property Transactions: Protecting Yourself Against the Liabilities.* Institute for International Research Environmental Compliance Conference, Chicago, Illinois, October 1990.

Molloy, John J. *Industrial Property Transactions.* New York Water Pollution Control Association, Inc., New York, New York, January 1990.

Molloy, John J. *Air Stripping for Organics.* American Water Works Association, Toronto, Canada, April 1985.

GARY J. MILLER, P.E.

Assistant Vice President
Department Head: Environmental Engineering Division

EXPERIENCE: **H2M/Holzmacher, McLendon & Murrell, P.C.**
(1980 - Present)

Mr. Miller has over 15 years experience in the field of environmental engineering covering a broad range of projects including solid and hazardous waste management, water and wastewater treatment, air pollution control, hazardous material storage, groundwater investigations and site remediation. As head of H2M's Environmental Engineering Division, Mr. Miller oversees and provides technical direction on major environmental projects.

Mr. Miller's experience at H2M includes all aspects of project engineering and management including engineering studies, economic analyses, treatability studies, design, construction and startup. He has been responsible for projects ranging from landfill leachate collection and methane venting systems for municipal clients to wastewater treatment, air pollution control and hazardous waste management for private industrial clients. He also has extensive experience inspecting and auditing industry for environmental compliance. He has worked closely with a spectrum of industries including petrochemical, pharmaceutical, food processing, printing, metal finishing and plating, printing circuit board and electronics, semiconductor, communications and commercial waste treatment. He is a specialist in assisting industrial clients with RCRA and other regulatory compliance programs including the storage and handling of hazardous materials.

Mr. Miller has directed numerous site investigations utilizing a variety of techniques including soil gas surveys, geophysical surveys, soil boring, monitoring wells and groundwater modeling to assess environmental impacts and implement effective remediation programs. Site investigation projects have ranged from Phase I and II environmental assessments as part of property transactions to remedial investigations/feasibility studies at state and federal Superfund sites.

Selected experience as a project manager includes:

- Preparation of engineering reports, design plans and specifications for upgrade of a 60,000 gpd industrial wastewater treatment system at a Long Island metal finishing facility.

- Study of wastewater collection, treatment and disposal facilities for the New York City Transit Authority. The project involved inspections and sampling of fueling, washing, maintenance, repair and painting facilities at 20 bus depots of varying sizes and age located throughout the five boroughs of New York City.

- Preparation and design plans and specifications for bulk chemical storage facilities at Pall Corporation's East Hills manufacturing facility. Design elements included indoor and outdoor bulk storage tanks, containerized storage, gas cylinder storage, spill containment systems and chemical distribution and inventory control systems.

- Preparation of RCRA permit application, including personnel training program, waste analysis plan, contingency plan and closure plan for a waste solvent reclamation facility. The application was approved and a permit issued by the United States Environmental Protection Agency.

- Hazardous waste lagoon closure at a northern New Jersey manufacturing facility. The project involved developing a New Jersey Department of Environmental Protection and Energy approved closure plan, technical specifications and bid documents, and directing the closure of five lagoons containing over 250,000 gallons of hazardous wastes.

- Phase II site investigation at a Suffolk County, New York metal plating facility. Conducted under an order-on-consent, the investigation included an evaluation of suspected source areas, a groundwater monitoring program and preparation of the site's HRS score.

- Remedial investigation at an automobile parts manufacturing facility in Queens County, New York. The project involves development of work plans, including HASP, field sampling and quality assurance/quality control, and the installation of soil boring and monitoring wells to assess the nature and extent of site contamination.

- Remedial design studies at a major NPL Superfund site in Massachusetts. As part of a multi-consultant remedial design team, H2M developed and implemented a field testing program to measure gaseous emissions from a specific source area. H2M also developed and implemented a groundwater treatability study assessing oxidation and air stripping as the primary unit treatment operation.

- Preparation of design plans, technical specifications and bid documents for a soil vapor extraction system designed as the final phase of an ongoing remediation program at the site of a former manufacturing facility.

Prior to joining H2M, Mr. Miller was an operations manager involved in the mechanical and electrical checkout and startup of multiple hearth furnaces, waste heat boilers, wet scrubbers and sludge handling equipment. He was also responsible for operations training, performance, emissions and acceptance tests and served as construction superintendent responsible for coordination and supervision of all subcontractors and vendors in the construction of Nichols Herreshoff multiple hearth carbon regeneration, lime reclacining and sludge incinerators.

EDUCATION:	B.S., Engineering Technology/Civil-Environmental Virginia Polytechnic Institute and State University A.S., Mechanical Technology City University of New York, Queensborough Community College
REGISTRATIONS/ CERTIFICATIONS:	Licensed Professional Engineer-New York Certified USEPA Asbestos Abatement Management Planner Certified USEPA Asbestos Abatement Inspector Certified Hazardous Materials Manager - Master Level Certified Health and Safety Operations at Hazardous Waste Sites (OSHA)
MEMBERSHIPS:	Air and Waste Management Association Hazardous Waste Action Coalition Institute of Hazardous Materials Management Water Pollution Control Federation

PROFESSIONAL PAPERS:

Miller, Gary J. *Closure of Industrial Facilities Containing Hazardous Wastes.* New York Water Pollution Control Association, Winter Meeting, January 1989.

MARTIN O. KLEIN, C.P.G.

Section Supervisor: Groundwater Resources/Hydrogeology

EXPERIENCE: H2M/Holzmacher, McLendon & Murrell, P.C.
(1992 - Present)

Mr. Klein is a Certified Professional Geologist with over eight years experience in the field of geology, hydrogeology, ground and surface water quality analysis, groundwater flow and contaminant transport modeling, solid and hazardous waste management, and environmental assessment. His experience includes project management of Phase I and Phase II hydrogeologic investigations, Remedial Investigations/Feasibility Studies and landfill investigations on both federal and state regulated sites. His experience specifically relates to CERCLA/SARA, RCRA and SEQRA. Mr. Klein has provided technical support services for legal counsel through research, investigation and testimony.

Prior to joining H2M, Mr. Klein was Department Manager of Hydrogeology at Fanning, Phillips and Molnar from 1985 to 1992. His project management and supervision experience includes:

- NYSDEC 6 NYCRR Park 360 Closure Plans for the Town of Mamakating (Mamakating Landfill) and the Town of East Hampton (Springs-Fireplace Road and Montauk Landfills); Town Hydrogeologist for both.
- Superfund site investigations - Grucci Pyrotechnic, Phase I investigation of Class 2a state Superfund site after explosion at Bellport facility; City of Glen Cove, geohydrologic review of groundwater system and contaminants for litigation; SJ&J Service Stations, RI/FS for Class 2 federal and state Superfund site in Farmingdale, New York.
- NYC Transit Authority - Environmental investigations, groundwater modeling, pumping tests and well design for sites in the five boroughs of New York.
- City of Elizabeth - Environmental evaluation of proposed widening of New Jersey Turnpike.
- Urban Development Corporation - Geohydrologic investigation of proposed domed stadium site in Flushing, New York, including wells installation, groundwater mapping, sampling, and pump test analysis for aquifer characterization.
- Nassau County Tax Assessor's Office - File searches for environmental compliance for numerous Nassau County sites.
- Metex Corporation - Bedrock groundwater investigations, rock core analysis and geophysical survey for ECRA compliance in Edison, New Jersey.
- Envirofil - Environmental compliance investigations and assessments, including radioactivity sampling, of potential liability for numerous landfill acquisitions in Illinois, Pennsylvania and Michigan.
- Village of Lake Success - Investigation and evaluation of proposed downzoning on quantity and quality of groundwater, site-specific groundwater-nitrogen budget models for present and proposed land use.
- Automatic Connector, Inc. - Remedial investigation, magnetometer survey and pumping tests for nature and extent of contaminants at Hauppauge, New York facility.
- Irwin Measuring Tool Company - Groundwater well design, installation and monitoring at Patchogue site, review and evaluation of a major TSDF for compliance with NYSDEC hazardous waste regulations.
- Mill-Max - Soil and soil gas investigation and evaluation for UST and leak detection system for RCRA compliance, Oyster Bay, New York.
- Realco Management - Radon testing of sites for property acquisition.

- Lee Tungston/Union Carbide - Feasibility study of metal (radioactive) resale as alternative to remediation.
- Anorad Corporation - Remedial investigation through OVA/GC survey on soil vapor and soil/groundwater sampling at Hauppauge, New York facility.
- Shorewood Packaging Corporation - Phase I, Phase II and RCRA investigations on New York, Connecticut, Georgia and Alabama sites.
- New York Institute of Technology - Phase II Investigation at Westbury, New York facility, including soil sampling for determination of hazardous waste release.

Additional Phase I and/or Phase II investigation project experience includes: Town of Islip; Trump Organization; Parr Organization; HUB Truck Rental; Cibro Southshore Terminal; N. Racanelli Associates; Polemini Enterprises; Philips International; Realco Management; Cika Construction; Nardy Pontiac Honda; Dorne & Margolin; Garden City Shopping Associates; Twomey, Latham, Shea & Kelley; Rosenman & Colin; D'Amato, Forchelli, Libert, Schartz, Mineo & Carlino; Whiteman & Osterman; Goldstein & Rubinto, P.C.; Sidley & Austin; Webster & Scheffield; and Alston & Bird.

EDUCATION:

M.S., Hydrogeology
Adelphi University
B.S., Geology
State University of New York at Cortland

SPECIALIZED COURSES:

Analysis and Design of Aquifer Tests
Geostatistical and Sampling Analysis
Introduction to Groundwater Geochemistry
Management Environmental Risks in Real Estate Transactions
New Jersey Environmental Laws and Regulations
Management of Contaminated Groundwater and Aquifer Restoration
Natural Resource Damages Claims and Litigation
Risk Assessment for Groundwater Scientists
Strategies for Responding to Superfund Liability

CERTIFICATIONS:

Certified Professional Geologist
Certified Health and Safety Operations at Hazardous Waste Sites (OSHA)

MEMBERSHIPS:

American Institute of Professional Geologists, #8188
American Association of Petroleum Geologists
Geological Society of America
Long Island Geologists
Mortgage Bankers Association
National Water Well Association
New York Pollution Control Association
Society of American Military Engineers

PROFESSIONAL PAPERS

Klein, Martin O., Stanley Pierce, and Charlotte Biblow. "NRD Claims Set to Become Big Problem for Industry." *Hazardous Waste and Toxic Torts Law & Strategy,* May 1992, Volume 7, Number 12.

Klein, Martin O., Stanley Pierce, and Charlotte Biblow. "How to Avoid or Defend Against NRD Claims." *Hazardous Waste and Toxic Torts Law & Strategy,* June 1992, Volume 8, Number 1.

GERALD A. GRANZEN

Quality Assurance Officer
Section Supervisor: Industrial Services and Hazardous Waste Management

EXPERIENCE: **H2M/Holzmacher, McLendon & Murrell, P.C.**
(1987 - Present)

Mr. Granzen is responsible for review of QA/QC plans and sample data summary packages, field work, work plan and sampling plan development, and report preparation associated with environmental and hydrogeologic investigations including industrial/commercial site assessments, groundwater contamination investigations, and remedial investigation/feasibility studies (RI/FS) for hazardous waste sites. In addition, Mr. Granzen is responsible for preparation of engineering reports, design plans, and various regulatory permits for facilities to store, treat and dispose of industrial waste and/or hazardous waste. In addition to site audits and investigations, he is experienced in assisting industrial clients comply with federal, state and local regulations concerning spill protection and prevention, air emissions, wastewater discharge, and hazardous waste management.

Currently, Mr. Granzen is involved with projects addressing hazardous materials storage and handling, hazardous waste management, air emissions, wastewater discharge, environmental site assessments, and soil/groundwater contamination problems.

Mr. Granzen's prior experience was with a consulting firm specializing in fossil fuel combustion. His responsibilities included air emission source compliance testing, computer modeling using FORTRAN, utility boiler performance research, gaseous emissions reduction research, data reduction, and product evaluations.

EDUCATION:

M.B.A., Candidate
Adelphi University
M.S., Chemical Engineering
Manhattan College
B.A., Chemistry
State University of New York at Plattsburgh

REGISTRATIONS/ CERTIFICATIONS:

Engineer in Training-New York
Certified Health and Safety Operations at Hazardous Waste Sites (OSHA)
Certified USEPA Asbestos Abatement Management Planner
Certified USEPA Asbestos Abatement Inspector

MEMBERSHIPS:

American Chemical Society

SUSAN F. BIANCHETTI

Senior Hydrogeologist: Groundwater Resources/Hydrogeology

EXPERIENCE: **H2M/Holzmacher, McLendon & Murrell, P.C.**
(1990 - Present)

Ms. Bianchetti has over nine years experience in the field of hydrogeology, solid and hazardous waste management, and environmental assessments. As a senior hydrogeologist, she serves as project manager on numerous projects involving multi-media investigations, including a remedial investigation/feasibility (RI/FS) at a federal Superfund site, and hazardous waste remediation. Ms. Bianchetti's past projects have included groundwater and soils investigations at private, industrial and commercial properties, hazardous waste investigations at government-owned facilities, development of closure plans for former ash and coal storage facilities and development of remedial measures for hazardous waste facilities. Current projects include:

- Completion of an extensive RI/FS for a federal Superfund site, inclusive of lengthy negotiations with New York State Department of Environmental Conservation (NYSDEC) and United States Environmental Protection Agency.
- Development of a groundwater monitoring network for a major on-shore fuel storage facility.
- Design of a hydrogeologic investigations for an industrial complex involved in litigation as a result of contaminated public supply wells.
- Ongoing hydrogeological investigations at state-owned facilities, conducted under the regulatory supervision of NYSDEC to determine the impact of long term storage of ash and coal. In addition, continuing negotiations with NYSDEC regarding proposed closure of these facilities.

Prior to joining H2M, Ms. Bianchetti was a project manager/senior hydrogeologist. She was Project Manager for a RI/FS at a local municipality's federal Superfund site and a project manager for a number of groundwater and soil investigations for both private and commercial clients. In addition, Ms. Bianchetti's extensive background has included the preparation of both environmental impacts statements and environmental site assessments for numerous properties throughout the northeast.

EDUCATION:
M.S., Geochemistry
State University of New York at Stony Brook
B.S., Geology
Boston College

SPECIALIZED COURSES:
Groundwater Pollution and Hydrogeology Short Course
Hydrogeology and Groundwater Management

CERTIFICATIONS:
Certified Health and Safety Operations at Hazardous Waste Sites (OSHA)

MEMBERSHIPS:
American Water Works Association
Association of Groundwater Scientists and Engineers
Long Island Geologists
National Water Well Association

PROFESSIONAL PAPERS:

Bianchetti, Susan F. and Michael V. Tumulty, P.E. *Environmental Site Assessments.* The Association of the Bar of the City of New York, January 28, 1992.

ANDREW P. FRELENG, AICP

Chief Planner: Environmental Planning and Community Development

EXPERIENCE: **H2M/Holzmacher, McLendon & Murrell, P.C.**
(1985 - Present)

Mr. Freleng is responsible for project management and preparation of professional land use documents such as Environmental Impact Statements, Environmental Assessment Forms, site plan review reports, site development feasibility studies, zoning\planning studies and community development grant applications. In addition, Mr. Freleng is responsible for the management and preparation of environmental permit applications including federal coastal zone applications, state and local freshwater and tidal wetland permits and U.S. Army Corp of Engineer Permits. He conducts field inventory and analysis of terrestrial and wetland vegetative, zoological, and soil ecosystem components.

As Chief Planner, Mr. Freleng is an integral part of the community development and planning projects. He is responsible for the management of data synthesis and analysis on a wide range of city and regional planning studies. Mr. Freleng is experienced in land use analysis, transportation, demography, community development, zoning analysis, waterfront and open space planning. He specializes in impacts of human settlements on the natural and urban environment based upon the history of the planning profession and planning thought, along with the store of knowledge assembled for city and regional planning.

Selected project management experience at H2M includes:

- New York City Public Development Corporation (NYCPDC): Site investigation for property owned and leased by NYCPDC at Paerdegat Basin, Brooklyn, New York, involved wetland mapping for the New York State Department of Environmental Conservation jurisdictional determination, boundary and topographic survey, historical records search and site assessment.

- Long Island Lighting Company (LILCO): DEIS for 220MW combustion turbine facility located west of Shoreham Nuclear Power Station, Brookhaven, involved organizational coordination between H2M and LILCO. Major issues in DEIS were air quality, PSD review, BACT determination, petroleum storage, noise, traffic, aesthetics, water supply, water quality.

- Suffolk County Water Authority: DEIS and SEQR documentation for the renovation of a 40,000 square foot building to include laboratory, office and warehouse space. Issues included impacts to Pine Barrens, groundwater resources, traffic, land use, zoning, preservation of natural resources.

- New York City Department of Environmental Protection: Wetland field delineation and impact analysis of an extensive stormwater drainage project for New York City. Involved monitoring of water levels during dewatering, mitigation and revegetation plans for impacted areas.

- Splish Splash at Adventureland: DEIS for a water theme park located on a 27-acre parcel in the Town of Riverhead, New York. Issues involved critical aquifers, Pine Barrens, Wild, Scenic & Recreational Rivers, traffic, noise, aesthetics.

Prior to H2M, Mr. Freleng was an assistant planner at Interscience Research Associates, Inc., a Southampton, Long Island-based environmental planning and development consulting firm. He prepared subdivision and site plans, environmental impact statements and the associated field work and permit applications. For the Town of Southampton Planning Department in Southampton, New York, he worked under the Town Planner on the Southampton Town Master Plan Update. This included extensive existing land use analysis, data management and graphic representation.

Mr. Freleng has been a Natural Science educator for the Suffolk County Organization for the Promotion of Education (Scope). Acting as a Resident Naturalist on Shelter Island and in Southold Town, he conducted classroom and field lectures and demonstrations regarding the elements of the natural environment and their inter-relationships.

EDUCATION:

Masters Candidate in Environmental Management
Long Island University/C.W. Post Center
B.S., Environmental Science/Biology
Southampton College of Long Island University

CERTIFICATIONS:

American Institute of Certified Planners

OFFICES:

Adjunct Assistant Professor, 1990 - 1993
New York Institute of Technology
Director of Long Island Section, 1990 - 1994
American Planning Association
Executive Committee-New York Metropolitan Chapter, 1990 - 1994
American Planning Association
Steering Committee-Long Island Section, 1988 to Present
American Planning Association
Acting President-C.W. Post Student Chapter, 1986
National Association of Environmental Professionals

MEMBERSHIPS:

American Institute of Certified Planners
American Planning Association
National Association of Environmental Professionals
Natural History Society
New York Land Institute

MICHAEL N. GENTILS

Senior Hydrogeologist: Groundwater Resources/Hydrogeology
Field Operations Manager

EXPERIENCE: **H2M/Holzmacher, McLendon & Murrell, P.C.**
(1988 - Present)

Mr. Gentils has more than five years of experience in the fields of hydrogeology, solid and hazardous waste management, and assessment of groundwater. He serves as a senior hydrogeologist, focusing on groundwater contamination studies and remedial activities. His project experience includes numerous comprehensive groundwater contaminant investigations, conductance of remedial investigations/feasibility studies, underground storage tank removal programs and soil and groundwater remediation. Current projects include:

- Comprehensive hydrogeologic investigation and remediation program at a facility on the North Fork of Long Island. The investigation included the installation of 18 monitoring wells and a recovery and drawdown pumping test which determined the aquifer characteristics. An on-site aeration unit and an air stripping tower were installed to remove volatile organics. Ongoing remediation program, inclusive of providing compliance documentation to the New York State Department of Environmental Conservation, is currently being implemented.

- Hydrogeologic investigation concluding into industrial site remediation program in Newburgh, New York. Preparation of a work plan; health and safety plan; field supervision of excavation and soil removal inclusive of drumming of the waste; coordination of the disposal of the waste with approved landfills; verification sampling; report preparation and documentation of remediation efforts.

- Removal of leaking underground storage tanks containing gasoline and fuel oil; conductance of floating and dissolved product monitoring, delineation of plume, petitioning of closure of site.

- Conductance of on- and off-site hydrogeologic investigation to delineate volatile organic plume, evaluation and remediation of on-site source areas of contamination, implementation of a soil venting system to treat contaminated unsaturated zone, closure of remedial activities with associated monitoring of groundwater conditions.

As field manager, Mr. Gentils' project experience includes: remedial investigation to delineate a groundwater contaminant plume at an inactive hazardous waste site in Binghamton, NY; closure investigation at numerous psychiatric facilities to determine the impact of long term storage of coal and ash; tidal hydraulic study in Jamaica Bay to quantify the efforts of leachate from a nearby landfill; and conducting of NYCRR Part 360 monitoring program at numerous municipal landfills in New York.

Prior to joining H2M, Mr. Gentils was a professional geologist/hydrogeologist for a firm engaged in USEPA enforcement-related investigations conducted at potential hazardous waste sites. He supervised field operations at these sites following USEPA protocols and developed Hazard Ranking System scores and site assessment reports for these sites.

EDUCATION: B.S., Geology
Adelphi University

SPECIALIZED COURSES:
Ground Water and Vadose Zone
Hazardous Materials Handling and Sampling
Monitoring and Sampling Technology
Remediation Alternatives for Contaminated Sediments

CERTIFICATIONS: Certified Health and Safety Operations at Hazardous Waste Sites (OSHA)

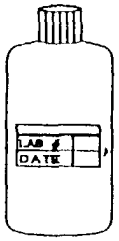
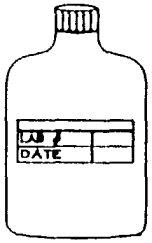
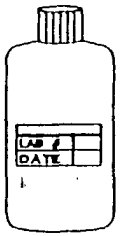
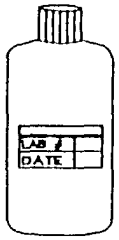
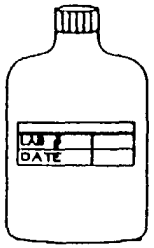
MEMBERSHIPS:
Association of Groundwater Scientists & Engineers
Long Island Geologists
National Water Well Association

HONORS/AWARDS: H2M Group Employee Excellence Award, 1991

APPENDIX C

LABORATORY CLP BOTTLE, CHART AND DETECTION LIMITS

CLP BOTTLE CHART

Soil Analysis	TCL Metals	BN/AE/Pesticide/PCB	Wet Chemistry Inorganic
			
H 8 oz. amber glass jar	EP 1000 ml. round plastic with 1:1 HNO_3	C 1 Quart amber glass bottle Unpreserved	E Unpreserved 1 Quart round plastic
Cyanide	**Volatile Organics**	**Hydrocarbons**	
			
ECN NaOH Pellets 1 Quart round plastic	D Unpreserved 40 ml. vial with Septa Cap	CP 1 Quart Amber Glass Bottle with H_2SO_4	

Superfund Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)

	Volatiles	CAS Number	Quantitation Limits* Water µg/L	Low Soil µg/Kg	Med Soil µg/Kg	On Column (ng)
1.	Chloromethane	74-87-3	10	10	1200	(50)
2.	Bromomethane	74-83-9	10	10	1200	(50)
3.	Vinyl chloride	75-01-4	10	10	1200	(50)
4.	Chloroethane	75-00-3	10	10	1200	(50)
5.	Methylene chloride	75-09-2	10	10	1200	(50)
6.	Acetone	67-64-1	10	10	1200	(50)
7.	Carbon Disulfide	75-15-0	10	10	1200	(50)
8.	1,1-Dichloroethylene	75-35-4	10	10	1200	(50)
9.	1,1-Dichloroethane	75-35-3	10	10	1200	(50)
10.	1,2-Dichloroethylene(total)	540-59-0	10	10	1200	(50)
11.	Chloroform	67-66-3	10	10	1200	(50)
12.	1,2-Dichloroethane	107-06-2	10	10	1200	(50)
13.	2-Butanone	78-93-3	10	10	1200	(50)
14.	1,1,1-Trichloroethane	71-55-6	10	10	1200	(50)
15.	Carbon tetrachloride	56-23-5	10	10	1200	(50)
16.	Bromodichloromethane	75-27-4	10	10	1200	(50)
17.	1,2-Dichloropropane	78-87-5	10	10	1200	(50)
18.	cis-1,3-Dichloropropene	10061-01-5	10	10	1200	(50)
19.	Trichloroethene	79-01-6	10	10	1200	(50)
20.	Dibromochloromethane	124-48-1	10	10	1200	(50)
21.	1,1,2-Trichloroethane	79-00-5	10	10	1200	(50)
22.	Benzene	71-43-2	10	10	1200	(50)
23.	trans-1,3-Dichloropropene	10061-02-6	10	10	1200	(50)
24.	Bromoform	75-25-2	10	10	1200	(50)
25.	4-Methyl-2-pentanone	108-10-1	10	10	1200	(50)
26.	2-Hexanone	591-78-6	10	10	1200	(50)
27.	Tetrachloroethene	127-18-4	10	10	1200	(50)
28.	Toluene	108-88-3	10	10	1200	(50)
29.	1,1,2,2-Tetrachloroethane	79-34-5	10	10	1200	(50)
30.	Chlorobenzene	108-90-7	10	10	1200	(50)
31.	Ethyl Benzene	100-41-4	10	10	1200	(50)
32.	Styrene	100-42-5	10	10	1200	(50)
33.	Total Xylenes	1330-20-7	10	10	1200	(50)

* Quantitation Limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis, as required by the protocol, will be higher.

Note that the CRQL values listed on the preceding page may not be those specified in previous Analytical Services Protocols. These values are set at concentrations in the sample equivalent to the concentration of the lowest calibration standard specified in Exhibit D, Part II. Lower quantitation limits may be achievable for water samples by employing the methods in Exhibit D, Part X for Low Concentration Water for Organic Analyses.

VOLATILES

Water Samples

A 5 mL volume of water is purged with an inert gas at ambient temperature. The volatiles are trapped on solid sorbents, and desorbed directly onto the GC/MS. For a sample with compound X at the CRQL of 10 µg/L:

(10 µg/L) (5 mL) (10^{-3} L/mL) = 50 x 10^{-3} ug = 50 ng on the GC column

Low Level Soil/Sediment Samples

A 5 g aliquot of the soil/sediment sample is added to a volume of water in a purge tube, heated, and purged with an inert gas. The volatiles are trapped, and later desorbed directly onto the GC/MS. For a sample with compound X at the CRQL of 10 µg/Kg:

(10 µg/Kg) (5 g) (10^{-3} Kg/g) = 50 x 10^{-3} µg = 50 ng on the GC column

Medium Level Soil/Sediment Samples

A 4 g aliquot of soil/sediment is extracted with 10 mL of methanol, and filtered through glass wool. Only 1 mL of the methanol extract is taken for screening and analysis. Based on the results of a GC/FID screen, an aliquot of the methanol extract is added to 5 mL of reagent water and purged at ambient temperature. The largest aliquot of extract considered in Exhibit D, Part III is 100 uL. For a sample with compound X at the CRQL of 1200 µg/Kg:

(1200 µg/Kg) (4 g) (10^{-3} Kg/g) = 4800 x 10^{-3} µg = 4800 ng

This material is contained in the 10 mL methanol extract:

(4800 ng) / 10 mL = 480 ng/mL

Of which, 100 µL are purged from the reagent water.

(480 ng/mL) (100 µL) (10^{-3} mL/µL) = 480 x 10^{-1} ng = 50 ng on the GC column

Note that for both low and medium soil/sediment samples, while it may affect the purging efficiency, the volume of reagent water used in the purging process does not affect the calculations.

Superfund Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)*

	Semivolatiles	CAS Number	Quantitation Limits* Water µg/L	Low Soil µg/Kg	Med Soil µg/Kg	On Column (ng)
34.	Phenol	108-95-2	10	330	10,000	(20)
35.	bis(2-Chloroethyl) ether	111-44-4	10	330	10,000	(20)
36.	2-Chlorophenol	95-57-8	10	330	10,000	(20)
37.	1,3-Dichlorobenzene	541-73-1	10	330	10,000	(20)
38.	1,4-Dichlorobenzene	106-46-7	10	330	10,000	(20)
39.	1,2-Dichlorobenzene	95-50-1	10	330	10,000	(20)
40.	2-Methylphenol	95-48-7	10	330	10,000	(20)
41.	2,2'-oxybis(1-Chloro-propane) #	108-60-1	10	330	10,000	(20)
42.	4-Methylphenol	106-44-5	10	330	10,000	(20)
43.	N-Nitroso-di-n-propylamine	621-64-7	10	330	10,000	(20)
44.	Hexachloroethane	67-72-1	10	330	10,000	(20)
45.	Nitrobenzene	98-95-3	10	330	10,000	(20)
46.	Isophorone	78-59-1	10	330	10,000	(20)
47.	2-Nitrophenol	88-75-5	10	330	10,000	(20)
48.	2,4-Dimethylphenol	105-67-9	10	330	10,000	(20)
49.	bis(2-Chloroethoxy) methane	111-91-1	10	330	10,000	(20)
50.	2,4-Dichlorophenol	120-83-2	10	330	10,000	(20)
51.	1,2,4-Trichlorobenzene	120-82-1	10	330	10,000	(20)
52.	Naphthalene	91-20-3	10	330	10,000	(20)
53.	4-Chloroaniline	106-47-8	10	330	10,000	(20)
54.	Hexachlorobutadiene	87-68-3	10	330	10,000	(20)
55.	4-Chloro-3-methylphenol	59-50-7	10	330	10,000	(20)
56.	2-Methylnaphthalene	91-57-6	10	330	10,000	(20)
57.	Hexachlorocyclopentadiene	77-47-4	10	330	10,000	(20)
58.	2,4,6-Trichlorophenol	88-06-2	10	330	10,000	(20)
59.	2,4,5-Trichlorophenol	95-95-4	25	800	25,000	(50)
60.	2-Chloronaphthalene	91-58-7	10	330	10,000	(20)
61.	2-Nitroaniline	88-74-4	25	800	25,000	(50)
62.	Dimethyl phthalate	131-11-3	10	330	10,000	(20)
63.	Acenaphthylene	208-96-8	10	330	10,000	(20)
64.	2,6-Dinitrotoluene	606-20-2	10	330	10,000	(20)
65.	3-Nitroaniline	99-09-2	25	800	25,000	(50)
66.	Acenaphthene	83-32-9	10	330	10,000	(20)

Previously known by the name bis(2-Chloroisopropyl) ether

Superfund Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)

	Semivolatiles	CAS Number	Quantitation Limits* Water µg/L	Low Soil µg/Kg	Med Soil µg/Kg	On Column (ng)
67.	2,4-Dinitrophenol	51-28-5	25	800	25,000	(50)
68.	4-Nitrophenol	100-02-7	25	800	25,000	(50)
69.	Dibenzofuran	132-64-9	10	330	10,000	(20)
70.	2,4-Dinitrotoluene	121-14-2	10	330	10,000	(20)
71.	Diethylphthalate	84-66-2	10	330	10,000	(20)
72.	4-Chlorophenyl phenyl ether	7005-72-3	10	330	10,000	(20)
73.	Fluorene	86-73-7	10	330	10,000	(20)
74.	4-Nitroaniline	100-01-6	25	800	25,000	(50)
75.	4,6-Dinitro-2-methylphenol	534-52-1	25	800	25,000	(50)
76.	N-nitrosodiphenylamine	86-30-6	10	330	10,000	(20)
77.	4-Bromophenyl phenyl ether	101-55-3	10	330	10,000	(20)
78.	Hexachlorobenzene	118-74-1	10	330	10,000	(20)
79.	Pentachlorophenol	87-86-5	25	800	25,000	(50)
80.	Phenanthrene	85-01-8	10	330	10,000	(20)
81.	Anthracene	120-12-7	10	330	10,000	(20)
82	Carbazole	86-74-8	10	330	10,000	(20)
83.	Di-n-butyl phthalate	84-74-2	10	330	10,000	(20)
84.	Fluoranthene	206-44-0	10	330	10,000	(20)
85.	Pyrene	129-00-0	10	330	10,000	(20)
86.	Butyl benzyl phthalate	85-68-7	10	330	10,000	(20)
87.	3,3'-Dichlorobenzidine	91-94-1	10	330	10,000	(20)
88.	Benz(a)anthracene	56-55-3	10	330	10,000	(20)
89.	Chrysene	218-01-9	10	330	10,000	(20)
90.	bis(2-Ethylhexyl)phthalate	117-81-7	10	330	10,000	(20)
91.	Di-n-octyl phthalate	117-84-0	10	330	10,000	(20)
92.	Benzo(b)fluoranthene	205-99-2	10	330	10,000	(20)
93.	Benzo(k)fluoranthene	207-08-9	10	330	10,000	(20)
94.	Benzo(a)pyrene	50-32-8	10	330	10,000	(20)
95.	Indeno(1,2,3-cd)pyrene	193-39-5	10	330	10,000	(20)
96.	Dibenz(a,h)anthracene	53-70-3	10	330	10,000	(20)
97.	Benzo(g,h,i)perylene	191-24-2	10	330	10,000	(20)

* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the Laboratory for soil/sediment, calculated on dry weight basis as required by the Protocol, will be higher.

Water Samples

A 1 L volume of water is extracted in a continuous liquid-liquid extractor with methylene chloride at a pH of approximately 2. This extract is reduced in volume to 1.0 mL, and a 2 µL volume is injected onto the GC/MS for analysis. For a sample with compound X at the CRQL of 10 µg/L:

(10 µg/L) (1 L) = 10 µg in the original extract

When the extract is concentrated, this .material is contained in the 1 mL concentrated extract, of which 2 µL are injected into the instrument:

(10 µg/mL) (2 µL) (10^{-3} mL/µL) = 20 x 10^{-3} µg = 20 ng on the GC column

Low Soil Samples

A 30 g soil sample is extracted three times with methylene chloride/acetone at ambient pH, by sonication or Soxhlet. The extract is reduced in volume to 1.0 mL, and a 2 µL volume is injected onto the GC/MS for analysis. For a sample with compound X at the CRQL of 330 µg/Kg:

(330 µg/Kg) (30 g) (10^{-3} Kg/g) = 9900 x 10^{-3} µg = 9.9 µg

When the sample extract is to be subjected to Gel Permeation Chromatography (required) to remove high molecular weight interferences, the volume of the extract is initially reduced to 10 mL. This 10 mL is put through the GPC column, and only 5 mL are collected off the GPC. That 5 mL volume is reduced to 0.5 mL prior to analysis. Therefore:

(9.9 µg/10 mL) (5 mL) = 4.95 µg

This material is contained in the 0.5 mL extract, of which 2 µL are injected into the instrument:

(4.95 µg/0.5 mL) (2 µL) (10^{-3} mL/µL) = (1.98 x 10^{-2} µg) 20 ng on the GC column

Medium Soil Samples

A 1 g soil sample is extracted once with 10 mL of methylene chloride/acetone, which is filtered through glass wool to remove particles of soil. The filtered extract is then subjected to GPC clean up, and only 5 mL of extract are collected after GPC. This extract is reduced in volume to 0.5 mL, of which 2 µL are injected onto the GC/MS. For a sample with compound X at the CRQL of 10,000 µg/Kg:

(10,000 µg/Kg) (1 g) (10^{-3} Kg/g) = 10 µg

(continued)

Semivolatiles, Medium Soil, continued -

This material is contained in the 10 mL extract, of which only 5 mL are collected after GPC:

(10 µg) (5 mL/10 mL) = 5 ug

The volume of this extract is reduced to 0.5 mL, of which 2 µL are injected into the instrument:

(5 µg/0.5 mL) (2 µL) (10^{-3} mL/µL) = 20 x 10^{-3} ug = 20 ng on the GC column

Eight semivolatile compounds are calibrated using only a four point initial calibration, with the lowest standard at 50 ng. Therefore, the CRQL values for these eight compounds are 2.5 times higher for all matrices and levels.

Superfund Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)*

	Pesticides/Aroclors	CAS Number	Quantitation Limits* Water µg/L	Soil µg/Kg	On Column (ng)
98.	alpha-BHC	319-84-6	0.05	1.7	5
99.	beta-BHC	319-85-7	0.05	1.7	5
100.	delta-BHC	319-86-8	0.05	1.7	5
101.	gamma-BHC (Lindane)	58-89-9	0.05	1.7	5
102.	Heptachlor	76-44-8	0.05	1.7	5
103.	Aldrin	309-00-2	0.05	1.7	5
104.	Heptachlor epoxide	1024-57-3	0.05	1.7	5
105.	Endosulfan I	959-98-8	0.05	1.7	5
106.	Dieldrin	60-57-1	0.10	3.3	10
107.	4,4'-DDE	72-55-9	0.10	3.3	10
108.	Endrin	72-20-8	0.10	3.3	10
109.	Endosulfan II	33213-65-9	0.10	3.3	10
110.	4,4'-DDD	72-54-8	0.10	3.3	10
111.	Endosulfan sulfate	1031-07-8	0.10	3.3	10
112.	4,4'-DDT	50-29-3	0.10	3.3	10
113.	Methoxychlor	72-43-5	0.50	17.0	50
114.	Endrin ketone	53494-70-5	0.10	3.3	10
115.	Endrin aldehyde	7421-36-3	0.10	3.3	10
116.	alpha-Chlordane	5103-71-9	0.05	1.7	5
117.	gamma-Chlordane	5103-74-2	0.05	1.7	5
118.	Toxaphene	8001-35-2	5.0	170.0	500
119.	AROCLOR-1016	12674-11-2	1.0	33.0	100
120.	AROCLOR-1221	11104-28-2	1.0	67.0	200
121.	AROCLOR-1232	11141-16-5	1.0	33.0	100
122.	AROCLOR-1242	53469-21-9	1.0	33.0	100
123.	AROCLOR-1248	12672-29-6	1.0	33.0	100
124.	AROCLOR-1254	11097-69-1	1.0	33.0	100
125.	AROCLOR-1260	11096-82-5	1.0	33.0	100

* Quantitation Limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the Laboratory for soil/sediment, calculate on dry weight basis, as required by the Protocol, will be higher.

Water Samples

A 1 L volume of water is extracted three times with methylene chloride or by a continuous liquid-liquid extractor. This extract is reduced in volume to approximately 3 - 5 mL, and diluted up to 10.0 mL with clean solvent. When Gel Permeation Chromatography is performed, only 5 of the 10 mL of extract are collected after GPC.

Regardless of whether GPC is performed, either 1.0 or 2.0 mL of the 10.0 mL of the original extracts are taken through the remaining clean up steps (Florisil and sulfur removal). The volume taken through Florisil cleanup and the final volume of the extract after the clean up steps depends on the requirements of the autosampler. If the autosampler can handle 1.0 mL final extract volumes, this is the volume taken through Florisil and the final volume. If the autosampler cannot reliably handle 1.0 mL volumes, the volume is 2.0 mL. When using an autosampler, the injection volume may be 1.0 or 2.0 µL. Manual injections must use a 2.0 µL injection volume.

For a sample with compound X at the CRQL of 0.05 µg/L and an autosampler requiring a 1.0 mL volume:

(0.05 µg/L) (1 L) = 0.05 µg in the original extract

This material is contained in the 10.0 mL of extract:

(0.05 µg)/ (10.0 mL) = 0.005 µg/mL

Of which, only 1.0 mL is carried through the remaining clean up steps. For a final extract volume of 1.0 mL and a 1 µL injection volume:

(0.005 µg/L) (1 µL) (10^{-3} mL/µL) = 5×10^{-6} µg = 5 pg on the GC column

Soil Samples

There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of pesticides/Aroclors. A 30 g soil sample is extracted three times with methylene chloride/acetone by sonication or Soxhlet extraction. The extract is reduced in volume to 10.0 mL and subjected to Gel Permeation Chromatography. After GPC, only 5.0 mL of extract are collected. However, as with the water sample described above, either 1.0 or 2.0 mL of that extract are subjected to the other clean up steps, so no loss of sensitivity results from the use of GPC. From this point on, the soil sample extract is handled in the same fashion as the extract of a water sample. For a sample with compound X at the CRQL of 1.7 µg/Kg:

(1.7 µg/Kg) (30 g) (10^{-3} Kg/g) = 51×10^{-3} µg = 51 ng in the original extract

This material is contained in the 10.0 mL of extract:

(51 ng)/10 mL = 5.1 ng/mL
(continued)

of which, only 1.0 or 2.0 mL are carried through the remaining cleanup steps For a final extract volume of 1.0 mL and a 1 µL injection volume:

$(5.1\ ng/mL)(1\ \mu L)(10^{-3}\ mL/\mu L) = 5.1 \times 10^{-3}\ ng = 5\ pg$ on the GC column.

For either water or soil samples, if the autosampler used requires a 2.0 mL final volume, the concentration in the 10.0 mL of extract above remains the same.

Using a 2 µL injection volume, twice the total number of picograms are injected onto the GC column. However, because the injection volume must be the same for samples and standards, twice as much material is injected onto the column during calibration, and thus the amount of compound X injected from the sample extract is equivalent to the amount of compound X injected from the calibration standard, regardless of injection volume.

If a single injection is used for two GC columns attached to a single injection part, it may be necessary to use an injection volume greater than 2 µL.

1: Any analytical method specified in Exhibit D, CLP-Inorganics may be utilized as long as the documented instrument or method detection limits meet the Contract Required Quantitation Level (CRQL) requirements. Higher quantitation levels may only be used in the following circumstance:

If the sample concentration exceeds five times the quantitation limit of the instrument or method in use, the value may be reported even though the instrument or method detection limit may not equal the Contract Required Quantitation Limit. This is illustrated in the example below:

For lead:
Method in use = ICP
Instrument Detection Limit (IDL) = 40
Sample concentration = 220
Contract Required Quantitation Level (CRQL) = 3

The value of 220 may be reported even though instrument detection limit is greater than Contract Required Quantitation Limit. The instrument or method detection limit must be documented as described in Exhibit E.

2: These CRQLs are the instrument detection limits obtained in pure water that must be met using the procedure in Exhibit E. The quantitation limits for samples may be considerably higher depending on the sample matrix.

GROUNDWATER SAMPLING RECORD SHEET

SITE:	DATE:	TIME:
JOB#:	SAMPLERS:	
WEATHER:		
SAMPLE LOCATION:	MEASURING PT:	
DEPTH TO WATER:	WELL DEPTH:	
STATIC WATER LEVEL:	STATIC VOLUME:	
MIN. VOLUME TO BE REMOVED:		
EVACUATION TECHNIQUE:	SUBM. PUMP ☐	CENT. PUMP ☐
	BLADDER PUMP ☐	BAILER ☐
DEPTH TO PUMP INTAKE:	RECOVERY RATE:	
FLOW RATE (gpm):		
TIME PUMPED:		
TOTAL VOLUME PURGED:		
SAMPLE CHARACTERISTICS:		
FIELD PARAMETERS:		
TEMP: °C	CONDUCTIVITY:	us
pH:	Eh:	mv
HEX. CHROME: ppm	TURBIDITY:	NTU
REMARKS:		
	SIGNATURE:	

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. RIVERHEAD, N.Y. FAIRFIELD, N.J.

H2M LABS, INC.

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575 Broad Hollow Road, Melville, N.Y. 11747-5078
(516) 694-3040
FAX: 516-694-4122

PROJ. NO.	PROJECT NAME	TOTAL NO. OF CONTAINERS	REMARKS
SAMPLERS: (Signature)			

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION										

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ANALYTICAL SERVICES PROTOCOL

SEPTEMBER 1989

12/91 REVISIONS

Edited by Lawrence T. Bailey

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H2MGROUP

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HEALTH AND SAFETY PLAN (HASP)

REMEDIAL INVESTIGATION HEALTH & SAFETY PLAN

FOR

BOWE SYSTEM AND MACHINE (BÖWE SYSTEC, INC.)

200 FRANK ROAD

HICKSVILLE, NEW YORK

SEPTEMBER 1992

H2MGROUP

REMEDIAL INVESTIGATION
HEALTH AND SAFETY PLAN
FOR
BOWE SYSTEM AND MACHINE
(BÖWE SYSTEC, INC.)
200 FRANK ROAD

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SEPTEMBER 1992

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HICKSVILLE, NEW YORK

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REMEDIAL INVESTIGATION
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REMEDIAL INVESTIGATION
HEALTH AND SAFETY PLAN
FOR
BOWE SYSTEM AND MACHINE
(BOWE SYSTEC, INC.)

September 1992

1.0 - PURPOSE

The purpose of this Health and Safety Plan (HASP) is to establish a protocol for protecting H2M field personnel from incidents that may arise while performing field activities during the remedial investigation or other activities (i.e., IRM) to be conducted at the Bowe System and Machine (Bowe Systec) facility, located at 200 Frank Road in Hicksville, New York. This plan has been prepared in accordance with the United States Environmental Protection Agency (USEPA) document, "Emergency and Remedial Response Division's "Standard Operating Safety Guides", November 1984. This plan establishes personnel protection standards, mandatory operations procedures, and provides contingencies for situations that may arise while field work is being conducted at the site. All H2M field personnel will be required to abide by these procedures. Personnel responding to environmental episodes involving chemical substances may encounter conditions that are unsafe or potentially unsafe. In addition to the potential risks associated with the physical, chemical, biological and toxicological properties of the material(s) which may be encountered, other types of hazards (e.g., electricity, water, temperature, heavy equipment, falling objects, loss of balance, tripping, etc.) can have an adverse effect on the health and safety of personnel. It is important that personnel protective equipment and safety requirements be appropriate to protect against potential and/or known hazards. Protective equipment will be selected based on the type(s),

concentration(s), and routes of personnel exposure from substances at a site. In situations where the type of materials and possibilities of contact are unknown or the potential hazards are not clearly identifiable, a more subjective determination will be made of the personnel protective equipment required for initial safety.

Adherence to this HASP will minimize the possibility that personnel at the site or the surrounding community will be injured or exposed to site-related contaminants during remedial investigation activities.

2.0 SITE CONDITIONS

A remedial investigation will be conducted at the property to determine the need for remediation. The property has been classified as a Class 2 Inactive Hazardous Waste Site by the New York State Department of Environmental Conservation (NYSDEC) due to past releases of volatile organic compounds at the site. The remedial investigation will consist of the drilling of soil borings and monitoring wells as well as the testing of drywells and septic system. Drilling and sampling procedures can subject field personnel to come into contact with identified contaminants. The routes of potential exposure include inhalation, and adsorption. At the work site, the most probable route of exposure, if any, is via the inhalation of volatile organic contaminants, from contaminated soils or sludges (see Appendix A for Hazardous Substances Data Sheets).

3.0 PERSONNEL SAFETY

Personnel involved in field operations must often make complex decisions regarding safety. To make these decisions correctly requires more than elementary knowledge. For example, selecting the most effective personnel protective equipment requires not only expertise in the technical areas of respirators, protective clothing, air monitoring, physical stress, etc., but also experience and professional judgment. Only competent, qualified personnel will perform field operations and have the technical

judgment to evaluate a particular incident and determine the appropriate safety requirements. These individuals, through a combination of professional education, on-the-job experience, specialized training and continual study, have the expertise to make sound decisions. All subcontractors will be required to provide a HASP for this project. Subcontractors may wish to adopt H2M's HASP and may do so upon completion of the site worker health and safety statement form (Appendix B).

3.1 Education and Training

All personnel involved in field work will be trained to carry out their designated field operations. Training will be provided in the use of all equipment, including respiratory protective apparatus and protective clothing; safety practices and procedures; general safety requirements; first aid; and hazardous recognition and evaluation. Each individual involved with the field work must provide documentation of training, as per 29 CFR 1910.120(E)(2).

3.2 - Health and Safety Manager

The Health and Safety Manager shall be responsible for overall implementation and coordination of the Health and Safety Program for H2M field personnel at the site. Responsibilities include providing adequate manpower, materials, equipment, and time needed to safely accomplish the tasks under the RI. The Health and Safety Manager is also responsible for taking appropriate corrective actions when unsafe acts or practices arise.

3.3 - Site Safety Officer

A designated individual will perform the function of the H2M Site Safety Officer. As a minimum, this individual will be responsible for:

1. Conducting an initial site safety meeting for H2M field personnel.

2. Assuring that all personnel protective equipment is available and properly utilized by all H2M field personnel at the site.

3. Assuring that all H2M personnel are familiar with standard operating safety procedures and additional instructions contained in the Health and Safety Plan.

4. Assuring that all H2M personnel are aware of the hazards associated with the field operations.

5. Inspecting the site for hazards before field operations.

6. Determining personal protection levels including clothing and equipment for H2M personnel and periodic inspection of protective clothing and equipment.

7. Monitoring of site conditions prior to initiation of field activities, and at various intervals during on-going operations as deemed necessary for any changes in site hazard conditions. (Monitoring parameters include, but are not limited to, volatile organic contaminant levels in the atmosphere, chemical hazard information and weather conditions).

8. Executing decontamination procedures.

9. Monitoring the work parties for signs of stress such as cold exposure, heat stress or fatigue.

10. Prepare reports pertaining to incidents resulting in physical injuries or exposure to hazardous materials.

4.0 - LEVELS OF PROTECTION

Anyone entering a hazardous waste site must be protected against potential hazards. The purpose of the personal protection clothing and equipment is to minimize exposure to hazards while working on site. Careful selection and use of adequate personal protective equipment (PPE) should protect the respiratory system, skin, eyes, face, hands, feet, head, body and hearing.

The appropriate level of protection is determined prior to the initial entry on site based on available information and preliminary monitoring of the site. Subsequent information may warrant changes in the original level selected. Appropriate equipment to

protect personnel against exposure to known or anticipated chemical hazards has been divided into four categories according to the degree of protection afforded.

4.1 - Level A Protection

The highest degree of protection is used in a Level A situation. It should be worn when the highest available level of respiratory, skin and eye protection is needed. This level of protection is placed in effect when there is no historic information about the site and it is assumed that the worst possible conditions exist. A confined space, and/or oxygen deficient atmosphere (less than 20.9% oxygen) also classifies as a Level A situation.

4.1.1 - Personal Protective Equipment

a. Pressure demand, self-contained breathing apparatus, approved by the Occupational Safety and Health Administration (OSHA) and National Institute of Occupational Safety and Health (NIOSH).

b. Fully encapsulating chemical-resistant suit.

c. Coveralls*.

d. Long cotton underwear*.

e. Gloves (outer), chemical-resistant.

f. Gloves (inner), chemical-resistant.

g. Boots, chemical-resistant, steel toe and shank. (Depending on suit construction, worn over or under suit boot.)

h. Hard hat* (under suit).

i. Disposable protective suit, gloves and boots* (worn over fully-encapsulating suit).

j. Two-way radio communications (intrinsically safe).

*Optional

4.1.2 - Criteria for Selection

Meeting any of the criteria listed below warrants use of Level A protection:

a. The chemical substance(s) has been identified and requires the highest level of protection for skin, eyes and the respiratory system based on:

(1) Measured (or potential for) high concentrations of atmospheric vapors, gases, or particulates; or

(2) Site operations and work functions involving high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates.

b. Extremely hazardous substances are known or suspected to be present and skin contact is possible.

c. The potential exists for contact with substances that destroy skin.

d. Operations must be conducted in confined, poorly ventilated areas until the absence of hazards requiring Level A protection is demonstrated.

e. An oxygen deficient atmosphere where the oxygen level is less than 20.9 percent (%) by volume as measured with an oxygen meter.

f. Total atmospheric readings on photoionization detector indicate readings above 500 parts per million (ppm) of calibration gas equivalents (cge) of unidentified substances.

4.1.3 - Limiting Criteria

a. Fully encapsulating suit material must be compatible with the substances involved.

4.1.4 - Minimum Decontamination Procedure

Station 1: Segregated equipment drop.

Station 2: Outer garment, boots and gloves wash and rinse.

Station 3: Outer boot and glove removal.

Station 4: Tank change.

Station 5: Boots, gloves and outer garment removal.

Station 6: SCBA removal.

Station 7: Field wash.

4.2 - Level B Protection

4.2.1 - Personal Protective Equipment

a. Pressure-demand, self-contained breathing apparatus-(OSHA/NIOSH approved).

b. Chemical-resistant clothing (coveralls and long-sleeved jacket; coveralls, hooded, one or two-piece chemical-splash suit; disposable chemical-resistant coveralls).

c. Coveralls.*

d. Gloves (outer), chemical-resistant.

e. Gloves (inner), chemical-resistant.

f. Boots (outer), chemical-resistant, steel toe and shank.

g. Boots (outer), chemical resistant (disposable*).

h. Hard hat (face shield*).

i. Two-way radio communications (intrinsically safe).

*Optional

4.2.2 - Criteria for Selection

Meeting any one of these criteria warrants use of Level B protection:

a. The type(s) and atmospheric concentration(s) of toxic substances have been identified and require the highest level of respiratory protection, but a lower level of skin and eye protection than is required with Level A. These would be atmospheres:

(1) With concentrations immediately danger to life and health (IDLH); or

(2) Exceeding limits of protection afforded by a full-face, air-purifying mask; or

(3) Containing substances for which air-purifying canisters do not exist or have low removal efficiency; and/or

(4) Containing substances requiring air-supplied equipment, but substances and/ or concentrations do not represent a serious skin hazard.

b. The atmosphere contains less than 20.9 percent oxygen.

c. Site operations make it highly unlikely that the small, unprotected area of the head or neck will be contacted by splashes of extremely hazardous substances.

d. Total atmospheric concentrations in the breathing zone of unidentified vapors or gases range from 50 ppm to 500 ppm (calibration gas equivalence units) on monitoring instruments, and vapors are not suspected of containing high levels of chemicals toxic to skin.

4.2.3 - Limiting Criteria

a. Use only when the vapor or gases present are not suspected of containing high concentrations of chemicals that are harmful to skin or capable of being absorbed through skin contact.

b. Use only when it is highly unlikely that the work being done will generate high concentrations of vapors, gases, or particulates or splashes of material that will affect exposed skin.

4.2.4 - Minimum Decontamination Procedures

Station 1: Equipment drop.

Station 2: Outer garment, boots and gloves wash and rinse.

Station 3: Outer boot and glove removal.

Station 4: Tank change.

Station 5: Boot, gloves and outer glove removal.

Station 6: SCBA removal.

Station 7: Field wash.

4.3 - Level C Protection

4.3.1 - Personal Protective Equipment

a. Full-face, air purifying, canister-equipped respirator (Mine Safety and Health Administration (MSHA) and National Institute of Occupational Safety and Health (NIOSH) approved).

b. Chemical-resistant clothing (coveralls; hooded, two-piece chemical splash suits; chemical-resistant hood and apron; disposable chemical-resistant coveralls).

c. Coveralls.*

d. Gloves (outer), chemical-resistant.

e. Gloves (inner), chemical-resistant.

f. Boots (outer), chemical-resistant, steel toe and shank.*

g. Boots (outer), chemical-resistant (disposable*).

h. Hard hat (face shield*).

i. Escape mask*.

j. Two-way radio communications (intrinsically safe).

*Optional

4.3.2 - Criteria for Selection

Meeting all of these criteria permits use of Level C Protection:

a. Measured air concentrations of identified substances will be reduced by the respirator to, at or below the substance's exposure limit, and the concentration is within the service limit of the canister.

b. Atmospheric contaminant concentrations do not exceed IDLH levels.

c. Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of skin left unprotected by chemical-resistant clothing.

d. Job functions have been determined not to require self-contained breathing apparatus.

e. Total vapor readings register between 5 ppm (cge) and 50 ppm (cge) above background on instruments.

f. Air will be monitored periodically.

g. Cartridges are available and are approved by NIOSH and MSHA for the specific chemical(s) encountered.

4.3.3 - Limiting Criteria

a. Atmospheric concentration of chemicals must not exceed IDLH levels.

b. The atmosphere must contain at least 20.9 percent oxygen.

c. Must have sufficient information available regarding specific compounds, and their concentrations, likely to be encountered.

4.3.4 - Minimum Decontamination Procedures

Station 1: Equipment drop.

Station 2: Outer boot and glove removal.

Station 3: Canister or mask change.

Station 4: Boots, gloves and outer garment removal.

Station 5: Face piece removal.

Station 6: Field wash.

4.4 - Level D Protection

Level D protection has been selected for H2M personnel for this project. Should conditions change, re-evaluation of personnel protection will be conducted.

4.4.1 - Personal Protective Equipment

a. Coveralls.

b. Gloves*.

c. Boots/shoes, leather or chemical-resistant, steel toe and shank.

d. Boots (outer), chemical/resistant (disposable)*.

e. Safety glasses or chemical splash goggles*.

f. Hard hat (face shield*).

g. Escape mask*.

*Optional

4.4.2 - Criteria for Selection

Meeting any of these criteria allows use of Level D protection:

a. No hazardous air pollutants have been measured.

b. Work functions preclude splashes, immersion, or potential for unexpected inhalation of any chemicals.

c. Extensive information on suspected hazards/risks are known.

4.4.3 Limiting Criteria

a. The atmosphere must contain at least 20.9 percent oxygen.

4.4.4 Minimum Decontamination Procedure

Station 1: Equipment drop.

Station 2: Hand and face wash.

4.5 - Duration of Work Period

The anticipated duration of the work period will be established prior to daily activities. Work will only be performed during daylight hours. Other factors that limit work period length include:

a. Air supply consumption (SCBA assisted work);

b. Suit/ensemble, air purifying chemical cart-ridge, permeation and penetration by chemical contaminants; and

c. Ambient temperature and weather conditions.

5.0 DETERMINATION OF THE SITE-SPECIAL LEVEL OF HAZARD

Based upon information obatined from past groundwater and soil sampling results, and the examination of the hazardous substance data sheets (Appendix A) for the contaminants alleged or reported at the Frank Road property, it has been determined that the appropriate level of protection for the site is Level D, the minimal level of protection.

Categories of personnel protection required depend on the degree of hazard and probability of exposure by a route entry into the body. For this site, the most probable potential route entry is via inhalation of gases and of airborne particulates released from soils and/or standing liquids. Other potential routes of exposure include ingestion of contaminated particulates resulting from handling of contaminated soils, however, given the site conditions, these routes of exposure pose less of a concern. The site-specific

chemical contaminants of concern are volatile organic compounds, specifically tetrachloroethylene and associated breakdown products.

The determination of Level D protection is based on the fact that field work will be performed in open, well-ventilated areas and that the potential for accidents and injuries due to obstructions caused by and/or magnified by the use of level A, B, or C protection (i.e., slip/trip hazards) is greater than the potential for problems associated with exposure from contaminants using level D protection. Level C protection, with the appropriate organic vapor cartridges, can be implemented if air quality monitoring indicates that airborne organic compounds may pose a health threat.

A PID or FID will be used to monitor air quality throughout the RI during the course of field work. Additional air monitoring may be necessary if off-site work is required (see the protocol outlined in the Community Air Monitoring Plan attached as Appendix C). If necessary based upon field PID readings, the work zone will be evacuated and consideration will be given of upgrading the level of protection. An upgrade to the appropriate level of protection for field personnel will be required before re-entering the work zone if hazardous conditions persist.

In addition to potential chemical hazards, there also exists potentially greater physical hazards associated with the field operations. Due to the nature of the field operations, heavy equipment including drill rigs will be used. Therefore, all personnel should always be aware of truck movements and drilling operations. All work must be performed in strict accordance with OSHA regulations pertaining. In addition, hard hats must be worn at all times.

6.0 DESIGNATED WORK ZONES

Work zones will be determined prior to the commencement of a specific work activity. An area large enough to encompass the activity will be delienated as the work

zone. Only qualified field personnel involved in the field activity with the proper personal protective equipment will be allowed into the designated work zones. Within the work zone ambient air quality will be periodically monitored using an PID or FID to determine any changes from background air quality. If subsequent measurements suggest a significant change in air quality, the work area will be immediately evacuated. An upgrade to the appropriate level of protection for field personnel will be required before re-entering the work zone. All off-site zones will be clearly marked and roped or fenced off to ensure that the public is kept at a safe distance from the drilling activities that cause physical injury or that potentially could release contaminants into the air.

7.0 DECONTAMINATION STATIONS

The decontamination station will be a fixed location to be used for the cleaning of all heavy equipment, vehicles, tools and supplies used in the field activities as well as for personnel decontamination for the duration of the on-site field operations.

All drilling equipment (rigs, augers, etc.) will be steam cleaned between each soil boring and well installation. Decontamination of the drilling equipment will be conducted at the location of the installed boring/well, prior to moving to the next drilling location.

8.0 SITE ACCESS CONTROL

Vehicular access to the site location is readily attainable with prior notice. The drill rig and all field equipment will be secured on-site.

9.0 - PERSONAL HYGIENE

The following personal hygiene rules must be followed while performing work at the site:

1. Eating, drinking, chewing gum or tobacco, smoking, or any other practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in the work area.

2. Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking, or any other activities.

3. Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

4. No excessive facial hair (i.e., beards), which interferes with a satisfactory fit of the mask-to-face seal, is allowed on personnel required to wear respiratory protective equipment.

5. Contact with contaminated or suspected contaminated surfaces will be avoided. Whenever possible, walking through puddles, mud and other discolored surfaces; kneeling on ground; leaning, sitting, or placing equipment on drums, containers, vehicles, or the ground will be avoided.

6. Medicine and alcohol can increase the effects from exposure to toxic chemicals. Prescribed drugs will not be taken by personnel on site where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverage intake will be prohibited during all on-site field operations.

10.0 CONTINGENCY PLAN

This sub-section shall serve as the RI contingency plan. It has been developed to identify precautionary measures, possible emergency conditions, and emergency procedures. The plan shall be implemented by the Site Safety Officer.

10.1 - Emergency Medical Care and Treatment

This section addresses emergency medical care and treatment of field personnel, resulting from possible exposures to toxic substances and injuries due to accidents. The following items will be included in emergency care provisions:

a. Name, address and telephone number of the nearest medical treatment facility will be conspicuously posted. Directions for locating the facility, plus the travel time, will be readily available (see Appendix B).

b. Names and telephone numbers of ambulance service, police and fire departments, and procedures for obtaining these services will be conspicuously posted (Appendix B).

c. Procedure for prompt notification of the H2M Site Safety Manager.

d. Emergency eyewash fountains and first aid equipment will be readily available on site and located in an area known to all personnel.

e. Specific procedure for handling personnel with excessive exposure to chemicals or contaminated soil.

f. Readily available fire extinguisher (ABC) dry chemical.

10.2 - Off-Site Emergency Medical Care

The Site Safety Officer shall pre-arrange for access to emergency medical care services at a convenient and readily accessible medical facility and establish emergency routes. The Site Safety Officer shall establish emergency communications with emergency response services.

10.3 - Personnel Accidents

Bodily injuries which occur as a result of an accident during the operation at the site will be handled in the following manner:

a. First aid equipment will be available on site for minor injuries. If the injuries are not considered minor, proceed to the next step.

b. The local first aid squad rescue unit, a paramedic unit, the local hospital and the Site Safety Officer shall be notified of the nature of the emergency.

c. The injured employee shall be transported by the local emergency vehicle to the local hospital.

d. A written report shall be prepared by the Site Safety Officer detailing the events and actions taken during the emergency within 24 hours of the accident.

10.4 - Personnel Exposure

In the event that any personnel is splashed or otherwise excessively contaminated by chemicals, the following procedure will be undertaken:

a. Disposable clothing contaminated with observable amounts of chemical residue is to be removed and replaced immediately.

b. In the event of direct skin contact in Level D, the affected area is to be washed immediately with soap and water.

c. The Site Safety Officer or other individuals who hold a current first aid certificate will determine the immediate course of action to be undertaken. This may involve using the first aid kit and/or eyewash or call for ng decreases natural body ventilation. One or more of the following will help reduce heat stress:

10.4.1 - Weather

Adverse weather conditions is an important consideration in planning and conducting site operations. Hot or cold weather can cause physical discomfort, loss of efficiency, and personal injury. Of particular importance is heat stress resulting when protective clothing decreases natural body ventilation. One or more of the following will help reduce heat stress:

a. Provide plenty of liquids. To replace body fluids (water and electrolytes) lost because of sweating, use a 0.1 percent salt water solution, more heavily salted foods or commercial mixes. The commercial mixes may be preferable for those employees on a low sodium diet.

b. Provide cooling devices to aid natural body ventilation. These devices, however, add weight, and their use should be balanced against worker efficiency. Long cotton underwear help absorb moisture and protect the skin from direct contact with heat absorbing protective clothing. It should be the minimum undergarment worn.

c. Install mobile showers and/or hose down facilities to reduce body temperature and cool protective clothing.

d. In extremely hot weather, conduct non-emergency response operations in the early morning or evening.

e. Ensure that adequate shelter is available to protect personnel against heat, cold, rain, snow, etc.

f. In hot weather, rotate shifts of workers wearing impervious clothing.

10.4.2 - Heat Stress

If field operations are conducted in the warm summer months, heat related fatigue will be closely monitored. Monitoring of personnel wearing impervious clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. Frequency

of monitoring should increase as the ambient temperature increases or as slow recovery rates are indicated. When temperatures exceeds 85 degrees Fahrenheit, workers should be monitored for heat stress after every work period. The following screening mechanism will be used to monitor for heat stress:

> Heart rate (HR) will be periodically measured by the radial pulse for 30 second during a resting period. The HR should not exceed 110 beats per minute. If the HR is higher, the next work period should be shortened by 33 percent. If the pulse rate is 100 beats per minute at the beginning of the next rest period, the following work cycle should be shortened by 33 percent.

Heat-related illnesses range from heat fatigue to heat stroke, the most serious. Heat stroke requires prompt treatment to prevent irreversible damage or death. Protective clothing may have to be cut off. Less serious forms of heat stress require prompt attention or they may lead to a heat stroke. Unless the victim is obviously contaminated, decontamination should be omitted or minimized and treatment begun immediately.

Heat-related problems can be categorized into:

<u>Heat Rash</u>: Caused by continuous exposure to hot and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat as well as being a nuisance.

<u>Heat Cramps</u> Caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen.

<u>Heat Exhaustion</u> Caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness and lassitude.

<u>Heat Stroke</u>: The most severe form of heat stress. The body must be cooled immediately to prevent severe injury and/or death. Signs and symptoms are: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

Some of the symptoms of heat stress are: hot dry skin, fever, nausea, cramps, red or spotted skin, confusion, lightheadedness, delirium, rapid pulse, convulsions and unconsciousness.

For workers suffering from heat stroke, the following actions should be taken:

1. Remove the victim to a cool area
2. Loosen clothing
3. Thoroughly soak the victim in cool water or apply cold compresses
4. Make sure someone has called for medical assistance.

10.4.3 - Cold Stress

If field operations are conducted in the cold winter months, cold stress will be monitored. Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. For instance, 10 deg.F with a wind of 15 miles per hour (mph) is equivalent in chilling effect to still air at -18 deg,..

As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air. Thus, the body cools suddenly when chemical-protective equipment is removed if the clothing underneath is perspiration soaked.

Local injury resulting from cold is included in the generic term frostbite. There are several degrees of damage. Frostbite of the extremities can be categorized into:

Frost Nip or Incipient Frostbite. Characterized by suddenly blanching or whitening of skin.

Superficial Frostbite. Skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.

Deep Frostbite. Tissues are cold, pale and solid; extremely serious injury.

Hypothermia. Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperatures. Its symptoms are usually exhibited in five stages: (1) shivering; (2) apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95 | F; (3) unconsciousness, glassy stare, slow pulse and slow respiratory rate; (4) freezing of the extremities; and finally, (5) death.

10.5 - Fire

The telephone number to the local fire department will be posted along with other emergency numbers conspicuously on-site at all times.

In the event of a fire occurring at the site, the following actions will be undertaken by the Site Safety Officer and the designated fire control personnel:

a. Evacuate all unnecessary personnel from the area of the fire and site, if necessary.

b. Contact the local fire and police departments informing them of the fire and any injuries if they have occurred.

c. Contact the local hospital of the possibility of fire victims.

d. Contact the Site Safety Officer and the H2M Site Manager.

11.0 - SUMMARY

The Health and Safety Plan establishes practices and procedures to be followed so that the welfare and safety of workers is protected. Adherence to this HASP will minimize the possibility that personnel at the site or the surrounding community will be injured or exposed to site-related contaminants during remedial investigation activities. It is important that personal equipment and safety requirements be appropriate to protect against the potential or known hazards at a site. Protective equipment will be based upon the type(s), concentration(s), and routes of personal exposure from substances at the site, as well as the potential for hazards due to heavy equipment use, vision impairment, weather, etc.. All site operation planning incorporates an analysis of the hazards involved and procedures for preventing or minimizing the risk to personnel. The following summarizes the rules which must be obeyed:

a. The Health and Safety Plan will be made available to all H2M personnel doing field work on site. All personnel must sign this plan, indicating they have read and understood its terms.

b. All H2M personnel will be familiar with standard operating safety procedures and additional instructions contained in the Health and Safety Plan.

c. All H2M personnel going on site will be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures and communications.

d. Any required respiratory protective devices and clothing will be worn by all personnel going into work areas.

e. Prior to commencement of work activities, notification to local police, fire and potential rescue personnel will be made.

H2MGROUP

APPENDIX A

HAZARDOUS SUBSTANCE DATA SHEETS

HAZARDOUS SUBSTANCE DATA SHEET

Name of Substance: Tetrachloroethene

List the references used:

a. EPA-1985 c. Niosh

b. d. Allied Fisher

Physical/Chemical Property - Source:

	a.	b.	c.	d.
State			Colorless Liquid w/chloroform odor	Colorless Liquid w/chloroform like odor
SG/Dens.	1.63			1.6
BP	121°C		250°F	250°F (121°C)
MP	-22.7°C		-8°F	-8°F (-22°C)
VP	14— Hg@20°C		14—	15— Hg @ 20°C
V.Dens.				5.8
FP			Not Combustible	Nonflammable
LEL				
UEL				
Autoig.				
Odor Thres.				
Solub.	150-200-mg/l	H2O @ 20°C	0.015%	0.04% in water Soluble in alcohol & benzene
Other			MW = 166 IP:9.32ev	Odor threshold 50 ppm

Tetrachloroethane

I. Hazardous Characteristics - Indicate degree of hazard

Toxicity:

Osha (air) -

670 mg/m^3 TWA

1,340 mg/m^3 ceiling level

2,010 mg/m^3 for 5 min every 3 hr. peak level.

Niosh: (air)

335 mg/m^3 TWA

670 mg/m^3 15 min. ceiling level.

ACGIH: 50 ppm TWA

200 ppm STEL

Flammability:

Negligible fire hazard under normal conditions

May react with some metals to produce explosion hazard.

Corrosiveness:

Reactivity: Incompatibilities: Lithium shavings - forms explosive mixture
Barium shavings-forms explosive mixture
Aluminum powder - explosive reaction on heating
Dinitrogen tetroxide - forms explosive compounds
Metals (finely dispersed)-explosive reaction
Sodium Hydroxide-possible explosive reaction
Beryllium powder-flash or spark on heavy impact
Excess Hydrogen-in presence of reduced nickel catalyst produces total decomposition to hydrogen chloride and carbon.

Other Information: Nitric Acid (conc.) violent reaction.
Decomposes in UV-light, above 150°C or in fire to toxic phosgene, corrosive hydrogenchloride and flammable carbon monoxide.

Effect of weather (rain, temperature):

Is there sufficient data for evaluation?

HAZARDOUS SUBSTANCE DATA SHEET

Name of Substance: Trichloroethylene (TCE)

List the references used:

a. Sax c. Niosh Guide

b. Merck d.

Physical/Chemical Property - Source:

	a.	b	c	d
State	Colorless liquid	Nonflam. m.w. liq.	colorless liquid	
SG/Dens.	1.45560	1.4649		
BP	87.1°C	87.6°C	188°F	
MP	-73°C	-84.8°	-123°F	
VP	100mm @ 32°C		58mm	
V. Dens.	4.53	4.53	—	
FP	none		none	
LEL	12.5%		11%	
UEL	90%		41%	
Autoig.	770°F		—	
Odor Thr.			—	
Solub.			0.1%	
Other				

I. Hazardous Characteristics - Indicate degree of hazard

Toxicity:

TLV - TWA 50 ppm
STEL 200 ppm
IDLH Carcinogen
Inhalation of high concentrations causes narcosis and anesthesia. Prolonged inhalation at moderate concentration may cause headache and drowsiness.

Target Organs: Resp. system, heart, liver, kidneys, CNS, skin

Flammability:

low flammability when exposed to heat or flame.
May burn mildly if applied in high concentrations to a strong flame.

Corrosiveness:

Reactivity:

Reactive with barium, lithium, sodium, magnesium, titanium, aluminum when acidic.
Incompatible with strong caustics

Other Information:

II. Personnel Protection

Respirator selection:

Any detectable concentration - SCBA with full face piece pressure demand or other positive pressure or supplied air-purifying respirator

Toxicity:

Suspected Carcinogen

Warning properties:

Cartridge efficiencies:

Other recommendations:

Protective clothing for repeated prolonged contact
Wash immediately when skin becomes wet

HAZARDOUS SUBSTANCE DATA SHEET

Name of Substance: 1,2-Dichloroethylene

List the references used:

a. Niosh Guide c. _____

b. _____ d. _____

Physical/Chemical Property - Source:

	a	b	c	d
State				
SG/Dens.				
BP	113 to 140°F			
MP	56 to 115 °F			
VP				
V. Dens.				
FP	36 to 39 °F			
LEL	9.7%			
UEL	12.8%			
Autoig.				
Odor Thr.				
Solub.	0.35 to 0.63% in H_2O			
Other				
Mol. Wt.	97			

1,2 Dichloroethylene

I. Hazardous Characteristics - Indicate degree of hazard

Toxicity:

Ihld: 4,000 ppm

Tlv: 200 ppm (790 mg/m^3)

Flammability:

Corrosiveness:

Reactivity:

Incompatible with strong oxidizers.

Other Information:

Effect of weather (rain, temperature):

Is there sufficient data for evaluation?

Colorless liquid with an ether-like, slightly acrid odor, like chloroform.
*Eye irritant.

Dichoroethylene

II. Personnel Protection

Respirator selection:

Toxicity:

Warning properties:

Cartridge efficiencies:

Other recommendations:

OSHA:

up to 1,000 ppm - Powered air-purifying resp. with organic vapor cartridges
- Chemical cartridge respirator with organic vapor cartridges

4,000 ppm - Supplied air respirator, continuous flow mode
- SCBA, full face piece
- Supplied air respirator with full face

Exposure through (ingestion, contact, inhalation)

- eye irritant, affects respiratory system, causes central nervous system depression.

H2MGROUP

APPENDIX B

SITE WORKER HEALTH AND SAFETY STATEMENT
AND
EMERGENCY INFORMATION

H2MGROUP

SITE WORKER
HEALTH AND SAFETY STATEMENT FORM

I have read the health and Safety Plan (HASP) for the Remedial Investigation at the Bowe Systec, Inc. Site and I have reviewed and understand the potential hazards and the precautions/contingencies of each potential hazard.

I agree to abide by the stipulations of this HASP and further agree to hold H2M Group harmless from, and indemnify against, any accidents which may occur as a result of activities in the Site regardless of whether or not there were covered in the HASP.

Name:_____ Representing:_____
Print

_____ Date:_____
Sign

Name:_____ Representing:_____
Print

_____ Date:_____
Sign

Name:_____ Representing:_____
Print

_____ Date:_____
Sign

Name:_____ Representing:_____
Print

_____ Date:_____
Sign

H2MGROUP

EMERGENCY TELEPHONE NUMBERS

HOSPITAL

Nassau County Medical Center
(516) 542-0123

POLICE DEPARTMENT
911

FIRE DEPARTMENT
931-0026 or 911

POISON CONTROL CENTER
542-2323

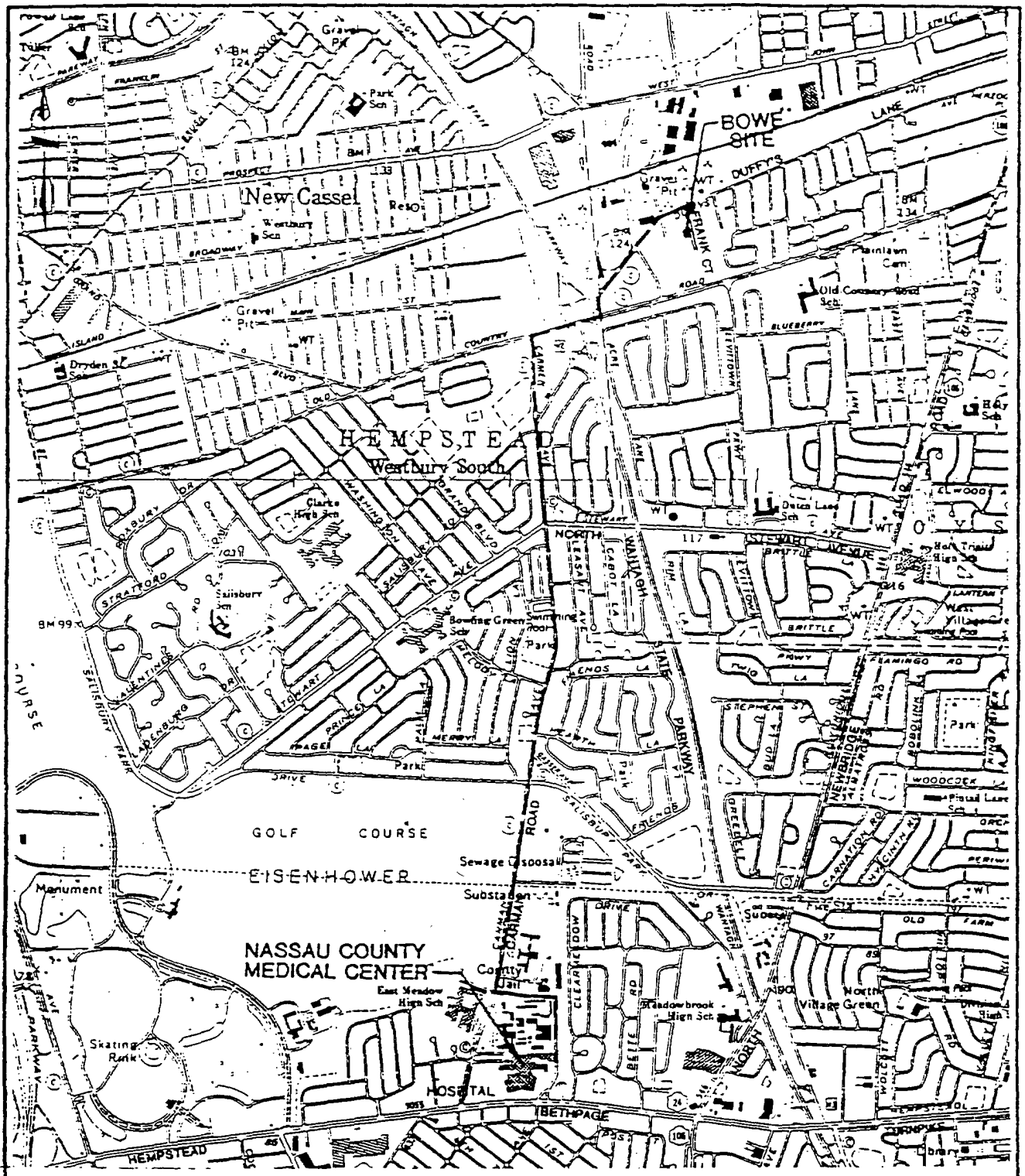
AMBULANCE
Call Local Police or Operator

H2M Group
(516) 756-8000

PROJECT MANAGER	Martin O. Klein, C.P.G. (Ext 480)
HEALTH & SAFETY OFFICER	Gary J. Miller, P.E. (Ext. 620)
SAMPLING OPERATION MANAGER	Michael N. Gentils (Ext. 412)

BÖWE SYSTEC, INC.
(516) 621-3374

CONTACT:	Richard Reilly



EMERGENCY ROUTE TO HOSPITAL

SCALE: 1" = 2000'

DECEMBER 12, 1991

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS

MELVILLE, N.Y. TOTOWA, N.J.

BOWE-91-02 DEC.12, 1991

H2MGROUP

APPENDIX C

COMMUNITY AIR MONITORING PLAN

Community Air Monitoring Plan

Real-time air monitoring for volatile compounds and particulate levels at the perimeter of the exclusion zone is necessary.

The plan must include the following:

- Volatile organic compounds must be monitored at the downwind perimeter of the exclusion zone daily at 2 hour intervals. If total organic vapor levels exceed 5 ppm above background, drilling/excavation activities must be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings must be recorded and be available for State (DEC & DOH) personnel to review.
- Particulates should be continuously monitored downwind of the exclusion zone with a portable particulate monitor that would have an alarm set at 150 $\mu g/m^3$. If downwind particulate levels, integrated over a period of 15 minutes, exceed 150 $\mu g/m^3$, than particulate levels upwind of the survey or work site would be measured. If the downwind particulate level is more than 100 $\mu g/m^3$ greater than the upwind particulate level, then drilling/excavation activities must be stopped and corrective action taken. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the Exclusion Zone, drilling/excavation activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, drilling/excavation activities can resume but more frequent intervals of monitoring, as directed by the Safety Officer, must be conducted. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the Exclusion Zone, drilling/excavation activities can resume provided:

- the organic vapor level 200 ft. downwind of the Exclusion Zone or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background, and
- more frequent intervals of monitoring, as directed by the Safety Officer, are conducted.

If the organic vapor level is above 25 ppm at the perimeter of the Exclusion Zone work activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the Survey Site or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the Exclusion Zone, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If either of the following criteria are exceeded in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be implemented:

- Organic vapor levels approaching 5 ppm above background for a period of more than 30 minutes.
- Organic vapor levels greater than 10 ppm above background for any time period.

Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

1. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation.
2. Frequent air monitoring will be conducted at 30 minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer.
3. All Emergency contacts will go into effect as appropriate.

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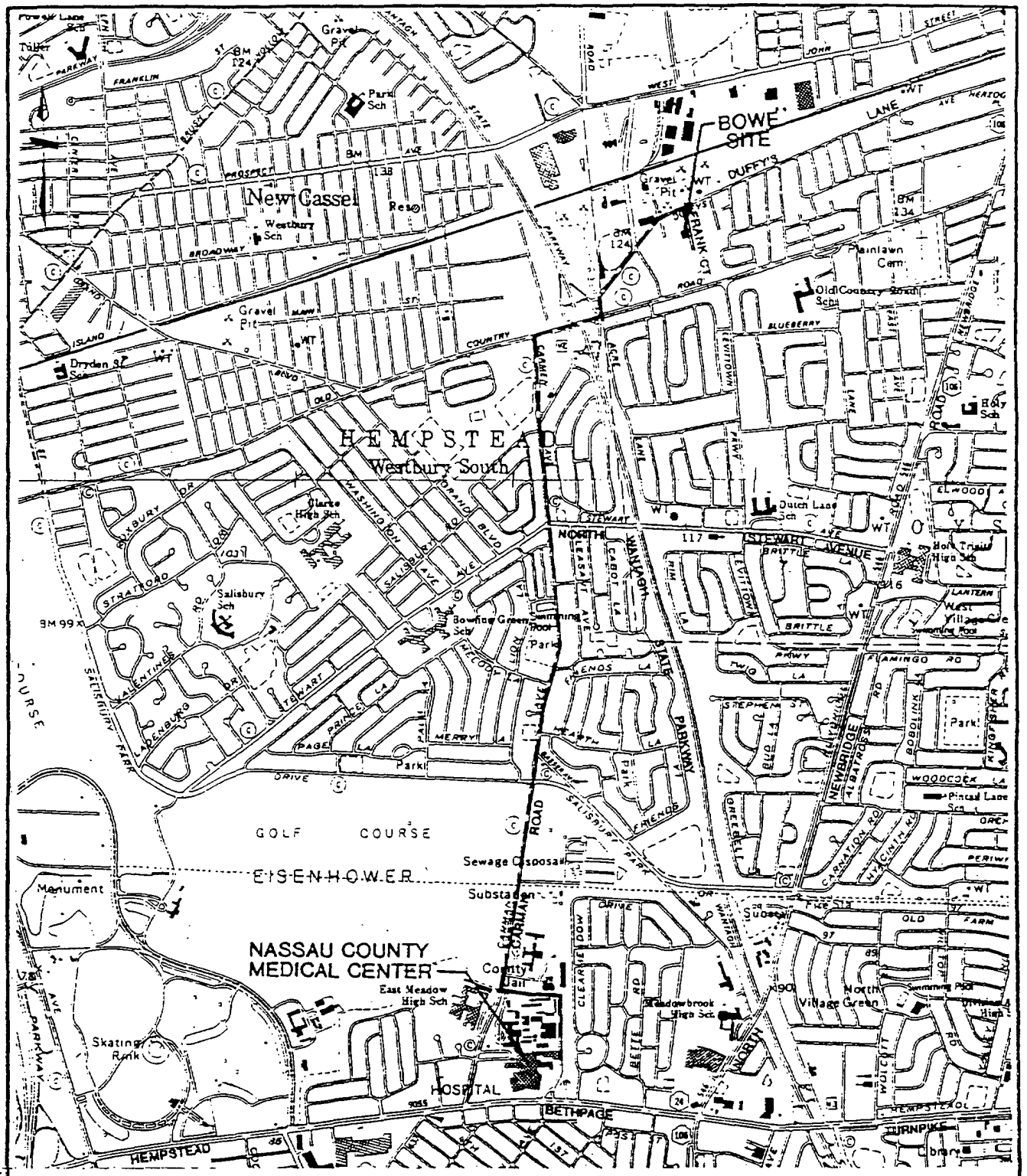

EMERGENCY ROUTE TO HOSPITAL

SCALE: 1" = 2000'

DECEMBER 12, 1991

H2M GROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS

MELVILLE, N.Y. TOTOWA, N.J.

BOWE-91-02 DEC.12, 1991

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CONSULTING ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS

MELVILLE, N.Y. TOTOWA, N.J.

REMEDIAL EXCAVATION
AND
SUBSURFACE INVESTIGATION
AIR TECHNIQUES, INC.
HICKSVILLE, NEW YORK

Remediation

ERM-Northeast
Environmental Resources Management

SSB 240025

ERM-Northeast

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NYSDEC REGION 1

REMEDIAL EXCAVATION AND SUBSURFACE INVESTIGATION AIR TECHNIQUES, INC. HICKSVILLE, NEW YORK

AUGUST 1987

PREPARED FOR:

AIR TECHNIQUES, INC.
HICKSVILLE, NEW YORK

PREPARED BY:

ERM-NORTHEAST, INC.
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ERM-Northeast

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1.0 INTRODUCTION

1.1 Background

During the construction of a building addition, Air Techniques, Inc. (ATI) of Hicksville, New York, encountered a cache of buried drums inside the foundation wall. (Air Techniques, Inc. is a tenant at the site which is owned by AT Realty Co.) Following notification of the Nassau County Department of Health (NCDH) and the New York State Department of Environmental Conservation (NYSDEC) on January 5, 1987, approximately 30 drums and surrounding soil were removed by ATI. Soil and drum samples collected by NCDH and NYSDEC showed tetrachloroethylene and arsenic to be present. At that time, several environmental concerns still existed at the site including, 1) the potential presence of additional buried drums; and 2) soil quality beneath the former buried drum location. ERM-Northeast was retained by ATI to conduct a subsurface investigation at the site to resolve these issues. This document presents the results of a geophysical survey, the subsequent excavations of drums and contaminated soil, and the post-excavation sampling of subsurface soil.

1.2 Chronology of Events

Sylvania Corporation originally developed the property in 1957. A storm water recharge basin was constructed east of the original building. In 1959, an addition was built on the east side of the original structure. Sylvania sold the property in 1972 to the Dewiant Co., from which Air Techniques, Inc. acquired the property in 1979. In 1986, ATI acquired a landlocked portion of property on their eastern boundary from Nassau County. In 1986, the company began construction of a 30,000 sq. ft. addition to the east side of their existing facility. Figure 1-1 (in rear pocket) shows the site property lines and the building structures.

The following is a chronology of events associated with the discovery of buried drums at the site during the 1986 construction operations. This summary is based on conversations with Harry Nagel and Frank Bader, of Air Techniques, Inc.; Robert Becherer of NYSDEC; Edward Epstein, Project Construction Manager; and letters and laboratory data from the NCDH and NYSDEC.

- December 28, 1986 - Construction personnel discovered buried drums while excavating through the paved parking lot for foundation construction. Air Techniques contacted NCDH who

subsequently notified NYSDEC. Mr. Allan Fitzgerald (NCDH) responded to the site and gave contractor permission to proceed because the barrels were found on the interior of the foundation line. Four drums were removed.

- Based on the fact that the Sylvania Corporation had previously manufactured uranium rods, NYSDEC checked the site for radiation with negative results.

- January 7, 1987 - 12 to 14 drums and contaminated soil were removed by a crane and placed in a lined dumpster. Samples from the drums and from the excavation's floor were collected by NCDH. The area of excavation measured approximately 12 square feet at the surface and 7 feet in depth.

- February 11, 1987 - Mr. L. Sama, NCDH notified Mr. A. Candela of NYSDEC via letter of the sampling results which revealed that tetrachloroethylene, arsenic, and low levels of PCBs were present in some of the drums. NCDH sampling results are presented in Appendix B.

- March 16, 1987 - NCDH supervised removal of 12 to 14 additional drums many of which were badly crushed,

fragmented, and empty. These drums were found approximately 5 to 6 feet from the original drums at a similar depth.

- March 17, 1987 - NYSDEC took two samples from the floor of the excavation which now measured approximately 20 square feet at the surface and 12 feet in depth.

- April 1, 1987 - In an effort to determine the origin of the drums, ATI asked Stauffer Chemical Company (whose name was discovered on one or more drums) to check their records for past shipments to Air Techniques' address dating back to 1957. A sample of the drum contents was also supplied to Stauffer.

- April 20, 1987 - Stauffer Chemical Company informed Air Techniques that the sample did not appear to be a Stauffer Chemical Company Product and records do not show any prior shipments. Stauffer's response is presented in Appendix B.

- June 11, 1987 - Air Techniques informs NYSDEC of intent to dispose of existing buried drums through Chemical Management, Corp.

- June 11, 1987 - Air Techniques retains ERM-Northeast, Inc.

- June 15, 1987 - ERM-Northeast, Inc. conducts a geophysical survey of the interior of the building addition, and the parking lot to the building's north (Figure 1-1). Two anomalous areas (titled "A" and "B") were revealed in the northwestern region of the addition.

- June 18, 1987 - ERM submits a work plan describing the proposed subsurface investigation to be conducted at the ATI site.

- June 25, 1987 - NYSDEC approved ERM's work plan for investigation at ATI.

- June 30, 1987 - Air Techniques excavates (using a backhoe) "Anomalous Area B", and begins excavation of "Anomalous Area A". Five drums containing waste were removed from "Area B". ERM performed a post-excavation magnetometer survey of "Area B", which revealed that the magnetic anomaly had been removed. ERM collects soil sample from the floor of the excavation for chemical analyses (submitted to EnviroTest Laboratories), and the excavation is subsequently backfilled. Soil samples were also collected, from test boring B-1, in the area where drums were previously excavated (during January and March, 1987) by ATI.

- July 6, 1987 - Air Techniques excavates remainder of "Anomalous Area A". In total, approximately 22 drums containing waste were removed from "Area A". ERM performs a magnetometer survey of "Area A" following drum removal but prior to back filling which reveals that the magnetic anomaly had been removed. The excavation was then quickly backfilled due to concern over potential collapse of the north building wall which was about six feet from the edge of the 12 foot deep hole.

- July 10, 1987 - ERM collects soil samples from four test borings in the vicinity of "Anomalous Area A" for chemical analyses (submitted to EnviroTest Laboratories).

- July 30, 1987 - Meeting is held at Air Techniques to discuss the chemical data obtained from soil sampling. Attendees at the meeting included: Frank Bader and Harry Nagel, of Air Techniques, Inc.; Robert Becherer and Alex Moskie of NYSDEC; Howard Schaefer, of NCDH; Edward Epstein, Project Construction Manager; and Craig Werle and Glenn Wygant of ERM-Northeast.

1.3 Objectives

During June, 1987, ERM-Northeast prepared a work plan for further investigation of the Air Techniques site in Hicksville, New York. This work plan was approved by NYSDEC on 25 June 1987, and its contents were based on the geophysical survey as well as the other background information listed above. The NYSDEC-approved work plan included the following objectives:

1. The excavation of the two magnetic anomalies to determine if additional drums are present on-site;

2. The collection and analysis of subsurface soil samples to evaluate soil quality beneath the former buried drum locations.

2.0 SUBSURFACE INVESTIGATION

2.1 Geophysical Studies

A magnetometer survey of the site was initially conducted to determine the presence of buried drums, additional to those previously excavated by ATI. Except for a portion of the excavated sump area, the entire interior area of the new building addition was surveyed. The magnetometer survey also included the parking lot north of the building addition.

A Model DM22 Differential Magnetometer manufactured by Dowty RFL Industries, Incorporated was used to conduct the magnetometer survey. This magnetometer is capable of measuring vertical magnetic fields ranging from +10 gammas to 100,000 gammas. In the northeastern United States, the earth's magnetic field intensity is approximately 53,000 gammas. Buried metal objects, such as drums, cause localized disturbances (increases) in this vertical magnetic field.

The geophysical survey indicated two anomalous areas existed within the new building area (Figure 1-1). "Anomalous Area A" adjoins the excavated drum area and was approximately 16 square feet in area. Readings varied above normal vertical magnetic-

field background (53,000 gammas) ranging from 60,000 to 62,000 gammas. A second anomaly, labeled "B", was found approximately 60 feet south and 25 feet east of the addition's northwest corner. "Anomalous area B" yielded a reading of 56,000 gammas. These readings were considered as moderately-strong to strong in magnitude, and indicative of large buried metallic objects such as drums. Based on these results, both areas were concluded to require additional investigation as specified in the work plan.

2.2 Drum/Soil Excavation

To investigate the two anomalous areas delineated during the geophysical survey, test pits were excavated over the entire area of each anomaly. NYSDEC and/or NCDH personnel were present during the excavation work. Drums and contaminated soil were encountered in both of the anomalous areas. Approximately 22 drums were removed from "Anomalous Area A", and five drums were removed from "Anomalous Area B". Most of these drums contained a clear fluid, but a few contained either a white viscous fluid (3 drums in "Area A", 6 drums in "Area B"), or an amber-colored fluid (two drums in "Area A").

The excavation continued laterally and vertically until drums and visibly contaminated soil were removed. The

approximate lateral limits of these excavations are shown in Figure 1-1. Excavation depths ranged between 10 and 15 feet. All excavated, contaminated material was initially placed on a plastic-liner inside of the building, and then was removed and stored in plastic-lined dumpsters, which were in turn encapsulated with plastic. Prior to backfilling the excavations with clean fill, magnetometer readings were obtained at the bottom of the excavations. In no instance were any anomalous (above background) readings obtained. Soil and drums placed in the dumpsters will be transported off site to a permitted, hazardous-waste disposal facility.

2.3 Test Borings and Soil Sampling

ERM performed five soil borings and one test-pit sample to evaluate the presence of contaminated soil underlying the regions where drums were excavated. The approximate locations of the borings and test-pit sample are shown on Figure 1-1, while the results of the chemical analyses are presented in Table 2-1. Boring B-1 was performed approximately six feet from the north building wall in the area where drums were initially removed by ATI prior to ERM's involvement. Borings B-2 through B-5 were performed within lateral boundaries of the excavation associated with "Anomalous Area A". The one test pit sample was collected

TABLE 2-1
CHEMICAL ANALYSES OF SOIL SAMPLES,
AIR TECHNIQUES, INC.
HICKSVILLE, NEW YORK

SAMPLE	B-1 15-17ft	B-1 15-17ft	B-1 25-27ft	B-1 25-27ft	B-1 35-37ft	B-1 35-37ft	B-2 15-17ft	B-2 25-27ft	B-3 15-17ft	B-3 25-27ft	B-3 35-37ft	B-4 15-17ft	B-4 25-27ft	B-5 15-17ft	B-5 25-27ft	TP-1 10ft	TP-1 10ft
SAMPLER	ERM-NE	NCDH	ERM-NE	NCDH	ERM-NE	NCDH	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	ERM-NE	NCDH
COLLECTION DATE	6/30/87	6/30/87	6/30/87	6/30/87	6/30/87	6/30/87	7/10/87	7/10/87	7/10/87	7/10/87	7/10/87	7/10/87	7/10/87	7/10/87	7/10/87	6/30/87	6/30/87
PERCENT SOLIDS	66	NA	84	NA	98	NA	94	94	85	96	96	97	96	96	94	93	NA
TOTAL PURGEABLE ORGANICS, in ppm (of 33 compounds)																	
Tetrachloroethylene	7800	1700	1.6	NR	0.036	NR	0.110	BDL	0.0046	BDL	BDL	BDL	BDL	BDL	BDL	0.86	NR
Trans-1,2-dichloroethylene	1.1	0.92	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	0.29	0.18	BDL	BDL	BDL	BDL	0.021	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-trichloroethane	BDL	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethylene	270	92	BDL	NR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Xylenes	0.41	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TOTAL RCRA METALS, in ppm (all 8 compounds listed)		NA		NA		NA											NA
Arsenic	BDL		BDL		BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Barium	16		12		6.4		1.1	7.7	6.7	6.1	6.3	6.2	11	8.4	9.3	9.0	
Cadmium	2.6		0.36		0.31		1.4	0.43	1.2	0.94	0.94	0.10	0.20	0.10	1.2	BDL	
Chromium	120		22		13		8.6	4.4	2.4	6.1	12	5.6	12	11	14	8.7	
Lead	99		29		15		32	23	34	39	52	29	34	24	40	17	
Mercury	0.21		0.10		0.10		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Selenium	BDL		BDL		BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Silver	7.9		1.2		0.92		0.32	0.32	0.35	0.52	0.31	0.31	0.42	0.31	0.42	4.4	
TOTAL PCBs, in ppm (of 7 compounds)		NA		NA		NA											NA
PCB-1254	15		15		0.16		1.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.77	

NOTES: 1) BDL denotes below detection limit of laboratory instrument.
2) NA denotes compound not analyzed for.
3) NR denotes no result due to technical reasons (NCDH, DIR).

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from the floor, approximately 10 feet below grade, of the completed excavation at "Anomalous Area B".

The borings were performed following the backfilling of the excavations. Two borings (B-1 and B-3) were completed to a depth of 37 feet, with samples collected for chemical analyses from three intervals: 15 to 17 ft., 25 to 27 ft., and 35 to 37 ft. Three borings (B-2, B-4, and B-5) were completed to a depth of 27 feet, with samples collected for chemical analyses from two intervals: 15 to 17 ft., and 25 to 27 ft. Boring locations and sampling depths were reviewed and approved by NYSDEC before work was started. NYSDEC personnel were on-site to observe the boring and sampling procedures.

As each boring was advanced, using 3-inch I.D. hollow-stem augers, soil samples were collected at five-foot intervals. The split-spoon sampler was cleaned (either steam cleaned, or scrubbed in an alconox solution and rinsed with deionized water) after each sample to prevent cross contamination. A visual inspection of all soil samples was conducted to identify any obvious signs of contamination. Additionally, all samples were screened in the field using an Organic Vapor Analyzer (Century Foxboro Model 128 Flame Ionization Detector). The OVA was also

used to evaluate ambient vapor levels and personnel health-and-safety requirements.

The surficial geologic strata in the vicinity of the Air Techniques site belongs to the glacial outwash deposits of the Harbor-Hill Drift. This surficial deposit is lithologically characterized by sandy gravels and gravelly sands (with post-depositional coatings of vadose silt and clay), as confirmed by the on-site borings performed by ERM-Northeast (Appendix A). A review of available hydrogeologic literature suggests that ground water beneath the Air Techniques site occurs at a depth of approximately 50 feet below the ground surface (Ku and Simmons, 1983; Koszalka, 1974; and Isbister, 1966). The ground water table was not encountered in any of the test borings performed by ERM (to a maximum depth of 37 feet).

Based on the previous samples collected at the site by NYSDEC and NCDH, the soil samples collected by ERM were analyzed for volatile organics (Method 601/602), total RCRA metals (arsenic, barium cadmium, chromium, lead, mercury, selenium, and silver), and PCB's (Method 608). Duplicate soil samples ("splits") were also collected by the NCDH, and analyzed for only volatile organics. Table 2-1 summarizes the results of these analyses by ERM and NCDH. All of the soil samples were stored on

ice in insulated coolers immediately after being collected. They were delivered by Federal Express on the day following collection to EnviroTest Laboratories, Inc. in Newburgh, New York, a NYSDEC-approved laboratory. Chain of custody procedures were used during sample storage, transport and delivery.

3.0 DISCUSSION OF RESULTS

The three soil samples obtained from boring B-1 displayed a marked gradient in the concentration of the parameters detected at the site. The sample obtained from the 15 to 17 foot interval contained elevated concentrations of several priority-pollutant compounds: 7,800 ppm of tetrachloroethylene; 1.1 ppm of 1,2-dichloroethylene; 0.29 ppm of 1,1,1-trichloroethylene; 270 ppm of trichloroethylene; 0.41 ppm of xylene; 120 ppm of chromium; 7.9 ppm of silver; and 15 ppm of PCB acrochlor-1254. However, at the 25 to 27 foot level, only tetrachloroethylene (1.6 ppm) and acrochlor-1254 (15 ppm) are present in elevated concentrations. The concentrations of these two compounds continued to decrease significantly at the 35 to 37 foot interval, where only tetrachloroethylene (36 ppb) and acrochlor-1254 (0.16 ppm) were detected.

Samples from boring B-1 were split with NCDH and analyzed for volatile organics. The results are also presented in Table 2-1. The NCDH results from the B-1 15 to 17 foot sample are similar to ERM's results, however, the reported concentrations are uniformly lower. Tetrachloroethylene, trans 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and trichloroethylene were detected by NCDH. Metals and PCB's

were not analyzed. The NCDH results from the B-1 25 to 27 foot and 35 to 37 foot samples were also similar to ERM's results with the exception of tetrachloroethylene which was not reported (NR in data table) due to technical reasons (original NCDH lab data sheets are contained in Appendix C).

The initial soil sample (15 to 17 feet) from boring B-2 contained low concentrations of priority-pollutant compounds: 110 ppb of tetrachloroethylene; 21 ppb of 1,1,1-trichloroethane; and 1.7 ppm of acrochlor-1254. These compounds were not present in the sample obtained from 25 to 27 feet. Neither of the two samples from boring B-2 contained elevated concentrations of metals.

Soil sample TP-1 collected from the base of the anomalous area "B" test pit found 0.86 ppm of tetrachloroethylene and 0.77 ppm of PCBs. Metals concentrations were consistent with natural background concentrations. The NCDH analysis of TP-1 for volatile organics found all compounds below detectable limits with the exception of tetrachloroethylene which was not reported due to technical reasons.

The seven soil samples collected from borings B-3, B-4 and B-5 contained virtually no detectable concentration of volatile

organics and PCBs. The levels of RCRA metals in these samples were all somewhat consistent, which suggests that these levels represent natural conditions (i.e., background). A more detailed discussion of background levels and standards is presented below.

NYSDEC currently has no parameter specific soil-cleanup guidelines to which the ATI soil results can be compared. Some guidance is available from soil-cleanup standards established by the New Jersey Department of Environmental Protection (NJDEP) as part of their Environmental Cleanup and Responsibility Act (ECRA). For the parameters that were analyzed for at ATI, the soil cleanup guideline concentrations are:

o	Total volatile organics	1 ppm
o	PCBs	1 to 5 ppm
o	Arsenic	20 ppm
o	Cadmium	3 ppm
o	Chromium	100 ppm
o	Lead	100 ppm
o	Mercury	1 ppm
o	Silver	5 ppm
o	Selenium	4 ppm

Metals are naturally occurring constituents in soils at concentrations that have been shown to vary up to three orders of magnitude. Presented in Table 3-1 are data from two recent studies) Parr, et. al 1983; and Ure and Berrow, 1983) that document the range of natural metals concentration in soil.

A comparison of the soil sample results to the ECRA standards and the natural metals concentrations shows the only significant soil contamination at the site is found at the B-1 location between 15 feet and 27 feet below grade. In this zone, volatile organics (tetrachloroethylene, trichloroethylene, trans 1,2-dichloroethylene) and PCBs were detected in excess of ECRA standards. Chromium and silver were detected marginally above ECRA standards and naturally occurring background concentrations in only the 15 to 17 foot sample. All other samples collected found parameter concentrations below ECRA guidelines and within the background range for metals.

The sample results from borings B-2 through B-5 in Anomalous Area A and from TP-1 at Anomalous Area B show that the excavation of drums and surrounding contaminated soils was largely successful. Most of the buried wastes at the ATI site were remediated via removal with off-site disposal. The boring B-1 area appears to be a hot spot where some leakage of drum contents

TABLE 3-1

NATURALLY APPEARING METAL CONCENTRATIONS IN SOIL

Element	Concentration Range, in ppm	Typical Medium, in ppm	Mean Ambient Background Concentration, Eastern U.S., in ppm
Arsenic	0.1 to 194 (C)	11 (C)	5.4 (B)
Barium	---	---	500 (B)
Cadmium	0.01 to 7 (A)	0.5 (A)	1 (B)
Chromium	5 to 3,000 (A)	100 (A)	36 (B)
Lead	<1 to 888 (C)	29 (C)	14 (B)
Mercury	0.01 to 4.6 (C)	0.098 (C)	0.096 (B)
Selenium	0.1 to 38 (A)	0.2 (A)	0.39 (B)
Silver	0.01 to 8 (C)	0.4 (C)	---

(A) Parr et al., 1983
(B) USGS, 1975
(C) Ure and Berrow, 1983

over time or inadvertent spillage during the preliminary excavation occurred. The quantity of liquids spilled from the drums appears to be limited however, because the sampling data clearly demonstrates that the contaminants were absorbed in the 12 foot zone immediately under the drums. Contaminant concentrations are shown to be negligible at 35 feet below grade, 20 feet below the base of the drum excavation.

The actual quantity of pure contaminants that remain in the soil surrounding boring B-1 from 15 to 27 feet is estimated to be approximately 27 gallons or less than 1/2 of one drum. This volume was calculated using the following procedure and assumptions:

- The vertical extent of contamination is 12 feet
- The areal extent of contamination includes the entire area originally excavated by ATI between January and March 1987 excluding that area that was not re-excavated by ERM. This area is conservatively estimated to be 6 feet by 12 feet.
- The volume of soil in this area is 864 cubic feet or 24.5 cubic meters.

- The average volatile organic contaminant concentration in the contaminated zone is 4,000 mg/kg. This is an average of sample B-1 (15 to 17 feet) and B-1 (25 feet to 27 feet).

- The density of wet coarse to medium grained sand is 2,000 kg/cubic meter (Handbook of Tables for Applied Engineering Science, Second Editions; 1973, p 636).

- 24.5 m^3 x 2,000 kg/m^3 = 49,000 kg of wet soil.

- Soil moisture retained in sandy soil = 15% by weight.

- Weight of dry soil in contaminated area = 49,000 kg x 85% = 41,650 kg dry soil.

- 41,650 kg dry soil x 4,000 mg/kg = 1.67×10^8 mg of volatile organics (VO's).

- 1.67×10^8 mg VO's = 167 kg VO's.

- Based on lab results, assume all VO's are tetrachloroethylene.

- Density of tetrachloroethylene = 1.62 gm/cm^3 = 1.62 kg/liter.

- 167 kg of VO's x $\frac{\text{liter}}{1.62\ \text{kg}}$ x $\frac{\text{gallon}}{3.785\ \text{liters}}$ = 27 gallons

The potential for future migration of contaminants from the 15 to 27 foot area deeper into the unsaturated zone or down to the water table appears to be negligible. This area is already covered by the building roof which prevents the infiltration of any precipitation. A six-inch thick concrete floor is scheduled to be built over this area that will further encapsulate this zone. Rain water from the roof is collected and piped to a remote dry well. As previously discussed, the estimated depth to the water table below the site is over 50 feet. The two soil samples from 35 to 37 feet had an average of 97% solids which indicates a large capacity to retain any fluids that could potentially migrate downward from the impacted zone. The low soil moisture content would reasonably be expected to continue to just above the capillary fringe immediately above the water table.

The B-1 boring was located approximately six feet from the northern wall of the building addition. Removal of soil from 15 feet to 27 feet below grade would require the use of a crane

because it is beyond the reach of a backhoe or hydraulic excavator. Excavation of these soils would, therefore, necessitate the dismantling of an extended section of the northern wall (i.e., 50 feet or more) and a section of the roof. Based on the very low risk to health or the environment posed by the remaining contaminants around boring B-1, this does not appear to be warranted.

4.0 CONCLUSIONS

The following conclusions can be drawn based on data collected during ERM's investigation at the ATI site:

1. Buried drums were discovered by ATI inside the footings of their building in late 1986. Initial drum and soil excavations resulted in the removal of approximately 25 to 30 drums and about 30 yards of soil.

2. In accordance with a NYSDEC-approved work plan, ERM conducted a magnetometer survey of the interior of the ATI building addition and the area north of the building. Two magnetic anomalies were discovered and targeted for further investigation.

3. Excavation of the smaller, separate "Anomalous Area B" resulted in the removal of 5 drums and soil. A post excavation magnetometer survey showed no anomalies present indicating all drums had been removed. A post excavation soil sample, TP-1, showed residual soil quality to be below relevant guidelines and natural background levels.

4. Excavation of Anomalous Area A (contiguous with the initial excavation area) resulted in the removal of 22 drums and approximately 50 to 60 yards of soil. The excavation covered an area about 25 feet by 25 feet to a depth of 12 feet. Magnetometer surveys conducted after the drums were removed but prior to backfilling showed no anomalies were present demonstrating that all drums had been removed.

5. Five soil borings were installed in the main excavation area (Anomaly A plus initial excavation) to evaluate residual soil quality. Four of the five borings found soils below the former drum locations (15 to 25 feet) to be either completely unimpacted or contain low concentrations of several parameters. These data suggest that the drum/soil removal project was largely successful in remediating subsurface contamination at ATI.

6. Boring B-1, located in the initial excavation area, found elevated concentrations of several volatile organics (tetrachloroethylene, trichloroethylene, trans 1,2-dichloroethylene) and PCB acrochlor-1254 between 15 and 27 feet. Samples from 35 to 37 feet found

contaminant concentrations to be negligible. This 12 foot thick zone appears to be an areally and vertically isolated hot spot. It is estimated that up to 27 gallons of chlorinated hydrocarbons may be absorbed as residual soil moisture within the contaminated zone. The opportunity for continued vertical migration of contaminants appears to be limited since this area is already covered by a roof and is scheduled to be capped by a six inch thick concrete slab. It is estimated to be unlikely that contaminants now or in the future will have any impact on ground water which is located over 50 feet below grade.

NOT SO!

7. Boring B-1 is located about six feet from the northern building wall. Removal of the contaminated soil from 15 to 27 feet would require dismantling of an extended section of existing building wall and sections of the roof. Based on data collected during this investigation, this does not appear to be warranted.

5.0 REFERENCES

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APPENDIX A

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location Hicksville, NY WO Number

Boring ~~Well~~ Number B-1 Total Depth 37 ft. Diameter ---

Surface Elevation --- Water Level Initial NE 24-hrs. ---

Screen Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 In. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 6/30/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4				
5				
6	0.0		S-1	Brown cm SAND and f GRAVEL, dry
7				
8				
9				
10				
11	0.0		S-2	No Recovery
12				
13				
14				
15				
16	0.0		S-3	Light Brown cmf SAND, wet
17				
18				
19				
20				
21	0.0		S-4	Light Brown f GRAVEL, some cm Sand, dry
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W.O. Number

~~Well~~ Boring Number B-1 Total Depth 37 ft. Diameter ---

Surface Elevation Water Level. Initial NE 24-hrs ---

Screen. Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company Soil Mechanics Drilling Method 3 in. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 6/30/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
26	0.0		S-5	SAME
27			↓	
28				
29				
30				
31	0.0		S-6	Light Brown cm SAND, some Gravel, dry
32			↓	
33				
34				
35				
36	0.0		S-7	SAME
37			↓	
				Bottom of Hole 37 ft.
				Notes: 1) ground water not encountered
				2) hole backfilled upon completion

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY WO Number

Boring Well Number B-2 Total Depth 27 ft Diameter ---

Surface Elevation Water Level Initial NE 24-hrs ---

Screen Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11	0.0		S-1	Brown cm SAND and f GRAVEL, dry
12				
13				
14				
15				
16	0.0		S-2	SAME
17				
18				
19				
20				
21	0.0		S-3	SAME
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W.O. Number

Boring ~~Well~~ Number B-2 Total Depth 27 ft. Diameter ---

Surface Elevation Water Level. Initial NE 24-hrs ---

Screen Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
26	0.0		S-4	SAME
27				
				Bottom of Hole 27 ft.
				Notes: 1) ground water not encountered.
				2) hole backfilled upon completion

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W.O. Number

~~Well~~ Boring Number B-3 Total Depth 37 ft Diameter ---

Surface Elevation Water Level Initial NE 24-hrs. ---

Screen Dia --- Length --- Slot Size ---

Casing. Dia. --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11	1.5		S-1	Brown cm SAND and f GRAVEL, dry
12				
13				
14				
15				
16	1.5		S-2	SAME
17				
18				
19				
20				
21	0.0		S-3	SAME
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY WO Number

Boring ~~Well~~ Number B-3 Total Depth 37 ft. Diameter ---

Surface Elevation Water Level Initial NE 24-hrs ---

Screen. Dia --- Length --- Slot Size ---

Casing. Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller CHARLES GAMBLE Log By GLENN WYGANT Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
26	0.0		S-4	SAME
27				
28				
29				
30				
31	0.0		S-5	Brown cmf SAND, some f GRAVEL, dry
32				
33				
34				
35				
36	0.0		S-6	Brown cm SAND and f GRAVEL, dry
37				
				Bottom of Hole 37 ft.
				NOTES: 1) ground water not encountered
				2) hole backfilled upon completion

SSB 240066

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY WO Number

~~Well~~ Boring Number B-4 Total Depth 37 ft. Diameter ---

Surface Elevation Water Level Initial NE 24-hrs ---

Screen. Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller CHARLES GAMBLE Log By GLENN WYGANT Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11	0.0		S-1	Brown cm SAND and f GRAVEL, dry
12				
13				
14				
15				
16	0.0		S-2	SAME
17				
18				
19				
20				
21	0.0		S-3	SAME
22				
23				
24				
25	0.0			

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W.O Number

Boring ~~Well~~ Number B-4 Total Depth 27 ft Diameter ---

Surface Elevation Water Level. Initial NE 24-hrs. ---

Screen Dia --- Length --- Slot Size ---

Casing. Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller CHARLES GAMBLE Log By GLENN WYGANT Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
26	0.0		S-4	SAME
27			↓	
				Bottom of Hole 27 ft.
				NOTES: 1) ground water not encountered
				2) hole backfillled upon completion

SSB 240068

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W O Number

~~Well~~ Boring Number B-5 Total Depth 27 ft Diameter ---

Surface Elevation Water Level. Initial N.E. 24-hrs ---

Screen. Dia --- Length --- Slot Size ---

Casing Dia. --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller Charles Gamble Log By Glenn Wygant Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11	0.0		S-1	Brown cm SAND and f GRAVEL, dry
12				
13				
14				
15				
16	0.0		S-2	SAME
17				
18				
19				
20				
21	0.0		S-3	SAME
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project AIR TECHNIQUES Owner AIR TECHNIQUES

Location HICKSVILLE, NY W.O. Number

Boring ~~Well~~ Number B-5 Total Depth 27 ft Diameter ---

Surface Elevation Water Level Initial NE 24-hrs. ---

Screen Dia --- Length --- Slot Size ---

Casing Dia --- Length --- Type ---

Drilling Company SOIL MECHANICS Drilling Method 3 in. I.D. HSA

Driller CHARLES GAMBLE Log By GLENN WYGANT Date Drilled 7/10/87

Sketch Map

Notes

Depth (Feet)	OVA	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
26	0.0		S-4	SAME
27				
				Bottom of Hole 27 ft.
				NOTES: 1) ground water not encountered
				2) hole backfilled upon completion

SSB 240070

APPENDIX B

SOIL SAMPLES COLLECTED BY NCDH (AS SPLIT SAMPLES WITH ERM) ON JUNE 30, 1987. SAMPLES INCLUDE: B-1, 15-17 FEET (NCDH LAB. NO. 870706); B-1, 25-27 FEET (NCDH LAB. NO. 870707); B-1, 35-37 FEET (NCDH LAB. NO. 870708); AND TP-1, 10 FEET (NCDH LAB. NO. 870709).

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☑ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870706 **D**

Field No. VN-122

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: A1R TLCHNIQUES INC

Address: 70 CANTIAGUE ROCKLAND

Town: HICKSVILLE

Collection Point: NORTH WALL OF WAREHOUSE

Well No.

	Month	Day	Year
Date Collected	06	30	87
Date Received	JUN 30 1987		
Date Reported	AUG 05 1987		
Collection Time	12:20 PM		
Collected By:	KW		

Sampler's Comments:

SOIL SAMPLE GRT INSIDE NORTH WALL OF WAREHOUSE 15-17FT DEPTH BORING #1
SAMPLE STORED ON ICE

Bureau

1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	(1)	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

(A)	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
(C)	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments.

DL 211 2/86

SSB 240073

USTODY RECORD
Laboratories and Research
ounty Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870706

Field No. VN-122

e Information (Please Print)

Collection Date 06-30-87

emises Air Techniques Inc.

dress 70 Cantiague Rock Rd

Collection Time 12:20 PM

wn Hicksville

No. of Containers 1

Collection Point Location 6 ft FROM NORTH WALL OF WALLHOUSE INSIDE BLDG

Type of Containers glass

Method of Preservation

Sampler's Comments 15-17 ft DEPTH BORING #1 SOIL SAMPLE SAMPLE ON ICE

Collection Procedure

Method of Transportation to Laboratory

NTAINER DISTRIBUTION

Clean sampling containers designated by field number VN-122 have been issued for collection of the sample identified on this form.

Relinquished by:		Received by:	
Printed Name MARK K SOLAN	Date 6/30/87	Printed Name Kurt Welch	Date 06-30-87
Signature X [signature]	Time 10:30 AM	Signature X Kurt Welch	Time 10:34 AM

Purpose of Transfer SAMPLE COLLECTION

CUSTODY TRANSFER 1 Relinquished by:		Received by:	
Printed Name Kurt Welch	Date 06-30-87	Printed Name MARK K SOLAN	Date 6/30/87
Signature X Kurt Welch	Time 2:54 PM	Signature X [signature]	Time 2:54 PM

Purpose of Transfer Analysis of sample

CUSTODY TRANSFER 2 Relinquished by:		Received by:	
Printed Name	Date	Printed Name	Date
Signature X	Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 3 Relinquished by:		Received by:	
Printed Name	Date	Printed Name	Date
Signature X	Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 4 Relinquished by:		Received by:	
Printed Name	Date	Printed Name	Date
Signature X	Time	Signature X	Time

Purpose of Transfer

Comments:

219 7/84

SSB 240074

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Num er: 870706
Source: AIR TECHNIQUES - 70 CANTIAGUE ROCK RD., HICKSVILLE
Matrix: SOIL
Site: BORING# 1 - NORTH WALL: 15-17FT.
Date Sampl d: 06/30/87
Date of Re ort: 08/05/87

VOLATILE H LOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHL ROFLUOROMETHANE	25	------	< 25
METHYL NE CHLORIDE			
1,1-DI HLOROETHYLENE			
1,1,2- PICHLOROTRIFLUOROETHANE	125	------	< 125
c & t- ,2-DICHLOROETHYLENE	100	------	920
1,1-DI HLOROETHANE	150	------	< 150
CHLORO ORM	25	------	< 25
1,1,1- RICHLOROETHANE	25	------	180
CARBON TETRACHLORIDE	25	------	< 25
TRICHL ROETHYLENE	25	------	92000
BROMOD CHLOROMETHANE	25	------	< 25
c-1,3- ICHLOROPROPENE			
DIBROM CHLOROMETHANE	25	------	< 25
1,1,2- RICHLOROETHANE	25	------	410
1,2-DI ROMOETHANE	NA	------	NA
TETRAC LOROETHYLENE	25	------	1700000
BROMOF RM	250	------	< 250

VOLATILE A OMATICS	MRC (ng/g)		RESULT (ng/g)
BENZEN	75	------	< 75
TOLUEN	100	------	< 100
CHLORO ENZENE	1000	------	< 1000
ETHYLB NZENE	1250	------	< 1250
XYLENE (o,m,p)	1750	------	< 1750
DICHLO OBENZENE (o,m,p)	500	------	< 500

==========

MRC - MINI UM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO R SULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR nl/l WATER - ug/l SOIL - ng/g

DETECTED BY GC/MS

C-$CH_2CCl_2CH_2Cl$
CH_3CCl_3
CH_2ClCCl_3
$CH_3CH_2CHCl_2$
CH_3CCl_3

SSB 240075

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870707

Field No. VV-123

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises	AIR TECHNIQUES INC
Address	70 CANTIAGUE ROCK Rd
Town	HICKSVILLE
Collection Point	NORTH SIDE OF BLDG WALL
Well No.	

Sampler's Comments:
SOIL SAMPLE 6 ft INSIDE NORTH WALL OF WAREHOUSE 25-27 ft DEPTH
BORING #1
SAMPLE STORED ON ICE

	Month	Day	Year
Date Collected	06	30	87
Date Received	JUN	30	1987
Date Reported			8
Collection Time	12:50 PM		
Collected By:	KW		

Bureau
1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
	Community Well	6	Surface Water	1	Soil
	Non-Community Well	7	Waste Water	2	Sludge
	Private Well	8	Industrial Effluent	3	Waste Solvent
	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

	Purgeable halogenated hydrocarbons
	Purgeable halogenated hydrocarbons - gases
	Purgeable nonhalogenated hydrocarbons
	Other (specify)

Examiner's Comments:

DL 211 2/86

SSB 240076

USTODY RECORD
t Laboratories and Research
County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870707

Field No. VN-123

rce Information (Please Print)

Collection Date 06/30/87

emises Air Techniques Inc.

ddress 70 Cantiague Rock Rd

Collection Time 12:50 PM

wn Hicksville

No. of Containers 1

Collection Point Location 6 FT FROM NORTH WALL

Type of Containers glass

WAREHOUSE INSIDE BLDG

Method of Preservation

Sampler's Comments
SOIL SAMPLE TAKEN AT 25-27 FT DEPTH
SAMPLE ON ICE (Boring #1)

Collection Procedure

Method of Transportation to Laboratory

ONTAINER DISTRIBUTION

Clean sampling containers designated by field number VN-123 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	MARK K SOLAN	Date 6/30/87	Printed Name Kurt Welch	Date 06-30-8
Signature X	[signature]	Time 11:30 A	Signature X Kurt Welch	Time 10:34 A
Purpose of Transfer	SAMPLE COLLECTION			

USTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Kurt Welch	Date 06-30-87	Printed Name MARK K SOLAN	Date 6/30/8
Signature X	Kurt Welch	Time 2:55 PM	Signature X [signature]	Time 2:55 pm
Purpose of Transfer	Analysis of sample			

USTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

USTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

USTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

Comments:

L 219 7/84

SSB 240077

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870707
Source: AIR TECHNIQUES INC. - 70 CANTIAGUE ROCK RD., HICKSVIL
Matrix: SOIL
Site: 6' INSIDE NORTH WALL - 25-27FT
Date Sampled: 06/30/87
Date of Report: 07/29/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	25	------ <	25
METHYLENE CHLORIDE			
1,1-DICHLOROETHYLENE			
1,1,2-TRICHLOROTRIFLUOROETHANE	125	------ <	125
c & t-1,2-DICHLOROETHYLENE	100	------ <	100
1,1-DICHLOROETHANE	150	------ <	150
CHLOROFORM	25	------ <	25
1,1,1-TRICHLOROETHANE	25	------ <	25
CARBON TETRACHLORIDE	25	------ <	25
TRICHLOROETHYLENE	25	------	NR
BROMODICHLOROMETHANE	25	------ <	25
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	25	------ <	25
1,1,2-TRICHLOROETHANE	25	------ <	25
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	25	------	NP
BROMOFORM	25	------	NP

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	------ <	75
TOLUENE	100	------ <	100
CHLOROBENZENE	100	------ <	100
ETHYLBENZENE	125	------ <	125
XYLENE (o,m,p)	175	------ <	175
DICHLOROBENZENE (o,m,p)	500	------ <	500

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NP - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870708

D

Field No. VN-124

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: AIR TECHNIQUES INC

Address: 70 CANTITAGUE ROAD

Town: HICKSVILLE

Collection Point: NORTH SIDE OF BLDG WALL

Well No.:

	Month	Day	Year
Date Collected	06	30	87
Date Received	JUN	30	1987
Date Reported	JUL	09	1987
Collection Time	1:15 PM		
Collected By:	KW		

Sampler's Comments:
SOIL SAMPLE 6 ft inside NORTH WALL OF WAREHOUSE 35-37 FT DEPTH BORING #1
SAMPLE stored on ICE

Bureau
1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

DL 211 2/do

SSB 240079

USTODY RECORD
of Laboratories and Research
County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☐ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870708

Field No. VN-124

urce Information (Please Print)

Premises: Air Techniques Inc.

dress: 70 Cantiague Rock Rd.

wn: Hicksville

Collection Point Location: 6 ft FROM NORTH WALL OF WAREHOUSE INSIDE BLDG

Sampler's Comments: SOIL SAMPLE 35-37 ft DEPTH BORING #1 SAMPLE ON ICE

Collection Date: 06-30-87

Collection Time: 1:15 PM

No. of Containers: 1

Type of Containers: glass

Method of Preservation:

Collection Procedure:

Method of Transportation to Laboratory:

NTAINER DISTRIBUTION — Clean sampling containers designated by field number VN-124 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	MARK K SOLAN	Date 6/30/87	Printed Name Kurt Welch	Date 06-30-87
Signature X	Mark K Solan	Time 10:30 AM	Signature X Kurt Welch	Time 10:35 AM

Purpose of Transfer: SAMPLE COLLECTION

STODY TRANSFER 1

	Relinquished by:		Received by:	
Printed Name	Kurt welch	Date 06-30-87	Printed Name MARK K SOLAN	Date 6/30/87
Signature X	Kurt Welch	Time 2:55 PM	Signature X Mark K Solan	Time 2:55 pm

Purpose of Transfer: Analysis of sample

TODY TRANSFER 2

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

TODY TRANSFER 3

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

USTODY TRANSFER 4

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

mments:

219 7/84

SSB 240080

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870708
Source: AIR TECHNIQUES INC - 70 CANTIAGUE ROCK RD., HICKSVILLE
Matrix: SOIL
Site: BORING#1-6FT INSIDE NORTH WALL 35-37FT
Date Sampled: 06/30/87
Date of Report: 07/08/87

replaced by Next page GTW

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	25	<	25
METHYLENE CHLORIDE			
1,1-DICHLOROETHYLENE			
1,1,2-TRICHLOROTRIFLUOROETHANE	125	<	125
c & t-1,2-DICHLOROETHYLENE	225	<	225
1,1-DICHLOROETHANE	125	<	125
CHLOROFORM	25	<	25
1,1,1-TRICHLOROETHANE	25	<	25
CARBON TETRACHLORIDE	25	<	25
TRICHLOROETHYLENE	25	<	25
BROMODICHLOROMETHANE	25	<	25
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	50	<	50
1,1,2-TRICHLOROETHANE	25	<	25
1,2-DIBROMOETHANE	NA		NA
TETRACHLOROETHYLENE	25		470
BROMOFORM	50	<	50

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	<	75
TOLUENE	75	<	75
CHLOROBENZENE	75	<	75
ETHYLBENZENE	175	<	175
XYLENE (o,m,p)	250	<	250
DICHLOROBENZENE (o,m,p)	500	<	500

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

DETECTED BY GC/MS

CCl4 CCl2

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870708
Source: AIR TECHNIQUES INC. - 70 CANTIAGUE ROCK RD., HICKSVILLE
Matrix: SOIL
Site: 6' INSIDE NORTH WALL - 35-37FT
Date Sampled: 06/30/87
Date of Report: 07/29/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	25	------ <	25
METHYLENE CHLORIDE			
1,1-DICHLOROETHYLENE			
1,1,2-TRICHLOROTRIFLUOROETHANE	125	------ <	125
c & t-1,2-DICHLOROETHYLENE	100	------ <	100
1,1-DICHLOROETHANE	150	------ <	150
CHLOROFORM	25	------ <	25
1,1,1-TRICHLOROETHANE	25	------ <	25
CARBON TETRACHLORIDE	25	------ <	25
TRICHLOROETHYLENE	25	------ <	25
BROMODICHLOROMETHANE	25	------ <	25
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	25	------ <	25
1,1,2-TRICHLOROETHANE	25	------ <	25
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	25	------	NR
BROMOFORM	25	------ <	25

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	------ <	75
TOLUENE	100	------ <	100
CHLOROBENZENE	100	------ <	100
ETHYLBENZENE	125	------ <	125
XYLENE (o,m,p)	175	------ <	175
DICHLOROBENZENE (o,m,p)	500	------ <	500

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

REPLACES PREVIOUS REPORT

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870709

D

Field No. VN-125

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: AIR TECHNIQUES INC

Address: 70 CANTIAGUE LOCK Rd

Town: HICKSVILLE

Collection Point: WEST SIDE OF BLDG WALL

Well No.

	Month	Day	Year
Date Collected	06	30	87
Date Received	JUN 30 1987		
Date Reported			8
Collection Time	2:00 PM		
Collected By:	KW		

Sampler's Comments:

SOIL SAMPLE 32 FT FROM WEST WALL OF WAREHOUSE INSIDE BLDG 10 FT DEPTH. EXCAVATED PIT SAMPLE STORED ON ICE

Bureau

1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	(1)	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

(A)	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
(C)	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

DL 211 2/86

SSB 240083

CUSTODY RECORD
of Laboratories and Research
u County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☐ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870709

Field No. VN-125

urce Information (Please Print)

Premises: Air. Techniques

Address: 70 Cantiague Rock Rd

Town: Hicksville

Collection Point Location: 30 ft FROM WEST WALL OF WAREHOUSE INSIDE BLDG.

Sampler's Comments: SOIL SAMPLE 10 ft DEPTH EXCAVATED PIT SAMPLE STORED ON ICE.

Collection Date: 06/30/87

Collection Time: 2:00 PM

No. of Containers: 1

Type of Containers: GLASS

Method of Preservation:

Collection Procedure:

Method of Transportation to Laboratory:

NTAINER DISTRIBUTION — Clean sampling containers designated by field number VN-125 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	MARK K SOLAN	Date 6/30/87	Printed Name Kurt Welch	Date 06-30-87
Signature X	[signature]	Time 11:30 AM	Signature X Kurt Welch	Time 10:35 AM

Purpose of Transfer: SAMPLE COLLECTION

CUSTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Kurt Welch	Date 06-30-87	Printed Name MARK K SOLAN	Date 6/30/87
Signature X	Kurt Welch	Time 2:56 PM	Signature X [signature]	Time 2:56

Purpose of Transfer: Analysis of sample

CUSTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

Comments:

L 219 7/84

SSB 240084

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870709
Source: AIR TECHNIQUES INC. - 70 CANTIAGUE ROCK RD., HICKSVILLE
Matrix: SOIL
Site: 32' INSIDE WEST WALL - 10FT
Date Sampled: 06/30/87
Date of Report: 07/29/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	25		< 25
METHYLENE CHLORIDE			
1,1-DICHLOROETHYLENE			
1,1,2-TRICHLOROTRIFLUOROETHANE	125		< 125
c & t-1,2-DICHLOROETHYLENE	100		< 100
1,1-DICHLOROETHANE	150		< 150
CHLOROFORM	25		< 25
1,1,1-TRICHLOROETHANE	25		< 25
CARBON TETRACHLORIDE	25		< 25
TRICHLOROETHYLENE	25		NR
BROMODICHLOROMETHANE	25		< 25
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	25		< 25
1,1,2-TRICHLOROETHANE	25		< 25
1,2-DIBROMOETHANE	NA		NA
TETRACHLOROETHYLENE	25		NR
BROMOFORM	25		< 25

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75		< 75
TOLUENE	100		< 100
CHLOROBENZENE	100		< 100
ETHYLBENZENE	125		< 125
XYLENE (o,m,p)	175		< 175
DICHLOROBENZENE (o,m,p)	500		< 500

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

ERM-Northeast

A SAMPLE OF DRUM CONTENTS COLLECTED ON APRIL 1, 1987 AND ANALYZED BY STAUFFER CHEMICAL COMPANY

-c R.L. Hagel

Stauffer Chemical Company

April 20, 1987

Mr. Frank Bader
Executive Vice President
Air Techniques, Inc.
70 Cantiague Rock Road
P. O. Box 870
Hicksville, New York 11802

Dear Mr. Bader:

Confirming our telephone conversation on April 10, I am attaching herewith a copy of the analytical report from our Eastern Research Center describing the composition of residues found in drums recently excavated at your facilities in Hicksville, New York. As I indicated on the phone, the bulk of the material appears to be a mixture of silica, aluminum hydroxide and water with trace levels of perchloroethylene. Some iron was also present, presumably from corrosion inside the drum.

These materials do not appear to constitute any product sold by Stauffer Chemical Company. In addition, a check of our sales records have not been able to turn up any shipments to your address. It could well be that these drums were reclaimed and/or reused by a third party after their original contents had been emptied.

I hope the information which we provided is of help.

Sincerely,

STAUFFER CHEMICAL COMPANY

J. D. Sheehan

J. D. Sheehan, Director
Environmental Control Dept.

JDS2/rcg

Stauffer CHEMICAL

INTER-OFFICE CORRESPONDENCE

ORIGINATING OFFICE Dobbs Ferry

Westport

FROM P. E. Kaufmann

DATE 4/15/87

ATTENTION J. Sheehan

SUBJECT Air Products - Barrels Sample Identification

COPY TO S. Adler
V. Brice
H. Caspers
D. McGrade
T. Marolewski
D. Marr
Central File

PROJ: Environmental Control Support - 559704

RRA#: 86026

KWDS: Air Products, Hicksville, EPA, Aluminum Trihydrate, Aluminum Hydroxide

A sample labelled Air Products, Hicksville, Long Island (4/1/87), was received for analysis at the Eastern Research Center on 4/2/87. Analysis indicated that the sample contained approximately 50% aluminum hydroxide ($Al(OH)_3$), 45% water containing carbonate, 1 - 5% silicon dioxide (SiO_2) and 10 - 100 ppm of perchloroethylene. A 50:50 slurry of the sample with water had a pH of 13.2. In addition, the following elements were determined to be present at trace concentration levels (less than 1%) in this sample: iron, copper, manganese, potassium, chloride, calcium, zirconium, zinc and uranium (less than 0.05%). When reviewing this data, one should note that the sample was not homogenous and, therefore, the concentrations of the materials present may vary in the sample source.

Analysis for inorganic compound identification was performed by X-ray fluorescence (XRF-elemental data) and X-ray diffraction (XRD-crystalline compound identification). The liquid portion of the sample was characterized using infrared spectroscopy. Mass spectrometry was used to determine the presence and identity of organic compounds. Headspace gas chromatography/mass spectrometry was used for volatile organic compound identification. No non-volatile organic compounds were detected (limit of detection = 100 ppm) using direct probe mass spectrometry.

Paula E. Kaufmann

P. E. Kaufmann

PEK/rg

GAS #70381, 70399

Work done by: F. Cambria
M. Connelly
P. Kaufmann
E. Skelly

RECEIVED
APR 20 1987
J.D. SHEEHAN

SAFEGUARD COMPANY INFORMATION

SSB 240088

SOIL SAMPLES COLLECTED BY NYSDEC ON MARCH 17, 1987. SAMPLES INCLUDE: EXCAVATION BOTTOM AT 10-12 FEET (NUS SAMPLE I.D. NO. R186-010-01) AND EXCAVATION BOTTOM AT 5-6 FEET (NUS SAMPLE I.D. NO. R186-010-02).

NUS CORPORATION

Laboratory Services Group
5350 Campbells Run Road
Pittsburgh, PA 15205

REMIT TO:
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275
412-788-1080

LAB ANALYSIS REPORT

CLIENT NAME: N.Y.DEPT.OF ENVIRONMENTAL CONSERVATION
ADDRESS: BLDG.40-RM 133,UNIV.CAMPUS
STONY BROOK, NY 11794
ATTENTION: MR. ALEX MOSKIE

REPORT DATE: 04/13/87

NUS CLIENT NO: 040107
NUS SAMPLE NO: 17031391
VENDOR NO: 02315310
WORK ORDER NO: 55830
DATE RECEIVED: 03/18/87

SAMPLE IDENTIFICATION: R186-010-01 03/17

TEST	DETERMINATION	RESULTS	UNITS
0D06	HSL - Semi-volatile analysis		
0E26	HSL - Soil BN/A Extraction		
0E27	HSL-Soil Pest/PCB Extraction		
0F19	HSL-Volatile Organic Acid-Soil		
0H96	HSL - Pesticides/PCB		
S073	CLP - Cyanide	1	mg/kg
S121	CLP-% Moisture	11.5	%
S149	pH for HSL Organics	8.5	
S575	CLP - Tin (Sn)	8.7UN	mg/kg
s402	Inorganics(Task 1) - Solid		
S550	CLP - Aluminum (Al)	9450*	mg/kg
S556	CLP - Barium (Ba)	43	mg/kg
S558	CLP - Beryllium (Be)	1.1U	mg/kg
S562	CLP - Calcium (Ca)	4500*	mg/kg
S564	CLP - Chromium (Cr)	13	mg/kg
S566	CLP - Cobalt (Co)	8.7U	mg/kg
S568	CLP - Copper (Cu)	20	mg/kg
S570	CLP - Iron (Fe)	12300*	mg/kg
S574	CLP - Magnesium (Mg)	3650*	mg/kg
S576	CLP - Manganese (Mn)	140	mg/kg
S580	CLP - Nickel (Ni)	194N	mg/kg
S582	CLP - Potassium (K)	[3213	mg/kg
S586	CLP - Silver (Ag)	2.2U	mg/kg
S588	CLP - Sodium (Na)	452J	mg/kg
S594	CLP - Zinc (Zn)	565	mg/kg
S953	CLP - Acid Digestion(Solids/A)		
s407	Inorganics(Task 2) Solids		
S552	CLP - Antimony (Sb)	13U	mg/kg
S554	CLP - Arsenic (As)	4.2	mg/kg
S560	CLP - Cadmium (Cd)	1.1U	mg/kg
S572	CLP - Lead (Pb)	7.7	mg/kg
S578	CLP - Mercury (Hg)	0.1U	mg/kg

NUS CORPORATION

Laboratory Services Group
5350 Campbells Run Road
Pittsburgh, PA 15205
412-788-1080

REMIT TO:
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275

LAB ANALYSIS REPORT

CLIENT NAME: N.Y.DEPT.OF ENVIRONMENTAL CONSERVATION
ADDRESS: BLDG.40-RM 133,UNIV.CAMPUS
STONY BROOK, NY 11794
ATTENTION: MR. ALEX MOSKIE

REPORT DATE: 04/13/87

NUS CLIENT NO: 040107
NUS SAMPLE NO: 17031301
VENDOR NO: 02315310
WORK ORDER NO: 55030
DATE RECEIVED: 03/18/87

SAMPLE IDENTIFICATION: R186-010-01 03/17

TEST	DETERMINATION	RESULTS	UNITS
S584	CLP - Selenium (Se)	1.1U	mg/kg
S590	CLP - Thallium (Tl)	2.2U	mg/kg
S592	CLP - Vanadium (V)	15M	mg/kg
S954	CLP - Acid Digestion(Solid/P)		

COMMENTS:

NUS CORPORATION

Laboratory Services Group
5350 Campbells Run Road
Pittsburgh, PA 15205
412-788-1080

REMIT TO:
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275

LAB ANALYSIS REPORT

CLIENT NAME: N.Y.DEPT.OF ENVIRONMENTAL CONSERVATION
ADDRESS: BLDG.40-RM 133,UNIV.CAMPUS
STONY BROOK, NY 11794

ATTENTION: MR. ALEX MOSKIE

REPORT DATE: 04/13/87

NUS CLIENT NO: 040107
NUS SAMPLE NO: 17031302
VENDOR NO: 02315310
WORK ORDER NO: 55830
DATE RECEIVED: 03/18/87

SAMPLE IDENTIFICATION: R186-010-02

03/17

TEST	DETERMINATION	RESULTS	UNITS
3B06	HSL - Semi-volatile analysis		
0E26	HSL - Soil BN/A Extraction		
0E27	HSL-Soil Pest/PCB Extraction		
0F19	HSL-Volatile Organic Acid-Soil		
0N96	HSL - Pesticides/PCB		
S073	CLP - Cyanide	< 1	mg/kg
S121	CLP-% Moisture	12.3	%
S149	pH for HSL Organics	7.5	
S595	CLP - Tin (Sn)	8.7UN	mg/kg
S402	Inorganics(Task 1) - Solid		
S550	CLP - Aluminum (Al)	7080*	mg/kg
S556	CLP - Barium (Ba)	130	mg/kg
S558	CLP - Beryllium (Be)	1.1U	mg/kg
S562	CLP - Calcium (Ca)	21300*	mg/kg
S564	CLP - Chromium (Cr)	15	mg/kg
S566	CLP - Cobalt (Co)	8.7U	mg/kg
S568	CLP - Copper (Cu)	24	mg/kg
S570	CLP - Iron (Fe)	12700*	mg/kg
S574	CLP - Magnesium (Mg)	12000*	mg/kg
S576	CLP - Manganese (Mn)	128	mg/kg
S580	CLP - Nickel (Ni)	37N	mg/kg
S582	CLP - Potassium (K)	[313]	mg/kg
S586	CLP - Silver (Ag)	4.7	mg/kg
S588	CLP - Sodium (Na)	652U	mg/kg
S594	CLP - Zinc (Zn)	76	mg/kg
S953	CLP - Acid Digestion(Solids/A)		mg/kg
S407	Inorganics(Task 2) Solids		
S552	CLP - Antimony (Sb)	13U	mg/kg
S554	CLP - Arsenic (As)	4.7	mg/kg
S560	CLP - Cadmium (Cd)	1.1U	mg/kg
S572	CLP - Lead (Pb)	44	mg/kg
S578	CLP - Mercury (Hg)	0.1U	mg/kg

NUS CORPORATION

Laboratory Services Group
5350 Campbells Run Road
Pittsburgh, PA 15205
412-788-1080

REMIT TO:
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275

LAB ANALYSIS REPORT

CLIENT NAME: N.Y.DEPT.OF ENVIRONMENTAL CONSERVATION
ADDRESS: BLDG.40-RM 133,UNIV.CAMPUS
STONY BROOK, NY 11794

REPORT DATE: 04/13/87

ATTENTION: MR. ALEX MOSKIE

NUS CLIENT NO: 040107
NUS SAMPLE NO: 17031302
VENDOR NO: 02315310
WORK ORDER NO: 55830
DATE RECEIVED: 03/18/87

SAMPLE IDENTIFICATION: R186-010-02 03/17

TEST	DETERMINATION	RESULTS	UNITS
S594	CLP - Selenium (Se)	1.1U	ug/kg
S590	CLP - Thallium (Tl)	2.2U	ug/kg
S592	CLP - Vanadium (V)	20H	ug/kg
S954	CLP - Acid Digestion(Solid/P)		

COMMENTS:

Prepared and Approved by: MM.

PAGE NO:

Laboratory Name: NUS CORPORATION
Case No. NYSDEC

Sample Number
R186-010-01

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low
Date Extracted/Prepared: 03/20/87
Date Analyzed: 03/24/87
Conc/Dil Factor: 4.0
Percent Moisture (Decanted): 16

GPC Cleanup: NO
Separatory Funnel Extraction: NO
Continuous Liquid-Liquid Extraction: NO

CAS Number		ug/kg
108-95-2	Phenol	1452 u
111-44-4	bis(2-Chloroethyl)Ether	1452 u
95-57-8	2-Chlorophenol	1452 u
541-73-1	1,3-Dichlorobenzene	1452 u
106-46-7	1,4-Dichlorobenzene	1452 u
100-51-6	Benzyl Alcohol	1452 u
95-50-1	1,2-Dichlorobenzene	1452 u
95-48-7	2-Methylphenol	1452 u
39638-32-9	bis(2-chloroisopropyl)Ether	1452 u
106-44-5	4-Methylphenol	1452 u
621-64-7	N-Nitroso-Di-n-Propylamine	1452 u
67-72-1	Hexachloroethane	1452 u
98-95-3	Nitrobenzene	1452 u
78-59-1	Isophorone	1452 u
88-75-5	2-Nitrophenol	1452 u
105-67-9	2,4-Dimethylphenol	1452 u
65-85-0	Benzoic Acid	7040 u
111-91-1	bis(2-Chloroethoxy)Methane	1452 u
120-83-2	2,4-Dichlorophenol	1452 u
120-82-1	1,2,4-Trichlorobenzene	1452 u
91-20-3	Naphthalene	1452 u
106-47-8	4-Chloroaniline	1452 u
87-68-3	Hexachlorobutadiene	1452 u
59-50-7	4-Chloro-3-Methylphenol	1452 u
91-57-6	2-Methylnaphthalene	1452 u
77-47-4	Hexachlorocyclopentadiene	1452 u
88-06-2	2,4,6-Trichlorophenol	1452 u
95-95-4	2,4,5-Trichlorophenol	7040 u
91-58-7	2-Chloronaphthalene	1452 u
88-74-4	2-Nitroaniline	7040 u
131-11-3	Dimethyl Phthalate	1452 u
208-96-8	Acenaphthylene	1452 u
99-09-2	3-Nitroaniline	7040 u

CAS Number		ug/kg
83-32-9	Acenaphthene	1452 u
51-28-5	2,4-Dinitrophenol	7040 u
100-02-7	4-Nitrophenol	7040 u
132-64-9	Dibenzofuran	1452 u
121-14-2	2,4-Dinitrotoluene	1452 u
606-20-2	2,6-Dinitrotoluene	1452 u
84-66-2	Diethylphthalate	1452 u
7005-72-3	4-Chlorophenyl-phenylether	1452 u
86-73-7	Fluorene	1452 u
100-01-6	4-Nitroaniline	7040 u
534-52-1	4,6-Dinitro-2-Methylphenol	7040 u
86-30-6	N-Nitrosodiphenylamine(1)	1452 u
101-55-3	4-Bromophenyl-phenylether	1452 u
118-74-1	Hexachlorobenzene	1452 u
87-86-5	Pentachlorophenol	7040 u
85-01-8	Phenanthrene	1452 u
120-12-7	Anthracene	1452 u
84-74-2	Di-n-Butylphthalate	1452 u
206-44-0	Fluoranthene	1452 u
129-00-0	Pyrene	1452 u
85-68-7	Butylbenzylphthalate	1452 u
91-94-1	3,3'-Dichlorobenzidine	2904 u
56-55-3	Benzo (a)Anthracene	1452 u
117-81-7	bis(2-Ethylhexyl)Phthalate	370 J
218-01-9	Chrysene	1452 u
117-84-0	Di-n-Octyl Phthalate	1452 u
205-99-2	Benzo(b)Fluoranthene	1452 u
207-08-9	Benzo(k)Fluoranthene	1452 u
50-32-8	Benzo(a)Pyrene	1452 u
193-39-5	Indeno(1,2,3-cd)Pyrene	1452 u
53-70-3	Dibenz(a,h)Anthracene	1452 u
191-24-2	Benzo(g,h,i)Perylene	1452 u

(1)-Cannot be separated from diphenylamine

SSB 240094

Case No: NYSDEC

Sample Number
R186-010-01-

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low
Date Extracted/Prepared: 03/20/87
Date Analysed: 04/02/87
Conc/Dil Factor: 10
Percent Moisture (Decanted): 10

GPC Cleanup: NO
Separatory Funnel Extraction: NO
Continuous Liquid-Liquid Extraction: NO

CAS Number		ug/kg
319-84-6	Alpha-BHC	88.0 u
319-85-7	Beta-BHC	88.0 u
319-86-8	Delta-BHC	88.0 u
58-89-9	Gamma-BHC(Lindane)	88.0 u
76-44-8	Heptachlor	88.0 u
309-00-2	Aldrin	88.0 u
1024-57-3	Heptachlor Epoxide	88.0 u
959-98-8	Endosulfan I	88.0 u
60-57-1	Dieldrin	176.0 u
72-55-9	4,4'-DDE	176.0 u
72-20-8	Endrin	176.0 u
33213-65-9	Endosulfan II	176.0 u
72-54-8	4,4'-DDD	176.0 u
1031-07-8	Endosulfan Sulfate	176.0 u
50-29-3	4,4'-DDT	176.0 u
72-43-5	Methoxychlor	880.0 u
53494-70-5	Endrin Ketone	176.0 u
57-74-9	Chlordane	880.0 u
8001-35-2	Toxaphene	1760.0 u
12674-11-2	Aroclor-1016	880.0 u
11104-28-2	Aroclor-1221	880.0 u
11141-16-5	Aroclor-1232	880.0 u
53469-21-9	Aroclor-1242	880.0 u
12672-29-6	Aroclor-1248	880.0 u
11097-69-1	Aroclor-1254	2200
11096-82-5	Aroclor-1260	1760.0 u

Vi = Volume of extract injected (ul)
Vs = Volume of water extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs or Ws 27 Vt 20000 Vi 4

FORM I

SSB 240095

Laboratory Name NUS CORPORATION
Case No. NYSDEC

Sample Number
R186-010-01

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	Scan Number	Estimated concentration ug/kg
1 .		NO VOA COMPOUND FOUND			
2 .		UNKNOWN	BNA	251	7100 J
3 .		ALDOL CONDENSATION PRODUCT	BNA	275	120000 J,B
4 .		UNKNOWN (HYDROCARBON: MW=128)	BNA	279	2900 J
5 .	2216-34-4	OCTANE, 4-METHYL-	BNA	287	3200 J
6 .		UNKNOWN (HYDROCARBON: MW=128)	BNA	293	4500 J,B
7		UNKNOWN	BNA	332	1300 J,B
8 .		UNKNOWN	BNA	346	810 J
9		UNKNOWN (MW=112)	BNA	362	860 J
10 .		TRICHLOROMETHYLPROPANOL ISOMER	BNA	390	670 J,B
11		UNKNOWN	BNA	407	700 J
12 .		UNKNOWN	BNA	461	1180 J
13 .		UNKNOWN	BNA	1649	4600 J
14 .		UNKNOWN	BNA	1713	1100 J
15 .		UNKNOWN	BNA	1779	870 J
16		UNKNOWN	BNA	1787	1900 J
17 .		UNKNOWN	BNA	1798	1900 J
18 .		UNKNOWN	BNA	1860	2100 J
19 .		UNKNOWN	BNA	1909	990 J
20		UNKNOWN	BNA	1918	1100 J
21		UNKNOWN	BNA	1930	1500 J
22 .		UNKNOWN	BNA	1953	1300 J
23 .					
24					
25					
26 .					
27					
28 .					
29 .					
30 .					

SSB 240096

Laboratory Name NUS CORPORATION
Case No NYSDEC

Sample Number
R186-010-01

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low
Date Extracted/Prepared: 03/20/87
Date Analyzed. 03/24/87
Conc/Dil Factor: 4.0
Percent Moisture (Decanted): 18

GPC Cleanup: NO
Separatory Funnel Extraction: NO
Continuous Liquid-Liquid Extraction: NO

CAS Number		ug/kg	CAS Number		ug/kg
108-95-2	Phenol	1452 u	83-32-9	Acenaphthene	1452 u
111-44-4	bis(2-Chloroethyl)Ether	1452 u	51-28-5	2,4-Dinitrophenol	7040 u
95-57-8	2-Chlorophenol	1452 u	100-02-7	4-Nitrophenol	7040 u
541-73-1	1,3-Dichlorobenzene	1452 u	132-64-9	Dibenzofuran	1452 u
106-46-7	1,4-Dichlorobenzene	1452 u	121-14-2	2,4-Dinitrotoluene	1452 u
100-51-6	Benzyl Alcohol	1452 u	606-20-2	2,6-Dinitrotoluene	1452 u
95-50-1	1,2-Dichlorobenzene	1452 u	84-66-2	Diethylphthalate	1452 u
95-48-7	2-Methylphenol	1452 u	7005-72-3	4-Chlorophenyl-phenylether	1452 u
39638-32-9	bis(2-chloroisopropyl)Ether	1452 u	86-73-7	Fluorene	1452 u
106-44-5	4-Methylphenol	1452 u	100-01-6	4-Nitroaniline	7040 u
621-64-7	N-Nitroso-Di-n-Propylamine	1452 u	534-52-1	4,6-Dinitro-2-Methylphenol	7040 u
67-72-1	Hexachloroethane	1452 u	86-30-6	N-Nitrosodiphenylamine(1)	1452 u
98-95-3	Nitrobenzene	1452 u	101-55-3	4-Bromophenyl-phenylether	1452 u
78-59-1	Isophorone	1452 u	118-74-1	Hexachlorobenzene	1452 u
88-75-5	2-Nitrophenol	1452 u	87-86-5	Pentachlorophenol	7040 u
105-67-9	2,4-Dimethylphenol	1452 u	85-01-8	Phenanthrene	1452 u
65-85-0	Benzoic Acid	7040 u	120-12-7	Anthracene	1452 u
111-91-1	bis(2-Chloroethoxy)Methane	1452 u	84-74-2	Di-n-Butylphthalate	1452 u
120-83-2	2,4-Dichlorophenol	1452 u	206-44-0	Fluoranthene	1452 u
120-82-1	1,2,4-Trichlorobenzene	1452 u	129-00-0	Pyrene	1452 u
91-20-3	Naphthalene	1452 u	85-68-7	Butylbenzylphthalate	1452 u
106-47-8	4-Chloroaniline	1452 u	91-94-1	3,3'-Dichlorobenzidine	2904 u
87-68-3	Hexachlorobutadiene	1452 u	56-55-3	Benzo (a)Anthracene	1452 u
59-50-7	4-Chloro-3-Methylphenol	1452 u	117-81-7	bis(2-Ethylhexyl)Phthalate	370 J
91-57-6	2-Methylnaphthalene	1452 u	218-01-9	Chrysene	1452 u
77-47-4	Hexachlorocyclopentadiene	1452 u	117-84-0	Di-n-Octyl Phthalate	1452 u
88-06-2	2,4,6-Trichlorophenol	1452 u	205-99-2	Benzo(b)Fluoranthene	1452 u
95-95-4	2,4,5-Trichlorophenol	7040 u	207-08-9	Benzo(k)Fluoranthene	1452 u
91-58-7	2-Chloronaphthalene	1452 u	50-32-8	Benzo(a)Pyrene	1452 u
88-74-4	2-Nitroaniline	7040 u	193-39-5	Indeno(1,2,3-cd)Pyrene	1452 u
131-11-3	Dimethyl Phthalate	1452 u	53-70-3	Dibenz(a,h)Anthracene	1452 u
208-96-8	Acenaphthylene	1452 u	191-24-2	Benzo(g,h,i)Perylene	1452 u
99-09-2	3-Nitroaniline	7040 u			

(1)-Cannot be separated from diphenylamine

Laboratory Name NUS CORPORATION
Case No NYSDEC

Sample Number
R186-010-01--

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low
Date Extracted/Prepared. 03/20/87
Date Analyzed: 04/02/87
Conc/Dil Factor: 10
Percent Moisture (Decanted)· 10

GPC Cleanup: NO
Separatory Funnel Extraction: NO
Continuous Liquid-Liquid Extraction: NO

CAS Number		ug/kg	
319-84-6	Alpha-BHC	88.0	u
319-85-7	Beta-BHC	88.0	u
319-86-8	Delta-BHC	88.0	u
58-89-9	Gamma-BHC(Lindane)	88.0	u
76-44-8	Heptachlor	88 0	u
309-00-2	Aldrin	88.0	u
1024-57-3	Heptachlor Epoxide	88.0	u
959-98-8	Endosulfan I	88.0	u
60-57-1	Dieldrin	176.0	u
72-55-9	4,4'-DDE	176.0	u
72-20-8	Endrin	176.0	u
33213-65-9	Endosulfan II	176.0	u
72-54-8	4,4'-DDD	176.0	u
1031-07-8	Endosulfan Sulfate	176.0	u
50-29-3	4,4'-DDT	176.0	u
72-43-5	Methoxychlor	880.0	u
53494-70-5	Endrin Ketone	176.0	u
57-74-9	Chlordane	880 0	u
8001-35-2	Toxaphene	1760.0	u
12674-11-2	Aroclor-1016	880 0	u
11104-28-2	Aroclor-1221	880.0	u
11141-16-5	Aroclor-1232	880.0	u
53469-21-9	Aroclor-1242	880.0	u
12672-29-6	Aroclor-1248	880.0	u
11097-69-1	Aroclor-1254	2200	
11096-82-5	Aroclor-1260	1760.0	u

Vi = Volume of extract injected (ul)
Vs = Volume of water extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs or Ws 27 Vt 20000 Vi 4

SSB 240098

Sample Number

R166-010-02

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: NUS CORPORATION
Lab Sample ID No: 17031302
Sample Matrix: Soil
Date Release Authorized By:

Case No NYSDEC
QC Report No:
Contract No:
Date Sample Received: 03/18/87

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 03/24/87
Date Analyzed. 03/24/87
Conc/Dil Factor 5 0 pH 8
Percent Moisture: 10
Percent Moisture (Not Decanted): NR

CAS Number		ug/kg	CAS Number		ug/kg
74-87-3	Chloromethane	56 u	78-87-5	1,2-Dichloropropane	28 u
74-83-9	Bromomethane	56 u	10061-02-6	Trans-1,3-Dichloropropene	28 u
75-01-4	Vinyl Chloride	56 u	79-01-6	Trichloroethene	28 u
75-00-3	Chloroethane	56 u	124-48-1	Dibromochloromethane	28 u
75-09-2	Methylene Chloride	100 B	79-00-5	1,1,2-Trichloroethane	28 u
67-64-1	Acetone	70 B	71-43-2	Benzene	28 u
75-15-0	Carbon Disulfide	28 u	10061-01-5	cis-1,3-Dichloropropene	28 u
75-35-4	1,1-Dichloroethene	28 u	110-75-8	2-Chloroethylvinylether	56 u
75-34-3	1,1-Dichloroethane	28 u	75-25-2	Bromoform	28 u
156-60-5	Trans-1,2-Dichloroethene	28 u	108-10-1	4-Methyl-2-Pentanone	56 u
67-66-3	Chloroform	28 u	591-78-6	2-Hexanone	56 u
107-06-2	1,2-Dichloroethane	28 u	127-18-4	Tetrachloroethene	760
78-93-3	2-Butanone	56 u	79-34-5	1,1,2,2-Tetrachloroethane	28 u
71-55-6	1,1,1-Trichloroethane	28 u	108-88-3	Toluene	28 u
56-23-5	Carbon Tetrachloride	28 u	108-90-7	Chlorobenzene	28 u
108-05-4	Vinyl Acetate	56 u	100-41-4	Ethylbenzene	28 u
75-27-4	Bromodichloromethane	28 u	100-42-5	Styrene	28 u
				Total Xylenes	28 u

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U(e.g., 10U)based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e g 10J) If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS Single component pesticides)=10ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in th blank as well as a sample It indicates possible/ probable blank contamination and warns the data user to take the appropriate action

Other Other specific flags and footnotes may be required to properly define the results If used they must be fully described and such description attached to the data summary report

S Spiked Compound

NR No value required

Laboratory Name NUS CORPORATION
Case No· NYSDEC

Sample Number
R186-010-02

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low
Date Extracted/Prepared. 03/20/87
Date Analysed 03/24/87
Conc/Dil Factor 2.0
Percent Moisture (Decanted). 16

GPC Cleanup NO
Separatory Funnel Extraction NO
Continuous Liquid-Liquid Extraction: NO

CAS Number		ug/kg	CAS Number		ug/kg
108-95-2	Phenol	726 u	83-32-9	Acenaphthene	726 u
111-44-4	bis(2-Chloroethyl)Ether	726 u	51-28-5	2,4-Dinitrophenol	3520 u
95-57-8	2-Chlorophenol	726 u	100-02-7	4-Nitrophenol	3520 u
541-73-1	1,3-Dichlorobenzene	726 u	132-64-9	Dibenzofuran	726 u
106-46-7	1,4-Dichlorobenzene	726 u	121-14-2	2,4-Dinitrotoluene	726 u
100-51-6	Benzyl Alcohol	726 u	606-20-2	2,6-Dinitrotoluene	726 u
95-50-1	1,2-Dichlorobenzene	726 u	84-66-2	Diethylphthalate	726 u
95-48-7	2-Methylphenol	726 u	7005-72-3	4-Chlorophenyl-phenylether	726 u
39638-32-9	bis(2-chloroisopropyl)Ether	726 u	86-73-7	Fluorene	726 u
106-44-5	4-Methylphenol	726 u	100-01-6	4-Nitroaniline	3520 u
621-64-7	N-Nitroso-Di-n-Propylamine	726 u	534-52-1	4,6-Dinitro-2-Methylphenol	3520 u
67-72-1	Hexachloroethane	726 u	86-30-6	N-Nitrosodiphenylamine(1)	726 u
98-95-3	Nitrobenzene	726 u	101-55-3	4-Bromophenyl-phenylether	726 u
78-59-1	Isophorone	726 u	118-74-1	Hexachlorobenzene	726 u
88-75-5	2-Nitrophenol	726 u	87-86-5	Pentachlorophenol	3520 u
105-67-9	2,4-Dimethylphenol	726 u	85-01-8	Phenanthrene	726 u
65-85-0	Benzoic Acid	3520 u	120-12-7	Anthracene	726 u
111-91-1	bis(2-Chloroethoxy)Methane	726 u	84-74-2	Di-n-Butylphthalate	726 u
120-83-2	2,4-Dichlorophenol	726 u	206-44-0	Fluoranthene	88 J
120-82-1	1,2,4-Trichlorobenzene	726 u	129-00-0	Pyrene	726 u
91-20-3	Naphthalene	726 u	85-68-7	Butylbenzylphthalate	726 u
106-47-8	4-Chloroaniline	726 u	91-94-1	3,3'-Dichlorobenzidine	1452 u
87-68-3	Hexachlorobutadiene	726 u	56-55-3	Benzo (a)Anthracene	726 u
59-50-7	4-Chloro-3-Methylphenol	726 u	117-81-7	bis(2-Ethylhexyl)Phthalate	188 J
91-57-6	2-Methylnaphthalene	726 u	218-01-9	Chrysene	726 u
77-47-4	Hexachlorocyclopentadiene	726 u	117-84-0	Di-n-Octyl Phthalate	726 u
88-06-2	2,4,6-Trichlorophenol	726 u	205-99-2	Benzo(b)Fluoranthene	726 u
95-95-4	2,4,5-Trichlorophenol	3520 u	207-08-9	Benzo(k)Fluoranthene	726 u
91-58-7	2-Chloronaphthalene	726 u	50-32-8	Benzo(a)Pyrene	726 u
88-74-4	2-Nitroaniline	3520 u	193-39-5	Indeno(1,2,3-cd)Pyrene	726 u
131-11-3	Dimethyl Phthalate	726 u	53-70-3	Dibenz(a,h)Anthracene	726 u
208-96-8	Acenaphthylene	726 u	191-24-2	Benzo(g,h,i)Perylene	726 u
99-09-2	3-Nitroaniline	3520 u			

(1)-Cannot be separated from diphenylamine

SSB 240100

Laboratory Name NUS CORPORATION
Case No NYSDEC

Sample Number
R186-010-02

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration Low
Date Extracted/Prepared 03/20/87
Date Analyzed 04/02/87
Conc/Dil Factor: 10
Percent Moisture (Decanted): 10

GPC Cleanup NO
Separatory Funnel Extraction. NO
Continuous Liquid-Liquid Extraction NO

CAS Number		ug/kg
319-84-6	Alpha-BHC	88.0 u
319-85-7	Beta-BHC	88.0 u
319-86-8	Delta-BHC	88.0 u
58-89-9	Gamma-BHC(Lindane)	88.0 u
76-44-8	Heptachlor	88.0 u
309-00-2	Aldrin	88.0 u
1024-57-3	Heptachlor Epoxide	88.0 u
959-98-8	Endosulfan I	88.0 u
60-57-1	Dieldrin	176.0 u
72-55-9	4,4'-DDE	176.0 u
72-20-8	Endrin	176.0 u
33213-65-9	Endosulfan II	176.0 u
72-54-8	4,4'-DDD	176.0 u
1031-07-8	Endosulfan Sulfate	176.0 u
50-29-3	4,4'-DDT	176.0 u
72-43-5	Methoxychlor	880.0 u
53494-70-5	Endrin Ketone	176.0 u
57-74-9	Chlordane	880.0 u
8001-35-2	Toxaphene	1760.0 u
12674-11-2	Aroclor-1016	880.0 u
11104-28-2	Aroclor-1221	880.0 u
11141-16-5	Aroclor-1232	880.0 u
53469-21-9	Aroclor-1242	880.0 u
12672-29-6	Aroclor-1248	880.0 u
11097-69-1	Aroclor-1254	2300
11096-82-5	Aroclor-1260	1760.0 u

Vi = Volume of extract injected (ul)
Vs = Volume of water extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs or Ws 27 Vt 20000 Vi 4

Laboratory Name NUS CORPORATION
Case No. NYSDEC

Sample Number
E186-010-02

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	Scan Number	Estimated concentration ug/kg
1	76-13-1	ETHANE,1,1,2-TRICHLORO-1,2,2-TRIFLUORO-	VOA	245	45 J
2		UNKNOWN	BNA	256	6100 J
3		ALDOL CONDENSATION PRODUCT)	BNA	278	92000 J,E
4	2216-34-4	OCTANE, 4-METHYL-	BNA	285	2500 J
5		UNKNOWN (HYDROCARBON: MW=128)	BNA	292	3800 J,B
6		UNKNOWN	BNA	332	1100 J,B
7		UNKNOWN	BNA	346	960 J
8		UNKNOWN (MW:112)	BNA	362	720 J
9		TRICHLOROMETHYLPROPANOL ISOMER	BNA	370	580 J,B
10		UNKNOWN	BNA	1115	320 J
11	10544-50-0	SULFUR, MOL.(S8)	BNA	1233	1300 J
12		UNKNOWN	BNA	1651	9400 J
13		UNKNOWN	BNA	1695	1100 J
14		UNKNOWN	BNA	1732	2100 J
15		UNKNOWN	BNA	1763	820 J
16		UNKNOWN	BNA	1795	850 J
17		UNKNOWN	BNA	1832	1500 J
18		UNKNOWN	BNA	1864	5700 J
19		UNKNOWN	BNA	1879	1900 J
20		UNKNOWN	BNA	1894	1900 J
21		UNKNOWN	BNA	1961	1100 J
22		UNKNOWN	BNA	1977	960 J
23					
24					
25					
26					
27					
28					
29					
30					

SSB 240102

Sample Number

(N186-016-01)

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: NUS CORPORATION
Lab Sample ID No 17031301
Sample Matrix: Soil
Data Release Authorized By.

Case No· NYSDEC
QC Report No
Contract No:
Date Sample Received 03/16/87

Volatile Compounds

Concentration· Low
Date Extracted/Prepared: 03/24/87
Date Analysed· 03/24/87
Conc/Dil Factor· 5.0 pH 8
Percent Moisture· 10
Percent Moisture (Not Decanted)· NR

CAS Number		ug/kg	CAS Number		ug/kg
74-87-3	Chloromethane	56 u	78-87-5	1,2-Dichloropropane	28 u
74-83-9	Bromomethane	56 u	10061-02-6	Trans-1,3-Dichloropropene	28 u
75-01-4	Vinyl Chloride	56 u	79-01-6	Trichloroethene	28 u
75-00-3	Chloroethane	56 u	124-48-1	Dibromochloromethane	28 u
75-09-2	Methylene Chloride	82 B	79-00-5	1,1,2-Trichloroethane	28 u
67-64-1	Acetone	130 B	71-43-2	Benzene	28 u
75-15-0	Carbon Disulfide	28 u	10061-01-5	cis-1,3-Dichloropropene	28 u
75-35-4	1,1-Dichloroethene	28 u	110-75-8	2-Chloroethylvinylether	56 u
75-34-3	1,1-Dichloroethane	28 u	75-25-2	Bromoform	28 u
156-60-5	Trans-1,2-Dichloroethene	28 u	108-10-1	4-Methyl-2-Pentanone	56 u
67-66-3	Chloroform	36	591-78-6	2-Hexanone	56 u
107-06-2	1,2-Dichloroethane	28 u	127-18-4	Tetrachloroethene	960
78-93-3	2-Butanone	56 u	79-34-5	1,1,2,2-Tetrachloroethane	28 u
71-55-6	1,1,1-Trichloroethane	28 u	108-88-3	Toluene	28 u
56-23-5	Carbon Tetrachloride	28 u	108-90-7	Chlorobenzene	28 u
108-05-4	Vinyl Acetate	56 u	100-41-4	Ethylbenzene	28 u
75-27-4	Bromodichloromethane	28 u	100-42-5	Styrene	28 u
				Total Xylenes	28 u

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used
Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U(e g , 10U)based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e g 10J) If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters whe the identification has been confirmed by GC/M Single component pesticides)=10ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found i blank as well as a sample It indicates possi probable blank contamination and warns the d user to take the appropriate action.

Other Other specific flags and footnotes may be required to properly define the results If they must be fully described and such descr attached to the data summary report

S Spiked Compound

NR No value required

SSB 240103

LABORATORY REPORT
CHEMICAL EXAMINATION OF INDUSTRIAL AND HAZARDOUS WASTES
Division of Laboratories and Research
Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

B

Lab. No. 120

Field No. UN-3

Source Information (Please Print)

Premises: Air Techniques
Address: 70 Cantiague Rk Rd.
Town: Hicksville
Collection Point: drum in dumpster

	Month	Day	Year
Date Collected	1	7	87
Date Received	JAN	01	1987
Date Reported			8

Collection Time: 11:45 am
Collected By: U. Nilund

Sampler's Comments:
- liquid in drum in dumpster
- material a white paste w/a solvent odor
- EP Toxicity

Bureau:
1 ☑ Land Resources Management
9 ☐ Other (specify)

Sample Type:
A ☐ Water
B ☐ Soil
C ☑ Sludge
D ☐ Waste Solvent
E ☐ Oil
F ☐ Other

CHEMICAL EXAMINATION

Check	Metals		Result	Check	Non-Metals		Result
1	Aluminum	mg/l		15	Chloride	mg/l	
2	Arsenic	mg/l		16	Cyanide	mg/l	
3	Barium	mg/l		17	Fluoride	mg/l	
4	Cadmium	mg/l		18	MBAS	mg/l	
5	Chromium, Total	mg/l		19	pH		
6	Copper	mg/l		20	Phenols	mg/l	
7	Iron, Total	mg/l		21	Solids, Suspended	mg/l	
8	Lead	mg/l		22	Solids, Total Diss.	mg/l	
9	Manganese	mg/l		23	Sulfate	mg/l	
10	Mercury	mg/l		24	Ammonia nitrogen	mg/l	
11	Nickel	mg/l		25	Kjeldahl nitrogen	mg/l	
12	Selenium	mg/l		26	Nitrite nitrogen	mg/l	
13	Silver	mg/l		27	Nitrate nitrogen	mg/l	
14	Zinc	mg/l		28	Total Phos.	mg/l	

SPECIAL ANALYSIS

Check	Constituent		Result
29	Chromium hex.	mg/l	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

Examiner's Comments

INSUFFICIENT SAMPLE SUBMITTED

JAN 08 1987 JAN 0 [illegible] 1987

SSB 240104

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

No. 870016 **D**

Field No. VN-3

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: AIR TECHNIQUES

Address: 73 CANTIAGUE ROAD

Town: HICKSVILLE

Collection Point: drum in dumpster

Well No.:

Sampler's Comments:
- sample onice
- sample of drum in dumpster, material a white paste
- solvent odor

	Month	Day	Year
Date Collected	1	7	87
Date Received	1	7	87
Date Reported			8

Collection Time: 11:45 am

Collected By: V. Nigro

Bureau
1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

SSB 240105

N OF CUSTODY RECORD
ision of Laboratories and Research
assau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870016

Field No. UN-3

Source Information (Please Print)

Premises: Air Techniques

Address: 70 Cantiague Rock Rd

Town: Hicksville

Collection Point Location: recovered drum in dumpster

Collection Date: 1-7-87

Collection Time: 11:45 am

No. of Containers: 1

Type of Containers: glass

Method of Preservation: ice

Sampler's Comments
- sample onice
- material a white paste; solvent odor

Collection Procedure

Method of Transportation to Laboratory: Van

CONTAINER DISTRIBUTION

Clean sampling containers designated by field number UN-3 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	Esther Cannella	Date 1/7/87	Printed Name Vincent P. Nigro	Date 1-7-87
Signature X	Esther Cannella	Time 10 am	Signature X Vincent P. Nigro	Time 10 am
Purpose of Transfer	Collection			

CUSTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Vincent P. Nigro	Date 1-7-87	Printed Name ANDREW LICHTMAN	Date 1-7-87
Signature X	Vincent P. Nigro	Time 3:05 pm	Signature X Andrew Lichtman MD	Time 15 pm
Purpose of Transfer	analysis			

CUSTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

Comments.

219 7/84

SSB 240106

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870016
Source: AIR TECHNIQUES, CANTIAGUE PK RD., HICKSVILLE
Matrix: SOIL
Site: DRUM IN DUMPSTER
Date Sampled: 01/07/87
Date of Report: 01/15/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	NA	------	NA
METHYLENE CHLORIDE 1,1,2-TRICHLOROTRIFLUOROETHANE 1,1-DICHLOROETHYLENE	225	------	< 225
c & t-1,2-DICHLOROETHYLENE	100	------	< 100
1,1-DICHLOROETHANE	150	------	< 150
CHLOROFORM	25	------	< 25
1,1,1-TRICHLOROETHANE	50	------	< 50
CARBON TETRACHLORIDE	25	------	< 25
TRICHLOROETHYLENE	25	------	780
BROMODICHLOROMETHANE	50	------	< 50
c-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	75	------	< 75
1,1,2-TRICHLOROETHANE	100	------	< 100
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	25	------	2600000
BROMOFORM	7500	------	< 7500

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	------	< 75
TOLUENE	75	------	81
CHLOROBENZENE	100	------	< 100
ETHYLBENZENE	75	------	< 75
XYLENE (o,m,p)	100	------	< 100
DICHLOROBENZENE (o,m,p)	800	------	< 800

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NP - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

B

LABORATORY REPORT
CHEMICAL EXAMINATION OF INDUSTRIAL AND HAZARDOUS WASTES
Division of Laboratories and Research
Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☐ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 121

Field No. VN-4

Source Information (Please Print)

Premises: Air Techniques
Address: 70 Cantiague Rock Rd
Town: Hicksville
Collection Point: liquid in drum in dumpster

	Month	Day	Year
Date Collected	1	7	87
Date Received	JAN 07 1987		8
Date Reported			8
Collection Time	11 : 50 am		
Collected By:	V. Nigro		

Sampler's Comments:
- white cloudy liquid w/ solvent odor
- EP Toxicity

Bureau:
1 ☑ Land Resources Management
9 ☐ Other (specify)

Sample Type:
A ☑ Water
B ☐ Soil
C ☐ Sludge
D ☐ Waste Solvent
E ☐ Oil
F ☐ Other

CHEMICAL EXAMINATION

Check	Metals		Result	Check	Non-Metals		Result
1	Aluminum	mg/l		15	Chloride	mg/l	
2	Arsenic	mg/l	24.0	16	Cyanide	mg/l	
3	Barium	mg/l	<0.2	17	Fluoride	mg/l	
4	Cadmium	mg/l	0.014	18	MBAS	mg/l	
5	Chromium, Total	mg/l	2.8	19	pH		
6	Copper	mg/l		20	Phenols	mg/l	
7	Iron, Total	mg/l		21	Solids, Suspended	mg/l	
8	Lead	mg/l	<0.01	22	Solids, Total Diss.	mg/l	
9	Manganese	mg/l		23	Sulfate	mg/l	
10	Mercury	mg/l	interference	24	Ammonia nitrogen	mg/l	
11	Nickel	mg/l		25	Kjeldahl nitrogen	mg/l	
12	Selenium	mg/l	0.043	26	Nitrite nitrogen	mg/l	
13	Silver	mg/l	0.17	27	Nitrate nitrogen	mg/l	
14	Zinc	mg/l.		28	Total Phos.	mg/l	

SPECIAL ANALYSIS

Check	Constituent		Result
29	Chromium hex.	mg/l	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

Examiner's Comments: Sample in acid ~~[illegible]~~ bottle, metals run on filtered sample - digested

NO. EP TOXICITY

FEB 03 1987

SSB 240108

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870017 **D**

Field No. VN-4

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: AIR Technigues

Address: 70 Sanford Avenue Rd

Town: Hicksville

Collection Point: Liquid in dumpster

Well No.

Sampler's Comments:
- sample on ice
- liquid sampled from recovered drum in dumpster
- cloudy white liquid
- solvent odor

	Month	Day	Year
Date Collected	1	7	87
Date Received	1	7	87
Date Reported			8
Collection Time	11:50 am		
Collected By:	V. N. Sa		

Bureau
1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

OF CUSTODY RECORD
on of Laboratories and Research
sau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870017

Field No. VN-4

Source Information (Please Print)

Premises: Air Techniques

Address: 70 Cantiague Rk Rd

Town: Hicksville

Collection Point Location: liquid in drum in dumpster

Sampler's Comments: - white cloudy liquid w/a solvent odor.

Collection Date: 1-7-87

Collection Time: 11:50am

No. of Containers: 1 - glass vial 40ml

Type of Containers:

Method of Preservation: ice

Collection Procedure:

Method of Transportation to Laboratory: van

CONTAINER DISTRIBUTION — Clean sampling containers designated by field number VN-4 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	Esther Cannella	Date 1/7/87	Printed Name Vincent P. Nigro	Date 1-7-87
Signature X	Esther Cannella	Time 10:35am	Signature X Vincent P. Nigro	Time 10:30am
Purpose of Transfer	collection			

CUSTODY TRANSFER 1

	Relinquished by:		Received by:	
Printed Name	Vincent P. Nigro	Date 1-7-87	Printed Name Andrew Lichtman PhD	Date 1-7-87
Signature X	Vincent P. Nigro	Time 3:05pm	Signature X ANDREW LICHTMAN	Time 15:00
Purpose of Transfer	analysis			

CUSTODY TRANSFER 2

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 3

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 4

	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

Comments

7/84

SSB 240110

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870017
Source: AIR TECHNIQUES, CANTIAGUE PK RD., HICKSVILLE
Matrix: WATER
Site: LIQUID IN DRUM IN DUMPSTER
Date Sampled: 01/07/87
Date of Report: 01/15/87

VOLATILE HALOGENATED	MRC (ug/l)		RESULT (ug/l)
TRICHLOROFLUOROMETHANE	NA	------	NA
METHYLENE CHLORIDE			
1,1,2-TRICHLOROTRIFLUOROETHANE --	9	------	< 9
1,1-DICHLOROETHYLENE			
c & t-1,2-DICHLOROETHYLENE	4	------	34
1,1-DICHLOROETHANE	6	------	< 6
CHLOROFORM	1	------	< 1
1,1,1-TRICHLOROETHANE	2	------	2
CARBON TETRACHLORIDE	1	------	< 1
TRICHLOROETHYLENE	1	------	180
BROMODICHLOROMETHANE	2	------	< 2
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE --	3	------	< 3
1,1,2-TRICHLOROETHANE	4	------	< 4
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	1	------	33000
BROMOFORM	3000	------	< 3000

VOLATILE AROMATICS	MRC (ug/l)		RESULT (ug/l)
BENZENE	3	------	5
TOLUENE	3	------	7
CHLOROBENZENE	40	------	< 40
ETHYLBENZENE	30	------	< 30
XYLENE (o,m,p)	40	------	< 40
DICHLOROBENZENE (o,m,p)	32	------	< 32

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

B

LABORATORY REPORT
CHEMICAL EXAMINATION OF INDUSTRIAL AND HAZARDOUS WASTES
Division of Laboratories and Research
Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 122

Field No. VN-5

Source Information (Please Print)

Premises: Air Techniques
Address: 70 Cantiague Rk Rd.
Town: Hicksville
Collection Point: drum 3' below soil surface - liquid in drum

Sampler's Comments: - EP Toxicity

	Month	Day	Year
Date Collected	1	7	87
Date Received			8
Date Reported			8

Collection Time: 12:05 pm
Collected By: V. Nigro

Bureau:
1 ☑ Land Resources Management
9 ☐ Other (specify)

Sample Type:
A ☑ Water
B ☐ Soil
C ☐ Sludge
D ☐ Waste Solvent
E ☐ Oil
F ☐ Other

CHEMICAL EXAMINATION

Check	Metals		Result	Check	Non-Metals		Result
1	Aluminum	mg/l		15	Chloride	mg/l	
2	Arsenic	mg/l	36.0	16	Cyanide	mg/l	
3	Barium	mg/l	<0.2	17	Fluoride	mg/l	
4	Cadmium	mg/l	0.006	18	MBAS	mg/l	
5	Chromium, Total	mg/l	4.0	19	pH		
6	Copper	mg/l		20	Phenols	mg/l	
7	Iron, Total	mg/l		21	Solids, Suspended	mg/l	
8	Lead	mg/l	0.04	22	Solids, Total Diss.	mg/l	
9	Manganese	mg/l		23	Sulfate	mg/l	
10	Mercury	mg/l	interference	24	Ammonia nitrogen	mg/l	
11	Nickel	mg/l		25	Kjeldahl nitrogen	mg/l	
12	Selenium	mg/l	0.045	26	Nitrite nitrogen	mg/l	
13	Silver	mg/l	0.19	27	Nitrate nitrogen	mg/l	
14	Zinc	mg/l		28	Total Phos.	mg/l	

SPECIAL ANALYSIS

Check	Constituent		Result
29	Chromium hex.	mg/l	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

Examiner's Comments: Sample in acidified bottle, metals run on filtered sample - digested

NO EP TOXICITY

FEB 03 1987

SSB 240112

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870018 **D**

Field No. VN-5

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: AIR Technics

Address: 70 CANTIAGUE RD.

Town: HICKSVILLE

Collection Point: Buried drum Well No.

Well Sol. LIQUID

	Month	Day	Year
Date Collected	1	7	87
Date Received	1	7	87
Date Reported			8
Collection Time	12:05 pm.		
Collected By:	U. Rizzo		

Sampler's Comments:

- sample mine
- amber colored liquid in drum.
- drum approx 3 feet below surface.

Bureau

1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
	Other (specify)

Examiner's Comments:

SSB 240113

CUSTODY RECORD
of Laboratories and Research
County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870018

Field No. UN-5

ce Information (Please Print)

emises: Air Techniques

dress: 70 Cantiague Rk Rd

own: Hicksville

llection Point Location: drum 3' below soil surface

- liquid in drum

mpler's Comments:
- liquid amber colored
- sample on ice.

Collection Date: 1-7-87

Collection Time: 12:05 pm

No. of Containers: 1

Type of Containers: glass

Method of Preservation: ice

Collection Procedure:

Method of Transportation to Laboratory: van

CONTAINER DISTRIBUTION

Clean sampling containers designated by field number UN-5 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	Esther Cannella	Date 1/7/87	Printed Name Vincent P. Nigro	Date 1-7-87
Signature X	Esther Cannella	Time 10:35 am	Signature X Vincent P. Nigro	Time 10:25 am

Purpose of Transfer: collection

CUSTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Vincent P. Nigro	Date 1-7-87	Printed Name ANDREW LICHTMAN	Date 1-7-87
Signature X	Vincent P. Nigro	Time 3:05 pm	Signature X Andrew Lichtman PhD	Time 15 pm

Purpose of Transfer: analysis

CUSTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

Comments

SSB 240114

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870018
Source: AIR TECHNIQUES, CANTIAGUE PK RD., HICKSVILLE
Matrix: WATER
Site: BURRIED DRUM BELOW SOIL - LIQUID
Date Sampled: 01/07/87
Date of Report: 01/15/87

VOLATILE HALOGENATED	MRC (ug/l)		RESULT (ug/l)
TRICHLOROFLUOROMETHANE	NA	------	NA
METHYLENE CHLORIDE |			
1,1,2-TRICHLOROTRIFLUOROETHANE | --	9	------	< 9
1,1-DICHLOROETHYLENE |			
c & t-1,2-DICHLOROETHYLENE	4	------	93
1,1-DICHLOROETHANE	6	------	< 6
CHLOROFORM	1	------	< 1
1,1,1-TRICHLOROETHANE	2	------	3
CARBON TETRACHLORIDE	1	------	< 1
TRICHLOROETHYLENE	1	------	230
BROMODICHLOROMETHANE	2	------	< 2
c-1,3-DICHLOROPROPENE |			
DIBROMOCHLOROMETHANE | --	3	------	< 3
1,1,2-TRICHLOROETHANE	4	------	< 4
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	1	------	3600
BROMOFORM	30	------	< 30

VOLATILE AROMATICS	MRC (ug/l)		RESULT (ug/l)
BENZENE	3	------	3
TOLUENE	3	------	8
CHLOROBENZENE	4	------	< 4
ETHYLBENZENE	3	------	4
XYLENE (o,m,p)	4	------	12
DICHLOROBENZENE (o,m,p)	32	------	< 32

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

LABORATORY REPORT
CHEMICAL EXAMINATION OF INDUSTRIAL AND HAZARDOUS WASTES
Division of Laboratories and Research
Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 123

B

Field No. VN-6

Source Information (Please Print)

Premises: Air Techniques
Address: 70 Cantiague Rk Rd
Town: Hicksville
Collection Point: soil 6-8 ft below surface vacant lot rear of bldg

	Month	Day	Year
Date Collected	1	7	87
Date Received	JAN 07 1987		
Date Reported			8
Collection Time	12 : 15 pm		
Collected By:	V. N.		

Sampler's Comments:

EP Toxicity

Bureau:
1 ☑ Land Resources Management
9 ☐ Other (specify)

Sample Type:
A ☑ Water
B ☑ Soil
C ☐ Sludge
D ☐ Waste Solvent
E ☐ Oil
F ☐ Other

CHEMICAL EXAMINATION

Check	Metals		Result	Check	Non-Metals		Result
1	Aluminum	mg/l		15	Chloride	mg/l	
2	Arsenic	mg/l	<0.005	16	Cyanide	mg/l	
3	Barium	mg/l	<0.2	17	Fluoride	mg/l	
4	Cadmium	mg/l	0.001	18	MBAS	mg/l	
5	Chromium, Total	mg/l	<0.01	19	pH		
6	Copper	mg/l		20	Phenols	mg/l	
7	Iron, Total	mg/l		21	Solids, Suspended	mg/l	
8	Lead	mg/l	<0.01	22	Solids, Total Diss.	mg/l	
9	Manganese	mg/l		23	Sulfate	mg/l	
10	Mercury	mg/l	0.0043	24	Ammonia nitrogen	mg/l	
11	Nickel	mg/l		25	Kjeldahl nitrogen	mg/l	
12	Selenium	mg/l	<0.005	26	Nitrite nitrogen	mg/l	
13	Silver	mg/l	<0.05	27	Nitrate nitrogen	mg/l	
14	Zinc	mg/l		28	Total Phos.	mg/l	

SPECIAL ANALYSIS

Check	Constituent		Result
29	Chromium hex.	mg/l	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

Examiner's Comments

FEB 03 1987

SSB 240116

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab No. 870019 **D**

Field No. VN-6

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: A.I.R. Techniques

Address: 70 Cantiague Rk Rd

Town: Hicksville

Collection Point: Soil 6-8 FT below surface - Vacant lot, rear of bldg.

Well No.

Sampler's Comments: sample on ice - smell no odor

	Month	Day	Year
Date Collected	1	7	87
Date Received	1	7	87
Date Reported			8
Collection Time	12:15 pm		
Collected By:	W. Bizzi		

Bureau

1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

SSB 240117

CUSTODY RECORD
Laboratories and Research
County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870019

Field No. UN-6

Information (Please Print)

Collection Date 1-7-87

Collection Time 12:15pm

No. of Containers 1

Type of Containers 1-40ml glass

Method of Preservation ice

Collection Procedure

Method of Transportation to Laboratory car

Business: Air Techniques
Address: 70 Cantiague Rdk Rd.
Town: Hicksville
Collection Point Location: soil 6-8 Ft. below surface
vacant lot rear of bldg.
Sampler's Comments: sample on ice
soil no odor

CONTAINER DISTRIBUTION

Clean sampling containers designated by field number UN-6 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	Esther Cannella	Date 1/7/87	Printed Name Vincent P. Nicosia	Date 1-7-87
Signature X	Esther Cannella	Time 10:35am	Signature X Vincent P. Nicosia	Time 10:35am
Purpose of Transfer	collection			

CUSTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Vincent P. Nicosia	Date 1/7/87	Printed Name ANDREW LICHTMAN	Date 1-7-87
Signature X	Vincent P. Nicosia	Time 3:45pm	Signature X Andrew Lichtman PhD	Time 15pm
Purpose of Transfer	analysis			

CUSTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

CUSTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time
Purpose of Transfer				

Remarks

7/84

SSB 240118

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870019
Source: AIR TECHNIQUES, CANTIAGUE PK RD., HICKSVILLE
Matrix: SOIL
Site: SOIL, 6-8 FT BELOW SURFACE, VACANT LOT;
Date Sampled: 01/07/87
Date of Report: 01/15/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	NA	------	NA
METHYLENE CHLORIDE			
1,1,2-TRICHLOROTRIFLUOROETHANE	-- 225	------ <	225
1,1-DICHLOROETHYLENE			
c & t-1,2-DICHLOROETHYLENE	100	------ <	100
1,1-DICHLOROETHANE	150	------ <	150
CHLOROFORM	25	------ <	25
1,1,1-TRICHLOROETHANE	50	------ <	50
CARBON TETRACHLORIDE	25	------ <	25
TRICHLOROETHYLENE	25	------ <	25
BROMODICHLOROMETHANE	50	------ <	50
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	-- 75	------ <	75
1,1,2-TRICHLOROETHANE	100	------ <	100
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	25	------	11000
BROMOFORM	75	------ <	75

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	------ <	75
TOLUENE	75	------ <	75
CHLOROBENZENE	100	------ <	100
ETHYLBENZENE	75	------ <	75
XYLENE (o,m,p)	100	------ <	100
DICHLOROBENZENE (o,m,p)	800	------ <	800

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

B

LABORATORY REPORT
CHEMICAL EXAMINATION OF INDUSTRIAL AND HAZARDOUS WASTES
Division of Laboratories and Research
Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 124

Field No. UN-7

Source Information (Please Print)

Premises: Air Technique

Address: 70 Cantiague Rk Rd

Town: Hicksville

Collection Point: Soil 12-14 ft. below surface
vacant lot rear of bldg

	Month	Day	Year
Date Collected	1	7	87
Date Received	JAN 07 1987		
Date Reported			8
Collection Time	12:40 pm		
Collected By:	U. Nizzo		

Sampler's Comments:

-EP Toxicity

Bureau:
1 ☑ Land Resources Management
9 ☐ Other (specify)

Sample Type:
A ☐ Water
B ☑ Soil
C ☐ Sludge
D ☐ Waste Solvent
E ☐ Oil
F ☐ Other

CHEMICAL EXAMINATION

Check	Metals		Result	Check	Non-Metals		Result
1	Aluminum	mg/l		15	Chloride	mg/l	
2	Arsenic	mg/l	<0.005	16	Cyanide	mg/l	
3	Barium	mg/l	<0.2	17	Fluoride	mg/l	
4	Cadmium	mg/l	<0.001	18	MBAS	mg/l	
5	Chromium, Total	mg/l	<0.01	19	pH		
6	Copper	mg/l		20	Phenols	mg/l	
7	Iron, Total	mg/l		21	Solids, Suspended	mg/l	
8	Lead	mg/l	<0.01	22	Solids, Total Diss.	mg/l	
9	Manganese	mg/l		23	Sulfate	mg/l	
10	Mercury	mg/l	<0.0005	24	Ammonia nitrogen	mg/l	
11	Nickel	mg/l		25	Kjeldahl nitrogen	mg/l	
12	Selenium	mg/l	<0.005	26	Nitrite nitrogen	mg/l	
13	Silver	mg/l	<0.05	27	Nitrate nitrogen	mg/l	
14	Zinc	mg/l		28	Total Phos.	mg/l	

SPECIAL ANALYSIS

Check	Constituent		Result
29	Chromium hex.	mg/l	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

Examiner's Comments

FEB 0 3 1987

SSB 240120

LABORATORY WORKSHEET

CHEMICAL EXAMINATION FOR TRACE ORGANIC CONSTITUENTS IN WATER, HAZARDOUS WASTES AND SOLID WASTES

Division of Laboratories and Research

Nassau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☑ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870026 D

Field No. VN-7

N No. (Public Water Supply Only)

Source Information (Please Print)

Premises: A.R. Terminals

Address: 70 Cartiage Rte Rd

Town: Hicksville

Collection Point: Soil 12-14 Ft below surface

Well No.

	Month	Day	Year
Date Collected	1	7	87
Date Received	1	7	87
Date Reported			8
Collection Time	12:40 pm		
Collected By:	V. Alizzi		

Sampler's Comments: ~ vacant lot rear of building

sample on ice

soil no odor

Bureau

1 ☑ Land Resources Management
2 ☐ Public Water Supply
3 ☐ Water Pollution Control
4 ☐ Environmental Sanitation
9 ☐ Other (specify)

SAMPLE TYPE

AQUEOUS				NON-AQUEOUS	
1	Community Well	6	Surface Water	1	Soil
2	Non-Community Well	7	Waste Water	2	Sludge
3	Private Well	8	Industrial Effluent	3	Waste Solvent
4	Monitoring Well	9	Raw Supply Water	4	Oil
5	Drinking Water	10	Distribution Water	5	Other (specify)

ANALYSIS TYPE

A	Purgeable halogenated hydrocarbons
B	Purgeable halogenated hydrocarbons - gases
C	Purgeable nonhalogenated hydrocarbons
D	Other (specify)

Examiner's Comments:

SSB 240121

CUSTODY RECORD

ion of Laboratories and Research

ssau County Department of Health

1 ☐ Routine
2 ☐ Resample
3 ☒ Special
4 ☐ Complaint
5 ☐ Other

Lab. No. 870020

Field No. V.N-7

Source Information (Please Print)

Premises: Air Techniques

Address: 70 Cantiague Rk Rd

Town: Hicksville

Collection Point Location: Soil 12-14 ft below surface - vacant lot rear of bldg

Sampler's Comments: - sample on ice - soil no odor

Collection Date: 1-7-87

Collection Time: 12:40 pm

No. of Containers: 1

Type of Containers: 1-40 ml glass

Method of Preservation: ice

Collection Procedure:

Method of Transportation to Laboratory: car

CONTAINER DISTRIBUTION

Clean sampling containers designated by field number VN-7 have been issued for collection of the sample identified on this form.

	Relinquished by:		Received by:	
Printed Name	Esther Cannella	Date 1/7/87	Printed Name Vincent P. Nigro	Date 1-7-87
Signature X	Esther Cannella	Time 10 25 am	Signature X Vincent P. Nigro	Time 10 am

Purpose of Transfer: collection

CUSTODY TRANSFER 1	Relinquished by:		Received by:	
Printed Name	Vincent P. Nigro	Date 1/7/87	Printed Name Susan Lichten PhD.	Date 1-7-87
Signature X	Vincent P. Nigro	Time 3:05 pm	Signature X ANDREW LICHTMAN	Time 15 00

Purpose of Transfer: analysis

CUSTODY TRANSFER 2	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 3	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

CUSTODY TRANSFER 4	Relinquished by:		Received by:	
Printed Name		Date	Printed Name	Date
Signature X		Time	Signature X	Time

Purpose of Transfer

Comments:

SSB 240122

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

TRACE ORGANICS

Access Number: 870020
Source: AIR TECHNIQUES, CANTIAGUE PK RD., HICKSVILLE
Matrix: SOIL
Site: SOIL, 12-14 FT BELOW SURFACE, VACANT LOT
Date Sampled: 01/07/87
Date of Report: 01/15/87

VOLATILE HALOGENATED	MRC (ng/g)		RESULT (ng/g)
TRICHLOROFLUOROMETHANE	NA	------	NA
METHYLENE CHLORIDE			
1,1,2-TRICHLOROTRIFLUOROETHANE	-- 225	------ <	225
1,1-DICHLOROETHYLENE			
c & t-1,2-DICHLOROETHYLENE	100	------ <	100
1,1-DICHLOROETHANE	150	------ <	150
CHLOROFORM	25	------ <	25
1,1,1-TRICHLOROETHANE	50	------ <	50
CARBON TETRACHLORIDE	25	------ <	25
TRICHLOROETHYLENE	25	------ <	25
BROMODICHLOROMETHANE	50	------ <	50
c-1,3-DICHLOROPROPENE			
DIBROMOCHLOROMETHANE	-- 75	------ <	75
1,1,2-TRICHLOROETHANE	100	------ <	100
1,2-DIBROMOETHANE	NA	------	NA
TETRACHLOROETHYLENE	25	------	7100
BROMOFORM	75	------ <	75

VOLATILE AROMATICS	MRC (ng/g)		RESULT (ng/g)
BENZENE	75	------ <	75
TOLUENE	75	------ <	75
CHLOROBENZENE	100	------ <	100
ETHYLBENZENE	75	------ <	75
XYLENE (o,m,p)	100	------ <	100
DICHLOROBENZENE (o,m,p)	800	------ <	800

==========

MRC - MINIMUM REPORTABLE CONCENTRATION NA - NOT ANALYZED
NR - NO RESULT DUE TO TECHNICAL REASONS - RESAMPLE SUGGESTED
PPB: AIR - nl/l WATER - ug/l SOIL - ng/g

DRUM-CONTENTS SAMPLES AND SOIL SAMPLES COLLECTED BY NCDH ON JANUARY 7, 1987. DRUM-CONTENTS SAMPLES INCLUDE: WHITE-COLORED FLUIDS (NCDH LAB. NOS. 120 AND 870016), (NCDH LAB. NOS. 121 AND 870017); AND AMBER-COLORED FLUIDS (NCDH LAB. NOS. 122 AND 870018). SOIL SAMPLES INCLUDE: EXCAVATION BOTTOM AT 6-8 FEET (NCDH LAB. NOS. 123 AND 870019); AND EXCAVATION BOTTOM AT 12-14 FEET (NCDH LAB. NOS. 124 AND 870020).

APPENDIX C

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

July 27, 1987

ERM Northeast
88 Sunnyside Boulevard
Plainview, New York 11803

Attention: Glen Wygant

SUBJECT: RESULTS OF ANALYSES FOR AIR TECHNIQUES, SAMPLES RECEIVED 7/1/87, LAB NUMBER 55482.

Dear Mr. Wygant:

Enclosed please find the subject data for your review. All analyses were performed according to EPA accepted methodologies.

If there are any questions regarding this data, please do not hesitate to contact my office.

Very truly yours,

ENVIROTEST LABORATORIES, INC.

Ronald A. Bayer
President

RAB/pkd

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: [illegible] DATE REC'D: 8/07/01 DATE COLL'D: [illegible] STATUS: [illegible]
FNAME: EAN - Northport FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B 1 15 to 17

REPORT TO: same
BILL TO: same

T COLI:		Cr+6	:	COD	:
F COLI:		Phenol	:	HARD-T	:
SPL	:	CN	:	Ca Hard	:
F	:	S	:	SO3	:
NO2	:	Br	:	Cl	:
NO3	:	Color	:	Alk	:
T-PO4	:	Odor	:	COD-Inf	:
O-PO4	:	Turb	:	BOD-Eff	:
SO4	:	Oil	:	BOD-5	:
MBAS	:	LT	:	TSS-Inf	:
SURF	:	Cond	:	TSS-Eff	:
H2S	:	NH3-T	:	MLSS	:
NH3-C	:	TKN	:	MLVSS	:

VSS	:	Ag	:	K	:
TS	: [illegible]	Cr	: [illegible]	Se	: [illegible]
VS	:	Co	:	pH	: 7.9
TDS	:	Cu	:	Na	:
SS	:	Au	:	Tl	:
% SOL	: [illegible]	Fe	:	Sn	:
O & G	:	Pb	: [illegible]	Ti	:
Al	:	Hg	:	V	:
Sb	:	Mn	:	Zn	:
As	: [illegible]	Mo	:	THM	:
Ba	: [illegible]	Ni	:	TOC	:
Be	:	Nb	:		
Cd	: [illegible]	Pd	:		

[illegible]

[signature]

Donald M. Bauer
Laboratory Director [illegible]

New York State Department of Health Approved

SSB 240127

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB # 55482A

Client: ERM Northeast

Spl Location: B-1 15-17'

Sol Coll'd: 6/30/87

Sample Rec'd: 7/1/87

EPA Method 608 PCBs GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	MDL ug/kg	BLANK Conc.
1) PCB-1242	ND	930	ND
2) PCB-1254	15,000	930	ND
3) PCB-1221	ND	930	ND
4) PCB-1232	ND	930	ND
5) PCB-1248	ND	930	ND
6) PCB-1260	ND	930	ND
7) PCB-1016	ND	930	ND

For Envirotest Laboratories, Inc.

Ronald [illegible]
President

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55495LB DATE REC'D: 87/07/01 DATE COLL'D: 87/06/30 STATUS: closed
COMM: FRM - Northwest FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-1 75 to 77

REPORT TO: same
BILL TO: same

T COLI:		Fe	:	COD	:
F COLI:		Phenol:		HARD-T	:
SPC	:	CN	:	Ca Hard:	
F	:	[illegible]	:	SO4	:
NO2	:	[illegible]	:	Cl	:
NO3	:	Color	:	Alk	:
T-PO4	:	[illegible]	:	BOD Int	:
O-PO4	:	Turb	:	BOD-Eff	:
SO4	:	pH	:	BOD-5	:
NBAS	:	[illegible]	:	TSS Int	:
[illegible]	:	Cond	:	TSS-Eff	:
[illegible]	:	NH3-T	:	MLSS	:
NH3-U	:	TKN	:	MLVSS	:

VSS	:	Cr	:	F	:
[illegible]	: [illegible]	Cr	: .22	Se	: 0.21
VS	:	Co	:	Ag	: 1.2
TDS	:	Cu	:	Na	:
SS	:	Au	:	Tl	:
% SOL	: 84	Fe	:	Sn	:
[illegible]	:	Pb	: .29	Ti	:
[illegible]	:	Mg	:	V	:
Sb	:	Mn	:	Zn	:
[illegible]	: 0.4	[illegible]	: 0.10	THM	:
Ba	: 1.2	Ni	:	TOC	:
[illegible]	:	Hg	:		
[illegible]	: 0.5	[illegible]	:		

[illegible]

Donald [illegible]
Laboratory Director 7/7/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

[illegible]

LAB # 55482B

Client: ERM Northeast

Spl Location: B-1 25-27

Spl Coll d: 6/30/87

Sample Rec d: 7/1/87

EPA Method 608 PCBs GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) PCB-1242	ND	760	ND
2) PCB-1254	15,000	760	ND
3) PCB-1221	ND	760	ND
4) PCB-1232	ND	760	ND
5) PCB-1248	ND	760	ND
6) PCB-1260	ND	760	ND
7) PCB-1016	ND	760	ND

For EnviroTest Laboratories, Inc.

Ronald H. Bayer
President

7 9 2

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 554820 DATE REC'D: 87/07/01 DATE COLL'D: 87/06/30 STATUS: Closed
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-1 35 to 37

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
S.C :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Al :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		LL :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	

VSS :		Ca :		K :	
TS :	[illegible]	Cr :	17	Se :	0.2
VS :		Co :		Ag :	0.9
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	98	Fe :		Sn :	
G & O :		Pb :	15	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
[illegible] :	0.5	Hg :	[illegible] 10	TOM :	
Ba :	7.4	Mo :		TOC :	
Be :		Ni :			
Cd :	0.1	Pd :			

[illegible] mg/kg dry weight.

Ronald M. Bower
Laboratory Director [illegible]

New York State Department of Health Approved

SSB 240133

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

[illegible]

Bromodichloromethane	-	[illegible]	[illegible]
Bromoform	-	[illegible]	
Bromomethane	-	[illegible]	
Carbon tetrachloride		1,1,1-trichloroethane	
Chlorobenzene	:	1,1,2-trichloroethane	-
Chloroethane	-	[illegible]	-
2-chloroethylvinyl ether	-	[illegible]	
Chloroform	-	1,1-[illegible]	
Chloromethane	-	[illegible]	:
[illegible]	-	Carbon disulfide	
Dibromochloromethane			

1,1-dichloroethane	-	Benzene	
1,2-dichloroethane	:	1,2-dichlorobenzene	:
1,1-dichloroethylene	:	1,3-dichlorobenzene	-
1,2-dichloropropane		1,4-dichlorobenzene	-
Methylene chloride	-	Ethylbenzene	
1,1,2,2-tetrachloroethane		Toluene	-
		Total [illegible]	

All [illegible] analyzed.

[illegible]

[illegible]

New York State Department of Health Approved

SSB 240134

LAB # 55482C

Client: ERM Northeast

Spl Location: B-1 35-37'

Spl Coll'd: 6/30/87

Sample Rec'd: 7/1/87

EPA Method 608 PCBs GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) PCB-1242	ND	82	ND
2) PCB-1254	160	82	ND
3) PCB-1221	ND	82	ND
4) PCB-1232	ND	82	ND
5) PCB-1248	ND	82	ND
6) PCB-1260	ND	82	ND
7) PCB-1016	ND	82	ND

For EnviroTest Laboratories, Inc.

Ronald A. Bayer
President

7/27/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55482D DATE RECD: 87/07/01 DATE COLL D: 87/06/30 STATUS: closed
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: test pit area B 10 below grade

REPORT TO: same
BILL TO: same

T COLI:		Cr+6	:	COD	:
F COLI:		Phenol:		HARD-T	:
SPC	:	TN	:	Ca Hard:	
F	:	B	:	SO3	:
NO3	:	Br	:	Cl	:
NO2	:	Color	:	Alk	:
T PO4	:	Odor	:	BOD-Inf:	
O-PO4	:	Turb	:	BOD-Eff:	
SO4	:	pH	:	BOD-S	:
MBAS	:	LI	:	TSS-Inf:	
SiO2	:	Cond	:	TSS-Eff:	
H2S	:	NH3-T	:	MLSS	:
NH3-C	:	TKN	:	MLVSS	:

VSS	:		La	:		K	:
TS	:		Cr	:	8.7	Se	: 0.2
VS	:		Co	:		Ag	: 4.4
TDS	:		Cu	:		Hg	:
SG	:		Mo	:		Tl	:
% SOL	:	97	Fe	:		Sn	:
G & O	:		Pb	:	17	Ti	:
Al	:		Mg	:		V	:
Sb	:		Mn	:		Zn	:
As	:	0.54	Ni	:	0.04	TRM	:
Ba	:	9.0	Mo	:		TOC	:
Be	:		Na	:			
Cd	:	0.2	Pd	:			

Comment: All results in mg/kg or mg/l.

Donald A. Bayer
Laboratory Director 7/9/87

New York State Department of Health Approved

SSB 240136

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

[illegible]

VOLATILE ORGANICS ANALYSIS

Bromodichloromethane	:	1,1,1-Trichloroethane	[illegible]
Bromoform	-	trans-1,3-dichloropropene	
Bromomethane	-	trans-1,2-dichloroethylene	
Carbon tetrachloride	-	1,1,2-trichloroethane	
Chlorobenzene	-	1,1,2-trichloroethane	-
Chloroethane	:	Trichloroethylene	
2-Chloroethyl vinyl ether	:	Trichlorofluoromethane	
Chloroform	-	1,1,2-trichloro-1,2,2-trifluoroethane	
Chloromethane	:	Vinyl chloride	
cis-1,3-dichloropropene	-	Vinyl acetate	-
Dibromochloromethane	:		
1,1-dichloroethane	:	Benzene	
1,2-dichloroethane	-	1,2-dichlorobenzene	:
1,1-dichloroethylene	-	1,3-dichlorobenzene	
1,2-dichloropropane	:	1,4-dichlorobenzene	
Methylene chloride	-	Ethylbenzene	
1,1,2,2-tetrachloroethane	-	Toluene	
		Total xylenes	

[illegible]

[illegible] ug/kg

[illegible]

New York State Department of Health Approved

SSB 240137

LAB # 55482D

Client: ERM Northeast

Spl Location: Test Pit Area B
~10' below grade

Spl Coll'd: 6/30/87

Sample Rec'd: 7/1/87

EPA Method 608 PCBs GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) PCB-1242	ND	160	ND
2) PCB-1254	770	160	ND
3) PCB-1221	ND	160	ND
4) PCB-1232	ND	160	ND
5) PCB-1248	ND	160	ND
6) PCB-1260	ND	160	ND
7) PCB-1016	ND	160	ND

For Envirotest Laboratories, Inc.

Ronald A. Baver
President

7/27/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

July 27, 1987

ERM Northeast
88 Sunnyside Boulevard
Plainview, New York 11803

Attention: Glen Wygant

SUBJECT: RESULTS OF ANALYSES FOR AIR TECHNIQUES, SAMPLES RECEIVED 7/11/87, LAB NUMBER 55856.

Dear Mr. Wygant:

Enclosed please find the subject data for your review. All analyses were performed according to EPA accepted methodologies.

If there are any questions regarding this data, please do not hesitate to contact my office.

Very truly yours,

ENVIROTEST LABORATORIES, INC.

Ronald A. Bayer
President

RAB/pkd

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856A DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-2 15' to 17'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		LI :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	8.6	Se :	0.2
VS :		Co :		Ag :	0.32
TD :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	94%	Fe :		Sn :	
G & O :		Pb :	32	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	0.5	Hg :	0.04	THM :	
Ba :	1.1	Mo :		TOC :	
Be :		Ni :			
Cd :	1.4	Pd :			

Remarks: RESULTS IN MG/KG DRY WEIGHT.

Ronald A. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240140

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

New York State Department of Health Approved

SSB 240141

LAB # 55856A

Client: ERM Northeast

Spl Location: B-2 15'-17'

Spl Coll d: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/lg	RESULTS MDL ug/lg	BLANK Conc.
1) Aldrin	ND	25	ND
2) Alpha-BHC	ND	25	ND
3) Beta-BHC	ND	25	ND
4) Gamma-BHC	ND	25	ND
5) Delta-BHC	ND	25	ND
6) Chlordane	ND	200	ND
7) 4,4'-DDT	ND	25	ND
8) 4,4'-DDE	ND	25	ND
9) 4,4'-DDD	ND	25	ND
10) Dieldrin	ND	25	ND
11) Alpha-Endosulfan	ND	25	ND
12) Beta-Endosulfan	ND	25	ND
13) Endosulfan sulfate	ND	25	ND
14) Endrin	ND	25	ND
15) Endrin aldehyde	ND	25	ND
16) Heptachlor	ND	25	ND
17) Heptachlor epoxide	ND	25	ND
18) PCB-1242	ND	200	ND
19) PCB-1254	1700	200	ND
20) PCB-1221	ND	200	ND
21) PCB-1232	ND	200	ND
22) PCB-1248	ND	200	ND
23) PCB-1260	ND	200	ND
24) PCB-1016	ND	200	ND
25) Toxaphene	ND	200	ND

For EnviroTest Laboratories, Inc.

Ronald A. Beyer
President

7/28/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 558568 DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-2 25' to 27'

REPORT TO: same
BILL TO: same

T COLI		Cr+6		COD	
F COLI		Phenol		HARD-T	
SPC		CN		Ca Hard	
F		B		SO3	
NO3		Br		Cl	
NO2		Color		Alk	
T-PO4		Odor		BOD-Inf	
O-PO4		Turb		BOD-Eff	
SO4		pH		BOD-S	
MBAS		LI		TSS-Inf	
SiO2		Cond		TSS-Eff	
H2S		NH3-T		MLSS	
NH3-C		TKN		MLVSS	
VSS		Ca		K	
TS		Cr	4.4	Se	0.2
VS		Co		Ag	0.32
TDS		Cu		Na	
SS		Au		Tl	
% SOL	94%	Fe		Sn	
G & O		Pb	23	Ti	
Al		Mg		V	
Sb		Mn		Zn	
As	0.5	Hg	<0.04	THM	
Ba	7.7	Mo		TOC	
Be		Ni			
Cd	0.43	Pd			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT.

Ronald A. Baver
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240143

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

New York State Department of Health Approved

SSB 240144

LAB # 55856B

Client: ERM Northeast

Spl Location: B-2 25-27'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.6	ND
2) Alpha-BHC	ND	2.6	ND
3) Beta-BHC	ND	2.6	ND
4) Gamma-BHC	ND	2.6	ND
5) Delta-BHC	ND	2.6	ND
6) Chlordane	ND	26	ND
7) 4,4'-DDT	ND	2.6	ND
8) 4,4'-DDE	ND	2.6	ND
9) 4,4'-DDD	ND	2.6	ND
10) Dieldrin	ND	2.6	ND
11) Alpha-Endosulfan	ND	2.6	ND
12) Beta-Endosulfan	ND	2.6	ND
13) Endosulfan sulfate	ND	2.6	ND
14) Endrin	ND	2.6	ND
15) Endrin aldehyde	ND	2.6	ND
16) Heptachlor	ND	2.6	ND
17) Heptachlor epoxide	ND	2.6	ND
18) PCB-1242	ND	26	ND
19) PCB-1254	ND	26	ND
20) PCB-1221	ND	26	ND
21) PCB-1232	ND	26	ND
22) PCB-1248	ND	26	ND
23) PCB-1260	ND	26	ND
24) PCB-1016	ND	26	ND
25) Toxaphene	ND	26	ND

For Envirotest Laboratories, Inc.

Ronald A. Beaver
President

7/23/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856C DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: M - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-3 15' to 17'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		LT :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	2.4	Se :	0.2
VS :		Co :		Ag :	0.35
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	85%	Fe :		Sn :	
G & O :		Pb :	34	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	<0.5	Hg :	0.04	THM :	
Ba :	6.7	Mo :		TOC :	
Be :		Ni :			
Cd :	1.2	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald A. Bauer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240146

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

[illegible]

[illegible]

[illegible]

New York State Department of Health Approved

SSB 240147

LAB # 55856C

Client: ERM Northeast

Spl Location: B-3 15-17'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.8	ND
2) Alpha-BHC	ND	2.8	ND
3) Beta-BHC	ND	2.8	ND
4) Gamma-BHC	ND	2.8	ND
5) Delta-BHC	ND	2.8	ND
6) Chlordane	ND	28	ND
7) 4,4'-DDT	ND	2.8	ND
8) 4,4'-DDE	ND	2.8	ND
9) 4,4'-DDD	ND	2.8	ND
10) Dieldrin	ND	2.8	ND
11) Alpha-Endosulfan	ND	2.8	ND
12) Beta-Endosulfan	ND	2.8	ND
13) Endosulfan sulfate	ND	2.8	ND
14) Endrin	ND	2.8	ND
15) Endrin aldehyde	ND	2.8	ND
16) Heptachlor	ND	2.8	ND
17) Heptachlor epoxide	ND	2.8	ND
18) PCB-1242	ND	28	ND
19) PCB-1254	ND	28	ND
20) PCB-1221	ND	28	ND
21) PCB-1232	ND	28	ND
22) PCB-1248	ND	28	ND
23) PCB-1260	ND	28	ND
24) PCB-1016	ND	28	ND
25) Toxaphene	ND	28	ND

For Envirotest Laboratories, Inc.

Ronald A. Bayer
President

7/23/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856D DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-3 25' to 27'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		LT :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	6.1	Se :	0.2
VS :		Co :		Ag :	0.52
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	96%	Fe :		Sn :	
G & O :		Pb :	39	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	0.5	Hg :	0.04	THM :	
Ba :	6.1	Mo :		TOC :	
Be :		Ni :			
Cd :	0.94	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald A. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

New York State Department of Health Approved

SSB 240150

LAB # 55856D

Client: ERM Northeast

Spl Location: R-3 25-27'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.5	ND
2) Alpha-BHC	ND	2.5	ND
3) Beta-BHC	ND	2.5	ND
4) Gamma-BHC	ND	2.5	ND
5) Delta-BHC	ND	2.5	ND
6) Chlordane	ND	25	ND
7) 4,4'-DDT	ND	2.5	ND
8) 4,4'-DDE	ND	2.5	ND
9) 4,4'-DDD	ND	2.5	ND
10) Dieldrin	ND	2.5	ND
11) Alpha-Endosulfan	ND	2.5	ND
12) Beta-Endosulfan	ND	2.5	ND
13) Endosulfan sulfate	ND	2.5	ND
14) Endrin	ND	2.5	ND
15) Endrin aldehyde	ND	2.5	ND
16) Heptachlor	ND	2.5	ND
17) Heptachlor epoxide	ND	2.5	ND
18) PCB-1242	ND	25	ND
19) PCB-1254	ND	25	ND
20) PCB-1221	ND	25	ND
21) PCB-1232	ND	25	ND
22) PCB-1248	ND	25	ND
23) PCB-1260	ND	25	ND
24) PCB-1016	ND	25	ND
25) Toxaphene	ND	25	ND

For Envirotest Laboratories, Inc.

Ronald A. Beyer
President

7/27/87

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856E DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-3 35' to ~~27'~~ 37'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		Ll :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	12	Se :	0.2
VS :		Co :		Ag :	0.31
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	96%	Fe :		Sn :	
G & O :		Pb :	.52	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	<0.5	Hg :	0.04	THM :	
Ba :	6.3	Mo :		TOC :	
Be :		Ni :			
Cd :	0.94	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald A. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240152

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

[illegible]

[illegible]

LAB # 55856E

Client: ERM Northeast

Spl Location: B-3 35-37'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.6	ND
2) Alpha-BHC	ND	2.6	ND
3) Beta-BHC	ND	2.6	ND
4) Gamma-BHC	ND	2.6	ND
5) Delta-BHC	ND	2.6	ND
6) Chlordane	ND	26	ND
7) 4,4'-DDT	ND	2.6	ND
8) 4,4'-DDE	ND	2.6	ND
9) 4,4'-DDD	ND	2.6	ND
10) Dieldrin	ND	2.6	ND
11) Alpha-Endosulfan	ND	2.6	ND
12) Beta-Endosulfan	ND	2.6	ND
13) Endosulfan sulfate	ND	2.6	ND
14) Endrin	ND	2.6	ND
15) Endrin aldehyde	ND	2.6	ND
16) Heptachlor	ND	2.6	ND
17) Heptachlor epoxide	ND	2.6	ND
18) PCB-1242	ND	26	ND
19) PCB-1254	ND	26	ND
20) PCB-1221	ND	26	ND
21) PCB-1232	ND	26	ND
22) PCB-1248	ND	26	ND
23) PCB-1260	ND	26	ND
24) PCB-1016	ND	26	ND
25) Toxaphene	ND	26	ND

For EnviroTest Laboratories, Inc.

Ronald A. Bayer
President

7/23/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856F DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM Northeast FNAME:
STREET: CITY: STATE: ZIP:
SAMPLE LOCATION: B-4 15' to 17'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SP :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		Li :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	5.6	Se :	0.2
VS :		Co :		Ag :	0.31
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	97%	Fe :		Sn :	
G & O :		Pb :	29	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	0.5	Hg :	0.04	THM :	
Ba :	6.2	Mo :		TOL :	
Be :		Ni :			
Cd :	0.10	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT.

Ronald A. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240155

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

New York State Department of Health Approved

SSB 240156

LAB # 55856F

Client: ERM Northeast

Spl Location: B-4 15-17'

Spl Coll d: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.6	ND
2) Alpha-BHC	ND	2.6	ND
3) Beta-BHC	ND	2.6	ND
4) Gamma-BHC	ND	2.6	ND
5) Delta-BHC	ND	2.6	ND
6) Chlordane	ND	26	ND
7) 4,4'-DDT	ND	2.6	ND
8) 4,4'-DDE	ND	2.6	ND
9) 4,4 -DDD	ND	2.6	ND
10) Dieldrin	ND	2.6	ND
11) Alpha-Endosulfan	ND	2.6	ND
12) Beta-Endosulfan	ND	2.6	ND
13) Endosulfan sulfate	ND	2.6	ND
14) Endrin	ND	2.6	ND
15) Endrin aldehyde	ND	2.6	ND
16) Heptachlor	ND	2.6	ND
17) Heptachlor epoxide	ND	2.6	ND
18) PCB-1242	ND	26	ND
19) PCB-1254	ND	26	ND
20) PCB-1221	ND	26	ND
21) PCB-1232	ND	26	ND
22) PCB-1248	ND	26	ND
23) PCB-1260	ND	26	ND
24) PCB-1016	ND	26	ND
25) Toxaphene	ND	26	ND

For EnviroTest Laboratories, Inc.

Ronald A. Bayer
President

7/23/87

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856G DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-4 25' to 27'

REPORT TO: same
BILL TO: same

T COLI	:	Cr+6	:	COD	:
F COLI	:	Phenol	:	HARD-T	:
SPC	:	CN	:	Ca Hard	:
F	:	B	:	SO3	:
NO3	:	Br	:	Cl	:
NO2	:	Color	:	Alk	:
T-PO4	:	Odor	:	BOD-Inf	:
O-PO4	:	Turb	:	BOD-Eff	:
SO4	:	pH	:	BOD-S	:
MBAS	:	LI	:	TSS-Inf	:
SiO2	:	Cond	:	TSS-Eff	:
H2S	:	NH3-T	:	MLSS	:
NH3-C	:	TKN	:	MLVSS	:

VSS	:	Ca	:	K	:		
TS	:	Cr	:	12	Se	:	0.2
VS	:	Co	:		Ag	:	0.42
TDS	:	Cu	:		Na	:	
SS	:	Au	:		Tl	:	
% SOL	: 96%	Fe	:		Sn	:	
G & O	:	Pb	:	34	Ti	:	
Al	:	Mg	:		V	:	
Sb	:	Mn	:		Zn	:	
As	: 0.5	Hg	:	0.04	THM	:	
Ba	: 11	Mo	:		TOC	:	
Be	:	Ni	:				
Cd	: 0.20	Pd	:				

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald A. Baver
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240158

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New York State Department of Health Approved

SSB 240159

LAB # 55856G

Client: ERM Northeast

Spl Location: B-4 25-27'

Spl Coll d: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	3.0	ND
2) Alpha-BHC	ND	3.0	ND
3) Beta-BHC	ND	3.0	ND
4) Gamma-BHC	ND	3.0	ND
5) Delta-BHC	ND	3.0	ND
6) Chlordane	ND	30	ND
7) 4,4'-DDT	ND	3.0	ND
8) 4,4'-DDE	ND	3.0	ND
9) 4,4'-DDD	ND	3.0	ND
10) Dieldrin	ND	3.0	ND
11) Alpha-Endosulfan	ND	3.0	ND
12) Beta-Endosulfan	ND	3.0	ND
13) Endosulfan sulfate	ND	3.0	ND
14) Endrin	ND	3.0	ND
15) Endrin aldehyde	ND	3.0	ND
16) Heptachlor	ND	3.0	ND
17) Heptachlor epoxide	ND	3.0	ND
18) PCB-1242	ND	30	ND
19) PCB-1254	ND	30	ND
20) PCB-1221	ND	30	ND
21) PCB-1232	ND	30	ND
22) PCB-1248	ND	30	ND
23) PCB-1260	ND	30	ND
24) PCB-1016	ND	30	ND
25) Toxaphene	ND	30	ND

For Envirotest Laboratories, Inc.

Ronald A. Bayer
President

7/23/87

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856H DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-5 15' to ~~27'~~ 17'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk. :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		Ll :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		F :	
TS :		Cr :	11	Se :	0.2
VS :		Co :		Ag :	0.31
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	96%	Fe :		Sn :	
G & O :		Pb :	24	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	0.5	Hg :	0.04	THM :	
Ba :	8.4	Mo :		TOC :	
Be :		Ni :			
Cd :	0.10	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald A. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240161

EnviroTest Laboratories Inc.

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Newburgh, NY 12550
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[illegible]

New York State Department of Health Approved

SSB 240162

LAB # 55856H

Client: ERM Northeast

Spl Location: B-5 15-17'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.5	ND
2) Alpha-BHC	ND	2.5	ND
3) Beta-BHC	ND	2.5	ND
4) Gamma-BHC	ND	2.5	ND
5) Delta-BHC	ND	2.5	ND
6) Chlordane	ND	25	ND
7) 4,4'-DDT	ND	2.5	ND
8) 4,4'-DDE	ND	2.5	ND
9) 4,4'-DDD	ND	2.5	ND
10) Dieldrin	ND	2.5	ND
11) Alpha-Endosulfan	ND	2.5	ND
12) Beta-Endosulfan	ND	2.5	ND
13) Endosulfan sulfate	ND	2.5	ND
14) Endrin	ND	2.5	ND
15) Endrin aldehyde	ND	2.5	ND
16) Heptachlor	ND	2.5	ND
17) Heptachlor epoxide	ND	2.5	ND
18) PCB-1242	ND	25	ND
19) PCB-1254	ND	25	ND
20) PCB-1221	ND	25	ND
21) PCB-1232	ND	25	ND
22) PCB-1248	ND	25	ND
23) PCB-1260	ND	25	ND
24) PCB-1016	ND	25	ND
25) Toxaphene	ND	25	ND

For Envirotest Laboratories, Inc.

Ronald A. Beaver
President

7/27/87

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

LAB#: 55856I DATE REC'D: 87/07/11 DATE COLL'D: 87/07/10 STATUS: CLOSED
LNAME: ERM - Northeast FNAME:
STREET: CITY: STATE: ZIP:
SPL LOCATION: B-5 25' to 27'

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
F COLI:		Phenol:		HARD-T :	
SPC :		CN :		Ca Hard:	
F :		B :		SO3 :	
NO3 :		Br :		Cl :	
NO2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :		BOD-Eff:	
SO4 :		pH :		BOD-S :	
MBAS :		LI :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
H2S :		NH3-T :		MLSS :	
NH3-C :		TKN :		MLVSS :	
VSS :		Ca :		K :	
TS :		Cr :	14	Se :	0.2
VS :		Co :		Ag :	0.42
TDS :		Cu :		Na :	
SS :		Au :		Tl :	
% SOL :	94%	Fe :		Sn :	
G & O :		Pb :	40	Ti :	
Al :		Mg :		V :	
Sb :		Mn :		Zn :	
As :	0.5	Hg :	0.04	THM :	
Ba :	9.3	Mo :		TOC :	
Be :		Ni :			
Cd :	1.2	Pd :			

Remarks: ALL RESULTS IN MG/KG DRY WEIGHT

Ronald R. Bayer
Laboratory Director 7/23/87

New York State Department of Health Approved

SSB 240164

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
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New York State Department of Health Approved

LAB # 55856I

Client: ERM Northeast

Spl Location: B-5 25-27'

Spl Coll'd: 7/10/87

Sample Rec'd: 7/11/87

EPA Method 608 Pesticide/PCB GC/EC

COMPOUND	RESULTS Sample Concen. ug/kg	RESULTS MDL ug/kg	BLANK Conc.
1) Aldrin	ND	2.5	ND
2) Alpha-BHC	ND	2.5	ND
3) Beta-BHC	ND	2.5	ND
4) Gamma-BHC	ND	2.5	ND
5) Delta-BHC	ND	2.5	ND
6) Chlordane	ND	25	ND
7) 4,4'-DDT	ND	2.5	ND
8) 4,4'-DDE	ND	2.5	ND
9) 4,4'-DDD	ND	2.5	ND
10) Dieldrin	ND	2.5	ND
11) Alpha-Endosulfan	ND	2.5	ND
12) Beta-Endosulfan	ND	2.5	ND
13) Endosulfan sulfate	ND	2.5	ND
14) Endrin	ND	2.5	ND
15) Endrin aldehyde	ND	2.5	ND
16) Heptachlor	ND	2.5	ND
17) Heptachlor epoxide	ND	2.5	ND
18) PCB-1242	ND	25	ND
19) PCB-1254	ND	25	ND
20) PCB-1221	ND	25	ND
21) PCB-1232	ND	25	ND
22) PCB-1248	ND	25	ND
23) PCB-1260	ND	25	ND
24) PCB-1016	ND	25	ND
25) Toxaphene	ND	25	ND

For Envirotest Laboratories, Inc.

Ronald A. Bayer
President

7/2.../87

SYSTEMATIC SUBSURFACE SOIL SAMPLING AND ANALYSIS REPORT

WEST OF THE 140 AND 100 BUILDINGS AND SOUTHWEST OF THE 100 BUILDING

(SURVEY UNIT 01 AND SURVEY UNIT 02)

FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY

HICKSVILLE, NEW YORK

SITE NUMBER V 00089-1

Prepared by
URS Corporation
and
Envirocon, Inc.

For:

GTE Operations Support Incorporated
600 Hidden Ridge Drive
Irving, Texas 75038

August 2005 (Revision 1: November 2005)

This West of the 140 and 100 Buildings and Southwest of the 100 Building (Survey Unit 01 and Survey Unit 02) Report has been reviewed by URS Corporation – New York, and I am in agreement with the conclusions.

URS Corporation – New York

Robert D. Brathovde, P.E.
Engineer of Record

This West of the 140 and 100 Buildings and Southwest of the 100 Building (Survey Unit 01 and Survey Unit 02) Report has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the conclusions.

Professional Radiation Consulting, Inc.

Shane Brightwell, CHP
President

This West of the 140 and 100 Buildings and Southwest of the 100 Building (Survey Unit 01 and Survey Unit 02) Report has been reviewed by Envirocon, Inc. and I am in agreement with the conclusions.

Envirocon, Inc.

Richard Hafner
Radiation Safety Officer

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Tables

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Table 2: SU01 and SU02 Soil Boring Sample Results
Severn Trent Laboratories, Inc.

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Figure 1: Survey Units West of the 140 and 100 Buildings and Southwest of the 100 Building
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Appendices

Appendix A: Systematic Subsurface Soil Sampling and Analysis Plan, West of the 140 and 100 Buildings and Southwest of the 100 Building, September 2004
Appendix B: Correspondence regarding the Systematic Subsurface Soil Sampling and Analysis Plan, West of the 140 and 100 Buildings and Southwest of the 100 Building, September 2004
Appendix C: Boring Logs (Boring Logs are included as Appendix C on the enclosed CD. The enclosed CD includes a complete electronic copy of this report.)
Appendix D: MARSSIM and *COMPASS Software* Evaluations

1.0 INTRODUCTION

This report provides the results, data assessments and conclusions made with respect to the characterization of surface and subsurface soils pursuant to the *Systematic Subsurface Soil Sampling and Analysis Plan, West of the 140 and 100 Buildings and Southwest of the 100 Building* (SSSA Plan), dated September 2004 (**Appendix A**) at the Former Sylvania Electric Products Incorporated (Sylvania) facility located at 140, 100 and 70 Cantiague Rock Road, Hicksville, New York (the Site). The SSSA Plan was approved by the New York State Department of Environmental Conservation (NYSDEC) in a letter dated October 8, 2004. This letter is included in **Appendix B**.

The areas investigated were designated as Survey Units (SUs) as defined in NUREG 1575, *Multi-Agency Radiation Survey and Site Investigation Manual* (the MARSSIM). The area designated as SU01 is west of the 140 and 100 Buildings. The area designated as SU02 is south of the 100 Building and west of Cell 9 (**Figure 1**). This investigation commenced on October 13, 2004 and sampling was completed on January 20, 2005.

Included in this report are sample analytical results, data assessments and conclusions regarding radiological, volatile organic compounds (VOCs) and nickel (Ni) data. Also reported herein are the analytical results for beryllium (Be).

2.0 SCREENING AND SAMPLING

A systematic triangular sampling pattern was used to provide uniform lateral coverage of the SUs. Soil borings were advanced and soil samples were collected continuously, beginning at ground surface to 30 feet below ground surface (bgs). The sampling pattern grid, rows and boring locations are shown in **Figure 1**.

A 2-foot (ft) long split spoon sampling device was advanced for soil retrieval. The recovered soils were screened using a photoionization detector (PID) for VOCs and a 3-inch sodium iodide (NaI) detector for radioactivity prior to sample collection.

The samples designated as sample point (SP) samples were collected at intervals that were vertically staggered by 1 meter (m) (approximately 3 ft). SP samples were collected in 2-ft increments to maximize sample volume. This additional volume of soil was needed to perform both on-Site and off-Site analyses. Row 1 borings had SP samples at 1 ft, 11 ft and 21 ft; Row 2 borings had SP samples at 4 ft, 14 ft and 24 ft; and Row 3 borings had SP samples at 7 ft, 17 ft and 27 ft. In addition, each boring had an SP sample at 30 ft (**Figure 2**).

Samples designated as delineation (DL) samples were collected in 1-ft increments between the staggered SP sample intervals.

Samples were analyzed both on Site for timely response to guide investigation and off Site at Severn Trent Laboratories, Inc. (STL) of Earth City, Missouri for final verification. The sample analytical results were compared to the Site cleanup levels specified in the approved *Comprehensive Soil Remediation Program Work Plan, Former Sylvania Electric Products*

Facility, January 18, 2002 (Revision 5: June 2003) (Work Plan). Intervals, increments and analyses for each row type are summarized on **Figure 2**.

A field geologist classified the soils in general accordance with the Unified Soil Classification System (USCS). Sample descriptions included soil type, color, moisture, and visual observations. Boring Logs are provided in **Appendix C**.

2.1 RADIONUCLIDES

DL samples were homogenized and analyzed on Site by gamma spectroscopy for thorium (Th-232) and uranium (U-238).

SP samples were homogenized and split. One portion was analyzed on Site by gamma spectroscopy and the other portion was sent off Site to STL for alpha spectroscopy analysis. STL performed isotopic thorium analysis using National Academy of Science (NAS)/Department of Energy (DOE) 3004/RP-725 and isotopic uranium analysis using NAS/DOE 3050/RP-725 (which includes U-234).

2.2 VOLATILE ORGANIC COMPOUNDS

DL samples were collected and analyzed for VOCs if PID readings were greater than 25 parts per million (ppm) or if visual observations (e.g., staining) warranted. DL samples were to be analyzed on Site by Stone Environmental Inc. (SEI) for trichloroethene (TCE) and tetrachloroethene (PCE) using solid phase microextraction and capillary gas chromatography. Based on field screening results, as noted in the boring logs (**Appendix C**), no DL samples were identified for analysis on Site.

Two samples were collected at each SP interval for VOC analysis. One sample was analyzed on Site by SEI. The other sample was sent off Site to STL for VOC analysis using United States Environmental Protection Agency (USEPA) Method 8260B.

2.3 METALS

DL samples were collected for Ni analysis at alternating 1-ft intervals between SP samples. If sample recovery was insufficient, analysis could not be performed. In such an event, a sample for Ni was collected at the next available interval and at alternate intervals thereafter. Ni DL samples were analyzed on Site using x-ray fluorescence spectroscopy (XRF) by SEI.

Two samples were collected at each SP interval for metals analysis. One sample was analyzed on Site by SEI for Ni. The other sample was sent off Site to STL for analysis of Ni and Be using USEPA Method 6010B.

2.4 SAMPLING SUMMARY

The SSSA Plan was designed to allow flexibility to respond to field conditions (e.g., boring relocation and insufficient sample recovery). Eight soil borings had to be moved from their

proposed locations due to limited access (e.g., utilities and obstructions). The relocations were within the limits specified in the SSSA Plan. Each soil boring location was surveyed using the laser positioning system (LPS).

In SU01 a total of 26 soil borings were advanced resulting in the recovery of 104 SP samples, 569 radionuclide DL samples, and 288 Ni DL samples. In SU02 a total of 23 soil borings were advanced resulting in the recovery of 90 SP samples, 501 radionuclide DL samples, and 260 Ni DL samples.

3.0 ANALYTICAL RESULTS/ASSESSMENTS

The results of the DL and SP sample analyses from SU01 and SU02 are summarized in **Table 1**. The results of the SP sample analyses from SU01 and SU02 are summarized in **Table 2.** Statistical assessments of radiological off-Site SP data were performed with applicable methods specified in the MARSSIM and analytical results were also compared to Site cleanup levels. VOC and Ni results were compared to the Site cleanup levels. Be results were compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 values and other published literature sources for New York State soils. These assessments are described herein.

3.1 RADIOLOGICAL

A statistical assessment of radiological SP data (with the exception of samples from the final depth) was performed using the MARSSIM methods. SP samples at the final depth were compared to the Site cleanup levels in the Work Plan.

3.1.1 Survey Unit Assessment

Each SU was characterized vertically at 3-m (10-ft) staggered depths. Since the MARSSIM provides characterization and final verification guidance primarily on surface soils, each 3-m (10-ft) SU interval was evaluated independently as if that SU interval was representative of an undulating soil surface. For the purposes of the assessment, the 0- to 3-m (0- to 10-ft) SU interval was labeled SU Interval 1, the 3- to 6-m (11- to 20-ft) was SU Interval 2, and the 6- to 9-m (21- to 30-ft) was SU Interval 3. Thus, for the 26 borings advanced in SU01, 77 samples were used in the MARSSIM assessment of the three SU intervals. For the 23 borings advanced in SU02, 66 samples were used in the MARSSIM assessment of the three SU intervals.

The assessment of the SU interval data sets was performed using the *Compass Software*. The *Compass Software* allows the user to set up the analytical data for all radiological analytes in a readable input file format, and then evaluate the data set using the applicable MARSSIM methods. The *Compass Software* evaluations of each of the three SU intervals are in **Appendix D**.

The Work Plan specifies Site cleanup levels for three radionuclides (Th-232, U-234 and U-238). The MARSSIM addresses evaluation of multiple radionuclides by employing the Sum of Ratios (SOR) Method. First, for SP samples, the ratio of the concentration for each radionuclide to its

corresponding Site cleanup level is calculated. The ratios for all three radionuclides are then summed for a single sample. This results in a single unitless SOR value for each sample. The samples in a given SU interval are then evaluated using the statistical methods inherent in the *Compass Software*.

3.1.2 Decision Analysis

The decision analysis for the radiological analytical results was based on the default null hypothesis recommended in the MARSSIM, which states: "The residual radioactivity in the survey unit exceeds the release criterion." The MARSSIM "Sign Test" (assuming no contribution from background radionuclides) was used to reject the null hypothesis. When the null hypothesis is rejected, the SU passes and qualifies for release. If the null hypothesis cannot be rejected, further investigation or remedial action may be necessary.

As stated earlier, each of the three intervals was evaluated independently. Therefore, there were a total of six independent evaluations (three intervals within each SU). The following table summarizes the results of the *Compass Software* evaluations.

SU	SU Interval	Depth Range (ft)	# Samples (N)		Sum of Ratios		Null Hypothesis	SU Interval Status
			Required	Actual	Avg	Max		
01	1	0-10	13	26	0.21	0.43	Rejected	Passes
	2	11-20	13	26	0.07	0.15	Rejected	Passes
	3	21-30	13	25	0.06	0.12	Rejected	Passes
02	1	0-10	13	21	0.31	0.86	Rejected	Passes
	2	11-20	13	23	0.07	0.10	Rejected	Passes
	3	21-30	13	22	0.06	0.13	Rejected	Passes

The evaluation of the SP analytical results for SU01 and SU02 using the *Compass Software* indicated that the average concentrations of Th-232, U-234, and U-238 are below the Site cleanup levels.

3.2 VOLATILE ORGANIC COMPOUNDS

The VOC analytical results for TCE and PCE were compared to the Site cleanup levels of 0.7 milligrams per kilogram (mg/kg) and 1.82 mg/kg, respectively. The following table provides the highest concentrations of VOC results from **Table 1**.

SU	Depth Range (ft)	TCE (mg/kg)	PCE (mg/kg)
01	0-10	0.00045 J	0.0079 J
	11-20	0.0027	0.085 J
	21-30	0.0029 U	0.0078
02	0-10	0.00098 J	0.011 J
	11-20	0.0026 U	0.0026 U
	21-30	0.0027 U	0.0027 U

Notes: U – not detected J – estimated value

Based on a review of DL and SP analytical data, TCE and PCE were not detected above Site cleanup levels.

3.3 METALS

The Ni analytical results were compared to the Site cleanup level (560 mg/kg) while the Be results were compared to NYSDEC TAGM #4046 values (0.16 mg/kg or Site background) and other published literature sources for New York State soils. The following table provides the highest concentrations of Ni and Be from **Table 1**.

SU	Depth Range (ft)	Ni (mg/kg)	Be (mg/kg)
01	0-10	49.0 J	0.69
	11-20	41.0 J	0.32 J
	21-30	43.0 J	0.37 J
02	0-10	184	1.4
	11-20	3.5 J	0.44 J
	21-30	6.4	0.24 J

Based on a review of DL and SP analytical data, Ni was not detected above the Site cleanup level. Several samples had concentrations of Be above the TAGM level of 0.16 mg/kg. However, Be concentrations in New York soils are reported to range between 0 to 7 mg/kg[1, 2]. The Be soil results are interpreted to be within the anticipated range in soils for New York State.

4.0 ADDITIONAL INVESTIGATIONS

In addition to the systematic characterization of soils in SU01 and SU02, an investigation of soils was implemented concurrently to identify and delineate contaminants associated with historic

[1] Schacklette, H.T., and J.G. Boerngen. 1984. *Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States*. US Geological Survey. Pub. 1270.
[2] Dragun, J. and A. Chiasson. 1991. *Elements in North American Soils*. Hazardous Materials Control Resources Institute. Greenbelt, Maryland.

leach pools (LPH). That investigation was implemented under the *Systematic Subsurface Soil Sampling and Analysis Plan Historic Leach Pools, September 2004, Revision 1: October 2004* (LPH Plan). The purpose of the LPH investigation was to identify and delineate contaminants, if any, associated with suspected LPHs. LPH16 and LPH17 located in subcell R69 fell within the boundaries of SU01. LPH12 in subcell A19, LPH13 in subcell Z68, LPH14 in subcell Z71, and LPH15 in subcell S69 fell within the boundaries of SU02. The findings of these LPHs did not indicate contaminants above Site cleanup levels. The results of the LPH investigation are detailed in the *Systematic Subsurface Soil Sampling and Analysis Report, Historic Leach Pools*.

5.0 CONCLUSIONS

The SP and DL results for SU01 or SU02 had no analytical results above the Site cleanup levels for radionuclides, TCE, PCE, or Ni. Several locations had Be in excess of the TAGM values but are within the anticipated range in soils for New York State. The soils within the boundaries of SU01 and SU02 meet the requirements to be released for unrestricted use.

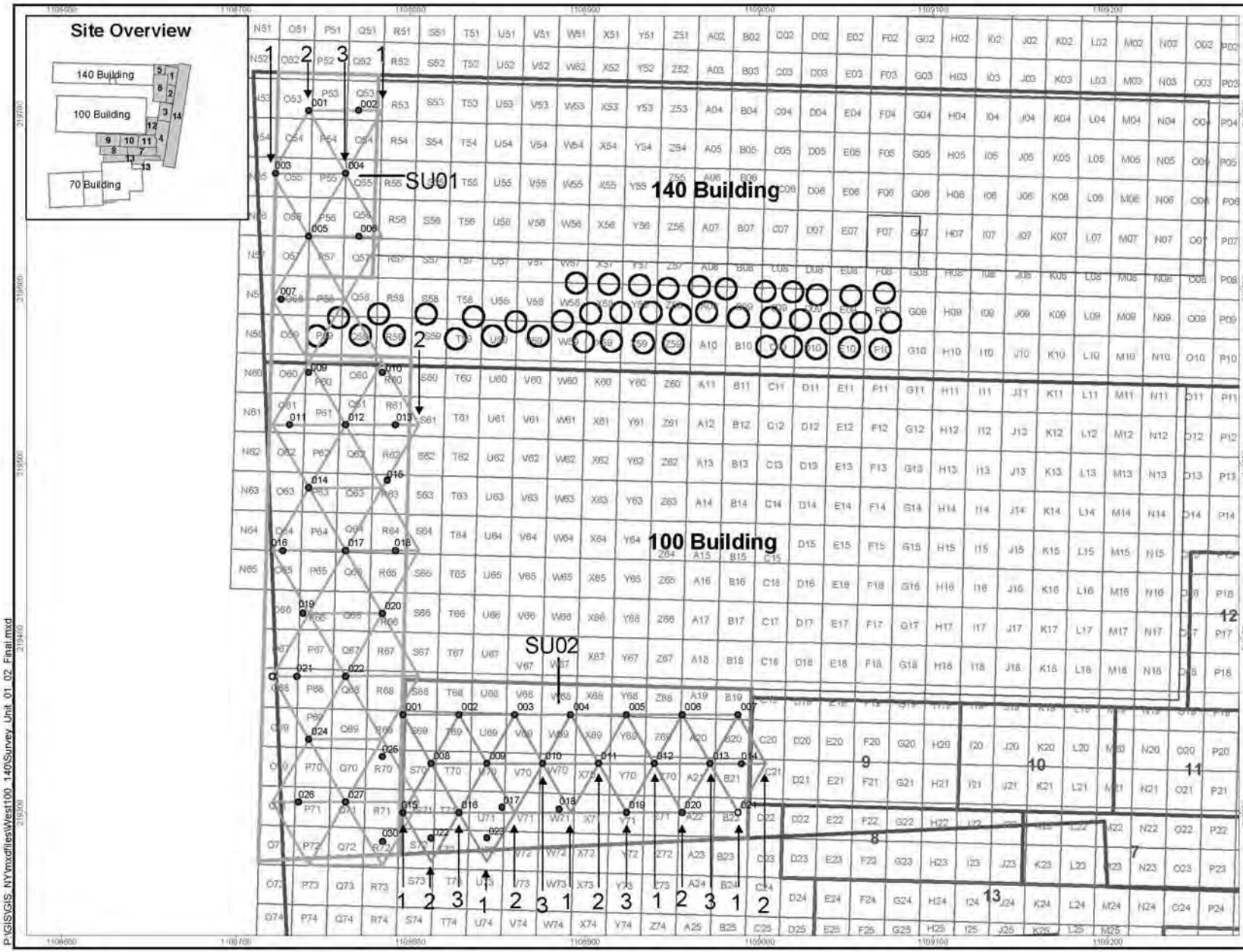

Figure 1
Survey Units West of the 140 and 100 Buildings and Southwest of the 100 Building

Figure 2

Intervals, Increments and Analyses for Samples

	Row 1			Row 2			Row 3		
SU Interval 1	0	--	No sample	0	--	No sample	0	--	No sample
	1	SP		1	DL	Rad	1	DL	Rad
	2			2	DL	Rad	2	DL	Rad & Nickel
	3	DL	Rad	3	DL	Rad & Nickel	3	DL	Rad
	4	DL	Rad & Nickel	4	SP		4	DL	Rad & Nickel
	5	DL	Rad	5			5	DL	Rad
	6	DL	Rad & Nickel	6	DL	Rad	6	DL	Rad & Nickel
	7	DL	Rad	7	DL	Rad & Nickel	7	SP	
	8	DL	Rad & Nickel	8	DL	Rad	8		
	9	DL	Rad	9	DL	Rad & Nickel	9	DL	Rad
SU Interval 2	10	DL	Rad & Nickel	10	DL	Rad	10	DL	Rad & Nickel
	11	SP		11	DL	Rad & Nickel	11	DL	Rad
	12			12	DL	Rad	12	DL	Rad & Nickel
	13	DL	Rad	13	DL	Rad & Nickel	13	DL	Rad
	14	DL	Rad & Nickel	14	SP		14	DL	Rad & Nickel
	15	DL	Rad	15			15	DL	Rad
	16	DL	Rad & Nickel	16	DL	Rad	16	DL	Rad & Nickel
	17	DL	Rad	17	DL	Rad & Nickel	17	SP	
	18	DL	Rad & Nickel	18	DL	Rad	18		
	19	DL	Rad	19	DL	Rad & Nickel	19	DL	Rad
SU Interval 3	20	DL	Rad & Nickel	20	DL	Rad	20	DL	Rad & Nickel
	21	SP		21	DL	Rad & Nickel	21	DL	Rad
	22			22	DL	Rad	22	DL	Rad & Nickel
	23	DL	Rad (1' spoon)	23	DL	Rad & Nickel	23	DL	Rad
	24	DL	Rad	24	SP		24	DL	Rad & Nickel
	25	DL	Rad & Nickel	25			25	DL	Rad
	26	DL	Rad	26	DL	Rad	26	DL	Rad & Nickel
	27	DL	Rad & Nickel	27	DL	Rad & Nickel	27	SP	
	28	DL	Rad	28	DL	Rad	28		
	29	DL	Rad & Nickel	29	DL	Rad & Nickel	29	DL	Rad (1' spoon)
	30	SP		30	SP		30	SP	
	31			31			31		
	32			32			32		

Notes:

Solid lines indicate the spoon increment (2')
Zero indicates the ground surface
Maximum depth at 30' bgs

Overview:

Row 1 = SP's (1-3', 11-13', 21-23' and 30-32')
Row 2 = SP's (4-6', 14-16', 24-26' and 30-32')
Row 3 = SP's (7-9', 17-19', 27-29' and 30-32')
All Rows = DL's at 1' increments between SP's

Analyses Intervals:

SU Interval 01:
All SP samples from rows 1, 2 and 3 that were collected between 0 - 10' bgs
SU Interval 02:
All SP samples from rows 1, 2 and 3 that were collected between 11 -20' bgs
SU Interval 03:
All SP samples from rows 1, 2 and 3 that were collected between 21 -30' bgs

Systematic Subsurface Soil Sampling and Analysis Plan

West of the 140 and 100 Buildings
and Southwest of the 100 Building

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York
GTE Operations Support Incorporated

September 2004

This Systematic Subsurface Soil Sampling and Analysis Plan has been reviewed by URS Corporation – New York, and I am in agreement with the methods and procedures to be used in this investigation.

URS Corporation – New York

Robert D. Brathovde, P.E.
Engineer of Record

This Systematic Subsurface Soil Sampling and Analysis Plan has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the methods and procedures to be used in this investigation.

Shane Brightwell, CHP
President, PRCI

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FIGURES

Figure 1 – Survey Units West of the 140 and 100 Buildings and Southwest of the 100 Building

1.0 INTRODUCTION

This Systematic Subsurface Soil Sampling and Analysis Plan (SSSA Plan) has been prepared to characterize the area west of the 140 and 100 Buildings and southwest of the 100 Building **(Figure 1)**. This SSSA Plan describes applicable guidance, characterization (i.e., survey, design and sampling protocols), and laboratory analysis. The results of this SSSA Plan will allow GTE Operations Support Incorporated (GTEOSI) to determine whether any remedial activities are necessary on the Western portion of the property.

Because the available documents relating to the Former Sylvania Electric Products Incorporated Facility (Sylvania) in Hicksville, New York (the Site) indicate that historical operations were not conducted on the western portion of the Site, the soil remediation activities at the Site to date have focused primarily on the eastern portions of the 100 and 140 Properties. Only limited subsurface characterization occurred on the western areas of the Site. While the lack of evidence of operations on the western side of the Site indicates that there should not be substantial impacts to that part of the Site relating to the operations of Sylvania, GTEOSI has decided to take a conservative approach and make a more thorough investigation of this area.

The various sections of this Plan will present the steps to be implemented in order to characterize the subsurface soils in the area west of the 140 and 100 Buildings and southwest of the 100 Building. Modifications to the steps will be permitted when field conditions or sample results indicate the modifications would better support the intent and objective of this plan as stated in Section 2.0 below. All modifications to steps in this Plan shall be made with the prior concurrence of the Radiation Safety Officer (or his designated alternate) and the prior approval of the Project Coordinator.

2.0 OBJECTIVE

The objective of this SSSA Plan is to characterize soils in specified areas as shown in **Figure 1**. For radiological characterization purposes, these areas are referred to as "survey units" (SUs) as defined in NUREG 1575, *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM). The area designated as SU01 is west of the 140 and 100 Buildings. The majority of this area is paved for parking, with a border of landscaping adjacent to the buildings. The area designated as SU02 is off the southwestern wall of the 100 Building and adjacent to the west end of Cell 9. This area is also paved for parking.

3.0 APPLICABLE GUIDANCE

Remediation at the Site is being performed in accordance with a Voluntary Cleanup Agreement, Site V-00089-1, Index W1-0903-01-12, between New York State Department of Environmental Conservation (NYSDEC) and GTEOSI. Field procedures and analytical methods identified in the Site's approved *Comprehensive Soil Remediation Work Plan (Revision 5: June 2003)* (Work Plan) have been incorporated in this SSSA Plan where appropriate. Guidance specific to radiological and chemical characterization are described in their associated sections, as applicable.

4.0 CHARACTERIZATION

The soils within the SUs are expected to contain radioactivity at or slightly above regional background concentrations or residual radioactivity well below the cleanup levels (note: the target cleanup levels are defined in the Work Plan). This expectation is based on the information listed below.

- **Historic maps, aerial photos, and historic documents** - These sources show that facility operations were not performed in the SUs, rather the areas were dedicated to vehicle parking and administration offices;

- **Interim drainage system documents** - Radiological and chemical results were not detected above cleanup levels during investigations conducted during the installation of the interim drainage system between the 140 and 100 Buildings. The interim drainage system was installed during February and March 2003. The interim drainage system is depicted by the circles in **Figure 1**. This area has a Site history similar to that of SU01 and SU02; and

- **Soil borings performed within the SUs during previous investigations** - The results from a limited soil boring investigation conducted during the Fourth Quarter of 2002. The analytical results of this investigation did not exceed the cleanup levels.

The radiological characterization is designed using guidance provided in MARSSIM as discussed below (Section 4.1). Concurrently, volatile organic compounds (VOCs) and Nickel (Ni) will be characterized as described in Section 4.2.

4.1 RADIOLOGICAL

The following sections describe the radiological guidance and sampling parameters to be used to execute this SSSA Plan. This SSSA Plan has been developed using a combination of applicable MARSSIM guidance, historic documents, and knowledge of Site subsurface conditions gained during investigations and remediation.

4.1.1 Applicable Radiological Guidance

The investigation of soils to determine the presence (if any), concentrations, extent, and boundaries of contaminants is termed a *characterization* survey. The principles for a characterization survey described in Chapter 5 of MARSSIM have been considered in developing this SSSA Plan. Specific methods recommended in MARSSIM for subsurface soil sampling have also been incorporated in this SSSA Plan.

4.1.2 Survey Unit

Classification

The SUs were designated as MARSSIM Class 3 since they are not expected to contain soils with impacts at concentrations that exceed a small fraction of the cleanup levels. Although MARSSIM suggests a random sampling pattern for Class 3 SUs, it was decided that a more conservative, systematic triangular sampling pattern would be used to provide uniform lateral coverage of the SUs. This triangular grid based system, as prescribed by MARSSIM for Class 1 and 2 SUs, is useful as it accommodates both the radiological and chemical sampling.

Layout

SU01 is approximately 3,100 square meters (m^2) or 33,370 square feet (ft^2). SU02 is approximately 1,840 m^2 or 19,805 ft^2. A MARSSIM Class 3 SU has no areal limit requirement. As indicated in Section 4.1.3, a triangular grid system will be used and nomenclature will be adopted from the Site grid system described below.

The Site is on a northing/easting planar grid coordinate system. The Site grid pattern was developed to accommodate excavation cells, and each cell is divided into subcells. Each subcell has a north-south length of 6.7 meters (m) or 22 feet (ft) and an east-west width of 6.1 m (20 ft). The subcells are uniquely identified by letter designations for north-south columns and number designations for east-west rows. This grid coordinate system will be extended and used for defining the SUs.

4.1.3 Sample Locations

Number of Horizontal Sample Location

MARSSIM bases the number of samples (N) in a SU on how close the average concentration in the SU is to the cleanup level, how much variation there is in the observed or expected concentrations, and the sensitivity of scanning capabilities with respect to the cleanup levels. For a Class 3 SU where concentrations are expected to be well below the cleanup levels, the minimum number of samples is 13. Although MARSSIM indicates only 13 samples is sufficient, up to 20 sample locations were selected to provide lateral coverage and in the event field conditions do not allow collection of soil samples at all locations. If sample locations fall outside the SU boundary due to the grid orientation, they may be relocated inside the grid.

Sample Start Point

MARSSIM suggests establishing a systematic sampling pattern using a random start point. A random number generator was used to select planar coordinates within the footprint of each of the SU boundaries. The associated systematic sample pattern, as described below, was established in the SU by placing one of the sample locations at the start point coordinates.

Horizontal Sample Locations

For each SU, once N, the SU size, the grid system pattern, and the start point were established, the sample locations were then selected and mapped. The calculated maximum distance between sampling locations (L_N) and distance between sampling rows (L'_N) are defined below.

N (samples)	L_N SU01 (meters)	L'_N SU01 (meters)	L_N SU02 (meters)	L'_N SU02 (meters)
20	13.4	11.6	10.3	8.9

Some of the sample locations may have to be modified to avoid obstructions encountered in the field (i.e., utilities). Any sample location that must be relocated up to one-third of the diagonal distance between planned sample locations [≤4.5 m (14.75 ft) in SU01 or ≤3.5 m (11.5 ft) in SU02] will be relocated accordingly. Any sample location that must be relocated a distance greater than the applicable distance specified above will be either eliminated or randomly relocated using the method for generating random coordinates as described previously.

If a sample location falls just outside of the SU boundary, the sample may be evaluated for relocation to within the SU boundary, depending on the required distance and obstructions. The result may be that the SU has more than 20 sampling locations in order to provide as uniform coverage as practical. The addition of sample points does not reduce the effectiveness of the methods described in MARSSIM.

Vertical Sampling Depth

Vertical sampling and excavation depths on Site have been measured in feet below ground surface (bgs); therefore, vertical units are expressed here in both meters and feet (in parentheses). Based on the results of subsurface soil investigations and excavations, most impacts occur from the surface down to about 7.3 m (24 ft) bgs, with infrequent impacts identified greater than 7.3 m (24 ft) bgs. Impacts below 7.3 m (24 ft) bgs were usually identified based on shallow indicators. Given this history, a target maximum sampling depth of approximately 9 m (30 ft) bgs has been established to provide an additional 2-m (6-ft) buffer and to accommodate the pattern of the vertical sampling intervals as described above.

Vertical Sample Intervals

Based on the results of excavation and subsurface soil investigations performed during remediation on Site, impacts, if present, may occur in relatively thin soil veins. Specifically, concentrations may increase from not detected to greater than the cleanup levels in the next lower 0.3-m (1-ft) interval. Within the same boring, the concentrations may then decrease rapidly over the next 0.3- or 0.6-m (1- or 2-ft) intervals. Note that the measured depths of the soil layers with elevated radiological impacts may vary due to both depositional nature of the impacts and the assumption that the surface is a uniform elevation (measured bgs).

Based on the above information, the following subsurface soil sampling parameters were established.

- Confirmation/Verification caliber samples will be collected at 3-m (10-ft) intervals. These samples will be collected, documented, labeled, and analyzed by on-Site and off-Site analytical methods as Sample Point (SP) samples. The SP samples are treated the same as Confirmation/Verification (CF/VF) samples as described in the Work Plan.

- The SP sample pattern was established so that each sample at the corner of an equilateral triangle is vertically staggered by 1 m (3.3 ft), for example:

    1. The first triangle corner (#1) sampling location will have SP samples collected from the top 1-ft segment of the 1-, 4-, and 7-m (1-, 11-, and 21-ft) intervals.

    2. The second triangle corner (#2) sampling location will have SP samples collected from the top 1-ft segment of the 2-, 5-, and 8-m (4-, 14-, and 24-ft) intervals.

    3. The third triangle corner (#3) sampling location will have SP samples collected from the top 1-ft segment of the 3-, 6-, and 9-m (7-, 17-, and 27-ft) intervals.

The staggered vertical sample pattern result for a single set of three adjacent sample locations resembles a triangular "staircase" or helical pattern. This pattern works as follows*:

a) The sample locations in the westernmost north-south oriented column are all sampled at the intervals outlined in #1 above.

b) The sample locations in the second north-south oriented column to the east are all sampled at intervals outlined in #2 above.

c) The sample locations in the third north-south oriented column to the east are all sampled at the intervals outlined in #3 above.

* The pattern repeats after every third column.

- The 0.3-m (1-ft) interval samples between the SP Sample intervals will be collected and analyzed on Site as Delineation (DL) Samples. This will provide additional assurance that relatively thin veins of impacts present between the SP interval samples will be identified.

4.2 CHEMICAL

As indicated in the introduction of this SSSA Plan, the potential for residual VOCs and Ni in the SUs will be evaluated concurrently with the radiological impacts. The triangular grid system established under MARSSIM and the vertical interval sampling were evaluated and accepted. This system provides both vertical and lateral coverage to adequately evaluate the potential for chemical impacts. If elevated concentrations of VOCs and/or Ni are detected, a biased sampling approach would then be implemented.

4.3 MATERIALS AND METHODS

The following narrative describes the sample collection, analysis, and evaluation methodology to be used to execute this SSSA Plan.

4.3.1 Soil Sampling Equipment

A hollow-stem auger drill rig with split-spoon sampling capabilities will be used to collect soil samples. The split spoon [0.6 m (2 ft) in length and 0.08 m (3 inches) in diameter] will be advanced in 0.6-m (2-ft) intervals. Two, 1-foot interval samples will be collected per split-spoon.

4.3.2 Sample Field Screening and Preparation

Each sample will be initially field-screened with a 3-inch sodium iodide (NaI) gamma detector to evaluate potential residual radiological impacts and a photoionization detector (PID) to evaluate the presence of VOCs. In addition, an x-ray fluorescence (XRF) spectrometer will be used on Site to screen samples for Ni. Sample descriptions and field observations will be documented on the boring logs.

4.3.3 Sample Collection

A minimum of two samples will be collected per split spoon barring loss or incomplete recovery. These samples will be designated as either DL or SP, as applicable. The DL samples will be collected at the intervals between SP samples from the surface down to the bottom sampling depth of approximately 9 m (30 ft) bgs.

Radiological samples collected will be placed in 1-liter Marinelli containers. The DL samples will be used for radiological screening and analyzed on Site using gamma spectroscopy. The SP samples will be analyzed for radionuclides on Site and off Site, consistent with the Work Plan criteria for CF/VF sampling.

Chemical samples collected will be placed in both pre-preserved methanol vials and non-preserved 40-ml vials. The DL samples will not be analyzed for VOCs or Ni unless field screening/observations support collection and analysis of a chemical sample. The SP samples will be analyzed for VOCs, both on Site and off Site, consistent with the Work Plan criteria for CF/VF sampling.

A geologist will describe the samples in general accordance with the Unified Soil Classification System (USCS). Sample descriptions will include soil type, color, moisture, and other visual observations and field readings. This information will be documented on soil boring logs.

All samples will be logged into the Site sample tracking and barcode system.

4.3.4 Sample Analysis

Each DL sample will be analyzed for 10 minutes by on-Site gamma spectroscopy (providing a nominal detection limit of approximately 0.014 pCi/g for Th-232 and 3.6 pCi/g for U-238, both of which are far below the Site cleanup levels) to quantify the concentrations of target radionuclides of U and Th. Each SP sample will be analyzed for 30 minutes by on-Site gamma spectroscopy (providing a nominal detection limit of approximately 0.008 pCi/g for Th-232 and 2.0 pCi/g for U-238, both of which are far below the Site cleanup levels) as well as by alpha spectroscopy (alpha-spec) at the off-Site laboratory [Severn Trent Laboratories, Earth City, Missouri (STL)] for isotopic U and Th.

If DL samples are collected for chemical analyses, they will be analyzed for VOCs on Site by Stone Environmental. Each SP sample will be analyzed for VOCs and Ni on Site by Stone Environmental as well as by STL for VOCs and Ni.

5.0 SAMPLING/ANALYSIS PROCEDURE

The following is the step-by-step procedure for sample collection and subsequent analysis. It is the responsibility of each technician to read, understand, and question if they do not understand, the following procedures.

1. The applicable Chemical/Radiological Work Permit (C/RWP) and Activity Hazards Analysis (AHA) will be in place prior to commencement of sampling.

2. The field crew will be briefed on this procedure prior to commencement of sampling.

3. Each sampling location will be located and surveyed in the field using either a laser positioning system (LPS) or global positioning system (GPS) surveying system.

4. Each sample location will be investigated for utilities and obstructions prior to saw cutting any pavement or commencement of sampling. If a sample location is in an area where utilities or obstructions have been identified, then the sample location shall be adjusted to a safe, practical location as close to the proposed location as possible, but no more distant than 4.5 m (13 ft) in SU01, or 3.5 m (11.5 ft) in SU02. Any sample location that cannot be relocated within these criteria will be eliminated or randomly relocated per Section 4.1.3.

5. The split-spoon sampler will be advanced to the predetermined maximum depth range of approximately 9 m (30 ft) bgs, in 0.6-m (2-ft) intervals, collecting two, 0.3-m (1-ft) samples per sampling cycle.

6. Radiological field screening of samples will be conducted on each sample using a NaI gamma detector.

7. Chemical field screening of samples for VOCs will be conducted on each sample using a PID. An XRF spectrometer will be used for on-Site Ni screening of every other sample beginning with the second sample in the boring, continuing with the fourth sample, sixth sample, etc. Soil samples (~100g) for Ni screening by XRF will be collected in Ziploc® bags if the soils are relatively dry and in glass jars if the moisture content is 20% or higher. The samples will be delivered to Stone Environmental for either direct screening by XRF, or for drying in an oven, and then screening by XRF. DL samples not forwarded to STL for analyses will be archived on Site. For those DL QC samples to be submitted to STL, the soils will be transferred from the Ziploc® bags to 40-ml glass vials in the sample preparation area. For QC purposes, every tenth sample will be screened by XRF and then submitted to STL for duplicate analyses.

8. A geologist will log the borings and record observations and measurements consistent with the USCS nomenclature and procedures, noting indications of soil impacts by chemicals and other potential contributors to contamination.

9. DL screening samples will be collected at the intervals between SP samples prescribed in Section 4.1.3. Radiological DL samples will be analyzed by on-Site gamma spectroscopy for a 10-minute count time. If field conditions warrant and chemical DL samples are collected, they will be analyzed for VOCs on Site by Stone Environmental.

10. SP samples will be collected at the intervals prescribed in Section 4.1.3 and will be treated in the same manner as a CF/VF samples. Radiological SP samples will be analyzed by on-Site gamma spectroscopy for a 30-minute count time as well as off-Site isotopic analyses by STL. Chemical SP samples will be collected and placed in vials with methanol for on-Site analysis by Stone Environmental and in 40-ml vials for submission to STL for analysis of VOCs. For those soils designated as SP samples, following the XRF screening, the soils will be transferred from the Ziploc® bag and placed in 40-ml glass vials in the sample preparation area and submitted to STL for Ni analysis.

11. After the completion of sampling from a given location, the borehole will be backfilled with clean cuttings and/or on-Site clean backfill material to within 0.1 to 0.15 m (4 to 6 inches) of the top of the borehole. The remaining 0.1 to 0.15 m (4 to 6 inches) will be filled with asphalt or other applicable surfacing material.

12. Decontamination of sampling equipment will be performed in accordance with SOP-RAD-011, *Equipment Decontamination* and in accordance with the chemical decontamination procedures.

6.0 TARGET CONCENTRATIONS

The soil concentrations for all samples will be compared to the Site cleanup levels as defined in the Work Plan.

7.0 ASSESSMENT

Since the SUs are covered with asphalt, concrete, landscaping (in few smaller areas near the buildings), performing surface radiation scans as surveys are not practical to detect the presence of surface or subsurface radiological impacts in excess of cleanup criteria. MARSSIM allows for modifications to the survey design to address subsurface soils. However, in order to classify SUs as non-impacted, subsurface characterization is required. In addition, the data quality objectives process also allows that, based on the data needs for a survey, the decision can be made that sampling and analysis are necessary.

7.1 RADIOLOGICAL

7.1.1 Survey Unit Assessment

Each SU will be characterized/verified vertically at 3-m (10-ft) staggered intervals. This approach for subsurface soils is not directly addressed in MARSSIM, which provides characterization and final verification guidance primarily on surface soils. Therefore, each 3-m (10-ft) depth interval will be evaluated independently as if that interval were representative of an undulating soil surface, using the MARSSIM approach to surface soils. The SP samples within each 3-m (10-ft) depth interval will be treated as if they were collected from a continuous varying surface that existed at their corresponding depths [i.e., all samples in the 0 to 3-m (0 to 10-ft) interval will be evaluated independently using a MARSSIM statistical test and all samples in the 3 to 6-m (10 to 20-ft) interval will be evaluated independently using the MARSSIM statistical test]. This approach will be used for each of the 3-m (10-ft) intervals.

7.1.2 Decision Analysis

The radiological analytical results will be evaluated using the default null hypothesis recommended in MARSSIM, which states: "The residual radioactivity in the survey unit exceeds the release criterion." The MARSSIM "Sign Test" (assuming no contribution from background radionuclides) will be used to reject the null hypothesis. When the null hypothesis is rejected, then the SU will pass and qualify for release. If the null hypothesis cannot be rejected, further investigation or remedial action may be necessary.

As stated earlier, each 3-m (10-ft) sampling interval data set will be evaluated independently as a soil (undulating planar) surface sample set generated from all SP samples within that 3-m (10-ft) interval. Therefore, there will be at least three independent evaluations of the surface and subsurface soils within each SU.

7.2 CHEMICAL

The chemical analytical results will be evaluated independently and compared to the Site Cleanup levels specified in the Work Plan. Exceedences will be considered for additional investigation or remedial action, as appropriate.

8.0 SCHEDULE

The work described in this SSSA Plan will be initiated in October 2004.

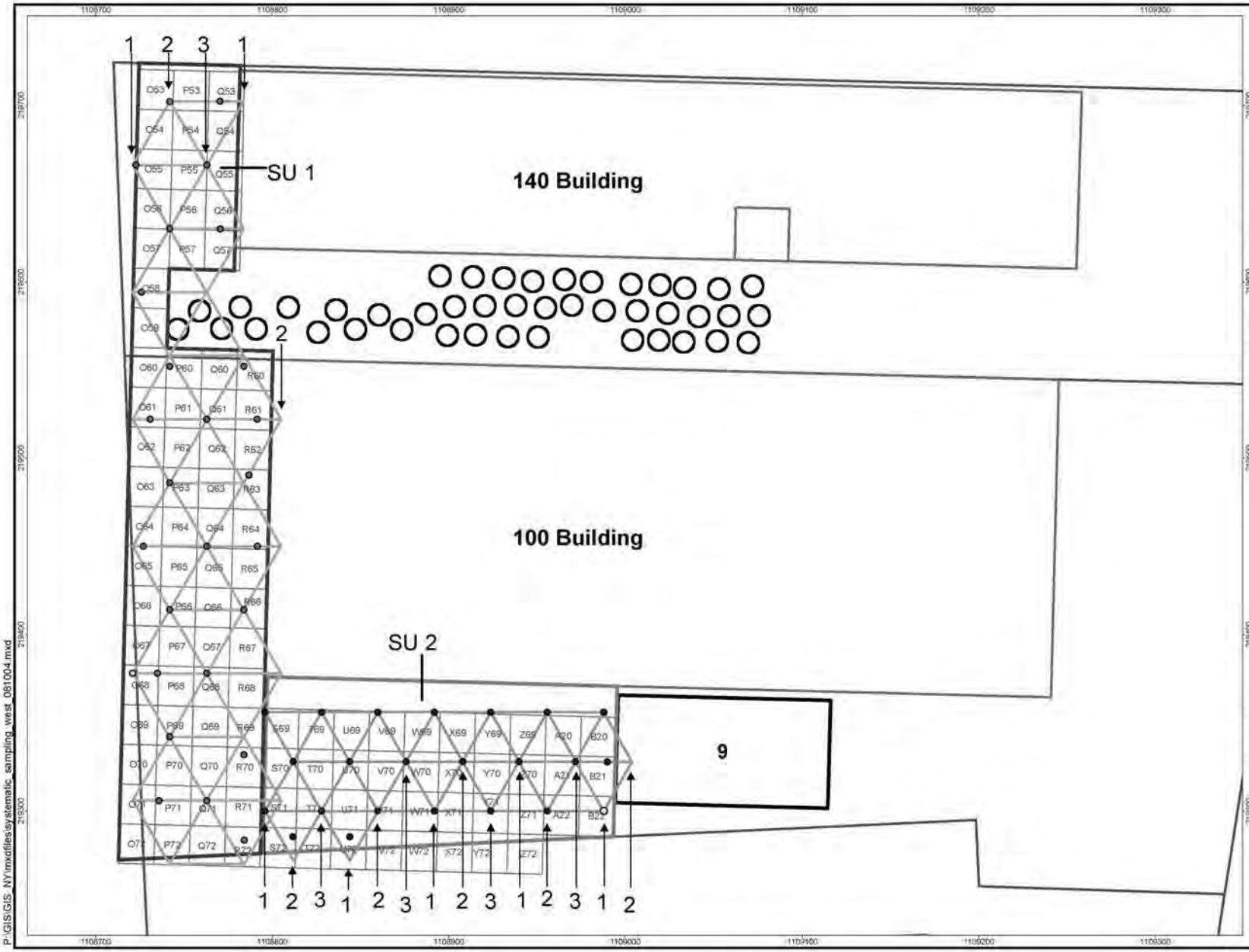

Figure 1
West/Southwest of 100 and 140 Buildings Systematic Sampling

Legend

- Proposed Random Sample Start Point- SU 1
- Systematic Sampling Locations-SU1
- Systematic Sampling Grid - SU 1
- Proposed Random Sample Start Point- SU 2
- Systematic Sampling Locations- SU 2
- Systematic Sampling Grid - SU 2
- SU 1 Boundary
- SU 2 Boundary
- Interim Drains
- Building
- Property Line
- Subcell Boundaries
- Cell Boundaries
- 1 1-Meter Vertical Sampling Start Interval
- 2 2-Meter Vertical Sampling Start Interval
- 3 3-Meter Vertical Sampling Start Interval

DRAFT

Feet
0 30 60

Projection Information
Stateplane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00089-1 URS27010-039

GTE OPERATIONS SUPPORT INCORPORATED
HICKSVILLE, NEW YORK

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RESOURCES, INC

DRI_ID: 1006.H6223 August 10, 2004

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Building 40 - SUNY, Stony Brook, New York 11790-2356
Phone: (631) 444-0240 • **FAX:** (631) 444-0248
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

RECEIVED
OCT 18 2004
By

October 8, 2004

Jean Agostinelli
Vice President - Controller
GTE Operations Support Inc.
600 Hidden Ridge Drive (HQE03E75)
Irving, TX 75038

Re: Systematic Subsurface Soil Sampling and Analysis Plan (SSSSAP), September 2004
Former Sylvania Electric Products Facility, Site # V00089-1

Dear Ms. Agostinelli:

The Department finds the subject SSSSAP to be acceptable under the following conditions:

1) Any of the samples that are sent to STL for nickel analysis should also be analyzed for beryllium.

2) The methods for data evaluation and the sampling protocols and procedures specified in the previously approved remedial work plan will be followed.

3) Any of the DL samples which exhibit high field screening readings for VOCs (a direct reading of the soil core greater than 50 ppm on the PID) will also be sent to STL labs for off-site VOC analysis.

4) The Department will be notified of any anomalies discovered during the utility evaluation (Bullet #4 in Section 5.0). Any discovered anomalies, which suggest the potential presence of a historical structure such as an UST or leaching pool, will require further evaluation.

If you accept these conditions, no revisions to the work plan are required. However, please attach a copy of this letter to the front of the approved work plan. If you disagree with these conditions, please do not hesitate to contact me by telephone at (631) 444-0244.

Sincerely,

Robert R. Stewart
Environmental Engineer I

cc: W. Parish
J. Riggi
K. Carpenter
J. Nealon, NYSDOH

Appendix C – Boring Logs

This section provides the boring logs from the systematic subsurface soil sampling West of the 140 and 100 buildings and Southwest of the 100 building. Borings were advanced using hollow-stem auger drilling rigs. Boring logs are provided in sequential order; first by survey unit number (SU01 SU02), then by sampling identification number (001 through 030).

The main lithologic group name with the appropriate group symbol is described at the top of each stratum. The main lithologic group is in capital letters and bold font. Minor variations within the soil stratum are called out at the approximate elevation in which they occur, and the main lithologic group is not repeated nor any variations above the one identified.

Fill is defined as non-native material (evidenced by color, texture, structure, or miscellaneous debris), other than the material GTEOSI used to backfill excavations, which is noted as 'backfill' in the logs.

A plus sign (+) is used in the 'Notes' or 'Remarks' column of the boring logs and indicates a depth above ground surface. A minus sign (-) displayed in the 'Depth (feet)' column has the same meaning (depth above ground surface) but is used due to program restrictions.

MAJOR DIVISIONS			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL CLASSIFICATION CHART

MATERIAL SIZE	PARTICLE SIZE			
	LOWER LIMIT		UPPER LIMIT	
	MILLIMETERS	SIEVE SIZE*	MILLIMETERS	SIEVE SIZE*
SAND				
FINE	.074	#200*	0.42	#40*
MEDIUM	0.42	#40*	2.00	#10*
COARSE	2.00	#10*	4.76	#4*
GRAVEL				
FINE	4.76	#4*	19.1	3/4"•
COARSE	19.1	3/4"•	76.2	3"•
COBBLES	76.2	3"•	304.8	12•
BOULDERS	304.8	12•	914.4	36"

*U.S. STANDARD •CLEAR SQUARE OPENINGS

GRADATION CHART

Notes:

1. Dual symbols are used to indicate borderline classifications or intermixed strata.

2. Soil descriptions and classification are based on field observations, not on laboratory testing of soil physical properties.

3. When used on the boring logs, the following terms are used to describe the consistency of cohesive soils and the relative compactness of cohesionless soils:

Cohesive Soils	Cohesionless Soils
Very Soft	*Very Loose*
Soft	*Loose*
Medium Stiff	*Medium Dense*
Stiff	*Dense*
Very Stiff	*Very Dense*
Hard	

4. When used on the boring logs, the following terms indicate the volume percentage of the minor soil components estimated in the field based on visual observations:
trace: 1 to 10% *little: 10 to 20%* *some: 20 to 35%* *and: 35 to 50%.*

5. Moisture Content:
Dry: Absence of moisture, dusty, dry to the touch
Moist: Damp but no visible water
Wet: Visible free water, usually soil is below the water table

UNIFIED SOIL CLASSIFICATION SYSTEM AND KEY TO BORING LOGS

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 001 - O53
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			8	22	0.0	**FILL**, dark tan, sandy silt, trace gravel Light tan, some sand	
2							
3	SP		45	19	0.0	Tan, fine to medium **SAND**, some coarse sand, trace fine gravel, dense	
4							
5			41	20	0.0		
6						Very dense	
7			90	21	0.0	1" reddish brown layer at 7' followed by dark tan sand Coarse sand and gravel grade out	
8	SW					Tan, fine to coarse **SAND**, trace gravel, occasional cobbles, dense	
9			41	23	0.0	Dark orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel, very dense	
10	SP						
11	SW		65	23	0.0	Light tan (10.5-10.75') to dark orange-tan (10.75-11'), fine to coarse **SAND**, some gravel, very dense	
12	SP					Tan, fine to medium **SAND**, some coarse sand, trace gravel, dense	
13	SW		45	24	0.0	Tan, fine to coarse **SAND**, some gravel, dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
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Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 001 - O53
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Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, some coarse sand, trace gravel, dense	
14						Dark orange-tan, some gravel	
	SP						
15			36	22	0.0	Trace coarse sand, gravel grades out	
16							
	SW					Dark orange-tan, fine to coarse **SAND**, some gravel, trace cobbles, medium dense	
17			24	24	0.0		
						Dark orange-tan, fine to medium **SAND**, trace coarse sand, medium dense	
18						Tan, some coarse sand and gravel	
19			16	20	0.0		
						Trace coarse sand, gravel grades out	
20						1" dark orange-tan layer at 20'	
	SP					Some coarse sand, trace gravel	
21			19	19	0.0	1" dark brown layer at 21'	
22							
						Trace coarse sand, gravel grades out	
23			21	22	0.0	Some coarse sand, trace gravel	
24							
						Tan, fine to coarse **SAND**, some gravel, medium dense	
25	SW		24	18	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 001 - O53
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some gravel, dense	
27	SP		40	19	0.0	Tan, fine to medium **SAND**, some coarse sand, trace fine gravel, dense	
28						2" reddish brown layer at 28'	
29			45	18	0.0	Dark tan, trace coarse sand	
30						Tan Dark tan Tan	
31			38	19	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/8/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 002 - Q53
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, brown, sandy silt, trace fine gravel	
2			9	12	0.0	Tan, fine sand, some medium sand, trace coarse sand and fine gravel	
3	SM					Light orange-tan, silty **SAND**, trace fine gravel, medium dense	
	ML					Light gray, sandy **SILT**, medium dense	
4	SM		28	16	0.0	Light orange-tan, silty **SAND**, trace fine gravel, medium dense	
	ML					Light gray, sandy **SILT**, medium dense	
5							
6	SP		51	21	0.0	Tan, fine to medium **SAND**, some coarse sand and gravel, very dense Coarse sand and gravel grade out	
	SW					Reddish tan, fine to coarse **SAND**, trace fine gravel, very dense	
7							
8	SP		59	20	0.0	Tan, fine to medium **SAND**, trace coarse sand and fine gravel, very dense	
9						Tan, fine to coarse **SAND**, some gravel, very dense Some cobbles	
10			50	11	0.0		
11	SW					Light tan, dense	
12			41	23	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 002 - Q53
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Orange-tan, fine to coarse **SAND**, some gravel and cobbles, dense	
14	SW		40	19	0.0	1" brown layer at 13.5'	
15						Medium dense	
16			22	19	0.0		
17	SP					Orange-tan, fine to medium **SAND**, trace coarse sand and gravel, medium dense	
						Light tan, coarse gravel grades out	
18			17	18	0.0		
19						Some coarse sand and fine gravel, trace coarse gravel	
20			20	20	0.0		
21						Some coarse gravel	
22			24	20	0.0		
23						Coarse gravel grades out	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
			*20	*12	0.0	Trace coarse sand, gravel grades out	
24						Some coarse sand and gravel	
25			19	19	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 002 - Q53
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, some coarse sand and gravel, dense	
27	SW		42	22	0.0	Orange-tan, fine to coarse **SAND**, some fine gravel, dense	
28							
29	SP		33	19	0.0	Orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	
30						Reddish brown laminations from 29.75-30'	
31			34	20	0.0	Reddish brown laminations from 30.5-31'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/8/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/8/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 003 - N55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, sandy silt, some gravel	
2	SP		11	19	0.0	Dark orange-tan, fine to medium **SAND**, some coarse sand and gravel, medium dense	
3							
4			10	23	0.0	Grayish tan, some silt and clay, trace gravel, coarse sand grades out	
5							
6			39	22	0.0	Tan, some coarse sand and gravel, silt grades out, dense	
7						Trace coarse sand and fine gravel, coarse gravel grades out	
8			50	24	0.0		
9						Some coarse sand, some gravel and cobbles	
10			45	15	0.0		
11						Cobbles grade out	
12			48	18	0.0		
13						Trace coarse sand and fine gravel, coarse gravel grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 003 - N55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP		33	22	0.0	Tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense Dark laminations from 13.25-13.5' 3" dark brown, medium to coarse layer at 14.75'	
15	SW					Tan, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense	
16	SP		26	20	0.0	Light tan, fine to medium **SAND**, some coarse sand, trace fine gravel, medium dense	
17						Light brown, some gravel	
18			16	22	0.0	Light tan, trace fine gravel, coarse gravel grades out	
19							
20	SW		20	20	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
21	SP					Tan, fine to medium **SAND**, some coarse sand, trace gravel, medium dense	
22			20	19	0.0		
23			*15	*12	0.0	Trace coarse sand and fine gravel, coarse gravel grades out	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Dark brown, medium to coarse, some fine sand from 24-24.5'	
25	SW SP		21	23	0.0	Tan, fine to coarse **SAND**, trace fine gravel Dark brown, medium to coarse **SAND**, some fine sand Tan, fine to coarse **SAND**, trace fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 003 - N55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown, fine to coarse **SAND**, trace fine gravel, dense	
27	SP		35	21	0.0	3" light tan followed by orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	
	SW					Orange-tan, fine to coarse **SAND**, some fine gravel, dense	
28	SP					Tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	
29	SW		33	22	0.0	Dark orange-tan, fine to coarse **SAND**, some gravel, dense	
30	SP					Tan, fine to medium **SAND**, some coarse sand and gravel, dense Trace coarse sand and fine gravel, coarse gravel grades out	
31			37	20	0.0	Some coarse sand and gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/3/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/8/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 004 - P55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, brown, sandy silt	
2			5	15	0.0	Dark tan, trace fine gravel	
3						Tan, gravel grades out	
4	SP		7	16	0.0	Tan, fine to medium **SAND**, trace silt and coarse sand, loose	
5	ML					Tan, sandy **SILT**, some fine gravel, loose Brown, medium dense	
6	CL		14	20	0.0	Light tan, silty **CLAY**, trace coarse sand, stiff	
7	SP					Tan, fine to medium **SAND**, some coarse sand, trace fine gravel, medium dense Trace coarse sand, dense	
8			40	22	0.0	Some coarse sand and gravel Trace coarse sand, course gravel grades out Some coarse sand and gravel	
9						Tan **SILT**, some clay, trace sand, trace fine to coarse gravel, medium dense	
10	ML		22	23	0.0		
11							
12			24	23	0.0		
	SW					Reddish tan, fine to coarse **SAND**, some fine gravel	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 004 - P55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP		20	20	0.0	Tan, fine to medium **SAND**, some coarse sand and fine gravel, medium dense 1" reddish brown, medium to coarse sand layer at 14'	
15	SW					Tan, fine to coarse **SAND**, some fine gravel	
16 17	SP		32	23	0.0	Tan, fine to medium **SAND**, some coarse sand and gravel, trace cobbles, dense 1" dark brown, medium to coarse sand layer at 17.25'	
18 19 20	SW		15 25	22 24	0.0 0.2	Tan, fine to coarse **SAND**, some gravel, trace cobbles, medium dense 1" dark brown layer at 19.25'	
21 22 23	SP		25	22	0.3	Tan, fine to medium **SAND**, trace coarse sand and gravel, medium dense Dark tan, some coarse sand and fine gravel, trace coarse gravel and cobbles Tan	
24 25	SW		17	23	0.0	Light tan, fine to coarse **SAND**, trace gravel	
26	SP		18	24	0.0	Tan, fine to medium **SAND**, some coarse sand and fine gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 004 - P55
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, some coarse sand and fine gravel	
27	SW					Light tan, fine to coarse **SAND**, trace gravel, dense	
28	SP		32	24	0.0	Tan, fine to medium **SAND**, trace coarse sand, dense Dark tan laminations at 28.5'	
29	SP		*32	*12	0.0	Some coarse sand	*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
30	SP					Trace coarse sand, trace fine gravel	
31	SP		NA	20	0.0	1" reddish brown, fine to coarse sand layer at 31.75'	
32	EOB						NA = Not available (blow counts not recorded)
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/3/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/8/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 005 - O56
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			9	20	0.0	**FILL**, red-brown, sandy silt, trace fine gravel Light brown, some coarse sand	
2						Orange-tan, fine to medium sand	
3			12	20	0.0		
4	ML					Light gray, clayey **SILT**, trace sand and gravel at 3.75-4' grading to brown silt, some sand at 4-4.5', stiff	
5	SP		9	22	0.0	Tan, fine to medium **SAND**, some coarse sand and gravel, loose	
	ML					Light gray, clayey **SILT**, stiff	
6						Dark tan to reddish tan at 5.75-6' followed by tan, fine to medium **SAND**, some to trace coarse sand and fine gravel, dense	
7	SP		36	18	0.0		
8						Tan, sandy **SILT**, dense	
9			30	17	0.0		
10						Some gravel Some cobbles, trace gravel	
11	ML		40	15	0.0		
12						Dark tan	
13			42	20	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 005 - O56
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP					Reddish brown, fine to medium **SAND**, some silt and cobbles, trace coarse sand, dense	
						Trace gravel, silt and cobbles grade out, very dense	
	SW					Tan, fine to coarse **SAND**, trace gravel	
15	SP		63	22	0.0	Tan, fine to medium **SAND**, trace coarse sand and gravel, very dense	
16						Dense	
17			34	22	0.0		
18						Medium dense	
	SW					Tan, fine to coarse **SAND**, some gravel, medium dense	
19	SP		18	21	0.0	Tan, fine to medium **SAND**, trace coarse sand and gravel, medium dense	
20	SW					Tan, fine to coarse **SAND**, some gravel, medium dense	
21			18	22	0.0		
22	SP					Tan, fine to medium **SAND**, trace coarse sand, medium dense, medium dense	
23			24	22	0.0		
24						2" brown, fine to coarse sand, trace fine gravel layer at 24'	
25	SW		24	21	0.0	3" reddish tan followed by tan, fine to coarse **SAND**, trace fine gravel, medium dense	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 005 - O56
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	
27			32	18	0.0	Dark tan	
28						Some coarse sand and fine gravel, medium dense	
29	SP		26	23	0.0	1" dark brown, medium to coarse sand layer at 29'	
30						Dense	
31			32	19	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/4/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/8/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 006 - Q56
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, dark brown to black, silty, sandy soil, trace fine to coarse gravel, moist	
1						Grades to brown by 0.75'	
2			6	19	0.0	Brown, fine to medium sand, trace coarse sand and fine gravel, dry	
3						Some coarse sand and fine gravel	
4	ML		6	18	0.4	Gray, clayey **SILT**, medium stiff, moist	
	SP					Brown, fine to medium **SAND**, some coarse sand and fine gravel, loose, dry	
5							
	ML					Gray clayey **SILT**, soft, moist, alternating with light yellow-brown fine sand, loose, moist	
6			23	16	0.0	Sand grades out	
7						Light brown to tan, fine **SAND**, trace coarse sand and fine gravel, medium dense, moist	
8			56	21	0.8	Light brown, some medium to coarse sand and fine gravel, trace coarse gravel, very dense, dry	
						Brown, fine to medium sand, coarse gravel grades out, moist	
9						Trace coarse gravel, dense	
10	SP		42	17	0.0	Dark brown to brown, fine to coarse,gravlley sand, trace cobbles	
11						Brown	
12			42	19	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 006 - Q56
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP		24	24	1.3	Brown grading to reddish brown, fine **SAND**, some medium to coarse sand, trace fine gravel, medium dense, moist Brown, fine to medium sand, some coarse sand	
15						Orange-brown	
16			24	24	1.1		
17	SW					Orange-brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist Tan, moist	
18			12	16	0.0		
19	SP					Tan, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
20			19	22	0.0		
	SW					Reddish brown, fine to coarse gravelly, fine to coarse **SAND**, medium dense, moist	
21	SP					Tan with dark brown laminations to 21', fine **SAND**, medium dense, moist Light brown, fine to medium sand, trace coarse sand and fine gravel 2" of dark brown laminations at 22'	
22			25	18	0.0		
	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
23	SP		*30	*9	0.0	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, medium dense, moist	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24							
25	SW		24	19	0.0	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist Trace fine gravel, coarse gravel grades out	
26	SP					Tan to light brown, fine to medium **SAND**, trace coarse sand, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 006 - Q56
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		43	23	0.0	Tan to light brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, dense, moist Trace coarse sand Brown	
28							
29	SW		40	19	0.0	Light brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, moist	
30							
31			37	19	0.0		
	SP					Light brown, fine to medium **SAND**, dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/4/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 007 - O58
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, brown silt, trace fine gravel	
2			10	15	1.9	Light brown, silty, fine **SAND**, trace fine gravel, medium dense	
3	SM					Some fine gravel, increasing gravel with depth	
4			13	12	1.0		
5						Tan, sandy **SILT**, trace fine gravel, medium dense	
6	ML		13	19	1.6	Some fine gravel Trace fine gravel	
7						Tan, fine to medium **SAND**, some fine gravel, trace coarse gravel, dense	
8	SP		38	20	0.0	Dark tan	
9	SM					Light brown, fine silty **SAND**, trace gravel, very dense	
10			63	20	0.0	Tan, fine to medium **SAND**, some fine gravel, very dense	
11	SP					Dense	
12	SW		46	20	0.0	Tan, fine to coarse **SAND**, some fine gravel, dense	
13	SP					Brown, fine to medium **SAND**, some silt, trace coarse sand	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 007 - O58
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, trace coarse sand and gravel, medium dense	
14			27	19	0.0	Dark tan	
						Tan, some coarse sand and fine gravel, coarse gravel grades out	
15						Light tan, gravel grades out	
16			26	18	0.0	4" dark tan sand, some fine gravel, trace silt layer at 15.5' Tan, coarse sand grades out	
	SP						
17						Some to trace coarse sand and gravel	
18			18	22	0.0		
19						Trace coarse sand and gravel	
20			24	18	0.4	Tan, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense	
	SW						
21						Dark tan to orange-tan	
						Tan, fine to medium **SAND**, trace coarse sand, medium dense	
22	SP		22	20	0.0	<1" dark orange-tan, medium to coarse seam at 22'	
23						3" dark tan followed by tan, fine to coarse **SAND**, some fine gravel, medium dense	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
			*22	*11	0.0		
24						Trace fine gravel	
	SW						
25			20	20	0.7		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 007 - O58
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		44	19	0.5	Orange-tan, fine to medium **SAND**, some coarse sand, trace gravel, dense Light tan, some fine gravel, coarse gravel grades out Orange-tan	
28						Tan Trace coarse sand, fine gravel grades out, medium dense	
29	SW		24	22	0.0	Tan, fine to coarse **SAND**, trace fine gravel	
30	SP					Tan, fine to medium **SAND**, trace coarse sand 1" dark orange layer at 30', some coarse sand, trace gravel	
31	SW		50	22	0.0	Tan, fine to coarse **SAND**, some gravel, very dense	
32	SP					Tan, fine to medium **SAND**, trace coarse sand	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/4/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 009 - P60
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			12	24	0.0	**FILL**, black, gravelly, sandy soil and fine to coarse gravel, trace construction debris, dry Brown, sandy silt to silty sand, some fine to medium sand, trace gravel, medium moist	
2							
3			11	17	0.0		
4	SP					Brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, dry	
5			16	18	0.0	Some coarse sand and fine gravel, trace coarse gravel	
6						Trace coarse sand and fine gravel	
7			14	21	0.0	Light brown	
8						Brown, dense	
9	CL		39	22	0.0	Grayish brown, silty **CLAY**, hard, moist	
10	SP					Brown, fine to medium **SAND**, some coarse sand and fine gravel, dense, dry	
11			39	24	0.0	Grayish brown, silty **CLAY**, trace coarse gravel and cobbles, hard, moist	
12	CL					Brown, occasional cobbles, gravel grades out, stiff, moist	
13			12	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 009 - P60
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	CL					Brown, silty **CLAY**, occasional cobbles, stiff, moist	
15	SP		38	22	0.0	Light brown to brown, fine to medium **SAND**, some coarse sand and fine gravel, dense, moist Orange-reddish brown, trace medium to coarse sand	
16	CL					Brown, silty **CLAY**, very stiff, moist	
17	SW		23	21	0.0	Brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
	SP					Brown, fine **SAND**, medium dense, moist	
	SW					Brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
18	SC					Brown to light brown, fine to coarse **SAND** and brown, silty **CLAY**, medium dense sand, stiff clay, dry	
19	SW		24	21	0.0	Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, dry	
20							
21	SP		24	21	0.0	Brown to light brown, fine to medium **SAND**, trace fine to coarse gravel, medium dense, dry	
22	SW					Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, dry Brown, some fine gravel	
23	SP		17	20	0.0	Brown, fine to medium **SAND**, medium dense, dry	
24	SW					Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense, dry Moist	
25			24	20	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 009 - P60
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		36	19	0.0	Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, moist	
28	SP					Brown, fine to medium **SAND**, trace coarse sand, medium dense, moist	
29	SW		26	22	0.0	Brown, fine to coarse **SAND**, trace fine gravel, medium dense, dry	
30	SP					Brown, fine to medium **SAND**, trace coarse sand, medium dense, dry Dense	
31	SW		36	24	0.0	Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/1/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 010 - R60
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown to black, sandy, silty soil with fine to coarse gravel, dry	
						Brown, fine to medium sand, trace fine gravel, dry	
2			7	24	1.9	Dark brown grading to light brown, silty clay, trace fine to coarse gravel, moist	
3							
4			10	24	1.0	Brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, medium dense, dry	
5	SP						
6			13	12	1.6		
7	ML					Gray **SILT**, trace fine gravel, moist	
	SP					Brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, dense, dry	
8	SM		45	24	0.0	Grayish brown, silty **SAND**, trace fine to coarse gravel, dense, moist	
9	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, dense, dry Some coarse sand, trace coarse gravel	
10	SW		50	17	0.0	Light brown, fine to coarse **SAND**, trace fine gravel, dense, dry	
11	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, dense, moist	
						Some fine to coarse gravel, dry	
12			46	24	0.0	Gravel grades out	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 010 - R60
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, very dense, dry	
14	SW		52	21	0.0	Light brown, fine to coarse **SAND**, very dense, moist	
15	SP					Brown with trace dark brown, fine to medium **SAND**, trace coarse sand and fine gravel, very dense, moist	
16			43	12	0.0	Light brown, occasional fine to coarse gravel and cobbles, dense, moist	
17						Brown, some coarse sand and fine gravel, cobbles grade out	
18			37	22	0.0	Trace coarse sand and fine gravel	
19						Medium dense	
20			16	24	0.4		
21						Some coarse sand	
22			16	24	0.0		
23			*23	*9	0.0	Trace coarse sand	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
25			24	21	0.7		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 010 - R60
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		26	24	0.5	Brown to light brown, fine to medium **SAND**, some coarse sand and fine gravel, trace cobbles, medium dense, moist Trace coarse sand and fine gravel	
28						Some coarse sand and fine gravel, dry	
29	SW		29	24	0.0	Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, dry	
30							
31	SP		44	24	0.0	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 11/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/4/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 011 - O61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, dark brown, silty, fine sand with fine, subrounded gravel, dry	
1			11	19	0.0		
2						Light brown, silty, fine sand with fine to coarse, subrounded gravel, dry	
3						Coarse gravel grades out	
4			9	19	0.0		
	ML					Light brown **SILT** with fine, subrounded gravel, loose, dry	
5	SM					Light brown, silty, fine **SAND** with fine, subrounded gravel, loose, dry Orange-brown, fine to medium sand, medium dense	
6			15	19	0.0		
	ML					Light brown **SILT**, trace organic material, medium dense, dry	
7	SM					Light brown, silty fine **SAND** with fine, subrounded gravel, medium dense, dry Trace fine, subangular gravel from 7-7.6', very dense	
8	SP		57	24	0.0	Yellowish brown, fine to medium **SAND** with fine, subangular gravel, trace silt, very dense, dry	
9	ML					Brown **SILT**, trace fine, subangular gravel, dense, moist	
10	SP		30	19	0.0	Brown grading to light brown, fine to medium **SAND** with fine, subrounded gravel, medium dense, moist Gravel grades out from 10-10.4'	
11						With coarse gravel	
12			30	21	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 011 - O61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light brown, fine **SAND**, medium dense, moist	
	SW					Brown, fine to coarse **SAND**, trace fine, subangular gravel, medium dense, moist	
14			28	22	0.0		
						Yellowish brown, fine to medium **SAND** with fine, subrounded gravel, medium dense, moist	
15							
						With coarse gravel, dense	
16			42	24	0.0		
17							
						Medium dense	
18			22	24	0.0		
						Light brown, fine sand, gravel grades out layer from 18-18.3'	
19							
						Rounded to subangular gravel	
20	SP		19	24	0.0		
21							
						Trace cobbles to 23'	
22			22	24	0.0		
23							
						Trace fine, subrounded gravel, coarse gravel grades out	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24			*18	*12	0.0		
						With fine, subrounded gravel	
25							
26			18	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 011 - O61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown and yellowish brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
27							
						Dense	
28			32	24	0.0		
29	SP						
			31	24	0.0		
30						Trace dark brown laminations to 31', medium dense	
31			28	20	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/26/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/1/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 012 - Q61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, fine sandy silt grading to brown, silty, fine sand, trace fine, subrounded gravel, grading to yellowish brown, fine to medium sand with fine, subrounded gravel, moist	
2			14	20	0.0		
3							
4	SP		8	15	0.0	Yellowish brown, fine to medium **SAND** with fine to coarse, rounded to subrounded gravel, loose, moist	
5							
	SM					Orange-brown, silty, fine **SAND**, trace fine, subrounded gravel, loose, moist	
6			6	19	0.0		
	ML					Light gray, clayey **SILT**, loose, moist	
7						Dense	
8	SP		36	19	0.0	1" reddish brown to light brown, fine to medium **SAND**, trace fine, subrounded gravel, dense, moist	
	SW					Light brown, fine to coarse **SAND**, trace fine, subrouned gravel, dense, moist	
9							
	ML					Light gray, **SILT**, trace clay, dense, moist	
10	SP		31	22	0.0	Reddish brown, medium to coarse **SAND**, dense, moist Brown with dark brown laminations, fine sand with fine, subrounded gravel Brown, fine to medium sand with fine to coarse, subrounded gravel, trace cobbles	
11							
12	SW		47	21	0.0	Light brown, fine to coarse **SAND** and fine to coarse, subangular to subrounded gravel, trace cobbles	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 012 - Q61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		37	24	0.0	Light brown, fine to coarse **SAND**, trace fine to coarse, subrounded gravel, trace cobbles, dense	
15							
16	SP		33	19	0.0	Yellowish brown with orange laminations to 15.4', fine to medium **SAND**, trace fine to coarse, subrounded gravel, dense, moist Increasing gravel content with depth	
17							
			18	24	0.0	With fine to coarse gravel, trace cobbles, medium dense	
18	SW					Light brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
	SP						
	SW						
19						Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, trace cobbles, medium dense, moist	
20			18	21	0.0	Light brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
21						Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, trace cobbles, medium dense, moist	
	SP						
22			24	24	0.0		
23							
24	SW		19	20	0.0	Light brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
25	SP					Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
26			23	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 012 - Q61
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
27	SW					Light brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
	SP						
28			25	24	0.0	Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
	SW					Light brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
29							*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
			*25	*12	0.0		
30						Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
	SP						
31			25	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/27/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/29/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 013 - R61
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			*8	*12	0.0	**FILL**, brown, silty, fine to medium sand with fine to coarse, subrounded gravel, moist	*1' spoon driven from 1-2'
2	SP					Yellowish brown to light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
3			20	17	0.0		
4							
5			30	19	0.0		
6							
7			28	24	0.0	Brown, trace fine, subangular gravel, coarse gravel grades out from 6.5-6.7' Light brown with trace dark brown laminations, with fine to coarse, subrounded gravel, medium sand grades out	
8						Brown, gravel grades out, dense	
9			46	24	0.0	Yellowish brown to light brown, fine to medium sand with fine to coarse, subrounded gravel 1/2" reddish brown, medium to coarse seam at 8.9'	
10						Trace cobbles	
11			50	19	0.0	Brown and light brown with some dark brown, with fine to coarse, subangular to subrounded gravel	
12						Light brown	
13			42	22	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 013 - R61
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP					1" dark brown, medium to coarse sand seam followed by brown, fine to medium **SAND** and fine to coarse, subrounded to subangular gravel, dense, moist	
15			33	16	0.0	Yellowish brown, trace gravel, medium sand grades out	
16	SW					Yellowish brown, fine to coarse **SAND** with fine, angular gravel, dense, moist	
17			15	20	0.0	Subrounded gravel, trace cobbles, dense	
18							
19			15	24	0.0		
20	SP					Light brown, fine **SAND**, trace fine, angular gravel, trace cobbles, medium dense, moist	
21	SW		15	16	0.0	Light brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
22							
23			21	19	0.0		
24	SP					Light brown, fine **SAND**, medium dense, moist	
25	GW		14	19	0.0	Light brown, fine to coarse **SAND** and fine to coarse, rounded **GRAVEL**, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 013 - R61
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GW		18	24	0.0	Light brown, fine to coarse **SAND** and fine to coarse, rounded **GRAVEL**, medium dense, moist	
	SP					Light brown, fine **SAND**, medium dense, moist	
28	GW					Light brown, fine to coarse **SAND** and fine to coarse, rounded **GRAVEL**, medium dense, moist	
29			19	23	0.0		
30						Dense	
31			32	19	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/27/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/1/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 014 - P63
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			*9	*12	0.0	**FILL**, reddish brown, fine to medium sand with fine to coarse, subrounded gravel, dry	*1' spoon driven from 1-2'
2	SM		11	15	0.0	Light brown, silty, fine **SAND** with fine to coarse, rounded gravel, medium dense, dry	
3							
4			8	18	0.0	Reddish brown, trace fine, subrounded gravel, loose	
5	ML					Light brown, **SILT**, loose, dry	
	SM					Reddish brown, silty, fine **SAND**, trace fine, subrounded gravel, loose, dry	
6							
7	SP		30	21	0.0	Yellowish brown with brown laminations, fine to medium **SAND**, trace fine, subrounded gravel, dense, moist	
8			21	18	0.0	Trace coarse gravel and cobbles, medium dense	
9						Dark brown layer from 9.7-10'	
10							
11	SW		46	24	0.0	Brown, fine to coarse **SAND** with fine to coarse, subangular gravel, trace cobbles, dense, moist	
12	SP					Yellowish brown with brown laminations, fine to medium **SAND**, trace fine, subrounded gravel, dense, moist	
13			33	24	0.0	Fine gravelly layer from 12.7-13'	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 014 - P63
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Yellowish brown with brown laminations, fine to medium **SAND**, trace fine, subrounded gravel, dense, moist	
14						Medium dense	
15			26	24	0.0	Fine gravelly layer from 14.6-14.9'	
16						With fine to coarse, subrounded gravel, trace cobbles	
17			24	24	0.0	Red-brown seam at 16.4' Red-brown layer from 17-17.4'	
18	SW					Yellowish brown with brown laminations, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
19			23	18	0.0		
20							
21			20	24	0.0	Red-brown layer from 21-21.4'	
22	SP					Light brown, fine to medium **SAND**, trace fine, subangular gravel, medium dense, moist	
23			18	21	0.0	Brown, with gravel, trace cobbles Light brown Brown	
24							
25			16	24	0.0	Light brown, cobbles grade out Brown Light brown	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 014 - P63
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		31	24	0.0	Light brown, fine to medium **SAND** with fine, subangular gravel, dense, moist	
28							
29			21	24	0.0	Light brown with dark brown laminations, trace gravel, medium sand grades out from 28-28.5', medium dense Dark brown mottling from 28.5-29'	
30							
31			25	24	0.0	Yellowish brown, fine to coarse, subangular gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/26/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/1/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 015 - R63
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, dark brown, silty, fine sandy, fine to medium gravel	
1						Dark brown, fine sandy, silt, trace fine subangular gravel, dry	
2			6	18	0.0		
3						Brown, fine to medium **SAND**, trace fine subrounded gravel and silt, loose, moist	
4			5	16	0.0		
						Light brown, trace fine rounded gravel, medium sand grades out	
5						Medium dense	
6			14	14	0.0		
7							
8	SP		27	24	0.0		
9						Fine to medium sand with fine to coarse subrounded gravel	
10			26	21	0.0		
11						Stratified layers of light brown, fine sand, trace fine subangular to subrounded gravel, dense	
12			40	24	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 015 - R63
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP		44	24	0.0	Light brown to reddish brown to yellowish brown, fine to medium **SAND**, with fine to coarse subrounded gravel, stratified layers of light brown, fine sand, trace subangular to subrounded gravel, dense	
15						Medium dense	
16			27	19	0.0		
17							
18			17	17	0.0		
19	SW					Brown, fine to coarse **SAND**, medium dense, moist	
20	SP		15	24	0.0	Light brown, fine to medium **SAND**, trace fine to coarse subrounded gravel, with stratified layers of light brown fine sand, trace fine subangular to subrounded gravel, medium dense, moist	
21							
22			17	22	0.0		
23			*21	*12	0.0	Trace cobble fragments	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Some subangular fine gravel	
25			17	24	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 015 - R63
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		29	21	0.0	Light brown, fine to medium **SAND**, some fine to coarse subangular to subrounded gravel, with stratified layers of light brown, fine sand, trace fine subangular to subrounded gravel, medium dense, moist	
28							
29			24	24	0.0		
30						Yellow-brown, with fine to coarse subrounded gravel and cobble fragments, dense	
31			32	21	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/25/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil 11/1/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 016 - O65
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, brown, silt, trace fine to coarse gravel, dry	
1							
2			9	24	0.0		
						Brown, fine to coarse **SAND**, some fine to coarse gravel, loose, dry	
3						Dense	
4			48	24	0.0	Dark orange-brown	
	SW					1-2" black layer at 4.5'	
5							
6			34	20	0.0	Some 1" fine sand layers from 6-7'	
7						Very dense	
	SP					Dark brown, fine to medium **SAND**, very dense, dry	
8			62	24	0.0	Dark orange-brown, fine to coarse **SAND**, some fine to coarse gravel, very dense, dry	
9						Occasional cobbles, dense	
10			30	23	0.0		
	SW						
11						Light brown, trace gravel	
12			46	19	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 016 - O65
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		29	22	0.4	Brown, fine to coarse **SAND**, some fine to coarse gravel, occasional cobbles, medium dense, dry	
15						Trace coarse gravel	
16			28	23	0.0		
17	SP					Brown, fine to medium **SAND**, some coarse sand and fine gravel, medium dense, dry	
18			29	11	0.0		
19						Some yellow-orange coloration, moist	
20			16	20	0.0		
21	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense Occasional cobbles, trace yellow-orange coloration from 21-21.3'	
22			20	24	0.0		
23			*18	*8	0.0		*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24							
25			27	22	0.5		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 016 - O65
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, trace fine gravel, occasional cobbles, medium dense, moist	
27	SP		27	24	0.0	Light brown to orange-brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, medium dense, moist	
28							
29	SW		30	22	0.4	Light brown to brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense, moist	
30							
	SP					Brown to light brown, fine to medium **SAND**, some to trace coarse sand and fine gravel, medium dense, moist	
31			30	19	0.3		
	SW					Brown to light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/21/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/25/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 017 - Q64
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown to brown, silty sand, trace gravel, moist	
2			11	24	0.0		
3	SP					Brown to orange-brown, fine to medium **SAND**, some to trace coarse sand and fine gravel, medium dense, dry	
4			14	20	0.0		
5	CL					Light brown, silty **CLAY**, stiff, moist	
6			11	8	0.0		
	SW					Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense, moist	
7							
8	SP		37	24	3.4	Light brown, fine **SAND**, some medium sand, trace coarse sand and fine gravel, dense, moist	
9	CL					Light brown, silty **CLAY**, very stiff, moist	
10	SW		28	22	0.0	Light brown with trace orange, fine to coarse **SAND**, some fine gravel, trace coarse gravel and cobbles, medium dense, moist	
11						Brown	
12	SP		30	24	0.0	Brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
13						Black to gray, medium to coarse sand, fine sand grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 017 - Q64
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Black to gray, medium to coarse **SAND**, medium dense, moist	
14	SW		29	23	0.0	Brown with orange, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense, moist	
15							
16	SP		22	19	0.0	Brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, medium dense, moist	
17							
18	SW		20	24	0.0	Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense, moist	
19						Dense	
20			34	19	0.0		
21							
22	SP		28	12	0.0	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, occasional cobbles, medium dense, moist	
23							
24	SW		34	12	0.0	Light brown with orange, fine to coarse **SAND**, trace fine gravel, dense, moist	
25							
26	SP		32	8	0.0	Light brown with orange, fine to medium **SAND**, trace fine to coarse gravel, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 017 - Q64
Date Drilled: 10/21/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown with orange, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, dense, moist	
27						Medium dense	
28	SP		29	12	0.0		
29			*27	*12	0.0	Light brown	*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
30						Dense	
31			32	20	0.0		
	SW					Light brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/21/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/25/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 018 - R64
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			19	24	0.0	**FILL**, dark brown grading to brown grading to black/brown, silty sand, trace fine to coarse gravel and cobbles, moist	
2							
3			7	24	0.0		
4							
5	SP		10	24	0.0	Brown, fine to medium **SAND**, some coarse sand and fine gravel, loose, dry	
6							
7	CL		7	24	0.0	Brown, silty **CLAY**, medium stiff, moist	
8							
9	SP		43	21	0.5	Brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, occasional cobbles, dense, dry 1-2" brown, silty clay layer at 8.5'	
10							
11	SW		84	24	1.2	Brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, very dense, dry	
12						Dense	
13			41	24	0.0	Light brown, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 018 - R64
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, dense, moist	
14	SW						
						2" fine sand layer at 14.3' 2" dark brown to black layer at 14.8'	
15			31	24	0.0	Brown, fine to medium **SAND**, trace coarse sand and fine to coarse gravel, dense, moist	
16						Light brown to brown, coarse gravel grades out, medium dense	
17			24	24	0.0	1" coarse sand layer at 17'	
18	SP					Some coarse sand and fine gravel, trace coarse gravel	
19			22	19	0.0		
20							
21	SW		48	24	0.0	Light brown to brown, fine to coarse **SAND**, trace fine gravel, dense, moist	
22						Light brown to brown, fine to medium **SAND**, trace coarse sand and fine gravel, dense, moist	
23	SP		32	19	0.0	Trace cobbles	
24						Medium dense	
25			26	24	0.0	Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
	SW						
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 018 - R64
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		24	19	0.0	Brown, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, medium dense, moist	
28							
29			54	0	NA	No recovery from 28-30' due to presence of cobbles at tip of spoon; lithology assumed to be the same as above and below	NA = Not available (no recovery)
30							
31			48	5	0.0	Trace coarse sand and fine gravel, coarse gravel grades out, dense, dry	
32							
33			54	4	0.0	Very dense	
34	EOB						
35						NOTES: 1. Boring completed to a depth of 34' below reference on 10/22/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/29/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 019 - P66
Date Drilled: 10/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			15	18	0.0	**FILL**, Brown, silty, fine to medium sandy gravel Dark brown to light brown, fine to medium sandy, silt, little fine to coarse gravel, dry	
2						Light brown to dark brown, fine to coarse sand with fine to coarse gravel, dry	
3			38	16	0.0		
4	SM					Brown to light brown, silty, fine to medium **SAND**, trace fine gravel, dense, dry	
5	SP		37	24	0.0	Light brown, fine to medium **SAND** with fine to coarse gravel, trace silt, dense, dry	
6	SM					Brown, silty, fine to medium **SAND** with gravel, dense, moist	
7	ML		40	24	0.0	Light gray, fine sandy, **SILT**, trace fine gravel	
8	SP					Yellowish brown, fine to medium **SAND**, with fine gravel, dense, moist Light brown, trace fine gravel, medium dense	
9			28	24	0.0		
10						Some fine to coarse gravel, trace cobbles, dense	
11			30	24	0.0		
12						Little fine gravel, trace coarse gravel Trace black	
13			35	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 019 - P66
Date Drilled: 10/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to medium **SAND**, little fine gravel, trace coarse gravel, dense	
14							
15	SP		40	17	0.0	Dark brown, fine sand seams at 15-16'	
16						Little fine to coarse gravel	
17			35	24	0.0		
18							
19			37	24	0.0	Yellowish brown, fine to coarse **SAND** with fine to coarse gravel, dense, moist	
20						Grades to little fine to coarse gravel, medium dense	
21			27	23	0.0		
22	SW					Trace cobbles	
23			17	24	0.0		
24							
25			19	24	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 019 - P66
Date Drilled: 10/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		17	23	0.0	Yellowish brown, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles, medium dense, moist	
28							
29			18	24	0.0		
30							
31			19	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/18/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/25/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 020 - R66
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown grading to brown, fine to medium sandy, silt, trace fine, subangular gravel	
2			9	17	0.0		
3						Brown grading to dark brown	
4			13	15	0.0		
	SP					Yellowish brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
5							
6	ML		5	23	0.0	Brown, fine sandy **SILT**, some fine, subrounded to subangular gravel, loose, moist, interbedded with 3-6" fine to medium sand layers	
7							
8			43	18	0.0	Interbedded layers of yellowish brown, fine **SAND**, trace fine, subrounded gravel and fine to medium sand with fine to coarse, subrounded gravel, dense, moist	
9							
10	SP		31	24	0.0		
11						Light brown, fine to medium sand, some fine subangular to subrounded gravel	
12			38	24	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 020 - R66
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to medium **SAND**, some fine, subangular to subrounded gravel, medium dense	
14			27	17	0.0		
15						Dense	
16			31	24	0.0		
17	SP					Medium dense	
18			24	22	0.0	1" reddish brown layer at 18'	
19							
20			16	24	0.0		
21						Yellowish brown	
22			26	24	0.0		
23	SW					Yellowish brown, fine to coarse **SAND**, some fine, subangular to subrounded gravel, medium dense, moist	
			*18	*7	0.0	Yellowish brown, fine to medium **SAND**, some fine, subangular to subrounded gravel, medium dense, moist	*1' spoon driven from 23 - 24' in order to return to even numbered sampling intervals
24	SP					Trace cobbles	
25			29	16	0.0		
	SW					Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 020 - R66
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		53	22	0.0	Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, very dense, dry	
28						Dense	
29	SP		38	22	0.0	Brown, fine **SAND**, dense, dry	
30	SW					Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, dry Trace fine gravel, coarse gravel grades out, medium dense	
31	SP		21	24	0.0	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, dry	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/21/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/25/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 021 - O68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, silty, fine to medium sand with fine to coarse, subangular gravel	
2			13	24	0.0	Light brown, silt, trace fine to coarse, subangular gravel	
3	~~SM~~					Light brown, fine to medium **SAND** with fine to coarse, subrounded gravel, trace cobbles, dry, dense 1" light brown, silty, fine sand at 3' 1" coarse sand layers at 3.3' and 3.6'	
4	SP		43	18	0.0		
5	SW					Dark brown, fine to ocarse **SAND**, trace fine, subrounded gravel, dry, dense	
6	SP		26	21	0.0	Light brown, fine to medium **SAND**, some fine to coarse, subrounded gravel, trace cobbles, medium dense, dry	
7						Dense	
8			40	22	0.0	1-2" red-brown layers at 8.2' and 8.5'	
9						Light brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, medium dense, moist	
10	SW		25	24	0.0		
11						Light brown, fine to coarse **SAND**, and fine, subangular **GRAVEL**, trace coarse, subrounded gravel	
12	GW		24	24	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 021 - O68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	GW		40	24	0.0	Light brown, fine to coarse **SAND** and fine, subangular **GRAVEL**, trace coarse, subrounded gravel and cobbles, dense, moist	
15						Medium dense	
16			25	24	0.0		
17						And fine to coarse, subangular gravel	
18			25	24	0.0		
19						Trace coarse, subrounded gravel	
20			19	24	0.0		
21							
22			15	24	0.0		
	SP					Light brown, fine **SAND**, medium dense, moist	
23	GW		*19	*12	0.0	Light brown, fine to coarse **SAND** and fine, subangular **GRAVEL**, trace coarse, subrounded gravel, medium dense, moist	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24							
25			27	24	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 021 - O68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GW		36	24	0.0	Light brown, fine to coarse **SAND** and fine, subangular **GRAVEL**, trace coarse, subrounded gravel, dense, moist	
28						Medium dense	
29			24	24	0.0		
30						Trace cobbles	
31			20	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/18/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/19/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 022 - Q68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, brown grading to dark brown, silty, fine to medium sand with fine to coarse, subangular gravel	
2			13	24	0.0		
3	GP					Brown, fine to medium **SAND** and fine to coarse, subrounded **GRAVEL**, dense, moist	
4	SW		35	20	0.0	Brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, dense, moist	
	SP					Yellowish brown, fine to medium **SAND**, trace fine to coarse, subrounded gravel, dense, moist	
5	SW						
	SP					Yellowish brown, fine to coarse **SAND** with fine to coarse, subrounded to subangular gravel	
6	SW		42	24	0.0	Light brown, fine **SAND**, trace fine, subangular gravel	
7	SP					Light brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, dense, moist	
						Light brown, fine **SAND**, trace fine, subangular gravel, dense	
8			50	24	0.0	Yellowish brown, fine to medium sand with fine to coarse, subrounded gravel	
9						Trace cobbles	
10			31	17	0.0		
11	SW					Light brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, trace cobbles, dense, moist	
12			36	14	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 022 - Q68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, trace cobbles, dense, moist	
14			32	24	0.0		
15						Medium dense	
16			27	14	0.0		
17	SW						
18			21	17	0.0		
19							
20			11	17	0.0		
21	SP					Yellowish brown, fine to medium **SAND** with fine to coarse, subrounded gravel, medium dense, moist	
	GW						
22	SP		22	20	0.0	Light brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
23						Light brown, fine **SAND**, trace fine, subrounded gravel, medium dense, moist	
24	GW		18	24	0.0	Light brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
25						Trace cobbles, dense	
26			38	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 022 - Q68
Date Drilled: 10/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, trace cobbles, dense, moist	
27							
						Cobbles grade out, medium dense	
28	GW		27	24	0.0		
29							*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
			*32	*10	0.0	Dense 2" reddish brown layer	
30							
						Yellowish brown, fine to medium **SAND**, little fine, subrounded gravel, medium dense, moist	
31	SP		20	18	0.0		
32							
	EOB						
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' below reference on 10/20/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 10/25/04
4. Analytical samples collected where sufficient recovery from 1-30':
   a. On-Site radiological every foot
   b. On-Site nickel every even numbered foot
5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 024 - P69
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			*WR	12	0.0	**FILL**, 1' terra cotta debris followed by black to gray with brown, medium to coarse sand and concrete debris, dry	*WR =weight of rods
2						Dark brown, silty sand and fine gravel	
3			7	24	0.0	Terra cotta and concrete debris, trace sand	
4						Dark brown, fine to medium sand with fine to coarse, subrounded gravel, some terra cotta and concrete debris, moist	
5			7	16	0.0		
6							
7			21	13	0.0		
8						Brown, fine to coarse **SAND** with fine to coarse, subangular gravel, medium dense, moist	
9			27	15	0.0		
10	SW					Occasional cobbles	
11			24	15	0.0		
12							
13			25	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 024 - P69
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						1-2" dark brown coarse sand/fine gravel layer followed by brown, fine to coarse **SAND** with fine to coarse, subangular gravel, medium dense, moist	
14						Yellowish brown, little subrounded, fine to coarse gravel	
15	SW		27	17	0.0	1-2" dark brown to black, medium to coarse sand layer at 15'	
16						Occasional cobbles	
17			18	20	0.0	Trace dark brown at 16.4' and 16.7'	
18						Light brown, **SAND** and subrounded, fine to coarse **GRAVEL**	
19	GW		25	14	0.0	1-2" orange-yellow, coarse sand/fine gravel layer at 18.7'	
20						Yellowish brown, fine to coarse **SAND**, some subrounded, fine to coarse gravel	*WR =weight of rods
21	SW		*WR	17	0.0		
22							
23	GW		26	14	0.0	Light brown **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense	
24							
25	SP		36	19	0.0	Yellowish brown, fine to medium **SAND**, dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 024 - P69
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Yellowish brown, fine to medium **SAND**, medium dense, moist	
27	GW		28	16	0.0	Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
	SP					Yellowish brown, fine to medium **SAND**, medium dense, moist	
	GW						
28	SP					Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
	GW						
	SP					Yellowish brown, fine to medium **SAND**, medium dense, moist	
29	GW		26	19	0.0	Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
	SP						
30						Yellowish brown, fine to medium **SAND**, medium dense, moist	
31	SW		24	21	0.0	Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense, moist	
						Yellowish brown, fine to medium **SAND**, medium dense, moist	
32	EOB					Yellow-brown at 29.6-30' to light brown at 30-32', fine to coarse **SAND**, some fine to coarse, subrounded gravel	
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' below reference on 10/15/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 10/19/04
4. Analytical samples collected where sufficient recovery from 1-30':
   a. On-Site radiological every foot
   b. On-Site nickel every odd numbered foot
5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 025 - R70
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, fine sandy, silt, trace fine to coarse, subrounded gravel and cobbles, moist	
2			22	14	0.0		
3							
4	SP		28	18	0.0	Brown, fine to medium **SAND** with fine to coarse, rounded to subrounded gravel, trace silt, medium dense, moist	
5	SW					Reddish brown, fine to coarse **SAND** with fine to coarse, angular gravel, dense, moist	
6			37	24	0.0	Light brown, fine **SAND** with fine, subrounded gravel, dense, moist	
7						Fine to medium sand with fine to coarse, subangular gravel	
8	SP		44	24	0.0		
9						Brown, very dense	
10			53	24	0.0	Light brown, fine sand, trace subrounded gravel, medium sand grades out	
11						Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, trace cobbles, very dense, moist	
12	GW		40	18	0.0	Dense	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 025 - R70
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, dense, moist	
14			30	18	0.0		
15						Grades to dark brown	
16	GW		30	24	0.0		
17						Brown, medium dense	
18			23	15	0.0	Orange-brown, fine sand seam	
19						Brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, medium dense	
20			22	18	0.0		
21							
22	SW		15	17	0.0		
23						Trace cobbles	*1' spoon driven from 23 - 24' in order to return to even numbered sampling intervals
			*15	*4	0.0		
24						Grades to angular to subangular gravel	
25			21	24	0.0	1" black layer at 25'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 025 - R70
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		33	16	0.0	Brown, fine to coarse **SAND**, some fine to coarse, angular to subangular gravel grading to little fine, subangular gravel, dense, moist	
28							
29	GW		25	19	0.0	Brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense	
30							
31			25	21	0.0		
	SP					Light brown, fine to medium **SAND**, trace fine, subangular gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/20/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/22/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 026 - P71
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, fine sandy silt with fine, subangular gravel, trace organics, dry	
2			8	18	0.0	Brown	
3						Dark brown	
4	GP		19	21	0.0	Light brown, fine to medium **SAND** and fine to coarse, subrounded **GRAVEL**, trace silt, medium dense, moist	
5						Dark orange-brown layer from 4.6-5'	
6			22	18	0.0	Subangular gravel	
7							
8	SP		40	20	0.0	Light brown, fine to medium **SAND**, some gravel, dense	
9	GW					Light brown with trace dark brown, fine to coarse **SAND** and fine to coarse, subangular **GRAVEL**, trace cobbles, dense, moist	
10	SP		44	13	0.0	Yellow-orange, fine **SAND**, dense, moist	
11	GW					Yellow-brown to light brown, fine to coarse **SAND** and fine to coarse, subangular **GRAVEL**, dense, moist	
12			43	20	0.0		
	SP					Light brown, fine **SAND**, dense, moist	
13	GW					Light brown, fine to coarse **SAND** and fine to coarse **GRAVEL**, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 026 - P71
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		22	23	0.4	Light brown with trace dark brown, fine to coarse **SAND**, some fine to coarse, subangular gravel, medium dense, moist	
15						Yellowish brown, subrounded gravel	
16			16	20	0.0		
17						Light brown with trace dark red-brown laminations and intermittent orange layers	
18			22	19	0.0		
19							
20			17	20	0.0		
21						Light brown	
22			14	24	0.0		
23						Orange-layer from 22.6-23.5'	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
			*13	*8	0.0		
24	SP					Light brown with orange-brown laminations, fine **SAND**, medium dense, moist	
25			17	22	0.0	1" coarse sand, fine gravel layer with dark brown at 24.6', 1" fine gravel layer at 24.8' followed by yellowish brown, fine to medium sand, some fine to coarse, subrounded gravel; 1" orange, coarse sand, fine gravel layer at 25'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 026 - P71
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Yellowish brown with trace orange layers, fine to medium **SAND**, some fine to coarse, subrounded gravel, medium dense, moist	
27			16	21	0.0		
	SW					Light brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, medium dense, moist	
28							
	SP					Yellowish brown with orange-brown lamination, fine **SAND**, medium dense, moist	
29			21	18	0.0		
						Light brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, medium dense, moist	
30							
	SW						
31			28	22	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/14/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/19/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 027 - Q71
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown to brown to dark brown, silty, fine to medium sand and fine to coarse, subrounded gravel, concrete debris, moist	*WR =weight of rods
2			*WR	17	0.6		
3							
4			20	12	0.0	Yellowish brown to light brown, fine to medium **SAND**, some fine to coarse, subrounded gravel, medium dense, moist	
5							
6	SP		26	14	0.0		
7						Dense	
8			41	19	0.6		
9	SW					Yellowish brown with trace dark brown, fine to coarse **SAND**, some fine to coarse, subrounded gravel, dense, moist	
10			40	20	0.0	Yellowish brown to light brown, fine to medium **SAND**, some fine to coarse, subrounded gravel, dense, moist	
11	SP						
12			41	20	0.0		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 027 - Q71
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	GW		32	19	0.0	Light brown, fine to coarse **SAND** and fine to coarse, subangular **GRAVEL**, dense, moist	
15	SP					Yellowish brown, fine grading to fine to medium **SAND**, some to trace fine to coarse, dense Brown, coarse gravel grades out, medium dense	
16	SW		21	24	0.0	Yellowish red grading to yellowish brown grading to light brown, fine to coarse **SAND**, some fine to coarse, subrounded to subangular gravel, medium dense, moist	
17						Light brown, trace cobbles to 19'	
18			18	17	0.0		
19							
20			18	16	0.0		
21						Yellowish brown, subrounded gravel	
22			25	19	0.0		
23	SP					Light brown with trace orange-brown laminations, fine **SAND**, medium dense, moist	
24	GW		42	20	0.0	Light brown to brown, fine to coarse **SAND** and fine to coarse, subangular to subrounded **GRAVEL**, dense, moist	
25	SP					Yellowish brown, fine to medium **SAND**, some fine to coarse, subrounded gravel, dense, moist	
26			34	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 027 - Q71
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP					Yellowish brown, fine to medium **SAND**, some fine to coarse, subrounded gravel, dense, moist	
						Grading to light brown, medium dense	
28			20	15	0.0		
29	SW					Light brown with orange-red coloration to 29', fine to coarse **SAND**, some fine gravel, medium dense, moist	*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
			*22	*12	0.0	Some coarse gravel	
30						Trace red-orange, coarse gravel grades out, dense	
31	SP		35	24	0.0	Light brown with dark reddish brown laminations, fine to medium **SAND**, some coarse sand, dense, moist	
	SW					Light brown, fine to coarse **SAND**, some fine gravel, dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/14/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 030 - R72
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, dark brown, silty, fine to medium sand and gravel	
1						Trace fine, subrounded gravel, dry	
2			12	18	1.4	Brown, little fine, subrounded gravel	
3						Dark brown, fine **SAND**, trace silt and fine, subrounded gravel, medium dense, dry	
4			24	14	0.0	Light brown at 3.8-4.1' followed by yellowish brown	
5						Light brown, fine to medium sand, little grading to some fine, subrounded gravel, dense	
6	SP		32	18	1.5	Trace cobbles	
7						Yellowish brown to light brown, some fine to coarse gravel, moist	
8			31	23	0.3		
9						Light brown, fine to coarse **SAND** and fine to coarse, subrounded to subangular **GRAVEL**, dense, moist	
10	GW		38	1	0.0		
11							
12			38	20	0.0	Dark brown layer from 12-12.2'	
	SP					Yellowish brown, fine **SAND**, dense, moist	
13	GW					Orange-brown, fine to coarse **SAND** and fine **GRAVEL**, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 030 - R72
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		32	13	0.2	Light brown, fine to coarse **SAND**, some fine to coarse, subangular gravel, trace cobbles, dense, moist	
15	SP					Yellowish brown, fine **SAND**, trace fine, subangular gravel, trace silt, medium dense, moist	
16	SW		21	18	0.0	Light brown with trace dark reddish brown, fine to coarse **SAND**, some fine to coarse, subangular to subrounded gravel, trace silt to 17', medium dense, moist	
17						Trace orange	
18			19	18	0.1		
19							
20			12	12	0.0		
21							
22			17	6	0.0		
23			*23	*6	0.0		*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Trace cobbles, very dense	
25			52	3	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU01 - 030 - R72
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		28	24	0.0	Brown grading to light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist 1" red-orange layer at 27.5'	
28							
29	SP		15	16	0.0	1/2" dark brown seam followed by light brown with intermittent orange layers, fine to medium **SAND**, some coarse sand and fine gravel, trace coarse gravel, medium dense, moist	
30	GW					Light brown grading to brown, fine to coarse **SAND** and fine **GRAVEL**, medium dense, moist	
31			21	20	0.2	4-5' orange grading to light brown Trace gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 10/13/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 001 - S69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3						**BACKFILL** Previously excavated to 4' bgs during LPH investigations	
4	ML		6	12	0.0	Brown, sandy **SILT**, trace gravel, loose, moist	
5, 6, 7	SP		5	14	0.0	Brown to light brown, fine to medium **SAND**, some coarse sand and fine gravel, loose, moist	
8	CL		3	16	0.0	Light gray, silty **CLAY**, some fine gravel, soft	
9	SP					Orange-brown, fine to medium **SAND**, some fine to coarse gravel, trace coarse sand, loose, moist Light brown, trace gravel, medium dense	
10			12	16	0.1		
11	SW					Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
12	SP		22	18	0.2	Orange-brown, fine to medium **SAND**, some coarse sand, trace fine gravel Light brown, trace coarse sand	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 001 - S69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
14	SP		22	22	0.0	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
15						Light brown to orange-brown, some coarse sand	
16			24	22	0.0		
17							
18			18	18	0.1	1" dark brown, medium to coarse sand layer at 17.5'	
						1" orange-brown, medium to coarse sand layer at 18.5'	
19						Light brown	
20			11	20	0.1		
21						1/4" dark brown, fine sand seam followed by 1" orange-brown, medium to coarse sand layer at 20.5'	
						Light brown to orange-brown, gravel grades out	
22			12	18	0.0		
	SW					Dark orange-brown to orange-brown, fine to coarse **SAND**, some fine gravel, medium dense, moist	
23	SP		*7	*12	0.0	Light brown to brown, fine to medium **SAND**, some coarse sand, trace fine gravel, loose, moist	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Gravel and coarse sand grade out from 23.75-24'	
25			9	22	0.0	2" brown, fine to coarse sand, some fine gravel layer at 25'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 001 - S69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		15	22	0.0	Light brown, fine to medium **SAND**, some fine to coarse gravel, trace coarse sand, medium dense, moist 2" brown, fine to coarse sand layer at 27'	
28							
29	SW		13	22	0.1	Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel	
30							
31	SW		14	23	0.2	Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/11/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 002 - T69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			21	22	0.0	**FILL**, dark brown, silty, fine to coarse sand, some fine to coarse gravel, dry Light brown to dark brown to light brown, fine to coarse sand, some silt, trace fine gravel, dry Brown, silty fine to coarse sand, some to trace fine to coarse gravel, dry	
3							
4			11	20	0.0		
	CL					Light brown, silty **CLAY**, trace fine gravel, stiff, moist	
5						Light brown to orange-brown, fine to coarse **SAND**, trace fine to coarse gravel and clay lenses to 7', loose, moist	
	CL						
6	CL		7	12	0.0		
	CL						
7	CL					Medium dense	
8			24	18	0.0		
9	SW					Light brown, some gravel	
10			20	24	0.1		
11						Orange-brown to light brown, some gravel	
12			25	22	0.7		
						Light brown, trace fine gravel, coarse gravel grades out	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 002 - T69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to tan, fine to coarse **SAND**, some fine gravel, trace cobbles, medium dense, moist	
14			26	18	1.1		
15						Brown to light brown, some fine to coarse gravel, cobbles grade out	
16			22	20	0.2		
17						Light brown	
18			14	24	0.2		
19							
	SW						
20			12	20	0.5	Light brown to orange-brown	
21						Loose	
22			9	24	0.1		
						Dark brown, silty sand lens at 22.5'	
23						Light brown, medium dense	
24			12	22	0.3		
25							
26			13	22	0.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 002 - T69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
27							
						Light brown to orange-brown, coarse gravel grades out	
28	SW		18	20	0.7		
29						Trace fine gravel	*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
			*9	*12	0.2	Some fine to coarse gravel	
30						Trace fine gravel, coarse gravel grades out	
31	SP		13	NA	0.6	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
32	EOB						NA = Not available (recovery not available)
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/10/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 003 - V69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			20	20	0.3	**FILL**, dark brown, silty, fine to coarse sand, trace fine to coarse gravel at 1-1.3' followed by brown, fine to coarse sand, some silt, trace fine to coarse gravel, dry	
2						dark brown, silty, fine to coarse sand, trace fine to coarse gravel, dry	
3			16	16	0.5		
	ML					Brown, clayey **SILT**, some sand and fine gravel, very stiff, dry	
4	SW					Brown to orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense to loose, moist	
5			6	20	0.1		
6	CL					Brownish gray, silty **CLAY**, trace fine gravel, medium stiff, moist	
7	SW		17	20	0.3	Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
8						Brown to light brown	
9			20	22	0.1		
10	ML					Brown **SILT**, trace fine gravel and sand, medium dense, moist Some fine to coarse gravel	
11			25	22	0.2	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
12	SW						
13			13	18	0.4		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 003 - V69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
14							
15			20	22	1.0		
16						Dense	
17			31	22	0.3		
18						Medium dense	
19	SW		13	NA	0.1		NA = Not available (recovery not recorded)
20							
21			13	20	0.6		
22							
23			12	24	0.9		
24						Tan to light brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
25	GW		10	24	0.1		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 003 - V69
Date Drilled: 1/10/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GW					Tan to light brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
27			16	22	0.7	Light brown, fine to coarse **SAND**, some fine gravel, medium dense, moist	
28						Trace fine gravel	
29	SW		11	24	0.3		
30						Some fine gravel	
31			10	20	0.4		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/11/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 004 - W69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, silty, fine to coarse sand, some fine gravel, dry	
2			33	24	0.6	Light brown, trace gravel Dark brown, some fine to coarse gravel	
3							
4			9	24	0.0	Brown Light brown, silty clay, trace fine gravel and sand, moist	
5						Dark brown, silty, fine to coarse sand, some fine gravel, dry	
6	CL		19	24	0.3	Light brownish gray, silty **CLAY**, trace fine gravel, very stiff, dry	
7	SW					Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, dry Light brown, moist	
8			15	22	0.3		
9	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
10	ML		17	24	0.0	Brown, fine sandy, **SILT**, trace fine gravel, medium dense, moist	
11	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
12			23	22	0.4		
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 004 - W69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
14			14	20	0.3		
15						Orange-brown	
16			18	20	0.5		
17						No recovery from 17-23'; lithology assumed to be the same as above and below zone of no recovery	NA = Not available (no recovery)
18			31	0	NA		
19							
20	SW		27	0	NA		
21							
22			27	0	NA		
23						Light brown	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
			*10	*12	0.4		
24						With gravel	
25			12	20	0.4		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 004 - W69
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		18	24	1.5	Brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
28						Light brown	
29	SP		11	20	0.6	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
30							
31	SW		15	24	1.3	Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/11/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 005 - Y68
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Chris Ortolano

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
			50	21	0.0	**FILL**, dark brown, silty, fine to medium sand, some fine to coarse gravel, dry	
2							
3							
	ML		9	18	0.0	Brown **SILT** with fine to medium sand, some fine gravel, loose, dry	
4							
5							
			25	18	0.0	Light brown, fine **SAND**, some fine gravel, medium dense, dry	
6							
7							
			21	18	0.0	Light brown to tan, trace medium sand and fine gravel, moist	
8							
9	SP						
			22	22	0.0	Orange-brown, fine to medium sand, some fine to coarse gravel	
10							
11							
			25	22	0.0		
12							
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 005 - Y68
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Chris Ortolano

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Brown, fine to medium **SAND**, some fine to coarse gravel, trace cobbles, medium dense, moist	
14			24	24	0.0		
15							
16			24	24	0.0		
17						Light brown to tan, cobbles grade out	
18			13	24	0.0		
19	SP						
20			10	24	0.0		
21							
22			16	24	0.0		
23							
24			16	24	0.0		
25							
	SW					Light brown to brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
26			20	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 005 - Y68
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Chris Ortolano

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
27							
28	SW		20	24	0.0		
29			*16	*12	0.0		*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
30							
31			18	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/12/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 006 - A19
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			44	18	0.0	**FILL**, dark brown to black, silty sand with fine to coarse gravel, moist Dark brown to black, fine to coarse sand with gravel, silt and trace cobbles, moist	
2						Dark brown to black, silty, fine to coarse sand with fine to coarse gravel, moist	
3			18	22	0.0	Brown, fine to coarse **SAND** with silt, some fine to coarse gravel, medium dense, moist	
4						Trace silt, little fine gravel, coarse gravel grades out	
5			13	14	0.0		
6	SW					Trace cobbles	
7			28	16	0.0		
8	ML					Cobbles grade out, loose Interbedded with light gray, sandy silt	
9	ML ML ML ML		6	20	0.0		
	SM					Reddish brown, silty **SAND**, some gravel, loose, moist	
10	ML					Brown, sandy **SILT**, little fine gravel, medium dense, moist	
11			24	22	0.0	Reddish-brown, fine to coarse **SAND**, trace coarse gravel, medium dense, moist Tan to light brown, some fine to coarse gravel	
12	SW					Dense	
13			42	20	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 006 - A19
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to tan, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
14							
15			40	20	0.0		
16							
17			42	20	0.0		
						3" reddish brown, coarse sand and fine gravel lens at 17.2	
18						Light brown to brown, trace cobbles to 20'	
						Medium dense	
19	SW		27	12	0.0		
20							
21			18	14	0.0		
22							
23			18	20	0.0		
24						Trace cobbles to 26'	
25			24	18	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 006 - A19
Date Drilled: 1/12/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		39	39	0.0	Light brown to brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist Light brown to dark brown, trace cobbles to 28'	
28						Medium dense	
29			19	19	0.0		
30						Dense	
31			32	32	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/12/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/13/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 007 - B19
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			34	18	0.0	**FILL**, black grading to orange-brown, sandy silt with fine to coarse gravel, some asphalt debris, moist	
3						Dark brown to black, moist	
4			8	21	0.0	Yellow-brown, clayey silt with fine to coarse gravel, moist	
5						Orange-brown, fine to coarse sand, some silt, and fine to coarse gravel, moist	
6			12	19	0.0	Gray-brown, clayey silt, with fine to coarse gravel, moist	
7						Orange-brown, fine to coarse sand, some silt and fine to coarse gravel, loose, moist	
						Gray-brown, clayey silt, moist	
8	SW		78	24	0.0	Light orange-brown with trace red, fine to coarse **SAND** with fine to coarse gravel, very dense, dry	
9						Decreasing gravel with depth, medium dense, moist	
10			16	16	0.0		
11	SP					Orange-brown with some dark brown seams, fine **SAND**, medium dense, moist	
						Trace dark red-brown, dense	
12	SW		38	19	0.0	Orange-brown and dark brown mottled, trace red, fine to coarse **SAND**, trace fine to coarse gravel, dense, moist	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 007 - B19
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP		58	19	0.0	Light orange-brown, fine to medium **SAND**, some coarse sand and fine to coarse gravel, very dense, moist	
15							
16	SW		32	23	0.0	Light orange-brown, fine to coarse **SAND**, trace fine gravel, dense, moist	
17						Light brown with trace red, some fine to coarse gravel	
18			33	20	0.0		
19						Medium dense	
20			21	16	0.0		
21							
22			20	19	0.0		
23			*23	*12	0.0	Red grades out, trace coarse gravel	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Dense	
25			44	19	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 007 - B19
Date Drilled: 1/11/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light orange-brown with dark reddish brown seams, fine to coarse **SAND**, some fine gravel, trace coarse gravel, very dense, moist	
27			53	19	0.0		
						Trace gravel	
28						Some fine gravel, trace coarse gravel, dense	
29	SW		30	19	0.0		
						Dark reddish brown laminations from 29.25' to 29.33'	
30						Trace fine gravel, coarse gravel grades out, medium dense	
31			27	19	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/12/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/12/05 4. Analytical samples collected where sufficient recovery from 2-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 008 - S70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			30	20	0.0	**FILL**, grayish brown, silty, fine to coarse, sand, some fine to coarse gravel, dry	
2						Gray silt, some fine to coarse gravel, dry Brown, fine to coarse sand, trace fine gravel, dry Brown, silty, fine to coarse sand, some fine gravel, moist	
3			8	24	0.4		
						Gray brown, silty clay, trace fine gravel, moist	
4							
5			7	16	0.4		
						Orange-brown, fine to coarse **SAND**, some fine gravel, loose, moist	
6	SW						
7			25	24	0.6	Light brown, trace fine gravel, medium dense	
8						Light brown to brown, fine to coarse **SAND** and **GRAVEL**, trace cobbles	
9	GW		18	20	0.5		
10						Light brown, fine to coarse **SAND,** some fine to coarse gravel, medium dense, moist	
11	SW		18	24	0.4		
12						Trace gravel	
13			14	20	0.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 008 - S70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
14							
15	SW		13	24	0.4		
16							
17			14	22	0.5		
	SP					Light brown, fine to medium **SAND**, medium dense, moist	
	GW					Light brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
18						Light brown to orange-brown, fine to coarse **SAND,** trace fine to coarse gravel	
19			10	22	0.6		
20							
21			11	22	0.7		
22	SW					Some gravel	
23			16	24	1.0		
24						Tan to light brown	
25			11	20	0.8		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 008 - S70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		20	20	1.1	Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
28						Some fine to coarse gravel	
29			13	22	0.9		
30						Brown to light brown, coarse sand grades out	
31			13	22	1.1		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/13/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/14/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 009 - U70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			10	24	0.3	**FILL**, dark brown to brown, sandy silt, some fine to coarse gravel, trace cobbles, moist	
3							
4			8	16	0.0	Brown to orange-brown, silty clay, some fine to coarse gravel, trace fine sand, dry	
5							
6	SP		23	20	0.0	Orange-brown, fine **SAND**, some fine gravel, medium dense, moist	
7							
8	SW		24	20	0.0	Light brown, fine to coarse **SAND**, some fine gravel, medium dense, moist	
9						Dark brown, silty **SAND**, medium dense, moist	
10	SM		20	20	0.0	Trace fine gravel	
11							
12	SW		28	24	0.4	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 009 - U70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
14			19	20	0.0	Orange-brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
15							
16	SP		18	20	0.2		
17						Orange-brown to light brown, loose	
18			8	20	0.2		
19						Light brown, fine to coarse **SAND**, some fine gravel, loose, moist	NA = Not available (recovery not recorded)
20			9	NA	0.2		
21	SW					Some coarse gravel, medium dense	
22			12	20	0.4		
23						No recovery	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
			*14	*0	NA		
24						Light brown, fine to coarse **SAND**, some fine to coarse gravel, loose, moist	
25	SW		8	22	0.0		No recovery
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 009 - U70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
27			17	20	0.5		
28						Loose	
29	SW		9	22	0.2		
30						Medium dense	
31			14	24	0.3		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/13/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/14/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 010 - W70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			15	24	0.4	**FILL**, dark gray, silty, fine to coarse sand, some fine to coarse gravel, moist	
3						Gray-brown, clayey silt, trace fine gravel, moist	
						Light brown	
4			21	18	0.4	Light brown to orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
5						Orange-brown to light brown	
6			29	22	0.5		
7						Light brown, some fine to coarse gravel	
8	SW		16	20	0.4		
9						Trace cobbles	
10			14	20	0.3		
11						Light brown to tan, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
12	GW		26	24	0.4	Light brown to orange-brown	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 010 - W70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						No recovery	
14			38	12	0.3	Tan to light brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, dense, moist	
15	SW					Orange-brown, trace fine to coarse gravel, medium dense	
16			19	20	0.3		
17	SP					Light brown, fine **SAND**, trace coarse sand, medium dense, moist	
18	SW		14	24	0.3	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
19						Light brown to tan, trace fine to coarse gravel	
20	GW		12	24	0.5	Light brown, fine to coarse **SAND** and **GRAVEL**	
21							
22	SW		25	24	0.1	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
23						3" layer light brown, fine to medium sand Trace cobbles	
24			12	22	0.3		
25							
26			22	24	0.4		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 010 - W70
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Chris Ortolano

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
27						Trace coarse gravel	
28			16	22	0.7		
29	SW						*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
			*8	*11	0.5	Some fine gravel, loose	
30						Some coarse gravel, medium dense	
31			13	22	0.6		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/14/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/17/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 011 - X70
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			62	22	0.0	**FILL**, medium brown, silty, fine to medium sand, some coarse sand, some fine to coarse gravel, moist	
2							
3			16	18	0.0	Light brown, clayey, fine to medium sand, some fine to coarse gravel	
4	SP					Light brown to orange brown, fine to medium **SAND**, trace coarse sand, and fine gravel, medium dense, moist	
5			23	24	0.0	3" light brown, sandy silt, trace fine gravel layer	
6						Some coarse sand and fine gravel, trace coarse gravel and cobbles, dense, moist	
7			48	22	0.0		
8						Light brown, trace coarse sand and fine gravel	
9			39	20	0.0	Some coarse sand and fine gravel	
10	SW					Light brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense, moist	
11			31	18	0.9		
12							
13			44	22	0.4	Dark brown, trace fine gravel, coarse gravel grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 011 - X70
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to orange brown, fine to medium **SAND**, trace coarse sand, and fine gravel, medium dense, moist	
14						Some coarse sand and fine gravel, very dense	
15			51	18	0.0		
16							
17			42	18	0.0	Light brown to tan, trace coarse sand, and fine gravel, dense	
18	SP					Some coarse sand, trace fine to coarse gravel, medium dense	
19			22	20	0.0		
20						Light brown to light orange-brown	
21			23	20	0.2		
22							
23			27	22	0.0	Trace coarse sand	
24							
25	SW		23	22	0.0	Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
26						Medium brown	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 011 - X70
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light brown, fine to medium **SAND**, trace coarse sand, and fine gravel, medium dense, moist	
27			35	18	0.0	Light brown to light orange-brown	
28						Some coarse sand and fine gravel, medium dense	
29			29	18	0.0	2" brown fine to medium sand layer	
30							
31			30	24	0.0		
						3" orange-brown, fine to coarse sand, some fine gravel layer	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/17/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/19/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 012 - Z70
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			19	12	0.5	**FILL**, dark brown, silty, fine to coarse sand with fine to coarse gravel, moist	
3							
4			10	14	0.0	Orange-brown, fine sandy, silt, to coarse sand, with fine to coarse gravel, moist	
5							
6			19	24	0.0	Dark brown	
	SM					Red-orange to brown, silty, fine **SAND**, trace coarse sand and fine gravel, medium dense, moist	
7							
8	ML		14	19	0.0	Yellow-brown, fine to coarse sandy, **SILT** with fine gravel, medium dense, moist Orange-brown, some clay, medium dense Gray, clayey silt, some fine gravel and coarse sand, dry	
9							
	SM					Dark brown to brown, silty, fine to coarse **SAND** with fine to coarse gravel, dense, moist	
	ML					Gray, clayey **SILT**, hard, dry	
10			32	20	0.0		
11	SW					Light brown, fine to coarse gravelly, fine to coarse **SAND**, dense, dry	
12	SP		45	22	0.0	Light orange-brown, fine to medium **SAND**, dense, moist	
13	SW					Light orange-brown, gravelly, fine to coarse **SAND**, fine to coarse gravel, dense, dry	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 012 - Z70
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light orange-brown, fine to coarse gravelly, fine to coarse **SAND**, dense, dry, decreasing gravel with depth	
14	SP		39	19	0.0	Light brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, dense, dry	
15							
						Light brown, fine gravelly, fine to coarse **SAND**, trace coarse gravel, dense, dry	
16			32	18	0.0		
17							
						Trace red at 17.5'	
18			39	20	0.0		
19	SW					Fine to coarse gravelly, medium dense	
20			22	18	0.0		
21						Trace coarse gravel, fine gravel grades out, moist	
22			28	21	0.0		
23							
			*19	*11	0.0		*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24							
25			23	19	0.0	Some coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 012 - Z70
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine gravelly, fine to coarse **SAND**, medium dense, moist	
27	SP		30	24	0.0	Light brown with dark red-brown laminations, fine to medium **SAND**, some coarse sand, trace fine gravel, medium dense, moist	
28						Light brown with trace dark reddish brown, fine to coarse **SAND** with fine to coarse gravel, medium dense, moist	
29	SW		21	24	0.0	Light brown Coarse gravel, fine gravel grades out to 28.75' Trace fine gravel from 29-30'	
30							
31			22	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/18/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/19/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 013 - A21
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
						FILL, medium brown, sandy silt, some fine gravel, moist	
2			24	12	0.0	Medium brown to light brown, silty, fine to coarse sand, some fine gravel, moist	
3							
4			11	16	0.0		
5						Medium brown	
6			4	23	0.0		
7						Light brown, fine to medium **SAND**, some fine gravel, coarse sand, and silt, loose, moist	
						Trace coarse gravel	
8			4	20	0.0		
9						Trace cobbles	
10	SP		8	12	0.0		
11						Light brown to orange-brown, some coarse gravel	
12			4	20	0.0	Orange-brown to medium brown	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 013 - A21
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		11	20	0.0	Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
15	SP					Light brown to tan, fine to medium **SAND**, trace coarse sand, and fine gravel, medium dense, moist Trace coarse gravel	
16			18	18	0.0		
17							
18			17	16	0.0	2" tan, fine to coarse sand layer	
19	SW					Light brown to tan, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
20			13	16	0.0		
21							
22			15	20	0.0		
23							
24			24	16	0.0		
25							
26			30	18	0.0	Orange-brown	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 013 - A21
Date Drilled: 1/13/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to medium **SAND**, trace coarse sand, and fine gravel, medium dense, moist	
27							
						Some coarse sand	
28			20	18	0.0		
29	SP						*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
						Trace coarse sand	
			*14	*11	0.0		
30							
31			24	20	0.0		
						2" fine to coarse sand layer	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/13/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/17/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 014 - B21
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			25	9	0.0	**FILL**, Dark brown to black, silty sand, some fine to coarse gravel, moist	
2						Asphalt	
3			20	20	0.0	Brown to dark brown, silty sand, some fine to coarse gravel, trace cobbles, moist	
4							
5			56	16	0.0		
6						Light brown to brown, fine to coarse **SAND**, some fine gravel, very dense, moist	
7	SW		64	20	0.0		
8	SP					Light brown, fine to medium **SAND**, trace fine gravel, very dense, moist	
9			40	20	0.0	Brown to dark brown grading to light brown to brown, fine to coarse **SAND**, some fine to coarse gravel grading to little fine gravel, dense, moist	
10	SW					Light brown to brown, with fine to coarse gravel	
11			37	12	0.0		
12						Little gravel	
13			34	22	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 014 - B21
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to brown, fine to coarse **SAND**, little fine to coarse sand, dense, moist	
14						Brown, with fine to coarse gravel	
15			36	20	0.0	Light brown, little fine gravel, coarse gravel grades out	
16							
17			36	20	0.0		
18	SW					Medium dense	
19			24	16	0.0		
20						With fine to coarse gravel	
21			24	20	0.0		
22						Trace coarse gravel, dense, moist	
23			40	20	0.0		
24						Light brown, fine to medium **SAND**, trace fine gravel and coarse sand, dense, moist	
25	SP		20	16	0.0	Trace cobbles, medium dense	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 014 - B21
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		61	20	0.0	Light brown, fine to medium **SAND** with fine gravel, trace coarse sand, very dense, moist 4" brown coarse sand with fine gravel lens at 27'	
28						With fine to coarse gravel, medium dense	
29			24	19	0.0		
30						Very dense	
31			69	20	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/14/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/18/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
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37							
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39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 015 - S71
Date Drilled: 1/20/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, silty, fine to coarse sand, trace fine gravel, loose, dry	
1							
						Yellow-brown, sandy silt with fine gravel, loose, moist	
2			12	24	0.0	Brown, with clay, trace fine gravel	
3						Yellow-brown, silty clay, soft, moist	
4			21	24	0.0	Light brown with trace red in first 4", fine to coarse sand, with fine gravel, trace coarse gravel, medium dense, moist	
5	ML					Brown, **SILT** with trace fine gravel, loose, moist	
6	SP		20	22	0.0	Light brown with brown laminations, fine to medium **SAND**, some coarse sand and fine gravel, dense, moist	
7							
8			56	20	0.0		
	SW					Light brown, fine to coarse **SAND** with fine gravel, dense, moist	
9						Light brown, fine to medium **SAND**, trace coarse sand and fine gravel	
10	SP		39	24	0.0	Gravelly from 9.9-10.2' 3" dark brown layer at 10.2' followed by light brown with trace red	
11						Light brown, fine gravelly, fine to coarse **SAND**, decreasing gravel with depth, dense, moist	
12	SW		44	24	0.0	Trace dark brown at 11.9'	
13						Trace red from 12.8-13"	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 015 - S71
Date Drilled: 1/20/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Brown, fine to coarse **SAND**, trace fine to coarse gravel, dense, moist	
14			45	24	0.0		
15						Light orange-brown to reddish brown, moist, medium dense	
16			29	18	0.0		
17							
18	SW		20	24	0.0	Some gravel	
19						Light brown with red, fine gravelly , trace coarse gravel	
20			18	20	0.0		
21						Coarse gravel grades out	
22			28	21	0.0		
23			*20	*10	0.0	Some coarse gravel and cobbles at 23'	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24	SP					Tan, fine to medium **SAND**, some coarse sand and fine gravel, moist Trace coarse sand, gravel grades out	
25	SW		25	24	0.0	Dark brown, fine to coarse **SAND** with fine gravel, medium dense, moist	
26	SP					Tan, fine to medium **SAND**, trace coarse sand, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 015 - S71
Date Drilled: 1/20/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		25	24	0.0	Dark brown, fine to coarse **SAND** with fine gravel, medium dense, moist Tan with trace red, trace fine gravel	
28	SP					Tan, fine to medium **SAND**, some coarse sand, medium dense	
29	SW		25	24	0.0	Tan, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
30							
31			36	14	0.0		
32	SP					Tan, fine to medium **SAND**, some coarse sand, dense, moist	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/20/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 016 - T71
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Kyle Jackson

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown to brown, sandy silt, trace fine gravel, moist	
2			20	22	0.0	Brown to light brown	
3							
4	SW		34	24	0.0	Brown to orange-brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, and cobbles, dense, dry	
5						Very dense	
6	SP SW SP		62	24	0.0	Light brown to tan, fine to medium **SAND**, trace fine gravel, and coarse sand, very dense, dry Light brown to tan, fine to coarse **SAND**, some fine gravel, very dense, dry	
7						Light brown to tan, fine to medium **SAND**, trace fine gravel, and coarse sand, very dense, dry	
8			26	22	0.0	Brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
9	SW					Light brown to tan, fine to coarse sand with gravel, dense	
10			36	24	0.0		
11							
12			52	24	0.1	Brown to dark gray, very dense Light brown, some fine gravel	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 016 - T71
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Kyle Jackson

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to orange-brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
14			47	20	0.1		
15							
16			34	20	0.3		
17						Light brown, medium dense	
18	SW		26	22	0.4		
19						Light brown to tan, coarse gravel grades out	
20			15	20	0.0		
21						Brown to light brown, some fine to coarse gravel	
22			15	22	0.2		
23							
24			19	18	0.0		
25						Light brown to tan	
26	SP		29	22	0.2	Light brown to tan, fine **SAND**, medium dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 016 - T71
Date Drilled: 1/17/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt, Kyle Jackson

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light brown to brown, fine **SAND**, medium dense, moist	
27	SW					Light brown to tan, fine to coarse **SAND**, some fine gravel	
28	SP		20	18	0.4	Light brown to tan, fine to medium **SAND**, trace fine gravel, and coarse sand, medium dense, moist	
29	SW					Light brown, fine to coarse **SAND**, trace fine gravel, loose, moist	*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
	SP		*6	*12	0.0	Light brown, silty, fine **SAND**, loose, moist	
30	SW					Light brown, fine to coarse **SAND,** trace fine gravel, loose, moist Medium dense	
31	SP		19	24	0.3	Light brown to tan, fine to medium **SAND**, trace fine gravel, and coarse sand, medium dense, moist	
	SW					Light brown to tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
32	EOB						
33							
34						NOTES: 1. Boring completed to a depth of 32' below reference on 1/17/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 017 - V71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			21	20	0.6	**FILL**, dark brown, fine to coarse sand, trace coarse gravel, asphalt and base coarse material, moist Light brown, fine to coarse sand, trace fine to coarse gravel, silty clay layer, moist	
2						Dark brown to light brown, some fine to coarse gravel	
3			12	20	0.3		
4							
5	CL		11	20	0.0	Light brown, silty **CLAY**, some fine to coarse gravel, stiff, moist	
6	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silty clay layer, medium dense, moist	
7			27	22	0.2	Red-brown, silty clay grades out Dark to light brown	
8						Light brown	
9			18	20	0.3	Brown, sandy silt layer at 8.3-8.5'	
10							
11	GW		29	24	0.2	Brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist Dark brown layer at 11.9-12'	
12							
13	SW		19	24	0.1	Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 017 - V71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW					Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
15			12	22	0.0		
16							
17	GW		25	24	0.0	Orange-brown to light brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
18							
19	SW		9	24	0.0	Light brown to tan, fine to coarse **SAND**, loose, moist Trace dark brown seam 18.3-18.4'	
20							
21			11	22	0.0	Brown to light brown, some fine to coarse gravel, medium dense	
22							
23			11	24	0.2	Orange-brown seam 20.2-20.3' Dark brown to brown, trace fine gravel, coarse gravel grades out Light brown to tan, trace coarse gravel	
24							
25			22	13	0.1	Dark brown to light brown Light brown to tan, coarse gravel grades out Orange-brown to light brown, trace coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 017 - V71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		17	24	0.5	Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist Trace dark brown to brown seam at 26.3'	
28						Brown to light brown	
29			11	24	0.4	Orange-brown to light brown, some fine gravel, coarse gravel grades out	
30						Brown to light brown, trace fine to coarse gravel	
31	SP		14	24	0.1	Light brown, fine **SAND**, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/19/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 018 - W71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
						FILL, dark brown, silty, fine to coarse sand, trace fine gravel, dry	
1							
2			11	24	0.2	Brown to light brown, fine to coarse sand, some fine to coarse gravel, moist	
3							
4			7	16	0.4	Brown, silty, fine to coarse sand, moist	
						Brown to light brown, fine to coarse sand, some fine to coarse gravel, trace concrete debris, moist	
5						Brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, loose, moist	
6			8	16	0.2		
7						Light brown, medium dense	
8			15	18	0.3		
9	SW					With gravel, trace cobbles	
10			10	18	0.3		
11						Trace fine gravel, coarse gravel grades out	
12			22	24	0.8	Dark brown layer from 11.9-12'	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 018 - W71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW		19	22	0.4	Light brown to orange-brown, fine to coarse **SAND**, some fine gravel, medium dense, moist	
15	SW		19	24	0.2	Light brown, some fine to coarse gravel	
17	SW					Light brown to tan	
18	SP		17	22	0.3	Tan to light brown, fine to medium **SAND**, trace fine gravel, trace coarse sand, moist	
19	SW					Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
20	SW		8	22	0.3	Light brown to tan, some gravel, loose Light brown to brown, with gravel	
21	SW					Some fine gravel, coarse gravel grades out	
22	SW		8	24	0.2		
22	SP					Brown to light brown, fine to medium **SAND**, loose, moist	
23	SW		*5	*11	0.0	Light, fine to coarse **SAND**, trace fine gravel, loose moist With gravel	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24	SP		15	24	0.2	Light brown to brown, medium to coarse **SAND**, some fine sand, trace fine gravel, medium dense, moist	
25	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 018 - W71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		16	20	0.2	Light brown, fine to medium **SAND**, some fine gravel, trace coarse sand, medium dense, moist	
28	SW					Light brown, fine to coarse **SAND**, some fine gravel, medium dense, moist Trace fine to coarse gravel	
29			12	22	0.1		
30							
31			16	24	0.4		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/20/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 019 - Y71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1							
2			10	14	0.0	**FILL**, brown to dark brown, fine to coarse sand, little fine gravel, trace silt, moist	
3						Light brown to brown, some fine to coarse gravel, silt grades out	
4			5	14	0.0	Brown to dark brown, little fine gravel, trace silt	
5							
6			4	12	0.0		
7							
8			4	4	0.0		
9						Light brown to brown, fine to coarse **SAND**, little fine to coarse gravel, loose, moist	
10			4	14	0.0		
11	SW						
12			13	22	0.0	Brown, some fine to coarse gravel, medium dense	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 019 - Y71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
14			27	20	0.0	Light brown to brown, with fine gravel	
15						Brown, little gravel	
	SW						
16			27	18	0.0	Light brown to brown, some fine to coarse gravel	
17							
18			23	20	0.0		
19	SP					Brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
						Light brown to brown, fine to coarse **SAND** with fine to coarse gravel, trace cobbles, medium dense, moist	
20			16	12	0.0		
21							
22	SW		17	18	0.0		
						3" tan, fine sand layer	
23						Light brown to dark brown, trace cobbles	
24			20	22	0.0		
25						Dense	
26			33	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 019 - Y71
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP					Dark brown grading to brown, fine to medium **SAND**, trace fine gravel, dense, moist	
28	SW		24	20	0.0	Tan to brown, fine to coarse **SAND**, little fine gravel, medium dense, moist	
29			*18	*11	0.0		*1' spoon driven from 29-30' in order to return to even numbered sampling intervals
30						Brown, trace fine gravel	
31			23				
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/20/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/04 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 7', 17', 27', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 020 - A22
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			14	20	0.0	**FILL**, dark orange-brown, fine to medium sand, trace coarse sand and fine gravel	
2						Brown to dark brown silt, some fine to medium sand, trace fine gravel	
3			11	20	0.0	Light brown, sandy silt, some fine gravel Dark orange-brown, fine to medium sand, trace coarse sand and fine gravel	
4							
5	ML		5	13	0.0	Dark brown to brown, **SILT**, loose, moist Light brown to orange-brown, sandy silt, trace fine gravel	
6						Tan, some clay	
7	CL		4	24	0.0	Orange-brown, silty **CLAY**, medium stiff, moist Red-brown mottling from 7.5-8'	
8						Hard	
9	SP		66	14	0.0	Orange-brown, fine to medium **SAND**, trace fine gravel and cobbles, very dense	
10						Medium dense	
11	ML		22	18	0.0	Light brown, sandy **SILT**, some fine gravel	
12	SW					Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
13	ML		27	24	0.0	Light brown, clayey **SILT**, trace coarse gravel, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 020 - A22
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	ML					Light brown, clayey **SILT**, trace coarse gravel, medium dense, moist	
	SW					Orange-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
14							
	SP					Orange-brown, fine to medium **SAND**, some coarse sand, trace gravel, dense	
15			42	22	0.0		
						Orange-brown, gravelly, fine to coarse **SAND**, dense Some fine to coarse gravel	
16						Trace cobbles	
17			32	18	0.0	Orange-brown, fine to medium sand, some fine to coarse gravel, trace coarse sand layer at 17-17.25'	
18	SW						
19			22	17	0.0		
20						Medium dense	
21			23	16	0.0		
22						Trace coarse gravel, cobbles grade out, moist	
23			23	20	0.0		
24						Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
25	SP		26	18	0.0	Light orange-brown, gravel grades out	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 020 - A22
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		29	18	0.0	Light brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
28	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist 2" medium brown, fine to medium sand layer at 28.25'	
29			30	16	0.0	Medium brown, some fine gravel, trace coarse gravel	
30							
31	SP		28	22	0.0	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/18/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/19/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 021 - B22
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, black grading to dark brown, silty, fine to coarse sand with fine to coarse gravel, dry	
2			NA	22	0.0	Dark brown, sandy silt, trace gravel, moist	NA = Not available (blow counts not recorded)
3						Dark brown, silty sand with fine gravel, trace coarse gravel and cobbles, moist	
4			14	15	0.0	Orange-brown to red-brown, fine to coarse **SAND**, some silt, trace fine gravel, medium dense, moist	
5	SW					Loose	
6			7	24	0.0		
7	CL					Greenish gray, silty **CLAY**, trace fine to coarse gravel, medium stiff, moist	
8	SW		NA	24	0.0	Orange-brown to reddish brown, fine to coarse **SAND** with fine to coarse gravel, medium dense, moist Light brown with trace red, trace fine gravel, coarse gravel grades out	
9						No recovery (cobbles stuck in spoon tip)	NA = Not available (no recovery)
10			32	0	NA		
11	SP					Brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, medium dense, dry Light brown to tan	
12	SW		29	24	0.0	Light brown, fine to coarse **SAND** with fine gravel, medium dense, dry	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 021 - B22
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND** with fine gravel, trace coarse gravel, dense, moist	
14	SP		31	18	0.0	Light brown, fine to medium **SAND**, some coarse sand, dense, moist	
15	SW					Light brown fine to coarse **SAND** with fine gravel, dense, moist Medium dense	
16			28	17	0.0		
17	SP					Light orange-brown, fine to medium **SAND**, some coarse sand, medium dense, moist	
18	SW		26	18	0.0	Light orange-brown, fine to coarse **SAND** with fine gravel, trace coarse gravel, medium dense, moist	
19						Fine to coarse gravelly	
20			18	15	0.0		
21						Some fine gravel, trace coarse gravel	
22			19	21	0.0		
23			*23	*11	0.0	Fine to coarse gravelly, dry	*1' spoon driven from 23-24' in order to return to even numbered sampling intervals
24						Coarse gravel grades out	
25			25	19	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 021 - B22
Date Drilled: 1/19/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light orange-brown, fine to coarse **SAND**, some fine gravel, decreasing gravel with depth, medium dense, dry	
27			27	20	0.0		
28						Fine gravelly, trace coarse gravel	
29	SW		19	24	0.0		
						Trace fine gravel, coarse gravel grades out	
30							
31			17	20	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/19/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/20/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 022 - S72
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt and Chris Ortolano

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			18	20	0.0	**FILL**, dark brown, sandy silt, trace fine gravel, dry	
2							
3			8	22	0.0		
4							
5			15	12	0.0	Dark brown to light brown, fine to medium **SAND**, trace fine to coarse gravel, medium dense, moist	
6	SP						
7			30	24	0.2		
8							
9			37	22	0.0	Light brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
10	SW					Trace cobbles	
11			40	18	0.0		
12						Brown to dark brown, coarse gravel grades out, medium dense	
13			22	20	0.0	Light brown, trace fine gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 022 - S72
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt and Chris Ortolano

URS
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
14							
	SP					Light brown, fine to medium **SAND**, trace coarse sand, medium dense, moist	
15			15	20	0.0		
						Light brown, fine to coarse **SAND**, some fine gravel, medium dense, moist	
16							
17			17	24	0.0		
18						Some coarse gravel	
19	SW		10	20	0.3		
20						Trace fine to coarse gravel	
21			22	22	0.2		
22						Tan to light brown, some fine to coarse gravel	
23			17	18	0.3		
24						Trace cobbles	
25			16	16	0.8		
26	SP					Light brown, fine to medium **SAND**, medium dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 022 - S72
Date Drilled: 1/14/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt and Chris Ortolano

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		28	24	0.2	Tan to light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
28						Some fine to coarse gravel	
29			12	20	0.2		
30						Light brown, trace fine gravel, coarse gravel grades out	
31			12	24	0.3		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/17/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP samples collected at 4', 14', 24', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 023 - U72
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt and base material	
1							
2			19	22	0.0	**FILL**, dark brown to brown, silty, fine to coarse sand, some fine to coarse gravel, dry Dark to light brown, fine to coarse sand, some silt, and fine gravel, dry	
3						Light brown to orange-brown, trace clayey silt layers, moist	
4			16	16	0.0		
5							
6			41	18	0.0	Dark to light brown, fine to coarse **SAND**, some silt, and fine gravel, dense, dry	
7	SW					Light brown to tan, some coarse gravel, medium dense	
8			29	20	0.0		
9							
10	GW		43	18	0.0	Fine to Coase **SAND** and **GRAVEL**, dense	
11							
12	SW		59	24	0.0	Dark brown, fine to coarse **SAND**, trace cobbles, very dense Dark brown, some fine gravel, coarse gravel grades out Orange-brown, some fine to coarse gravel	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 023 - U72
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to orange-brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
14			22	22	0.0		
15						Dense	
16	SW		45	24	0.0		
17						Light brown to tan, some fine to coarse gravel, medium dense	
18			27	20	0.0		
19						Light brown	
20	SP		14	18	0.0	Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
21						Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
22			>100	16	0.0	Very dense	
23	SW					Medium dense	
24			*17	*12	0.0	Light brown to tan, dense	* 1' spoon driven from 23-24' in order to return to even numbered sampling intervals
25			32	24	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Survey Units Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: SU02 - 023 - U72
Date Drilled: 1/18/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson, Brian Stoudt

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown to tan, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
27			38	24	0.4	Light brown, trace fine to coarse gravel	
28						Medium dense	
29			11	22	0.3		
30							
31			21	24	0.8		
	SP					Light brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' below reference on 1/18/05 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 1/21/05 4. Analytical samples collected where sufficient recovery from 1-30': a. On-Site radiological every foot b. On-Site nickel every even numbered foot 5. SP samples collected at 1', 11', 21', and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

SU01 MARSSIM Evaluation Results Using Severn Trent Laboratories, Inc. Sample Results

SU01, Intervals 1, 2, and 3 passed the MARSSIM[1] Sign Test and the associated soils are considered releasable from a radiological perspective. These intervals consist of SP samples collected and analyzed in the 0 to 3-m (0 to 10-ft), 3 to 6-m (10 to 20-ft), and 6 to 9-m (20 to 30-ft) depth ranges, respectively. The MARSSIM protocol uses a non-parametric statistical analysis test that evaluates all of the SP sample results for a single interval separately. Therefore, there were three independent evaluations within the three-dimensional footprint of SU01.

There were a total of 26 SP sample results in Interval 1, 26 in Interval 2, and 25 in Interval 3. All samples were analyzed for radiological analytes of interest (Th-232, U-234, and U-238) for purposes of this evaluation. The sample results for each of the samples are presented in **Table 2** and are the results reported by STL.

The charts on the subsequent pages of this appendix were generated by the COMPASS[2] software. As shown on the first page of the *Surface Soil Survey Plan* for each interval, a minimum of 13 soil sample analyses were sufficient for the MARSSIM-based analysis to be statistically significant. As stated earlier, the MARSSIM-based analysis for Intervals 1, 2, and 3 in this SU were based on 26, 26, and 25 soil sample analyses, respectively.

Included in the assessment of SU01 are three reports. The cover report is titled *Site Report* and provides information the radiological contaminants and their respective DCGLw[3] (the Site cleanup levels specified in the Work Plan) used in the evaluation of each interval.

Each interval assessment is comprised of two COMPASS reports. The first report is titled *Surface Soil Survey Plan*. This report contains information that was used in the planning phase of the survey or soil sample collection. This information was based on the Site's cleanup levels and cell parameters or is information that was derived from these parameters. The last section of this report contains information that, by design, was an estimate of the average concentration and the standard deviation anticipated to be present in the survey unit interval for each radionuclide. The values in this report were based on the actual average concentration and standard deviation of each radionuclide as calculated from the sample results.

The second report is titled *DQA Surface Soil Report*. This report presents the results of performing a non-parametric statistical analysis called the Sign Test on the samples results. On the first page of this report is given the *Assessment Conclusion* which is *Reject Null Hypothesis (Survey Unit PASSES)* for all three intervals. The only other possible conclusion is if the survey unit did not pass. Other information presented in the report is either input information that is echoed back in the report or is information related to the performance of the Sign Test. Also included in the report is a table titled *Basic Statistical Quantities Summary*. The average or mean SOR is shown in this table. This SOR value is high (conservative) by approximately a factor of 2 due to the use of individual uranium radionuclides in the evaluation and the limitations on the flexibility of this version of COMPASS. The information in this table supports the earlier stated conclusion as it demonstrates that the average concentration of radiological contaminants is significantly below the cleanup levels.

[1] NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), August 2000.
[2] *COMPASS Code* Version 1.0.0 was developed under the sponsorship of the U. S. Nuclear Regulatory Commission for implementing the MARSSIM in support of the decommissioning license termination rule (10 CFR Part 20, Subpart E).
[3] For these purposes, the term DCGL is synonymous with the term cleanup level.

Site Report

Site Summary

Site Name: GTEOSI, Hicksville Site

Planner(s): Shane Brightwell

Contaminant Summary

NOTE: Surface soil DCGLw units are pCi/g.
Building surface DCGLw units are dpm/100 cm².

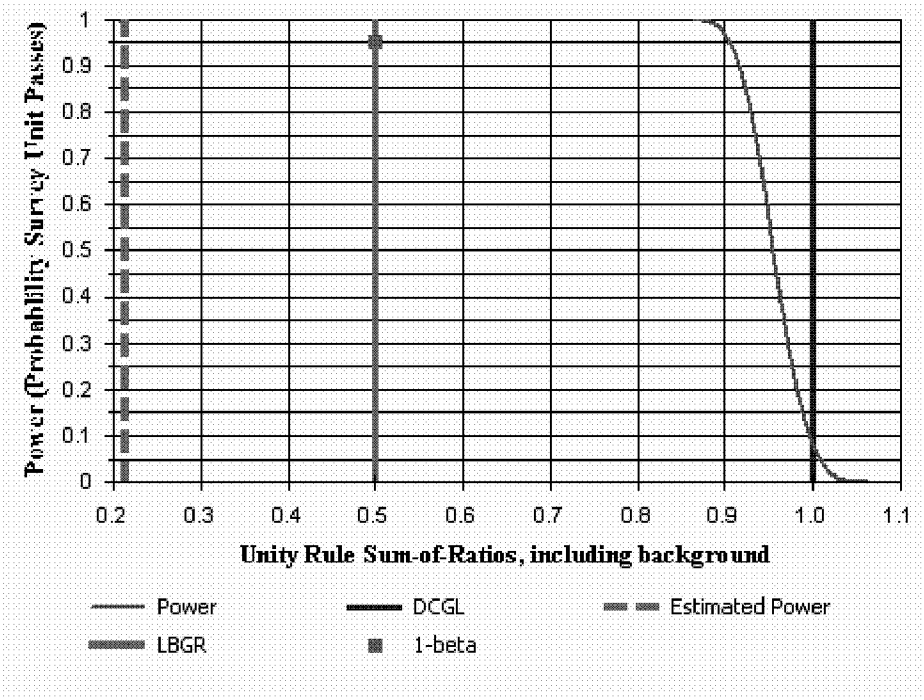
Contaminant	Type	DCGLw	Screening Value Used?	Area (m²)	Area Factor
Th-232	Surface Soil	2.80	No	1	12.3
				3	6.08
				10	3.12
				30	2.24
				100	1.75
				300	1.47
				1,000	1.05
				3,000	1.03
				10,000	1
U-234	Surface Soil	50.00	No	1	30.5
				3	18.3
				10	11.1
				30	5.73
				100	2.27
				300	1.43
				1,000	1.04
				3,000	1.01
				10,000	1
U-238	Surface Soil	50.00	No	1	30.5
				3	18.3
				10	11.1
				30	5.73
				100	2.27
				300	1.43
				1,000	1.04
				3,000	1.01
				10,000	1

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 1 02		
Comments:	SU01 Interval 1 Run 02		
Area (m²):	3,100	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.09
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.21
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

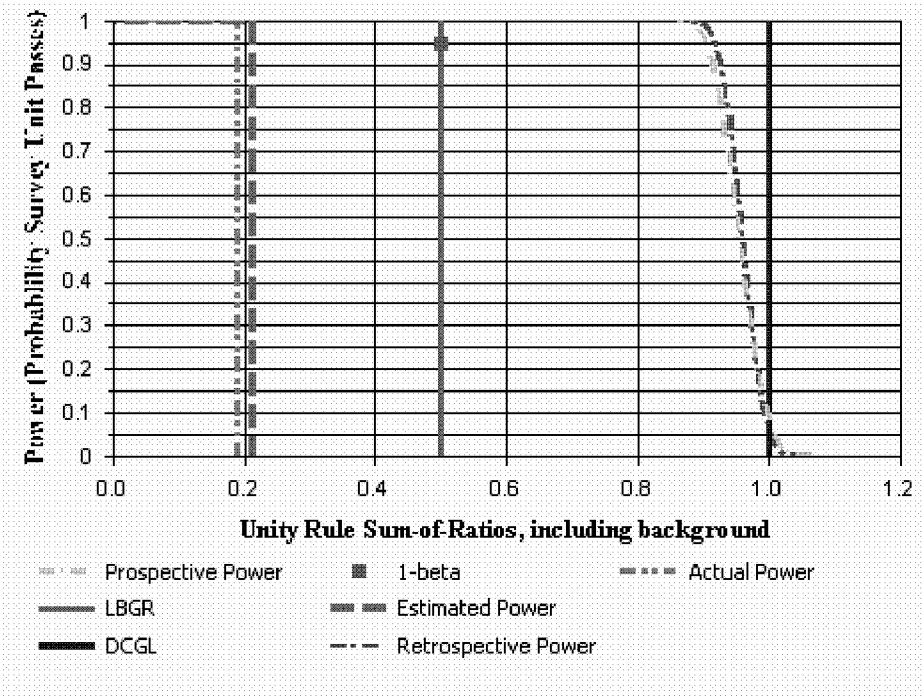
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.541 ± 0.262	N/A
U-234	0.505 ± 0.395	N/A
U-238	0.498 ± 0.368	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 1 02		
Report Number:	1		
Survey Unit Samples:	26		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
20697	S	0.44	0.4	0.4
20390	S	0.44	0.33	0.31
20267	S	0.5	0.37	0.36
20201	S	0.51	0.39	0.43
20150	S	0.78	0.37	0.36
19710	S	0.46	0.38	0.28
19533	S	0.55	0.42	0.45
19368	S	1.08	0.7	0.71
19298	S	0.54	1.64	1.58
19080	S	0.79	0.94	0.99
19214	S	0.64	1.66	1.42
18886	S	1.12	0.66	0.8
18809	S	0.62	0.6	0.64
20616	S	0.2	0.19	0.28
20462	S	0.78	0.56	0.57
20048	S	0.25	0.16	0.14
19864	S	0.44	0.16	0.23
19650	S	1.07	0.85	0.81
19477	S	0.25	0.26	0.28
19122	S	0.28	0.24	0.22
19034	S	0.43	0.5	0.39
20315	S	0.28	0.26	0.21
19788	S	0.55	0.43	0.45
19427	S	0.41	0.2	0.16
19273	S	0.48	0.32	0.33
18956	S	0.19	0.14	0.14

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
20697	S	0.17
20390	S	0.17
20267	S	0.19
20201	S	0.2
20150	S	0.29
19710	S	0.18
19533	S	0.21
19368	S	0.41
19298	S	0.26
19080	S	0.32
19214	S	0.29
18886	S	0.43
18809	S	0.25
20616	S	0.08

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
20462	S	0.3
20048	S	0.09
19864	S	0.17
19650	S	0.42
19477	S	0.1
19122	S	0.11
19034	S	0.17
20315	S	0.11
19788	S	0.21
19427	S	0.16
19273	S	0.18
18956	S	0.07

DQA Surface Soil Report

Basic Statistical Quantities Summary

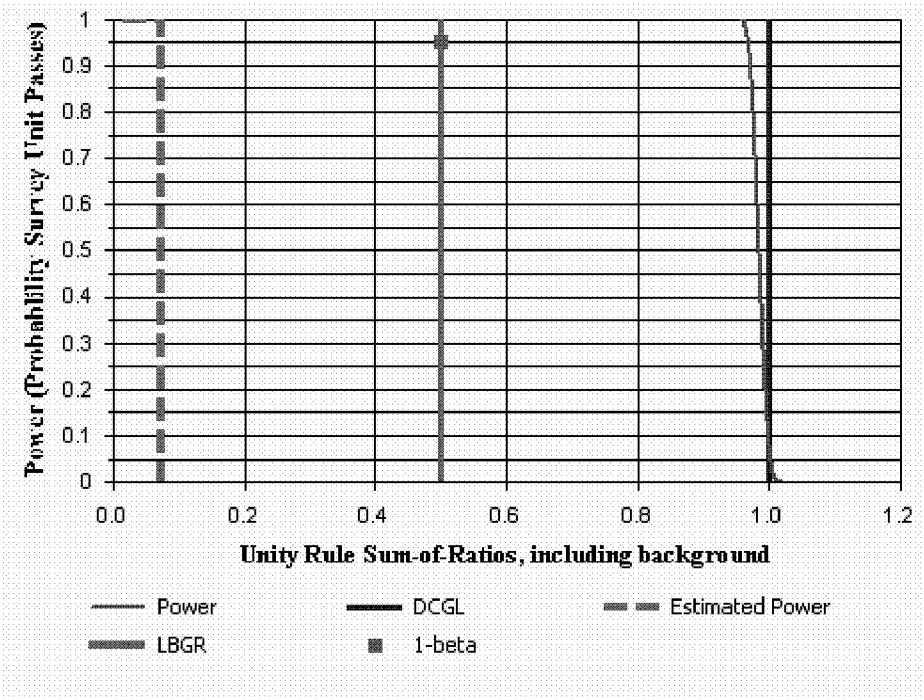
Statistic	Survey Unit	Background	DQO Results
Sample Number	26	N/A	N=13
Mean (SOR)	0.21	N/A	0.21
Median (SOR)	0.19	N/A	N/A
Std Dev (SOR)	0.10	N/A	0.09
High Value (SOR)	0.43	N/A	N/A
Low Value (SOR)	0.07	N/A	N/A

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 2 02		
Comments:	SU01 Interval 2 Run 02		
Area (m²):	3,100	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.03
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.07
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

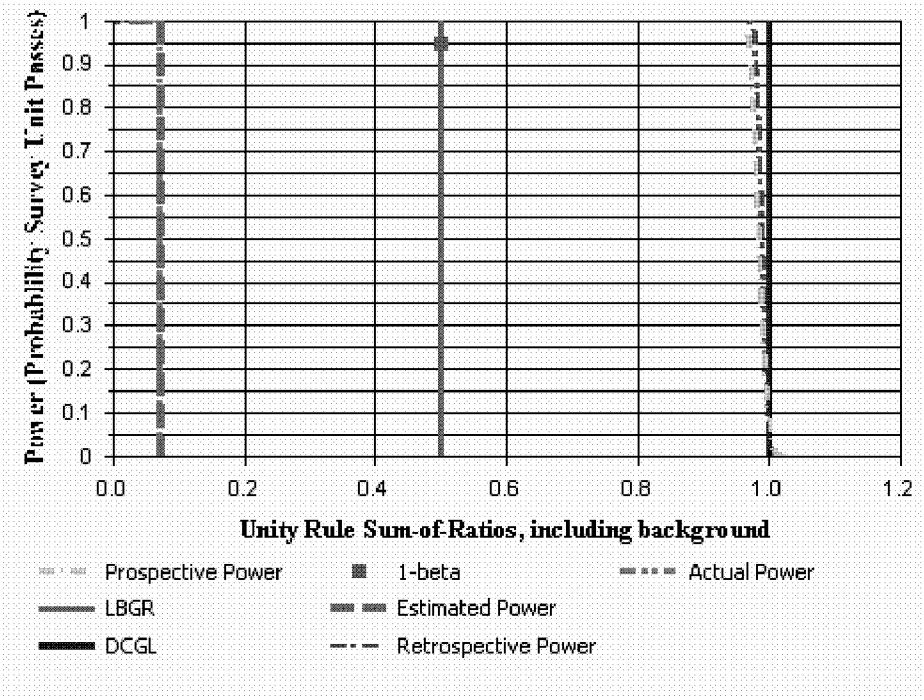
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.181 ± 0.07	N/A
U-234	0.185 ± 0.072	N/A
U-238	0.189 ± 0.065	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 2 02		
Report Number:	1		
Survey Unit Samples:	26		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
20715	S	0.16	0.19	0.15
20420	S	0.15	0.2	0.14
20278	S	0.25	0.24	0.22
20215	S	0.38	0.23	0.31
20158	S	0.28	0.18	0.18
19732	S	0.18	0.16	0.14
19545	S	0.14	0.12	0.19
19383	S	0.12	0.1	0.12
19317	S	0.1	0.12	0.17
19092	S	0.12	0.14	0.16
19232	S	0.22	0.21	0.25
18904	S	0.22	0.25	0.17
18826	S	0.11	0.23	0.38
20647	S	0.14	0.11	0.17
20491	S	0.2	0.17	0.14
20056	S	0.29	0.24	0.24
19891	S	0.14	0.19	0.19
19667	S	0.14	0.22	0.18
19486	S	0.19	0.15	0.18
19137	S	0.25	0.42	0.3
19055	S	0.21	0.16	0.17
20345	S	0.24	0.22	0.18
19806	S	0.08	0.06	0.09
19436	S	0.14	0.24	0.22
19284	S	0.16	0.15	0.13
18985	S	0.11	0.1	0.14

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
20715	S	0.07
20420	S	0.06
20278	S	0.1
20215	S	0.15
20158	S	0.11
19732	S	0.07
19545	S	0.06
19383	S	0.05
19317	S	0.04
19092	S	0.05
19232	S	0.09
18904	S	0.09
18826	S	0.05
20647	S	0.06

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
20491	S	0.08
20056	S	0.11
19891	S	0.06
19667	S	0.06
19486	S	0.07
19137	S	0.1
19055	S	0.08
20345	S	0.09
19806	S	0.03
19436	S	0.06
19284	S	0.06
18985	S	0.04

DQA Surface Soil Report

Basic Statistical Quantities Summary

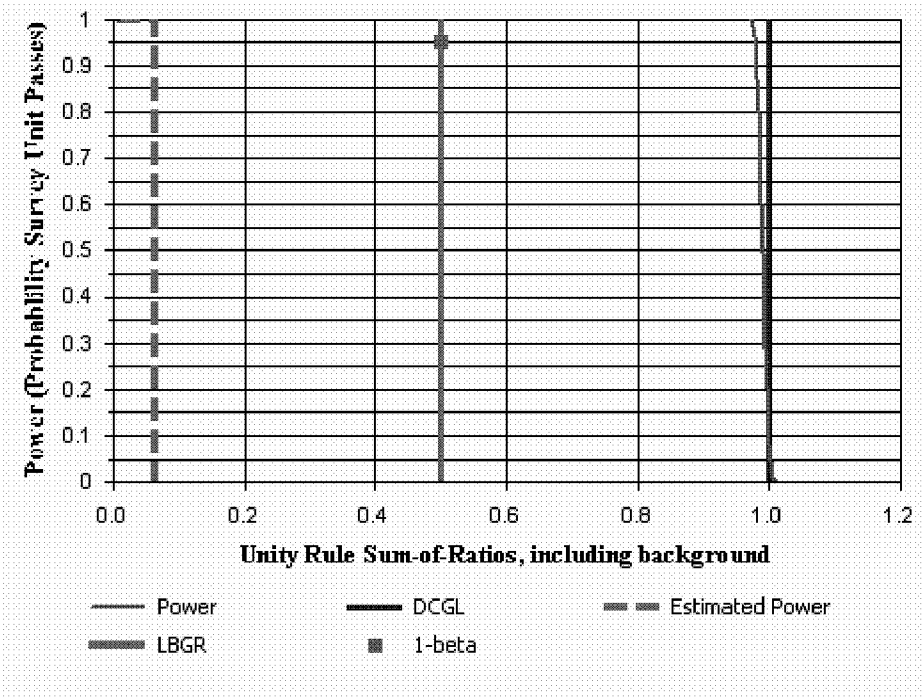
Statistic	Survey Unit	Background	DQO Results
Sample Number	26	N/A	N=13
Mean (SOR)	0.07	N/A	0.07
Median (SOR)	0.07	N/A	N/A
Std Dev (SOR)	0.03	N/A	0.03
High Value (SOR)	0.15	N/A	N/A
Low Value (SOR)	0.03	N/A	N/A

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 3 01		
Comments:	SU01 Interval 3 Run 01		
Area (m²):	3,100	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.02
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.06
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

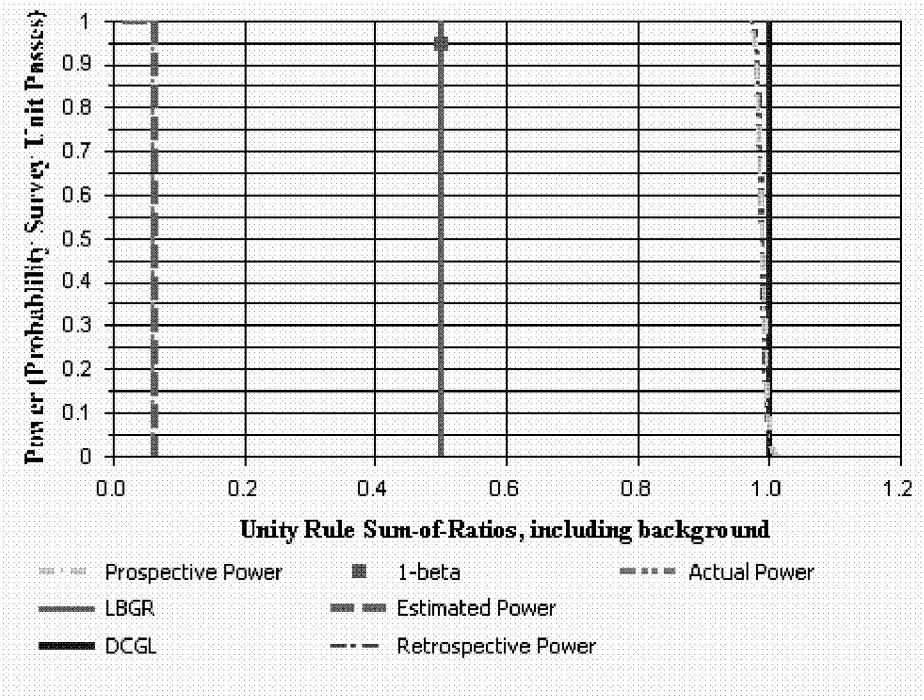
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.154 ± 0.055	N/A
U-234	0.176 ± 0.1	N/A
U-238	0.17 ± 0.089	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU01 Interval 3 01		
Report Number:	1		
Survey Unit Samples:	25		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
20733	S	0.14	0.1	0.15
20426	S	0.22	0.25	0.23
20288	S	0.27	0.54	0.51
20240	S	0.21	0.11	0.14
20173	S	0.12	0.08	0.17
19751	S	0.22	0.23	0.18
19562	S	0.13	0.18	0.12
19406	S	0.12	0.16	0.16
19334	S	0.13	0.41	0.34
19102	S	0.15	0.18	0.17
19249	S	0.19	0.21	0.2
18935	S	0.22	0.14	0.15
20681	S	0.14	0.14	0.16
20069	S	0.25	0.13	0.14
19903	S	0.16	0.13	0.1
19684	S	0.07	0.13	0.13
19505	S	0.09	0.17	0.09
19156	S	0.14	0.16	0.14
19071	S	0.1	0.13	0.1
20517	S	0.1	0.13	0.09
20362	S	0.13	0.12	0.14
19833	S	0.2	0.2	0.23
19444	S	0.08	0.12	0.12
19293	S	0.16	0.17	0.18
19003	S	0.1	0.1	0.1

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
20733	S	0.05
20426	S	0.09
20288	S	0.12
20240	S	0.08
20173	S	0.05
19751	S	0.09
19562	S	0.05
19406	S	0.05
19334	S	0.06
19102	S	0.06
19249	S	0.08
18935	S	0.08
20681	S	0.05
20069	S	0.09
19903	S	0.06

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
19684	S	0.03
19505	S	0.04
19156	S	0.06
19071	S	0.04
20517	S	0.04
20362	S	0.05
19833	S	0.08
19444	S	0.03
19293	S	0.07
19003	S	0.04

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	25	N/A	N=13
Mean (SOR)	0.06	N/A	0.06
Median (SOR)	0.06	N/A	N/A
Std Dev (SOR)	0.02	N/A	0.02
High Value (SOR)	0.12	N/A	N/A
Low Value (SOR)	0.03	N/A	N/A

SU02 MARSSIM Evaluation Results Using Severn Trent Laboratories, Inc. Sample Results

SU02, Intervals 1, 2, and 3 passed the MARSSIM[1] Sign Test and the associated soils are considered releasable from a radiological perspective. These intervals consist of SP samples collected and analyzed in the 0 to 3-m (0 to 10-ft), 3 to 6-m (10 to 20-ft), and 6 to 9-m (20 to 30-ft) depth ranges, respectively. The MARSSIM protocol uses a non-parametric statistical analysis test that evaluates all of the SP sample results for a single interval separately. Therefore, there were three independent evaluations within the three-dimensional footprint of SU02.

There were a total of 21 SP sample results in Interval 1, 23 in Interval 2, and 22 in Interval 3. All samples were analyzed for radiological analytes of interest (Th-232, U-234, and U-238) for purposes of this evaluation. The sample results for each of the samples are presented in **Table 2** and are the results reported by STL.

The charts on the subsequent pages of this appendix were generated by the COMPASS[2] software. As shown on the first page of the COMPASS Surface Soil Survey Plan for each interval, a minimum of 13 soil sample analyses were sufficient for the MARSSIM-based analysis to be statistically significant. As stated earlier, the MARSSIM-based analysis for Intervals 1, 2, and 3 in this SU were based on 21, 23, and 22 soil sample analyses, respectively.

Included in the assessment of SU02 are three reports. The cover report is titled *Site Report* and provides information the radiological contaminants and their respective DCGLw[3] (the Site cleanup levels specified in the Work Plan) used in the evaluation of each interval.

Each interval assessment is comprised of two COMPASS reports. The first report is titled *Surface Soil Survey Plan*. This report contains information that was used in the planning phase of the survey or soil sample collection. This information was based on the Site's cleanup levels and cell parameters or is information that was derived from these parameters. The last section of this report contains information that, by design, was an estimate of the average concentration and the standard deviation anticipated to be present in the survey unit interval for each radionuclide. The values in this report were based on the actual average concentration and standard deviation of each radionuclide as calculated from the sample results.

The second report is titled *DQA Surface Soil Report*. This report presents the results of performing a non-parametric statistical analysis called the Sign Test on the samples results. On the first page of this report is given the *Assessment Conclusion* which is *Reject Null Hypothesis (Survey Unit PASSES)* for all three intervals. The only other possible conclusion is if the survey unit did not pass. Other information presented in the report is either input information that is echoed back in the report or is information related to the performance of the Sign Test. Also included in the report is a table titled *Basic Statistical Quantities Summary*. The average or mean SOR is shown in this table. This SOR value is high (conservative) by approximately a factor of 2 due to the use of individual uranium radionuclides in the evaluation and the limitations on the flexibility of this version of COMPASS. The information in this table supports the earlier stated conclusion as it demonstrates that the average concentration of radiological contaminants is significantly below the cleanup levels.

[1] NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), August 2000.
[2] *COMPASS Code* Version 1.0.0 was developed under the sponsorship of the U. S. Nuclear Regulatory Commission for implementing the MARSSIM in support of the decommissioning license termination rule (10 CFR Part 20, Subpart E).
[3] For these purposes, the term DCGL is synonymous with the term cleanup level.

Site Report

Site Summary

Site Name: GTEOSI, Hicksville Site

Planner(s): Shane Brightwell

Contaminant Summary

NOTE: Surface soil DCGLw units are pCi/g.
Building surface DCGLw units are dpm/100 cm².

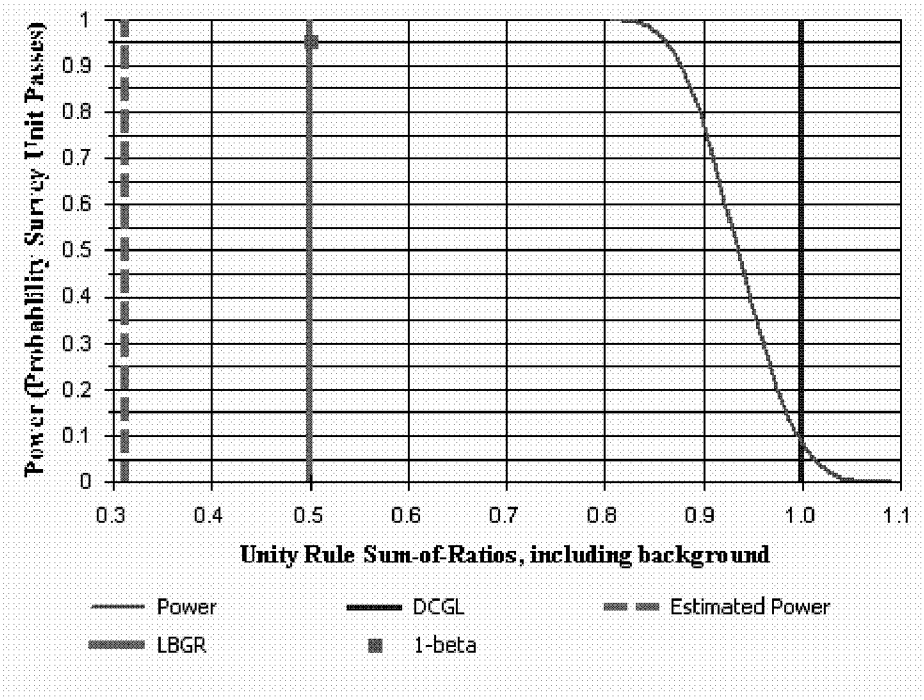
Contaminant	Type	DCGLw	Screening Value Used?	Area (m²)	Area Factor
Th-232	Surface Soil	2.80	No	1	12.3
				3	6.08
				10	3.12
				30	2.24
				100	1.75
				300	1.47
				1,000	1.05
				3,000	1.03
				10,000	1
U-234	Surface Soil	50.00	No	1	30.5
				3	18.3
				10	11.1
				30	5.73
				100	2.27
				300	1.43
				1,000	1.04
				3,000	1.01
				10,000	1
U-238	Surface Soil	50.00	No	1	30.5
				3	18.3
				10	11.1
				30	5.73
				100	2.27
				300	1.43
				1,000	1.04
				3,000	1.01
				10,000	1

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 1 01		
Comments:	SU02 Interval 1 Run 01		
Area (m²):	1,840	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.13
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.31
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

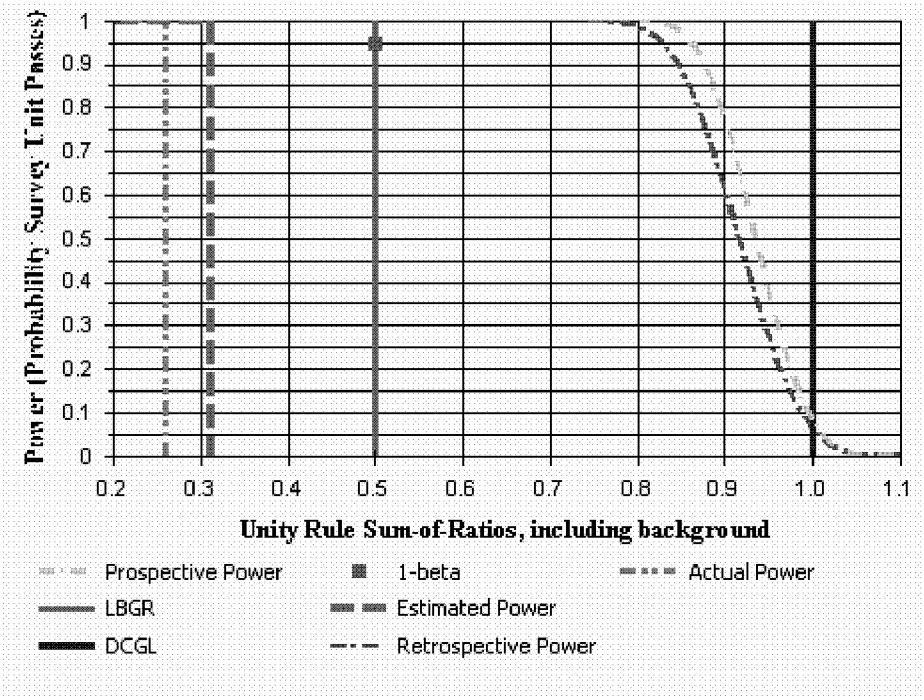
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.559 ± 0.201	N/A
U-234	2.889 ± 4.168	N/A
U-238	2.701 ± 3.898	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 1 01		
Report Number:	1		
Survey Unit Samples:	21		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
24016	S	0.54	10.1	9.05
24179	S	0.56	1.23	1.26
24392	S	0.77	10.1	9.36
24665	S	1.06	1.35	1.21
24591	S	0.59	6.21	5.94
24530	S	0.73	15.3	14.5
24435	S	0.51	0.89	0.85
23997	S	0.5	2.28	1.96
24541	S	0.76	0.57	0.45
23888	S	0.8	0.56	0.5
24084	S	0.34	0.36	0.31
24138	S	0.69	0.45	0.48
24335	S	0.28	0.23	0.25
24267	S	0.33	1.45	1.36
24468	S	0.53	3.46	3.15
24302	S	0.51	0.41	0.3
23831	S	0.53	0.34	0.32
24058	S	0.54	0.36	0.45
24239	S	0.18	0.19	0.15
24171	S	0.6	4.59	4.62
24383	S	0.36	0.24	0.27

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
24016	S	0.58
24179	S	0.25
24392	S	0.66
24665	S	0.43
24591	S	0.46
24530	S	0.86
24435	S	0.22
23997	S	0.26
24541	S	0.29
23888	S	0.31
24084	S	0.14
24138	S	0.26
24335	S	0.11
24267	S	0.17
24468	S	0.32
24302	S	0.2
23831	S	0.2
24058	S	0.21
24239	S	0.07

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
24171	S	0.4
24383	S	0.14

DQA Surface Soil Report

Basic Statistical Quantities Summary

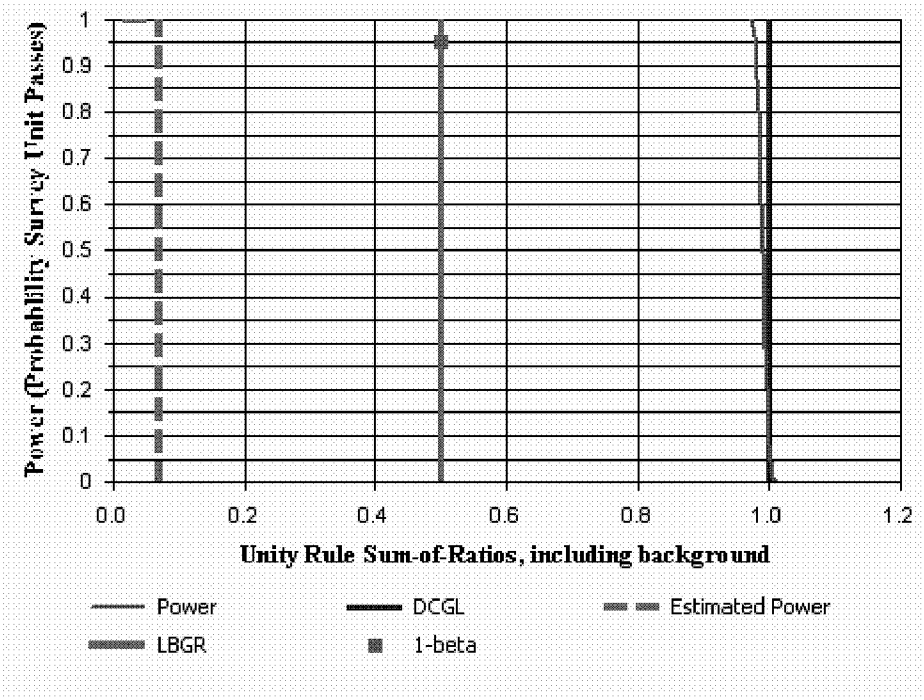
Statistic	Survey Unit	Background	DQO Results
Sample Number	21	N/A	N=13
Mean (SOR)	0.31	N/A	0.31
Median (SOR)	0.26	N/A	N/A
Std Dev (SOR)	0.20	N/A	0.13
High Value (SOR)	0.86	N/A	N/A
Low Value (SOR)	0.07	N/A	N/A

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 2 01		
Comments:	SU02 Interval 2 Run 01		
Area (m²):	1,840	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.02
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.07
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

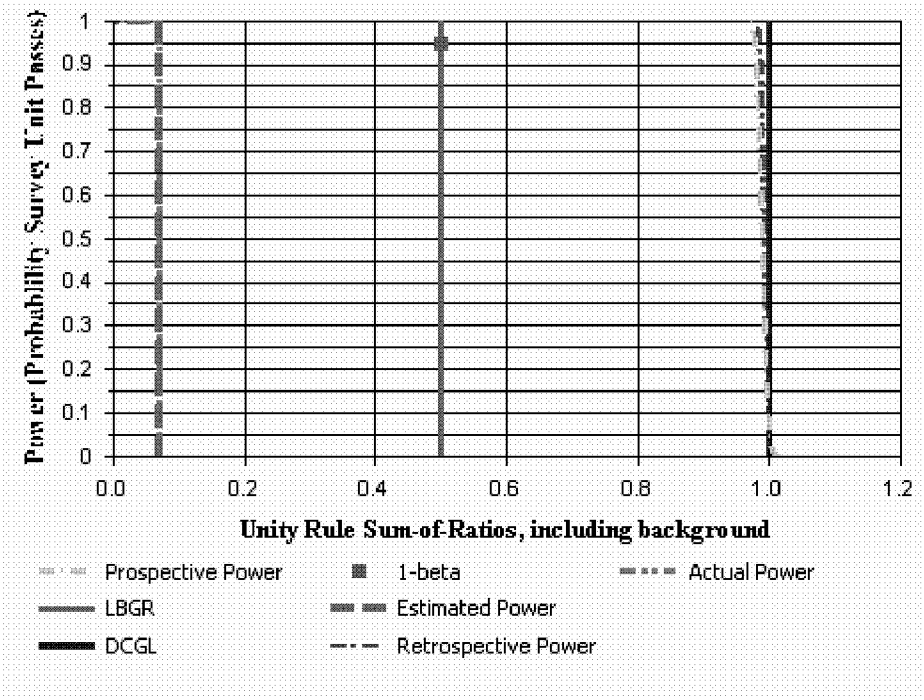
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.172 ± 0.045	N/A
U-234	0.222 ± 0.138	N/A
U-238	0.206 ± 0.126	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 2 01		
Report Number:	1		
Survey Unit Samples:	23		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
23963	S	0.23	0.21	0.18
24048	S	0.2	0.35	0.28
24199	S	0.19	0.12	0.15
24415	S	0.21	0.42	0.36
24685	S	0.24	0.23	0.27
24609	S	0.14	0.19	0.15
24538	S	0.12	0.16	0.16
24451	S	0.18	0.18	0.18
24010	S	0.12	0.13	0.14
24567	S	0.19	0.19	0.17
23908	S	0.22	0.2	0.2
24100	S	0.15	0.14	0.14
24151	S	0.18	0.24	0.2
24352	S	0.15	0.16	0.13
24275	S	0.16	0.77	0.72
24480	S	0.22	0.13	0.17
24316	S	0.1	0.22	0.15
23846	S	0.18	0.18	0.13
24074	S	0.14	0.21	0.15
24249	S	0.14	0.22	0.24
24196	S	0.07	0.16	0.12
24393	S	0.22	0.14	0.14
24630	S	0.21	0.17	0.2

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
23963	S	0.09
24048	S	0.08
24199	S	0.07
24415	S	0.09
24685	S	0.1
24609	S	0.06
24538	S	0.05
24451	S	0.07
24010	S	0.05
24567	S	0.07
23908	S	0.09
24100	S	0.06
24151	S	0.07
24352	S	0.06
24275	S	0.09
24480	S	0.08
24316	S	0.04

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
23846	S	0.07
24074	S	0.06
24249	S	0.06
24196	S	0.03
24393	S	0.08
24630	S	0.08

DQA Surface Soil Report

Basic Statistical Quantities Summary

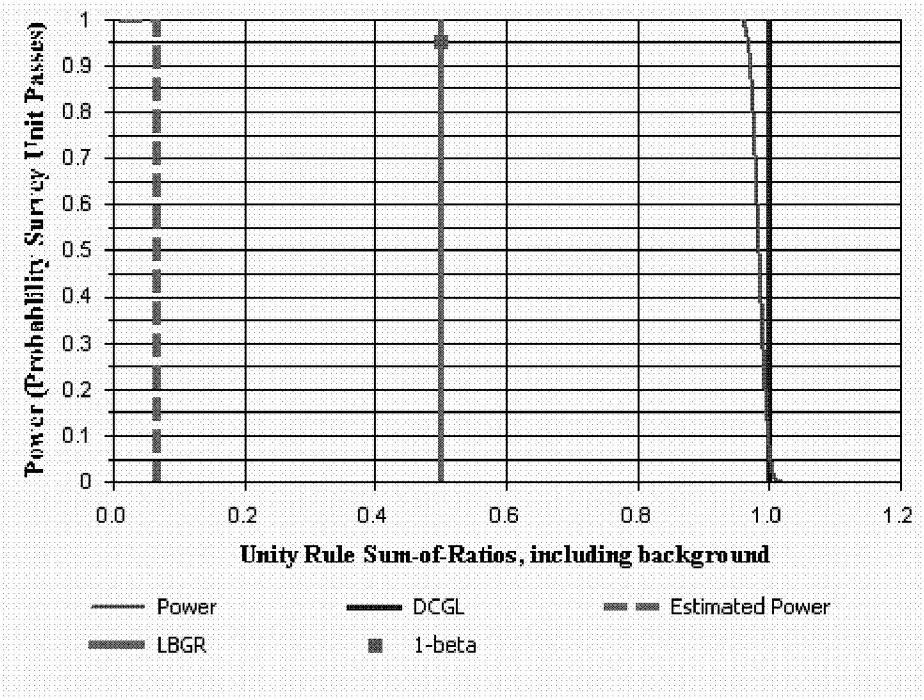
Statistic	Survey Unit	Background	DQO Results
Sample Number	23	N/A	N=13
Mean (SOR)	0.07	N/A	0.07
Median (SOR)	0.07	N/A	N/A
Std Dev (SOR)	0.02	N/A	0.02
High Value (SOR)	0.10	N/A	N/A
Low Value (SOR)	0.03	N/A	N/A

Surface Soil Survey Plan

Survey Plan Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 3 01		
Comments:	SU02 Interval 3 Run 01		
Area (m²):	1,840	Classification:	3
Selected Test:	Sign	Estimated Sigma (SOR):	0.03
DCGL (SOR):	1	Sample Size (N):	13
LBGR (SOR):	0.5	Estimated Conc. (SOR):	0.07
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.80	N/A	N/A	N/A	N/A
U-234	50.00	N/A	N/A	N/A	N/A
U-238	50.00	N/A	N/A	N/A	N/A

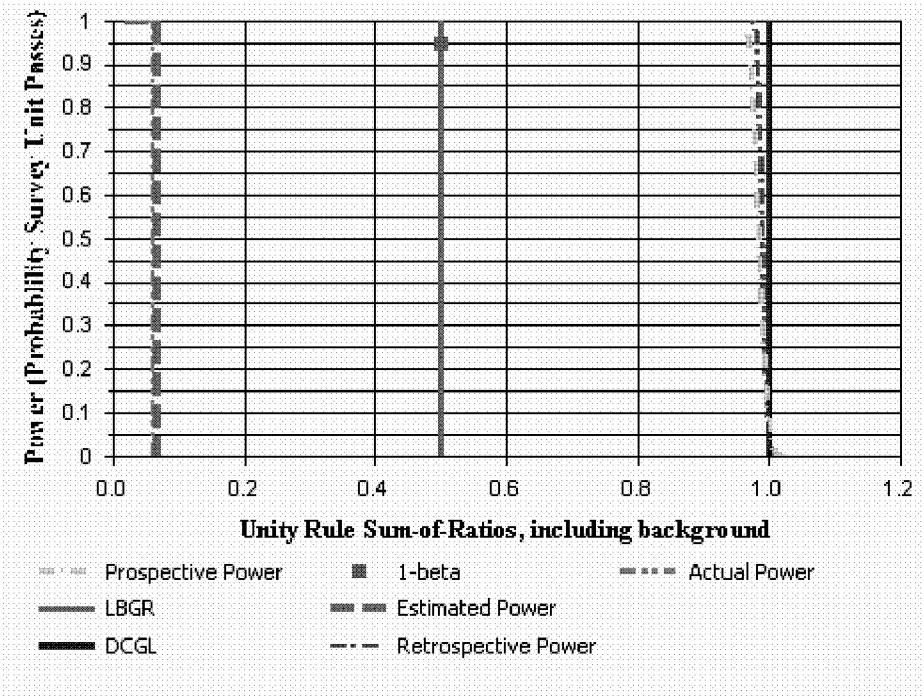
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	0.165 ± 0.077	N/A
U-234	0.185 ± 0.098	N/A
U-238	0.176 ± 0.08	N/A

DQA Surface Soil Report

Assessment Summary

Site:	GTEOSI, Hicksville Site		
Planner(s):	Shane Brightwell		
Survey Unit Name:	SU02 Interval 3 01		
Report Number:	1		
Survey Unit Samples:	22		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)
23980	S	0.14	0.2	0.19
24054	S	0.13	0.14	0.14
24217	S	0.1	0.12	0.09
24434	S	0.14	0.33	0.34
24693	S	0.35	0.23	0.22
24633	S	0.21	0.2	0.25
24553	S	0.14	0.15	0.13
24472	S	0.08	0.17	0.2
24579	S	0.12	0.17	0.09
23936	S	0.18	0.11	0.12
24115	S	0.1	0.16	0.2
24165	S	0.17	0.13	0.16
24366	S	0.09	0.1	0.1
24285	S	0.17	0.18	0.15
24499	S	0.16	0.16	0.14
24328	S	0.22	0.18	0.18
23867	S	0.17	0.16	0.2
24087	S	0.16	0.1	0.14
24264	S	0.11	0.19	0.14
24206	S	0.14	0.17	0.1
24405	S	0.15	0.14	0.11
24643	S	0.18	0.22	0.2

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
23980	S	0.06
24054	S	0.05
24217	S	0.04
24434	S	0.06
24693	S	0.13
24633	S	0.09
24553	S	0.06
24472	S	0.04
24579	S	0.05
23936	S	0.07
24115	S	0.04
24165	S	0.07
24366	S	0.04
24285	S	0.07
24499	S	0.06
24328	S	0.09
23867	S	0.07
24087	S	0.06

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
24264	S	0.05
24206	S	0.05
24405	S	0.06
24643	S	0.07

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	22	N/A	N=13
Mean (SOR)	0.06	N/A	0.07
Median (SOR)	0.06	N/A	N/A
Std Dev (SOR)	0.02	N/A	0.03
High Value (SOR)	0.13	N/A	N/A
Low Value (SOR)	0.04	N/A	N/A

SYSTEMATIC SUBSURFACE SOIL SAMPLING AND ANALYSIS REPORT

HISTORIC LEACH POOLS

FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY

HICKSVILLE, NEW YORK

SITE NUMBER V 00089-1

Prepared by
URS Corporation
and
Envirocon, Inc.

For:

GTE Operations Support Incorporated
600 Hidden Ridge Drive
Irving, Texas 75038

March 2006

This Historic Leach Pools Report has been reviewed by URS Corporation – New York, and I am in agreement with the conclusions.

URS Corporation – New York

STATE OF NEW YORK
Robert D. Brathovde
075972
LICENSED PROFESSIONAL ENGINEER

Robert D. Brathovde, P.E.
Engineer of Record

This Historic Leach Pools Report has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the conclusions.

Professional Radiation Consulting, Inc.

Shane Brightwell, CHP
President

This Historic Leach Pools Report has been reviewed by Envirocon, Inc., and I am in agreement with the conclusions.

Envirocon, Inc.

Richard Hafner
Radiation Safety Officer

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Appendices

Appendix A: Subsurface Soil Sampling and Analysis Plan Historic Leach Pools
Appendix B: Correspondence regarding the Systematic Subsurface Soil Sampling and Analysis Plan Historic Leach Pools, September 2004 and October 2004
Appendix C: Boring Logs (Boring Logs are included as Appendix C on the enclosed CD. The enclosed CD includes a complete electronic copy of this report.)

1.0 INTRODUCTION

This report provides the results, data assessments, and conclusions made with respect to the delineation of subsurface soils pursuant to the *Subsurface Soil Sampling and Analysis Plan Historic Leach Pools, September 2004, Revision 1: October 2004* (LPH Plan) (**Appendix A**) at the Former Sylvania Electric Products Incorporated (Sylvania) facility located at 140, 100 and 70 Cantiague Rock Road, Hicksville, New York (the Site). This work plan was conditionally approved by the New York State Department of Environmental Conservation (NYSDEC) in a letter dated September 17, 2004 (**Appendix B**). GTE Operations Support Incorporated (GTEOSI) responded to the NYSDEC comments in a letter dated October 8, 2004 (**Appendix B**). As discussed in this correspondence, the historic leach pool investigation included only the 140 and the 100 Properties. This investigation began on September 29, 2004 and was completed on April 15, 2005 ("the LPH Investigation").

Prior to the LPH investigation reported herein, GTEOSI performed an investigation to assess conditions beneath the 100 Building and assess if further investigation was warranted ("the Spring 2004 Investigation"). This earlier investigation was conducted from March 25, 2004 to April 9, 2004 and included reviewing historic documents and investigating areas where residual concentrations of radiological and volatile organic compounds (VOCs) may be present. During the Spring 2004 Investigation, focused sampling was conducted in and around suspected historic features including building footprints, building floor drains, catch basins and leach pools. This report includes the portions of data collected during the Spring 2004 Investigation that directly relate to the historic leach pools (LPHs) (installation of nine soil borings), the results of which are provided in **Table 1** of this report. The sampling protocols and analytical program for the Spring 2004 Investigation are reported in their entirety in the *Systematic Subsurface Soil Sampling and Analysis Report, Investigation Beneath the 100 Building (Survey Units 03, 04, and 05), Former Sylvania Electric Products Incorporated Facility, Hicksville, New York*, November 2005.

The LPH Investigation addressed in this report includes fifteen suspected LPHs, specifically LPH01, LPH02, LPH03, LPH04, LPH05, LPH06, LPH12, LPH13, LPH14, LPH15, LPH16, LPH17, LPH20, LPH21 and LPH34. While not identified in the LPH Plan, LPH34 was added to this investigation after it was identified during the systematic investigation of Building 140. LPHs on the 70 Property were not accessible during the time of this LPH Investigation as this location was an active manufacturing facility.

The location of each LPH is shown on **Figure 1**. The suspected LPHs were investigated to delineate the extent and boundaries of potential contaminants. Included in this report are sample analytical results, data assessments and conclusions regarding the radiological, VOCs and nickel (Ni) data. Also reported herein are the analytical results for beryllium (Be).

2.0 SCREENING AND SAMPLING

A radial sampling pattern was used to provide uniform lateral coverage of each LPH investigated in this assessment (**Figure 2 of Appendix A**). Once the geometric center or a close approximation was located, soil borings were performed as follows:

- Soil borings on the 2-meter and 6-meter radii were performed on rays at 0°, 90°, 180° and 270°; and
- Soil borings on the 4-meter radii were performed on rays at 45°, 135°, 225° and 315°.

This pattern continued until analytical data demonstrated that the radial (horizontal) boundary of identified contaminants was defined.

A 2-foot (ft) long split spoon sampling device was advanced for soil retrieval. The recovered soils were screened using a photoionization detector (PID) for VOCs and a 3-inch sodium iodide (NaI) detector for radioactivity prior to sample collection.

Soil borings for the Spring 2004 Investigation were advanced to various depths ranging from ground surface to 30 ft below ground surface (bgs). The radial pattern described above was not employed. Soil borings for the LPH Investigation were advanced to 30 ft bgs based on the results of the Spring 2004 Investigation, with the following exceptions:

- In LPH34, soil boring 05 was terminated at 5 ft bgs when a concrete footing was encountered that blocked further advancement; and
- In LPH05, soil boring 01 and in LPH34, soil boring 04 were advanced to 64 ft bgs to provide data in support of a lithological investigation.

Samples designated as sample point (SP) samples were collected at 30 ft bgs, 64 ft bgs and at intervals where either PID screening or visual and/or olfactory observations warranted collecting a sample. SP samples were collected in 2-ft increments to provide sufficient sample volume for on- and off-Site laboratory analyses. Samples, other than the SP samples, were designated as delineation (DL) samples and, in general, were collected in 1-ft increments from the top of the boring (details provided in **Tables 1 through 8**) to the total depth of 30 ft bgs (exceptions to the 30 ft total depth are noted in the paragraphs above).

Samples were analyzed on Site by Stone Environmental Inc. (SEI) and the on-Site gamma spectroscopy system to guide investigation and off Site at Severn Trent Laboratories, Inc. (STL) of Earth City, Missouri for final verification. The sample analytical results were compared to the Site cleanup levels specified in the approved *Comprehensive Soil Remediation Program Work Plan, Former Sylvania Electric Products Facility, January 18, 2002 (Revision 5: June 2003)* (Work Plan).

A total of nine soil borings were advanced for the Spring 2004 Investigation and a total of 75 soil borings were advanced for the LPH Investigation**. Figure 2** illustrates the soil boring locations advanced as part of the Spring 2004 Investigation and the LPH Investigation for the LPHs depicted on the figure. **Figures 3** through **9** show the soil boring locations. Proposed soil boring locations were determined by referencing historical maps, visually inspecting shallow excavation areas, and through the use of ground penetrating radar data. Actual soil boring locations were determined once the LPH center starting point or close approximation was determined. Boring locations were referenced in the sample barcode based on the subcell where the center of each LPH was believed to be located, not the subcell where the boring was located as is typical of boring notations in other Site investigations. For example, all borings associated with LPH15 are referenced to subcell S68, the location of the center of LPH15. (Due to the proximity of LPH16 and LPH17, all soil borings associated with these LPHs were given the designation LPH16.) The

one exception to the practice of referencing the sample barcode based on the center of the LPH location is LPH34, where all boring locations are barcode referenced to their actual mapped subcell locations. Variations from the radial design pattern were a result of physical measurements in the field. Each soil boring location was surveyed using the global positioning system (GPS) or laser positioning system (LPS).

A field geologist classified the soils in general accordance with the Unified Soil Classification System (USCS). Sample descriptions included soil type, color, moisture, and visual observations. Boring Logs are provided in **Appendix C**.

2.1 RADIOLOGICAL

DL samples were homogenized and analyzed on Site by gamma spectroscopy for thorium (Th-232) and uranium (U-238).

SP samples were homogenized and split. One portion was analyzed on Site by gamma spectroscopy and the other portion was sent off Site to STL for alpha spectroscopy analysis. STL performed isotopic thorium analysis using National Academy of Science (NAS)/Department of Energy (DOE) Method 3004/RP-725 and isotopic uranium analysis using NAS/DOE Method 3050/RP-725.

2.2 VOLATILE ORGANIC COMPOUNDS

DL samples were collected and analyzed for VOCs if PID readings were greater than 25 parts per million (ppm) or if visual and/or olfactory observations (e.g., staining) warranted. In such an event, DL samples were analyzed on Site by SEI for trichloroethene (TCE) and tetrachloroethene (PCE) using solid phase microextraction and capillary gas chromatography. PID field screening, results and field observations are noted in the boring logs in **Appendix C**.

Two samples were collected at each SP interval for VOC analysis. One sample was analyzed on Site by SEI. The other sample was sent off Site to STL for VOC analysis using United States Environmental Protection Agency (USEPA) Method 8260B. In the case of LPH03, soil boring 01, the glass container for the SP sample at 30 ft bgs was broken during transfer to STL; an on-Site VOC analysis was used to replace the lost sample.

2.3 METALS

DL samples were collected for Ni analysis at alternating depth intervals (i.e., 1, 3, 5, 7 ft etc.) and analyzed on Site using x-ray fluorescence spectroscopy (XRF) by SEI.

Two samples were collected at each SP interval for metals analysis. One sample was analyzed on Site by SEI for Ni. The other sample was sent off Site to STL for analysis of Ni and Be using USEPA Method 6010B. On occasion, some DL samples were sent to STL for Ni analysis for additional confirmation.

3.0 ANALYSIS RESULTS/ASSESSMENTS

The results of the DL and SP samples are summarized in **Tables 1** through **8**. A summary of the soil boring sample results above the Site cleanup levels are summarized in **Table 9**. The results of the off-Site STL sample analysis are in bold print. All other sample analyses were conducted on-Site and listed in regular print. In this discussion, on-Site analytical results are generally rounded to two significant figures. Radiological, VOC and Ni analytical results were compared to the Site cleanup levels specified in the Work Plan. Results for Be were compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 values and other published literature sources for New York State soils. A discussion of the LPH investigation and the related prior Spring 2004 Investigation results are presented below.

3.1 RADIOLOGICAL

The Th-232, U-234 and U-238 analytical results were compared to the Site cleanup levels of 2.8 picoCuries per gram (pCi/g) above background concentrations, 50 pCi/g, and 50 pCi/g, respectively. Residual radionuclides were detected above Site cleanup levels in LPH04 (U-238), LPH05 (U-238), LPH06 (U-238), and LPH21 (Th-232, U-234 and U-238). Based on the results from many Site samples, a Th-232 Site background concentration of approximately 0.6 pCi/g has been assumed. The text assessment discussion and tables reflect this assumption.

LPH04 **(Table 3)** had U-238 above the Site cleanup level in the central boring location (soil boring 01) at 22 ft bgs. The on-Site gamma spectroscopy analysis results for the radiological DL sample indicated U-238 at 79 pCi/g. Radiological DL samples of soils collected in the other four soil boring locations in LPH04 surrounding soil boring 01 did not indicate the presence of residual U-238 above Site cleanup level.

LPH05 **(Table 1)** had U-238 above the Site cleanup level in the central boring location (soil boring DL07) at 24 ft bgs and 24.5 ft bgs at concentrations of approximately 125 pCi/g and 119 pCi/g, respectively. Radiological samples from 25 to 30 ft bgs in this boring did not indicate the presence of residual U-238 above Site cleanup level.

LPH06 **(Table 1)** had U-238 above the Site cleanup level in soil boring locations DL10 and DL13 at depths ranging from 10 to 15 ft bgs and concentrations ranging from approximately 51 pCi/g to 83 pCi/g. Deeper samples at 20.5 ft bgs in both borings did not indicate the presence of residual U-238 above the Site cleanup level. LPH06 is believed to have been excavated during the remediation of Cell 12. The area of the borings DL10 and DL13 are located between the sheet pile boundary of Cell 12 and the 100 Building east wall, consequently excavation was not possible.

LPH21 **(Table 7)**, soil boring 01, had contaminants above the Site cleanup levels for Th-232 (20 pCi/g), U-234 (612 pCi/g) and U-238 (82 pCi/g) at 16 ft bgs (estimated bottom of the LPH). The isotopic ratios of U-234 to U-238 indicate that the radiological contaminants associated with LPH21 are from enriched uranium. The soil boring analytical results indicated no contaminants above the Site cleanup levels below 20 feet bgs. Soil boring 05 had contaminants above the Site cleanup levels for U-238 at 10 ft bgs at a concentration of 59 pCi/g. The soil samples above and below this depth did not indicate contaminants above the Site cleanup levels.

3.2 VOLATILE ORGANIC COMPOUNDS

The VOC analytical results of TCE and PCE were compared to the Site cleanup levels of 0.70 milligrams per kilogram (mg/kg) and 1.82 mg/kg, respectively. PCE was detected above Site cleanup levels in LPH03, LPH04, LPH05, and LPH21. TCE was detected above Site cleanup levels in LPH21; however, the concentration of PCE was much greater than the TCE concentration at the location.

LPH03 (**Table 3**) had PCE above Site cleanup levels at 6 and 16 ft bgs. Field screening for VOCs prompted DL sample collection in the central boring location (soil boring 01) at 6 ft bgs for on-Site VOC analysis. The results indicated a PCE concentration of 2.0 mg/kg. Additionally, field screening for VOCs prompted DL sample collection in soil boring 05 at 16 ft bgs for on-Site VOC analysis. The results indicated a PCE concentration of 12 mg/kg. Field screening of soils collected in the other LPH03 soil boring locations at 6 ft bgs or at 16 ft bgs did not indicate the presence of residual VOCs.

LPH04 (**Table 3**) had PCE above Site cleanup levels in the central boring location (soil boring 01) at 22 ft bgs. Field screening for VOCs prompted DL sample collection for on-Site VOC analysis. The results indicated a PCE concentration of 6.4 mg/kg. Field screening of soils collected in the other soil boring locations in LPH04 at 22 ft bgs did not indicate the presence of residual VOCs.

LPH05 (**Table 1**) had PCE above the Site cleanup level at 25 ft bgs in boring DL07 at approximately 6.1 mg/kg. The sample from 27 ft bgs in this boring did not indicate the presence of residual VOCs.

LPH21 (**Table 7**), soil boring 01, had contaminants above the Site cleanup levels for TCE and PCE at 16 ft bgs (estimated bottom of the LPH) and 19 ft bgs. Field screening for VOCs prompted SP sample collection in the central boring location (soil boring 01) at 16 ft bgs and DL sample collection at 19 ft bgs for VOC analysis. The SP results indicated an estimated PCE concentration of 40,000 mg/kg and a TCE concentration of 1600 mg/kg. The DL results indicated a PCE concentration estimated greater than approximately 1,300 mg/kg and a TCE concentration of 33 mg/kg. The soil boring analytical results indicated no contaminants above the Site cleanup levels below 20 ft bgs.

3.3 METALS

The Ni analytical results were compared to the Site cleanup level (560 mg/kg) while the Be results were compared to the NYSDEC TAGM #4046 values (0.16 mg/kg or Site background) and other published literature values for New York State soils.

LPH05 (**Table 1**) had Ni above the Site cleanup levels at 24 ft bgs in boring DL07 at approximately 955 mg/kg. The sample from 27 ft bgs in this boring did not indicate the presence of residual Ni above Site cleanup level.

Ni was detected above Site cleanup levels in LPH20 (**Table 7**), soil boring 04, at 1 ft bgs. The DL result indicated an estimated Ni concentration of 1,100 mg/kg. At 3 ft bgs in this boring, the Ni concentration was below the Site cleanup level. The samples at 1 to 2 ft bgs from three soil

borings (01, 03 and 05) north of soil boring 04 in LPH20 indicated Ni concentrations below the Site cleanup level.

The Ni concentration above the Site cleanup level indicates the presence of contaminants in shallow soils (fill) beneath the concrete slab. However, the Ni concentration in the fill does not indicate a potential for the presence of Ni in the undisturbed subsurface soils from LPH20.

Several locations had concentrations of Be above the TAGM level. However, Be concentrations in New York State soils are reported to range between 0 to 7 mg/kg[1, 2]. The Be soil results are interpreted to be within the reported range for soils in New York State.

4.0 CONCLUSIONS

As indicated in **Table 9**, six (LPH03, LPH04, LPH05, LPH06, LPH20 and LPH21) of the fifteen LPHs had soil sample boring results that indicated concentrations above the Site cleanup levels for radionuclides, TCE, PCE and/or Ni.

- LPH 03 had a sample from each of two soil borings (01 at 6 ft bgs and 05 at 16 ft bgs) that indicated PCE at concentrations above Site cleanup levels at 2.0 and 12 mg/kg, respectively;
- LPH 04 had a sample from one soil boring (01 at 22 ft bgs) that indicated U-238 at 79 pCi/g and a PCE concentration of 6.4 mg/kg;
- LPH05 had samples from one boring (DL07 at 24 ft bgs and 24.5 ft bgs) that indicated U-238 concentrations of approximately 125 pCi/g and 119 pCi/g, respectively. This same boring had PCE concentrations at 25 ft bgs at approximately 6.1 mg/kg and Ni concentrations at 24 ft bgs at approximately 955 mg/kg;
- LPH06 had samples from two borings located between the sheet pile boundary of Cell 12 and the 100 Building east wall, (DL10 and DL13 at depths ranging from 10 to 15 ft bgs) with U-238 concentrations ranging from approximately 51 pCi/g to 83 pCi/g;
- LPH 020 had one soil boring (04 at 1 ft bgs), that indicated an estimated Ni concentration of 1,100; and
- LPH 021 had two soil borings (01 and 05) that indicated contaminants above the Site cleanup levels for radionuclides and VOCs.
    - Soil boring 01, at 16 ft bgs, indicated a concentration of Th-232 at 20 pCi/g, a concentration of U-234 at 612 pCi/g, a concentration of U-238 at 82 pCi/g, an estimated concentration of PCE of 40,000 mg/kg, and a concentration of TCE at 1,600 mg/kg; and at 19 ft bgs, results indicated an estimated concentration of PCE above 1,300 mg/kg, and a concentration of TCE above 33 mg/kg,
    - Soil boring 05, at 10 ft bgs, indicated a concentration of U-238 at 59 pCi/g.

This information will be used to determine whether additional remedial activity is warranted.

---

[1]Schacklette, H.T., and J.G. Boerngen. 1984. *Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States*. US Geological Survey. Pub. 1270.

[2]Dragun, J. and A. Chiasson. 1991. *Elements in North American Soils*. Hazardous Materials Control Resources Institute. Greenbelt, Maryland.

Table 1
Spring 2004 Investigation Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)
I11	01	DL03	12142	0.0	0.84		< 4.80			
I11	01	DL03	12143	1.0	0.85		< 4.65			
I11	01	DL03	12166	2.0	0.55		< 4.63			
I11	01	DL03	12167	3.0	0.34		< 3.30			
I11	01	DL03	12168	4.0	0.42		< 3.43			
I11	01	DL03	12169	5.0	0.44		8.55			
I11	01	DL03	12172	6.0	0.40		6.34			
I11	**01**	**DL03**	**12359**	**17.0**	0.34		8.96			**2.3 J**
I11	01	DL03	12360	18.0	0.21		< 3.09			
I11	01	DL03	12361	19.0	0.16		< 2.43			
K14	03	DL14	12396	1.0	1.03		< 5.08			
K14	03	DL14	12397	2.0	0.78		7.46			
K14	03	DL14	12398	3.0	1.35		12.46			
K14	03	DL14	12399	4.0	0.72		< 4.95			
K14	03	DL14	12400	5.0	0.59		< 4.22			
L14	03	DL05	12352	1.0	0.76		< 5.52			
L14	03	DL05	12353	2.0	0.88		< 4.94			
L14	03	DL05	12354	3.0	1.76		12.21			
L14	03	DL05	12372	4.0	1.46		17.22			
L14	03	DL05	12373	5.0	0.93 J		11.67			
L14	03	DL05	12374	6.0	0.56		10.16 J			
L14	03	DL05	12375	7.0	0.41		6.31 J			
L14	03	DL05	12376	8.0	0.46		3.53 UJ			
L14	03	DL05	12377	9.0	0.39		3.45 UJ			
L14	03	DL05	12378	10.0	0.54		6.68 J			
L14	03	DL05	12379	11.0	0.40		3.37 UJ			
L14	03	DL05	12380	12.0	0.38		3.86 UJ			
L14	03	DL05	12381	13.0	0.44		3.89			
L14	03	DL05	12382	14.0	0.28		3.45			
L14	03	DL05	12383	15.0	0.28		3.14 UJ			
L14	03	DL05	12384	16.0	0.32		5.84 J	0.105 U	0.105 U	
L14	03	DL05	12385	17.0	0.32		4.26 J			
L14	03	DL05	12388	18.0	0.19		3.08 UJ			
L14	03	DL05	12391	19.0	0.06 UJ		< 3.66			
L14	**03**	**DL05**	**12392**	**20.0**	**0.30 J**	**1.42**	**0.74**	**0.0025 U**	**0.0013 J**	**0.38 J**
L14	03	DL19	12481	0.0	0.51		< 3.34			
L14	03	DL19	12482	1.0	1.13		< 4.94			
L14	03	DL19	12484	2.0	1.05		< 6.59			
L14	03	DL19	12488	3.0	0.97		10.47			
L14	03	DL19	12494	4.0	1.47		19.76			
L14	03	DL19	12546	6.0	1.15		10.14			
L14	03	DL19	12547	7.0	0.32		< 3.32			
L14	03	DL19	12548	8.0	0.36		< 3.69			
L14	03	DL19	12549	9.0	0.45		< 3.82			
L14	03	DL19	12553	10.0	0.39		4.01 J			
L14	03	DL19	12554	11.0	0.46		< 4.62			
L14	03	DL19	12555	12.0	0.31		< 2.86			
L14	03	DL19	12556	13.0	0.29		< 2.50			
L14	03	DL19	12557	14.0	0.27		< 3.15			
L14	03	DL19	12558	15.0	0.30		< 3.15			
L14	**03**	**DL19**	**12586**	**15.5**	**0.36 J**	**11.6**	**0.91**	**0.0026 U**	**0.0077 J**	**2.5 J**
M14	04	DL06	11830	1.0	0.74		< 4.30			
M14	04	DL06	11831	2.0	0.66		8.42 J			
M14	04	DL06	11832	3.0	1.00		< 5.42			

Table 1
Spring 2004 Investigation Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)
M14	04	DL06	11843	4.0	0.76		6.38			
M14	04	DL06	12293	5.0	0.93		10.26 J			
M14	04	DL06	12297	6.0	1.47 J		11.61			
M14	04	DL06	12299	7.0	0.81 J		9.65			
M14	04	DL06	12300	8.0	0.93		15.07			
M14	04	DL06	12309	9.0	0.79		< 4.15			
M14	04	DL06	12310	10.0	0.93 J		7.30			
M14	04	DL06	12402	11.0	0.65		< 5.40			
M14	04	DL06	12406	12.0	0.71		9.01			
M14	04	DL06	12407	13.0	0.62		< 5.81			
M14	04	DL06	12410	14.0	0.76		7.23			
M14	04	DL06	12415	15.0	0.67		8.30			
M14	04	DL06	12416	16.0	0.57		< 5.16			
M14	04	DL06	12417	17.0	0.63		6.13			
N15	05	DL07	12364	0.0	0.57 J		< 4.35			
N15	05	DL07	12365	1.0	0.65		< 4.26			
N15	05	DL07	12366	2.0	1.05 J		10.90			
N15	05	DL07	12367	3.0	0.96		22.00			
N15	05	DL07	12368	4.0	0.92		10.27 J			
N15	05	DL07	12369	5.0	0.40		< 3.14			
N15	05	DL07	12370	6.0	0.52		6.68			
N15	05	DL07	12371	7.0	0.65		5.60			
N15	**05**	**DL07**	**12386**	**24.0**	1.68		124.79 J			**955 J**
N15	05	DL07	12387	24.5	1.53		119.27			
N15	05	DL07	12389	25.0	0.47		9.38	0.095 U	6.132 D	
N15	05	DL07	12390	26.0	0.26		6.85 J			
N15	**05**	**DL07**	**12393**	**27.0**	**0.41**	**8.26**	**8.31**	**0.00064 J**	**0.190 J**	**10.0**
N15	05	DL07	12413	27.5	0.21		5.48			
N15	05	DL07	12414	28.0	0.29		< 3.51			
N15	05	DL07	12418	29.0	0.14		< 2.52			
N15	**05**	**DL07**	**12421**	**30.0**	**0.34 J**	**3.49**	**3.25**	**0.0026 U**	**0.015 J**	**2.1 J**
O15	05	DL16	12457	1.0	0.90		7.87			
O15	05	DL16	12458	2.0	0.76		< 4.19			
O15	05	DL16	12459	3.0	1.21		< 7.60			
O15	05	DL16	12460	4.0	0.79 J		< 5.44			
O15	05	DL16	12461	5.0	0.75		8.06 J			
O15	05	DL16	12462	6.0	0.40 J		4.73 J			
O15	05	DL16	12463	7.0	0.26		< 2.72			
O15	05	DL16	12464	8.0	0.31		< 3.72			
O15	05	DL16	12465	9.0	0.40		< 3.15			
O15	05	DL16	12466	10.0	0.24		< 2.53			
O15	05	DL16	12470	11.0	0.25		< 3.32			
O15	05	DL16	12469	12.0	0.12		< 2.25			
O15	05	DL16	12476	13.0	0.20 J		< 2.77			
O18	06	DL10	12199	0.0	0.64		< 3.99			
O18	06	DL10	12200	1.0	0.54		5.41			
O18	06	DL10	12204	2.0	0.95		17.99			
O18	06	DL10	12209	3.0	0.94		19.96			
O18	06	DL10	12210	4.0	0.79		8.02			
O18	06	DL10	12218	5.0	0.44		< 3.37			
O18	06	DL10	12219	6.0	0.62		15.47			
O18	06	DL10	12231	7.0	0.59		8.31			
O18	06	DL10	12232	8.0	1.10		13.93			
O18	06	DL10	12237	9.0	0.69		24.17			

Table 1
Spring 2004 Investigation Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)
O18	06	DL10	12238	10.0	0.73		74.78			
O18	06	DL10	12239	11.0	0.69		81.39			
O18	06	DL10	12255	12.0	0.57 J		51.24			
O18	06	DL10	12258	13.0	0.47		37.52			
O18	06	DL10	12273	14.0	0.30		40.30			
O18	06	DL10	12274	15.0	0.40		51.62			
O18	06	DL10	12285	16.0	0.31		42.36			
O18	06	DL10	12286	17.0	0.19		36.72			
O18	06	DL10	12291	18.0	0.20		23.02			
O18	06	DL10	12292	19.0	0.19 J		11.03			
O18	06	DL10	12298	20.0	0.20		11.15			
O18	**06**	**DL10**	**12313**	**20.5**	**0.50**	**32.7**	**34.4**	**0.0026 U**	**0.0084 J**	**17.3**
O18	06	DL13	12311	0.0	0.72		12.03			
O18	06	DL13	12312	1.0	0.94 J		19.60			
O18	06	DL13	12316	2.0	0.65		7.34			
O18	06	DL13	12317	3.0	0.76 J		10.91			
O18	06	DL13	12336	4.0	0.70		< 4.23			
O18	06	DL13	12337	5.0	0.76		5.87			
O18	06	DL13	12342	6.0	0.46		< 4.31			
O18	06	DL13	12343	7.0	0.72		4.45			
O18	06	DL13	12344	8.0	0.38		6.31			
O18	06	DL13	12345	9.0	0.39		9.66			
O18	06	DL13	12346	10.0	0.51		11.09			
O18	06	DL13	12347	11.0	0.71		19.26			
O18	06	DL13	12348	12.0	0.43		20.72			
O18	06	DL13	12349	13.0	0.45		21.96			
O18	06	DL13	12350	14.0	0.24		82.70			
O18	06	DL13	12351	15.0	0.24		71.52			
O18	06	DL13	12355	16.0	0.19		13.07			
O18	06	DL13	12356	17.0	0.29		18.42			
O18	06	DL13	12357	18.0	0.38		24.56			
O18	06	DL13	12358	19.0	0.23		7.95			
O18	06	DL13	12362	20.0	0.20		9.28			
O18	**06**	**DL13**	**12363**	**20.5**	**0.23 J**	**24.4**	**24.3**	**0.0026 U**	**0.0039 J**	**4.4**

Table 1
Spring 2004 Investigation Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
D - Validation qualifier used to indicate that analysis was performed on a sample requiring dilution.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 2 for boring locations.
On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.
Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.
Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.
Blank cell indicates analysis was not performed.
Result is above Site cleanup level.

Table 2
LPH Investigation,
LPH01 and LPH02 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I11	01	01	20994	15.0	NS		NS			100 U	
I11	**01**	**01**	**21018**	**16.0**	**1.60**	**0.166**	**0.185**	**0.0027 U**	**0.0028**	**12.5**	**0.53 UJ**
I11	01	01	21019	19.0	0.29		2.08			100 U	
I11	01	01	21020	21.0	NS		NS			100 U	
I11	01	01	21021	22.0	0.36		2.11				
I11	01	01	21022	23.0	0.21		< 0.31			100 U	
I11	01	01	21032	25.0	0.35		1.11			100 U	
I11	01	01	21033	26.0	0.34		0.73 J				
I11	01	01	21034	27.0	0.22		1.18 J			100 U	
I11	01	01	21043	28.0	0.20		1.64				
I11	01	01	21044	29.0	0.20		0.47 J			100 U	
I11	**01**	**01**	**21059**	**30.0**	**0.145**	**0.202**	**0.165**	**0.0026 U**	**0.0026 U**	**1.5 J**	**0.51 UJ**
I11	01	02	21064	1.0	1.03		0.86 J			100 U	
I11	01	02	21067	3.0	0.78		6.27			100 U	
I11	01	02	21073	5.0	1.00		2.54			100 U	
I11	01	02	21078	6.0	0.43		1.42				
I11	01	02	21079	7.0	0.49		1.83 J			40.5 J	
I11	01	02	21086	9.0	0.54		2.55			100 U	
I11	01	02	21087	11.0	0.36 J		1.42			100 U	
I11	01	02	21116	13.0	0.37		1.02 J			100 U	
I11	01	02	21117	15.0	0.72 J		5.11			100 U	
I11	01	02	21118	16.0	0.36 J		2.09				
I11	01	02	21119	17.0	0.36		0.80 J			100 U	
I11	01	02	21132	18.0	0.23		0.88				
I11	01	02	21133	19.0	0.31 J		0.85 J			100 U	
I11	01	02	21134	20.0	0.15		1.53				
I11	01	02	21135	21.0	0.19 J		1.59			100 U	
I11	01	02	21141	22.0	0.25		0.77 J				
I11	01	02	21142	23.0	0.27		0.79			100 U	
I11	01	02	21150	25.0	0.17 J		0.93 J			100 U	
I11	01	02	21151	26.0	0.27 J		1.29 J				
I11	01	02	21152	27.0	0.26 J		0.89			100 U	
I11	01	02	21176	28.0	0.16		1.55				
I11	01	02	21177	29.0	0.28 J		1.02 J			100 U	
I11	**01**	**02**	**21178**	**30.0**	**0.267**	**0.224**	**0.235**	**0.0026 U**	**0.0026 U**	**1.5 J**	**0.52 U**
I11	01	03	21291	1.0	0.96		3.09 J			100 U	
I11	01	03	21292	2.0	0.70		6.08 J				
I11	01	03	21293	3.0	0.51 J		1.03 J			100 U	
I11	01	03	21300	5.0	0.95		3.14 J			100 U	
I11	01	03	21301	6.0	0.68 J		2.10				
I11	01	03	21302	7.0	0.29		< 0.55			100 U	
I11	01	03	21303	9.0	0.79		1.31 J			100 U	
I11	01	03	21309	11.0	0.31 J		3.84			100 U	
I11	01	03	21310	12.0	0.29		1.24				
I11	01	03	21311	13.0	0.23		1.66 J			100 U	
I11	01	03	21312	15.0	0.40 J		2.55 J			100 U	
I11	01	03	21313	16.0	0.31		1.67				
I11	01	03	21314	17.0	0.23		0.51 UJ			100 U	
I11	01	03	21315	19.0	0.06 UJ		< 0.38			100 U	
I11	01	03	21316	21.0	0.19		0.54 J			100 U	
I11	01	03	21317	22.0	0.30		0.51 J				
I11	01	03	21318	23.0	0.17		< 0.26			100 U	

Table 2
LPH Investigation,
LPH01 and LPH02 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I11	01	03	21319	25.0	0.26 J		1.14 J			100 U	
I11	01	03	21323	26.0	0.33		2.14				
I11	01	03	21324	27.0	0.27		0.93 J			100 U	
I11	01	03	21333	29.0	0.32		< 0.51			100 U	
I11	**01**	**03**	**21338**	**30.0**	**0.168**	**0.193**	**0.209**	**0.0026 U**	**0.0026 U**	**1.1 J**	**0.078 J**
I11	01	04	21345	1.0	1.10 J		3.93			100 U	
I11	01	04	21346	2.0	0.74		< 1.16				
I11	01	04	21347	3.0	0.99		7.08			100 U	
I11	01	04	21354	4.0	1.20		2.49				
I11	01	04	21355	5.0	0.94		1.83			100 U	
I11	01	04	21364	6.0	0.64		1.75				
I11	01	04	21365	7.0	0.04 UJ		1.35 J			100 U	
I11	01	04	21366	9.0	0.62		1.99			100 U	
I11	01	04	21367	11.0	0.03 UJ		< 0.75			100 U	
I11	01	04	21369	12.0	0.19		0.94 J				
I11	01	04	21370	13.0	0.34		0.78 J			100 U	
I11	01	04	21371	15.0	0.40 J		1.16 J			100 U	
I11	01	04	21372	16.0	0.32		1.59				
I11	01	04	21373	17.0	0.29 J		1.15 J			100 U	
I11	01	04	21390	19.0	0.21		< 0.36			100 U	
I11	01	04	21393	21.0	0.38		0.84			100 U	
I11	01	04	21394	22.0	0.17		0.72 J				
I11	01	04	21395	23.0	0.17		0.77			100 U	
I11	01	04	21396	25.0	0.08 UJ		< 0.62			100 U	
I11	01	04	21397	26.0	0.26		1.29				
I11	01	04	21398	27.0	0.27		< 0.53			100 U	
I11	01	04	21422	29.0	0.27 J		0.68 J			100 U	
I11	**01**	**04**	**21423**	**30.0**	**0.194**	**0.126**	**0.148**	**0.0026 U**	**0.0026 U**	**1.6 J**	**0.080 J**
I11	01	05	21203	1.0	1.05 J		1.22 J			100 U	
I11	01	05	21204	2.0	1.37		3.85				
I11	01	05	21205	3.0	1.15 J		2.35			100 U	
I11	01	05	21217	4.0	1.01		2.17				
I11	01	05	21218	5.0	1.08		1.94			100 U	
I11	01	05	21227	7.0	0.55 J		1.09 J			100 U	
I11	01	05	21228	9.0	0.85		1.94			100 U	
I11	01	05	21243	11.0	0.31		1.84			100 U	
I11	01	05	21244	12.0	0.49 J		1.06				
I11	01	05	21245	13.0	0.25 J		2.08			100 U	
I11	01	05	21246	15.0	0.27		0.68 J			100 U	
I11	01	05	21247	16.0	0.27 J		< 0.64				
I11	01	05	21248	17.0	0.06 UJ		0.53 J			100 U	
I11	01	05	21251	19.0	0.03 UJ		< 0.57			100 U	
I11	01	05	21252	21.0	0.19		1.91 J			100 U	
I11	01	05	21253	22.0	0.18		1.06 J				
I11	01	05	21254	23.0	0.21		1.06			100 U	
I11	01	05	21256	24.0	0.19		0.91 J				
I11	01	05	21257	25.0	< 0.05		1.26 J			100 U	
I11	01	05	21274	27.0	0.30		0.75 J			100 U	
I11	01	05	21275	28.0	0.15		0.37 UJ				
I11	01	05	21276	29.0	0.18 J		0.65 J			100 U	
I11	**01**	**05**	**21278**	**30.0**	**0.143**	**42.1**	**35.8**	**0.0026 U**	**0.0026 U**	**1.2 J**	**0.51 U**
I11	02	01	20847	7.0	1.39		10.34			100 U	

Table 2
LPH Investigation,
LPH01 and LPH02 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I11	02	01	20848	9.0	NS		NS			100 U	
I11	02	01	20849	11.0	NS		NS			41.8 J	
I11	02	01	20850	13.0	1.01		9.62			44.9 J	
I11	02	01	20859	14.0	0.57		4.77				
I11	02	01	20860	15.0	0.29		2.54			100 U	
I11	02	01	20884	16.0	0.20		2.00				
I11	02	01	20885	17.0	0.20		< 0.74			100 U	
I11	02	01	20886	18.0	0.30		1.31				
I11	02	01	20887	19.0	< 0.06		1.26			100 U	
I11	02	01	20888	20.0	< 0.05		0.92 J				
I11	02	01	20889	21.0	0.25		0.79 J			100 U	
I11	02	01	20893	22.0	< 0.03		2.26 J				
I11	02	01	20894	23.0	0.25		0.43 J			100 U	
I11	02	01	20900	24.0	< 0.05		< 0.38				
I11	02	01	20901	25.0	< 0.06		0.58 J			100 U	
I11	02	01	20902	26.0	0.29		0.98 J				
I11	02	01	20903	27.0	0.27		2.02			100 U	
I11	02	01	20908	28.0	0.18 J		0.99 J				
I11	02	01	20909	29.0	0.20		0.64 J			100 U	
I11	**02**	**01**	**20910**	**30.0**	**0.112**	**0.131**	**0.123 J**	**0.0026 U**	**0.0026 U**	**1.9 J**	**0.52 UJ**
I11	02	02	20989	1.0	1.51		2.39			100 U	
I11	02	02	20990	2.0	0.64		1.80				
I11	02	02	20991	3.0	0.83		2.06			100 U	
I11	02	02	20997	5.0	0.71		2.28 J			100 U	
I11	02	02	20998	6.0	0.66		0.93 J				
I11	02	02	20999	7.0	0.73		1.12 J			100 U	
I11	02	02	21001	10.0	0.28		0.52 J				
I11	02	02	21002	11.0	0.29		< 0.55			100 U	
I11	02	02	21004	13.0	0.22		< 0.65			100 U	
I11	02	02	21005	14.0	0.38		1.62				
I11	02	02	21006	15.0	0.27		< 0.25			100 U	
I11	02	02	21009	16.0	0.23		1.47				
I11	02	02	21010	17.0	0.21		< 0.41			100 U	
I11	02	02	21012	18.0	0.32		0.97				
I11	02	02	21013	19.0	0.29		0.99 J			100 U	
I11	02	02	21016	20.0	0.22		0.87 J				
I11	02	02	21017	21.0	0.30		0.57 J			100 U	
I11	02	02	21023	22.0	0.32		0.47 J				
I11	02	02	21024	23.0	0.20		0.51 J			100 U	
I11	02	02	21026	24.0	0.27		< 0.28				
I11	02	02	21027	25.0	0.26		1.08 J			100 U	
I11	02	02	21028	26.0	0.20		< 0.22				
I11	02	02	21029	27.0	< 0.03		0.59 J			100 U	
I11	02	02	21045	28.0	0.24		0.76 J				
I11	02	02	21046	29.0	0.24		0.32 J			100 U	
I11	**02**	**02**	**21048**	**30.0**	**0.115**	**0.138**	**0.143**	**0.0026 U**	**0.0026 U**	**1.7 J**	**0.51 U**
I11	02	03	20920	4.0	0.70		1.86 J				
I11	02	03	20921	5.0	0.45		1.47 J			100 U	
I11	02	03	20922	7.0	0.52		1.54			100 U	
I11	02	03	20927	9.0	0.66		1.55 J			100 U	
I11	02	03	20928	11.0	0.26		2.47			100 U	
I11	02	03	20935	12.0	0.20		< 0.35				

Table 2
LPH Investigation,
LPH01 and LPH02 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I11	02	03	20936	13.0	0.19		1.29			100 U	
I11	02	03	20937	14.0	0.40		< 0.66				
I11	02	03	20938	15.0	0.26		3.13			100 U	
I11	02	03	20939	16.0	0.34		1.85				
I11	02	03	20940	17.0	0.21		0.74 J			100 U	
I11	02	03	20945	18.0	< 0.03		2.43				
I11	02	03	20946	19.0	< 0.07		2.35 J			100 U	
I11	02	03	20947	20.0	0.29		2.16				
I11	02	03	20948	21.0	< 0.04		1.14			100 U	
I11	02	03	20959	22.0	0.16		1.36				
I11	02	03	20960	23.0	0.25		1.39			100 U	
I11	02	03	20961	24.0	0.42		1.42 J				
I11	02	03	20962	25.0	0.19		1.38			100 U	
I11	02	03	20963	26.0	0.23		0.78				
I11	02	03	20964	27.0	0.26		< 0.37			100 U	
I11	02	03	20971	28.0	0.21		1.07 J				
I11	02	03	20972	29.0	0.29		< 0.62			100 U	
I11	**02**	**03**	**20978**	**30.0**	**0.111**	**0.158**	**0.140**	**0.0026 U**	**0.0026 U**	**1.3 J**	**0.51 U**
I11	02	05	21069	4.0	0.61		1.99				
I11	02	05	21070	5.0	0.30		2.70			100 U	
I11	02	05	21071	6.0	0.43		0.55 J				
I11	02	05	21072	7.0	0.76		< 0.90			100 U	
I11	02	05	21074	8.0	0.25		0.70 J				
I11	02	05	21075	9.0	0.42		0.95 J			100 U	
I11	02	05	21076	10.0	0.23		< 0.40				
I11	02	05	21077	11.0	0.29		1.33			100 U	
I11	02	05	21084	12.0	0.29		1.26 J				
I11	02	05	21085	13.0	0.32		2.89 J			100 U	
I11	02	05	21088	14.0	0.23		0.45 J				
I11	02	05	21089	15.0	0.29 J		0.42 J			100 U	
I11	02	05	21090	16.0	0.28 J		0.76 J				
I11	02	05	21091	17.0	0.21 J		1.20			100 U	
I11	02	05	21093	18.0	0.22		< 0.44				
I11	02	05	21092	19.0	0.28 J		< 0.32			100 U	
I11	02	05	21094	20.0	0.48 J		< 0.56				
I11	02	05	21095	21.0	0.23 J		0.63 J			100 U	
I11	02	05	21110	22.0	0.16		< 0.23				
I11	02	05	21111	23.0	0.21 J		0.51 J			100 U	
I11	02	05	21112	24.0	0.31 J		1.23				
I11	02	05	21113	25.0	0.26 J		0.72 J			100 U	
I11	02	05	21114	26.0	0.15		< 0.41				
I11	02	05	21115	27.0	0.18 J		0.81 J			100 U	
I11	02	05	21121	28.0	0.20		0.49 J				
I11	02	05	21122	29.0	0.20		1.75			42.5 J	
I11	**02**	**05**	**21123**	**30.0**	**0.163**	**0.140**	**0.108 J**	**0.0026 U**	**0.0026 U**	**1.5 J**	**0.52 U**

Table 2
LPH Investigation,
LPH01 and LPH02 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 3 for boring locations.
On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.
Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.
NS - Not sampled due to insufficient recovery.
Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.
Blank cell indicates analysis was not performed.

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L14	03	01	21510	5.0	0.98 J		7.28			100 U	
L14	03	01	21511	6.0	NS		NS	0.105 U	1.982		
L14	03	01	21512	7.0	0.40 J		5.19			100 U	
L14	03	01	21516	9.0	0.62		6.33 J			100 U	
L14	03	01	21519	11.0	0.82		4.57			100 U	
L14	03	01	21520	13.0	NS		NS			50.4 J	
L14	03	01	21537	15.0	NS		NS			100 U	
L14	03	01	21538	17.0	0.46		9.86			100 U	
L14	03	01	21539	19.0	< 0.06		1.73			100 U	
L14	03	01	21547	21.0	0.25		2.30			100 U	
L14	03	01	21554	22.0	0.22		1.54				
L14	03	01	21555	23.0	0.28		1.35 J			100 U	
L14	03	01	21580	25.0	0.25		1.50			100 U	
L14	03	01	21581	26.0	0.21		2.19				
L14	03	01	21582	27.0	< 0.06		0.58 J			100 U	
L14	03	01	21598	29.0	< 0.07		< 0.45			100 U	
L14	**03**	**01**	**21599**	**30.0**	**0.150**	**0.199 J**	**0.199 J**	0.113 U	0.113 U	**1.5 J**	**0.085 J**
L14	03	02	21731	1.0	0.88		3.56			100 U	
L14	03	02	21732	3.0	NS		NS			100 U	
L14	03	02	21733	5.0	0.96		11.75			100 U	
L14	03	02	21734	7.0	0.55		2.16			100 U	
L14	03	02	21735	9.0	NS		NS			100 U	
L14	03	02	21740	11.0	0.77		1.66			100 U	
L14	03	02	21741	13.0	0.67		2.57			100 U	
L14	03	02	21746	14.0	0.26		1.39				
L14	03	02	21747	15.0	0.31		1.85			100 U	
L14	03	02	21748	16.0	0.35		2.77 J				
L14	03	02	21749	17.0	0.38		1.59			100 U	
L14	03	02	21756	18.0	0.33		< 0.66				
L14	03	02	21757	19.0	0.20		1.35			100 U	
L14	03	02	21758	20.0	0.19		1.28				
L14	03	02	21759	21.0	< 0.06		0.80 J			100 U	
L14	03	02	21760	22.0	0.28		1.46 J				
L14	03	02	21761	23.0	0.24		1.06 J			100 U	
L14	03	02	21765	25.0	0.40		< 0.61			100 U	
L14	03	02	21766	26.0	0.25		1.00				
L14	03	02	21767	27.0	0.19		< 0.35			100 U	
L14	03	02	21768	28.0	0.26		0.58 J				
L14	03	02	21769	29.0	0.33		< 0.40			100 U	
L14	**03**	**02**	**21770**	**30.0**	**0.146**	**0.152**	**0.134**	**0.0025 U**	**0.0025 U**	**1.3 R**	**0.060 J**
L14	03	03	21618	1.0	0.86		0.92 J			100 U	
L14	03	03	21619	2.0	0.79		3.31				
L14	03	03	21620	3.0	1.07		5.83			100 U	
L14	03	03	21621	5.0	0.57		1.30 J			100 U	
L14	03	03	21637	6.0	0.80		1.76				
L14	03	03	21638	7.0	0.73		2.38			100 U	
L14	03	03	21639	8.0	0.28		0.90 J				
L14	03	03	21640	9.0	0.38		3.35 J			100 U	
L14	03	03	21641	11.0	0.33		0.90 J			100 U	
L14	03	03	21646	13.0	< 0.11		1.22 J			100 U	
L14	03	03	21649	15.0	< 0.05		0.65 J			100 U	
L14	03	03	21650	16.0	0.42		1.44 J				

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L14	03	03	21651	17.0	0.27		1.80			100 U	
L14	03	03	21654	19.0	0.25		1.82 J			100 U	
L14	03	03	21655	21.0	0.39		1.42			100 U	
L14	03	03	21656	22.0	0.24		0.58 J				
L14	03	03	21657	23.0	0.30		< 0.14			100 U	
L14	03	03	21664	25.0	0.22		< 0.43			100 U	
L14	03	03	21665	26.0	0.26		1.67 J				
L14	03	03	21666	27.0	0.32		1.18			100 U	
L14	03	03	21669	28.0	0.15		0.93 J				
L14	03	03	21670	29.0	0.25		0.74 J			100 U	
L14	**03**	**03**	**21673**	**30.0**	**0.187**	**0.127**	**0.140**	**0.0026 U**	**0.0026 U**	**1.1 R**	**0.066 J**
L14	03	04	21773	1.0	0.59		1.47 J			100 U	
L14	03	04	21774	3.0	0.83		14.30			42.2 J	
L14	03	04	21776	5.0	0.68		10.59			100 U	
L14	03	04	21784	6.0	0.74		3.61				
L14	03	04	21785	7.0	< 0.10		< 0.84			100 U	
L14	03	04	21786	8.0	0.56		0.74 J				
L14	03	04	21787	9.0	0.48		0.91 J			100 U	
L14	03	04	21788	11.0	0.27		1.32 J			100 U	
L14	03	04	21789	13.0	0.34		< 0.60			100 U	
L14	03	04	21790	15.0	0.30		1.41			100 U	
L14	03	04	21801	16.0	0.24		1.40 J				
L14	03	04	21802	17.0	0.31		1.25			100 U	
L14	03	04	21807	19.0	0.25		0.38 J			100 U	
L14	03	04	21810	21.0	0.29		1.29 J			100 U	
L14	03	04	21815	22.0	0.20		0.37 J				
L14	03	04	21816	23.0	< 0.06		0.85 J			100 U	
L14	03	04	21827	25.0	0.21		2.19			100 U	
L14	03	04	21828	26.0	0.24		0.97 J				
L14	03	04	21829	27.0	0.21		1.48			100 U	
L14	03	04	21830	29.0	0.30		0.56 J			100 U	
L14	**03**	**04**	**21832**	**30.0**	**0.218**	**0.203**	**0.166**	**0.0025 U**	**0.0025 U**	**1.1 R**	**0.086 J**
L14	03	05	21675	1.0	1.10		2.56 J			100 U	
L14	03	05	21676	3.0	1.05		9.31			100 U	
L14	03	05	21677	4.0	0.60		3.87				
L14	03	05	21678	5.0	0.70		< 0.65			100 U	
L14	03	05	21683	7.0	0.56		1.71			100 U	
L14	03	05	21688	9.0	0.67		4.63			100 U	
L14	03	05	21689	10.0	0.75		7.48				
L14	03	05	21690	11.0	1.84		16.91			100 U	
L14	03	05	21691	13.0	0.95		16.64			100 U	
L14	03	05	21696	15.0	0.78		4.01			100 U	
L14	03	05	21698	16.0	NS		NS	0.133 U	12.370 D		
L14	03	05	21697	17.0	0.25		2.04			100 U	
L14	03	05	21703	18.0	0.21		1.40				
L14	03	05	21704	19.0	0.24		1.47			100 U	
L14	03	05	21705	21.0	0.28		3.45			100 U	
L14	03	05	21717	22.0	0.19		1.96				
L14	03	05	21718	23.0	0.25		3.36			100 U	
L14	03	05	21719	25.0	0.19		1.01			100 U	
L14	03	05	21724	26.0	0.21		0.85 J				
L14	03	05	21725	27.0	0.15		0.49 J			100 U	

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L14	03	05	21726	28.0	0.25		0.53 J				
L14	03	05	21727	29.0	0.25		1.04 J			100 U	
L14	**03**	**05**	**21730**	**30.0**	**0.179**	**0.179**	**0.181**	**0.0025 U**	**0.0025 U**	**1.4 R**	**0.055 J**
M14	04	01	21906	5.0	0.97		< 1.30			100 U	
M14	04	01	21907	9.0	NS		NS			100 U	
M14	04	01	21908	11.0	0.60		6.94			100 U	
M14	04	01	21909	13.0	0.93		14.02			100 U	
M14	04	01	21916	15.0	0.87		17.31			100 U	
M14	04	01	21924	16.0	0.84		14.05				
M14	04	01	21925	17.0	0.77		5.21 J			100 U	
M14	04	01	21928	19.0	0.74		10.13 J			100 U	
M14	04	01	21934	21.0	NS		NS			100 U	
M14	04	01	21947	22.0	0.97		79.12	0.176 U	6.364		
M14	04	01	21948	23.0	0.28		1.35 J			100 U	
M14	04	01	21949	24.0	0.82		40.70				
M14	04	01	21950	25.0	0.21		7.69			100 U	
M14	04	01	21959	27.0	0.16		5.74			100 U	
M14	04	01	21960	29.0	0.31		1.13 J			100 U	
M14	**04**	**01**	**21975**	**30.0**	**0.164**	**1.59**	**0.83**	**0.0026 U**	**0.0026 U**	**1.5 J**	**0.051 J**
M14	04	02	22171	1.0	0.63		1.32 J			100 U	
M14	04	02	22172	3.0	0.90		1.92			100 U	
M14	04	02	22173	5.0	1.21		13.44			100 U	
M14	04	02	22191	7.0	1.00		9.79			100 U	
M14	04	02	22200	9.0	0.64		4.32			100 U	
M14	04	02	22201	11.0	0.43		2.91 J			45.0 J	
M14	04	02	22204	13.0	0.44		3.94	0.094 U	1.573	100 U	
M14	04	02	22205	15.0	NS		NS			100 U	
M14	04	02	22206	17.0	0.30		2.54			100 U	
M14	04	02	22207	19.0	0.29		2.16			100 U	
M14	04	02	22208	21.0	0.20		3.56	0.097 U	1.680	100 U	
M14	04	02	22209	23.0	0.24		0.90			100 U	
M14	04	02	22210	25.0	0.21		0.39 J			100 U	
M14	04	02	22211	26.0	0.18		2.07 J				
M14	04	02	22212	27.0	0.16		2.36			100 U	
M14	04	02	22214	29.0	0.30		2.08			100 U	
M14	**04**	**02**	**22215**	**30.0**	**0.166**	**1.30**	**1.29**	**0.0026 U**	**0.0026 U**	**1.6 J**	**0.10 J**
M14	04	03	21980	1.0	0.69		1.47			100 U	
M14	04	03	21981	3.0	0.79		3.43			100 U	
M14	04	03	21994	5.0	0.15 UJ		11.32			100 U	
M14	04	03	22009	7.0	0.94 J		11.96			100 U	
M14	04	03	22010	9.0	0.70		2.99			100 U	
M14	04	03	22011	10.0	< 0.07		0.87 J				
M14	04	03	22012	11.0	0.50 J		0.73 J			100 U	
M14	04	03	22017	13.0	0.36		1.10 J			100 U	
M14	04	03	22022	15.0	0.35 J		0.75 J			100 U	
M14	04	03	22023	17.0	0.30		0.76 J			100 U	
M14	04	03	22024	19.0	0.24		0.62 J			100 U	
M14	04	03	22025	21.0	0.02 UJ		1.47	0.099 U	0.099 U	100 U	
M14	04	03	22026	23.0	0.19		1.57 J			100 U	
M14	04	03	22037	25.0	0.17 J		1.16			100 U	
M14	04	03	22038	26.0	0.20		1.13 J				
M14	04	03	22039	27.0	0.18		1.13			100 U	

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
M14	04	03	22048	29.0	0.31 J		1.03 J			100 U	
M14	**04**	**03**	**22057**	**30.0**	**0.136**	**0.325**	**0.298**	**0.0026 U**	**0.0026 U**	**3.6 J**	**0.096 J**
M14	04	04	22064	1.0	0.86		1.45 J			100 U	
M14	04	04	22065	3.0	1.13		2.08 J			100 U	
M14	04	04	22072	5.0	0.96		4.62			100 U	
M14	04	04	22073	7.0	1.22		6.30			100 U	
M14	04	04	22074	9.0	0.70		1.38 J			100 U	
M14	04	04	22091	11.0	< 0.03		2.14			100 U	
M14	04	04	22096	13.0	0.27		1.87			100 U	
M14	04	04	22097	15.0	0.26		0.75 J			100 U	
M14	04	04	22098	16.0	0.37		0.74 J				
M14	04	04	22099	17.0	< 0.07		1.35 J			100 U	
M14	04	04	22121	19.0	0.24		< 0.59			100 U	
M14	04	04	22125	21.0	0.30		0.68 J			100 U	
M14	04	04	22123	22.0	0.23		1.06 J				
M14	04	04	22124	23.0	< 0.06		0.54 J			100 U	
M14	04	04	22132	25.0	< 0.04		0.59 J			100 U	
M14	04	04	22133	26.0	0.23		2.10 J				
M14	04	04	22134	27.0	0.22		1.96			100 U	
M14	04	04	22135	29.0	0.21		< 0.53			100 U	
M14	**04**	**04**	**22153**	**30.0**	**0.152**	**0.255**	**0.193**	**0.0026 U**	**0.0026 U**	**1.8 J**	**0.094 J**
M14	04	05	22216	1.0	1.13		1.89 J			100 U	
M14	04	05	22217	2.0	0.96		4.51				
M14	04	05	22218	3.0	1.10		12.39			40.1 J	
M14	04	05	22219	5.0	1.42		15.75			100 U	
M14	04	05	22220	7.0	0.90		6.28			100 U	
M14	04	05	22221	9.0	1.28		2.94			100 U	
M14	04	05	22226	11.0	0.49		1.49			100 U	
M14	04	05	22227	13.0	0.49		2.15			100 U	
M14	04	05	22228	15.0	0.40		2.05			100 U	
M14	04	05	22231	16.0	0.27		1.97				
M14	04	05	22232	17.0	0.29		3.27			100 U	
M14	04	05	22233	18.0	< 0.03		2.23				
M14	04	05	22234	19.0	0.32		1.95			100 U	
M14	04	05	22241	20.0	0.17		0.94				
M14	04	05	22242	21.0	< 0.07		1.97			100 U	
M14	04	05	22250	22.0	0.28		1.14				
M14	04	05	22251	23.0	0.34		0.55 J			100 U	
M14	04	05	22252	25.0	0.21		0.61 J			100 U	
M14	04	05	22255	26.0	0.29		< 0.29				
M14	04	05	22256	27.0	0.22		2.94			100 U	
M14	04	05	22265	28.0	0.18		1.40				
M14	04	05	22266	29.0	0.17		< 0.50			100 U	
M14	**04**	**05**	**22270**	**30.0**	**0.161**	**0.276**	**0.249**	**0.0025 U**	**0.0025 U**	**1.9 J**	**0.089 J**
M14	04	06	22289	1.0	0.85		< 0.82			100 U	
M14	04	06	22290	2.0	1.35		7.33				
M14	04	06	22291	3.0	0.99		2.47			100 U	
M14	04	06	22296	5.0	1.10		15.01			45.1 J	
M14	04	06	22331	7.0	0.78		7.52			100 U	
M14	04	06	22332	9.0	0.78		2.00			100 U	
M14	04	06	22333	11.0	0.30		1.87			100 U	
M14	04	06	22334	13.0	0.30		1.15 J			100 U	

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
M14	04	06	22335	14.0	0.28		1.51				
M14	04	06	22336	15.0	0.21		1.08 J			100 U	
M14	04	06	22337	16.0	0.36		0.80 J				
M14	04	06	22338	17.0	0.28		0.81 J			100 U	
M14	04	06	22344	19.0	0.24		0.95			100 U	
M14	04	06	22356	21.0	0.24		1.16			100 U	
M14	04	06	22357	22.0	0.15		0.87 J				
M14	04	06	22358	23.0	0.30		1.48			100 U	
M14	04	06	22367	25.0	0.27		1.38			100 U	
M14	04	06	22378	26.0	0.32		2.22				
M14	04	06	22379	27.0	0.23		< 1.07			100 U	
M14	04	06	22380	29.0	0.25		3.75			100 U	
M14	**04**	**06**	**22394**	**30.0**	**0.114**	**0.98**	**0.98**	**0.0026 U**	**0.0026 U**	**1.4 J**	**0.062 J**
M14	04	07	22548	1.0	0.74		1.54 J			100 U	
M14	04	07	22549	2.0	0.69		2.23				
M14	04	07	22550	3.0	1.10		3.59 J			100 U	
M14	04	07	22557	4.0	0.99		10.84				
M14	04	07	22558	5.0	0.97		13.46			100 U	
M14	04	07	22565	7.0	0.73		3.81 J			100 U	
M14	04	07	22566	9.0	1.02		5.58	0.097 U	1.256	100 U	
M14	04	07	22571	11.0	0.29		0.66 J			100 U	
M14	04	07	22574	13.0	< 0.06		0.74 J			100 U	
M14	04	07	22575	15.0	0.34		1.42 J			100 U	
M14	04	07	22576	16.0	< 0.03		0.78 J				
M14	04	07	22577	17.0	0.29		1.67			100 U	
M14	04	07	22582	19.0	0.29		2.49			100 U	
M14	04	07	22583	21.0	0.27		< 0.42			100 U	
M14	04	07	22584	22.0	0.23		0.93 J				
M14	04	07	22585	23.0	0.29		< 0.45			100 U	
M14	04	07	22586	25.0	0.30		0.68 J			100 U	
M14	04	07	22588	26.0	0.21		1.07 J				
M14	04	07	22589	27.0	0.22		0.81 J			100 U	
M14	04	07	22590	28.0	0.22		0.57 J				
M14	04	07	22591	29.0	0.25		< 0.41			100 U	
M14	**04**	**07**	**22592**	**30.0**	**0.121**	**0.070 J**	**0.080 J**	**0.0025 U**	**0.0025 U**	**2.2 J**	**0.11 J**
M14	04	08	22476	1.0	0.87		1.54 J			100 U	
M14	04	08	22481	2.0	1.05		< 1.35				
M14	04	08	22482	3.0	1.25		22.97 J			100 U	
M14	04	08	22483	5.0	0.96		1.73 J			100 U	
M14	04	08	22491	7.0	0.46		0.69 J			100 U	
M14	04	08	22506	9.0	0.45		1.01 J			100 U	
M14	04	08	22507	11.0	0.36		1.23 J			100 U	
M14	04	08	22509	13.0	0.34		0.94 J			100 U	
M14	04	08	22510	15.0	0.24		0.51 UJ			100 U	
M14	04	08	22519	17.0	0.25		0.96 J			100 U	
M14	04	08	22522	19.0	0.33		1.55 J			100 U	
M14	04	08	22523	21.0	0.34		0.92 J			100 U	
M14	04	08	22525	22.0	0.18		0.53 J				
M14	04	08	22526	23.0	0.25		0.38 J			100 U	
M14	04	08	22527	25.0	0.21		1.12 J			100 U	
M14	04	08	22538	26.0	0.26		1.07 J				
M14	04	08	22539	27.0	0.22		1.33 J			100 U	

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
M14	04	08	22542	29.0	< 0.05		0.51 J			100 U	
M14	**04**	**08**	**22545**	**30.0**	**0.173**	**0.188**	**0.121**	**0.0026 U**	**0.0026 U**	**0.84 J**	**0.17 J**
M14	04	09	22417	1.0	0.71		0.65 J			100 U	
M14	04	09	22418	3.0	0.90		6.81			100 U	
M14	04	09	22422	5.0	0.75		5.01			100 U	
M14	04	09	22424	7.0	0.96		2.39			100 U	
M14	04	09	22425	9.0	0.64		1.47			40.8 J	
M14	04	09	22426	11.0	0.60		1.45			100 U	
M14	04	09	22432	13.0	0.36		1.38 J			100 U	
M14	04	09	22433	15.0	0.24		1.15 J			100 U	
M14	04	09	22434	16.0	< 0.05		0.61 J				
M14	04	09	22435	17.0	0.20		< 0.45			100 U	
M14	04	09	22437	19.0	0.29		< 0.24			100 U	
M14	04	09	22438	21.0	0.33		0.53 J			100 U	
M14	04	09	22446	22.0	0.32		0.76 J				
M14	04	09	22447	23.0	0.24		< 0.39			100 U	
M14	04	09	22448	25.0	0.34		1.95			100 U	
M14	04	09	22459	26.0	0.22		0.87 J				
M14	04	09	22460	27.0	0.23		0.45 J			100 U	
M14	04	09	22464	29.0	0.20		1.27			100 U	
M14	**04**	**09**	**22465**	**30.0**	**0.215**	**0.402**	**0.305**	**0.0026 U**	**0.0026 U**	**1.2 J**	**0.12 J**
N15	05	01	22596	1.0	< 0.06		2.63			100 U	
N15	05	01	22597	3.0	0.99		0.95 J			100 U	
N15	05	01	22599	5.0	NS		NS			100 U	
N15	05	01	22605	25.0	NS		NS			50.2 J	
N15	05	01	22606	27.0	0.29		6.76			100 U	
N15	**05**	**01**	**22607**	**28.0**	**0.165**	**2.31**	**2.20**	**0.0026 U**	**0.042**	**2.3 J**	**0.11 J**
N15	**05**	**01**	**22617**	**30.0**	**0.193**	**1.21**	**1.13**	**0.0026 U**	**0.016**	**2.5 J**	**0.11 J**
N15	05	01	22641	32.0	0.25 J		1.61				
N15	05	01	22642	33.0	0.25		< 0.42			100 U	
N15	05	01	22650	35.0	0.37		0.65 J			100 U	
N15	05	01	22651	37.0	0.25 J		1.32 J			100 U	
N15	05	01	22664	39.0	0.43		< 0.58			100 U	
N15	05	01	22673	41.0	0.28		0.77			100 U	
N15	05	01	22688	42.0	0.16		0.77				
N15	05	01	22689	43.0	0.22 J		0.47 J			100 U	
N15	05	01	22698	45.0	0.24		1.08			100 U	
N15	05	01	22701	46.0	0.20 J		0.87 J				
N15	05	01	22702	47.0	0.30		1.77			100 U	
N15	05	01	22705	48.0	0.55		< 0.51				
N15	05	01	22706	49.0	0.34		1.63			100 U	
N15	05	01	22715	50.0	0.35		1.47				
N15	05	01	22716	51.0	0.90		5.59			100 U	
N15	05	01	22731	52.0	0.55		1.53				
N15	05	01	22732	53.0	0.90		5.07	0.103 U	0.103 U	100 U	
N15	05	01	22733	54.0	0.73		5.13				
N15	05	01	22734	55.0	0.56		10.18			100 U	
N15	05	01	22735	56.0	0.58		4.70				
N15	05	01	22736	57.0	0.39		3.15			100 U	
N15	05	01	22737	58.0	0.46		3.70				
N15	05	01	22738	59.0	0.26		1.53			100 U	
N15	05	01	22757	60.0	0.35		2.63				

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
N15	05	01	22758	61.0	0.34		3.88			100 U	
N15	05	01	22765	62.0	0.35		1.82				
N15	05	01	22766	63.0	0.38		1.25			100 U	
N15	**05**	**01**	**22800**	**64.0**	**0.109**	**0.344**	**0.386**	**0.0026 U**	**0.0026 U**	**0.50 J**	**0.52 U**
N15	05	02	22633	1.0	0.68 J		2.18			100 U	
N15	05	02	22634	3.0	1.20		9.42			100 U	
N15	05	02	22808	4.0	1.26		9.07				
N15	05	02	22809	5.0	1.23		1.24 J			100 U	
N15	05	02	22810	7.0	0.36		< 0.50			100 U	
N15	05	02	22816	9.0	1.01		0.98 J			100 U	
N15	05	02	22819	11.0	0.35		< 0.69			100 U	
N15	05	02	22824	13.0	0.48		1.21			100 U	
N15	05	02	22826	15.0	0.72		0.92 J			100 U	
N15	05	02	22827	16.0	0.45		1.99				
N15	05	02	22828	17.0	0.24		1.20			100 U	
N15	05	02	22830	19.0	0.31		< 0.27			100 U	
N15	05	02	22839	21.0	0.32		1.11 J			100 U	
N15	05	02	22842	22.0	0.18		0.96 J				
N15	05	02	22843	23.0	0.25		1.70			100 U	
N15	05	02	22848	25.0	0.46		1.34			100 U	
N15	05	02	22849	26.0	0.34		1.16 J				
N15	05	02	22850	27.0	0.24		0.82 J			100 U	
N15	05	02	22859	29.0	0.31		< 0.41			100 U	
N15	**05**	**02**	**22862**	**30.0**	**0.115**	**0.150**	**0.108**	**0.0026 U**	**0.0026 U**	**1.4 J**	**0.063 J**
N15	05	03	22922	1.0	NS		NS			100 U	
N15	05	03	22923	2.0	1.24		1.73 J				
N15	05	03	22924	3.0	1.01		6.44			100 U	
N15	05	03	22929	4.0	0.97		6.62				
N15	05	03	22930	5.0	1.51		4.52 J			100 U	
N15	05	03	22931	6.0	0.55		1.35				
N15	05	03	22932	7.0	0.66		0.84 J			100 U	
N15	05	03	22935	9.0	0.96		1.65 J			100 U	
N15	05	03	22940	11.0	0.34		1.07			100 U	
N15	05	03	22945	12.0	0.37		0.53 J				
N15	05	03	22946	13.0	0.46		1.72 J			100 U	
N15	05	03	22961	15.0	0.27		1.09 J			100 U	
N15	05	03	22963	16.0	0.25		1.34				
N15	05	03	22964	17.0	0.26		1.08 J			100 U	
N15	05	03	22965	19.0	0.27		0.89 J			100 U	
N15	05	03	22966	20.0	0.18		1.01				
N15	05	03	22967	21.0	0.23		1.63			100 U	
N15	05	03	22972	23.0	0.22		< 0.44			100 U	
N15	05	03	22981	25.0	0.21		1.13 J			100 U	
N15	05	03	22982	26.0	0.17		0.62 J				
N15	05	03	22983	27.0	0.26		1.14 J			100 U	
N15	05	03	22984	29.0	0.21		0.86 J			100 U	
N15	**05**	**03**	**22989**	**30.0**	**0.129**	**0.246**	**0.255**	**0.0026 U**	**0.00094 J**	**2.0 J**	**0.17 J**
N15	05	04	23150	1.0	0.52		2.14			100 U	
N15	05	04	23151	3.0	1.26		7.63			56.6 J	
N15	05	04	23152	4.0	1.03		7.47				
N15	05	04	23153	5.0	1.15		2.67			100 U	
N15	05	04	23154	7.0	0.49		1.09 J			100 U	

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
N15	05	04	23155	9.0	0.66		1.18 J			100 U	
N15	05	04	23156	10.0	0.42		1.10 J				
N15	05	04	23157	11.0	0.40		0.87 J			100 U	
N15	05	04	23163	13.0	0.21		0.60 J			100 U	
N15	05	04	23176	15.0	0.28		2.99 J			100 U	
N15	05	04	23177	16.0	0.30		1.07				
N15	05	04	23178	17.0	0.25		1.74			100 U	
N15	05	04	23186	19.0	0.28		2.00 J			100 U	
N15	05	04	23187	20.0	0.22		1.18				
N15	05	04	23188	21.0	0.28		0.73 J			100 U	
N15	05	04	23205	23.0	0.26		1.54 J			100 U	
N15	05	04	23206	25.0	0.42		1.99			100 U	
N15	05	04	23213	26.0	0.34		1.01 J				
N15	05	04	23214	27.0	0.23		1.14			100 U	
N15	05	04	23228	29.0	0.28		1.22			100 U	
N15	**05**	**04**	**23233**	**30.0**	**0.171**	**0.250**	**0.244**	**0.0026 U**	**0.018 J**	**1.4 J**	**0.51 U**
N15	05	05	23000	1.0	0.75		< 0.76			100 U	
N15	05	05	23001	3.0	0.96		< 1.18			100 U	
N15	05	05	23013	4.0	0.93		1.44 J				
N15	05	05	23014	5.0	1.37		1.87			100 U	
N15	05	05	23021	7.0	0.52		< 0.66			100 U	
N15	05	05	23023	8.0	0.42		1.29				
N15	05	05	23024	9.0	0.47		1.99 J			100 U	
N15	05	05	23025	11.0	0.33		1.91 J			100 U	
N15	05	05	23026	13.0	0.27		1.08 J			100 U	
N15	05	05	23038	15.0	0.36		0.57 UJ			100 U	
N15	05	05	23039	16.0	0.20		0.82 J				
N15	05	05	23040	17.0	0.22 J		1.08 J			100 U	
N15	05	05	23043	19.0	0.17		0.75 J			100 U	
N15	05	05	23044	21.0	0.33		2.42 J			100 U	
N15	05	05	23045	22.0	0.32		0.96 J				
N15	05	05	23046	23.0	0.26		1.72 J			100 U	
N15	05	05	23057	25.0	0.33		0.86			100 U	
N15	05	05	23058	26.0	0.25		2.44 J				
N15	05	05	23059	27.0	< 0.03		0.83			100 U	
N15	05	05	23072	29.0	0.25		1.25 J			100 U	
N15	**05**	**05**	**23079**	**30.0**	**0.168**	**0.227**	**0.210**	**0.0025 U**	**0.0063 J**	**1.4 J**	**0.20 J**

Table 3
LPH Investigation,
LPH03, LPH04 and LPH05 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

R - Validation qualifier used to indicate that the result is considered unusable.
U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
D - Validation qualifier used to indicate that analysis was performed on a sample requiring dilution.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 4 for boring locations.

On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.

Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.

NS - Not sampled due to insufficient recovery.

Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.

The Container for sample 21599 was broken during transfer to STL and an on-Site VOC analysis was used to replace the lost sample result.

Blank cell indicates analysis was not performed.

Result is above Site cleanup level.

Table 4
LPH Investigation,
LPH12 and LPH13 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
A19	12	01	18224	4.0	1.22		8.79				
A19	12	01	18230	5.0	0.57		3.73			100 U	
A19	12	01	18231	6.0	0.54		2.76				
A19	12	01	18232	7.0	0.53		1.23 J			100 U	
A19	12	01	18233	8.0	< 0.08		1.30				
A19	**12**	**01**	**18234**	**9.0**	0.30		2.52 J			**2.0 J**	
A19	12	01	18244	10.0	0.48		2.65 J				
A19	12	01	18245	11.0	0.32 J		2.19			100 U	
A19	12	01	18246	12.0	0.39		2.66				
A19	12	01	18247	13.0	0.43		0.85 J			100 U	
A19	12	01	18248	14.0	0.36		< 0.50				
A19	12	01	18249	15.0	< 0.08		1.32 J			100 U	
A19	12	01	18250	16.0	0.32		1.03 J				
A19	12	01	18251	17.0	0.22		0.51 J			100 U	
A19	12	01	18267	18.0	0.22		< 0.35				
A19	12	01	18268	19.0	0.33		0.96			100 U	
A19	12	01	18269	20.0	0.16 J		0.77 J				
A19	12	01	18270	21.0	0.22		0.97 J			100 U	
A19	12	01	18271	22.0	0.29		0.45 J				
A19	12	01	18272	23.0	0.27		0.30 J			100 U	
A19	12	01	18273	24.0	0.24		0.37 J				
A19	12	01	18274	25.0	0.31		< 0.46			100 U	
A19	12	01	18275	26.0	0.19		0.64 J				
A19	12	01	18276	27.0	0.22		1.05			100 U	
A19	12	01	18282	28.0	0.33		0.55 J				
A19	12	01	18283	29.0	0.36		2.00			100 U	
A19	**12**	**01**	**18284**	**30.0**	**0.141**	**0.156**	**0.164**	**0.0026 U**	**0.0026 U**	**4.2 U**	**0.25 J**
A19	12	03	18403	1.0	0.95		7.58			133	
A19	12	03	18404	2.0	0.99		6.69				
A19	12	03	18405	3.0	0.59		6.25			100 U	
A19	12	03	18406	4.0	0.59		4.38				
A19	12	03	18407	5.0	0.56		1.51 J			100 U	
A19	12	03	18408	6.0	0.33		0.54 J				
A19	12	03	18409	7.0	0.54		1.38 J			100 U	
A19	12	03	18416	8.0	0.52		2.89				
A19	12	03	18417	9.0	0.72		1.46 J			100 U	
A19	12	03	18418	10.0	0.38		1.53				
A19	12	03	18419	11.0	0.38		< 0.45			100 U	
A19	12	03	18420	12.0	0.51		1.62				
A19	12	03	18421	13.0	0.35		< 0.46			100 U	
A19	12	03	18431	14.0	0.46		< 0.66				
A19	12	03	18432	15.0	0.25		0.53 J			100 U	
A19	12	03	18433	16.0	0.28		0.46 J				
A19	12	03	18434	17.0	0.25		< 0.33			100 U	
A19	12	03	18439	18.0	0.36		1.92				
A19	**12**	**03**	**18440**	**19.0**	0.25		1.48			**4.1 U**	
A19	12	03	18441	20.0	0.27		< 0.33				
A19	12	03	18442	21.0	0.25		1.64			100 U	
A19	12	03	18446	22.0	0.19		0.76 J				
A19	12	03	18447	23.0	0.58		2.70 J			100 U	
A19	12	03	18456	24.0	0.18		0.50 J				
A19	12	03	18457	25.0	0.20		< 0.29			100 U	

Table 4
LPH Investigation,
LPH12 and LPH13 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
A19	12	03	18458	26.0	0.32		0.97 J				
A19	12	03	18459	27.0	0.22		1.41			100 U	
A19	12	03	18462	28.0	0.19		< 0.23				
A19	12	03	18463	29.0	0.19		1.62			100 U	
A19	**12**	**03**	**18464**	**30.0**	**0.137**	**0.154**	**0.122 J**	**0.0026 U**	**0.0026 U**	**2.0 J**	**0.52 U**
A19	12	04	18480	1.0	0.55		3.26			100 U	
A19	12	04	18483	3.0	0.65		1.15			100 U	
A19	12	04	18494	4.0	0.30		0.92				
A19	12	04	18495	5.0	0.66		< 0.73			100 U	
A19	12	04	18496	6.0	1.05		1.69 J				
A19	12	04	18497	7.0	0.61		2.16			100 U	
A19	12	04	18498	8.0	0.42		1.99				
A19	12	04	18499	9.0	0.36		0.87 J			100 U	
A19	12	04	18500	10.0	0.36		< 0.62				
A19	12	04	18501	11.0	0.38		< 0.26			100 U	
A19	12	04	18504	12.0	0.29		0.90 J				
A19	12	04	18505	13.0	0.54		1.80			100 U	
A19	12	04	18506	14.0	0.37		0.92 J				
A19	12	04	18507	15.0	0.42		0.64 J			100 U	
A19	12	04	18508	16.0	0.27		1.01 J				
A19	12	04	18509	17.0	0.32		1.09 J			100 U	
A19	12	04	18511	18.0	0.23		1.18				
A19	12	04	18512	19.0	0.17		0.40 J			100 U	
A19	12	04	18513	20.0	0.25		1.76 J				
A19	12	04	18514	21.0	0.22		0.93			100 U	
A19	12	04	18515	22.0	0.17		0.85				
A19	12	04	18516	23.0	0.21		2.74			100 U	
A19	12	04	18519	24.0	0.17		0.56 J				
A19	12	04	18520	25.0	0.22		0.73 J			100 U	
A19	12	04	18521	26.0	0.25		1.26 J				
A19	12	04	18522	27.0	0.30		1.40			100 U	
A19	12	04	18523	28.0	< 0.06		0.70 J				
A19	12	04	18524	29.0	0.24		1.01			100 U	
A19	**12**	**04**	**18525**	**30.0**	**0.207**	**0.144**	**0.122 J**	**0.0026 U**	**0.0026 U**	**2.2 J**	**0.51 U**
A19	12	05	18301	1.0	1.21		6.76			100 U	
A19	12	05	18315	2.0	0.88		5.25				
A19	12	05	18316	3.0	0.86		4.35			44.2 J	
A19	12	05	18317	4.0	0.77		6.10				
A19	12	05	18318	5.0	0.61		1.95			100 U	
A19	12	05	18319	6.0	0.44		1.71 J				
A19	12	05	18320	7.0	0.38		1.20 J			100 U	
A19	12	05	18339	8.0	0.98		2.09				
A19	12	05	18340	9.0	0.51		1.00 J			100 U	
A19	12	05	18341	10.0	0.90		2.41 J				
A19	12	05	18342	11.0	0.55		1.02 J			100 U	
A19	12	05	18343	12.0	0.33		1.11 J				
A19	12	05	18344	13.0	0.25		1.07 J			100 U	
A19	12	05	18354	14.0	0.43		1.45 J				
A19	12	05	18355	15.0	0.42		< 0.66			100 U	
A19	12	05	18352	16.0	0.38		0.48 J				
A19	12	05	18353	17.0	0.43		1.76 J			100 U	
A19	12	05	18356	18.0	0.40		< 0.41				

Table 4
LPH Investigation,
LPH12 and LPH13 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
A19	12	05	18357	19.0	0.37		0.86 J			100 U	
A19	12	05	18364	20.0	0.38		< 0.44				
A19	12	05	18365	21.0	0.49		2.09			100 UJ	
A19	12	05	18372	22.0	0.16		0.69 J				
A19	12	05	18373	23.0	0.24		< 0.30			100 UJ	
A19	12	05	18374	24.0	0.20		0.67				
A19	12	05	18375	25.0	0.43		< 0.24			100 UJ	
A19	12	05	18378	26.0	0.23		0.68 J				
A19	12	05	18379	27.0	0.24		0.70 J			100 U	
A19	12	05	18380	28.0	0.29		1.36				
A19	12	05	18381	29.0	0.24		1.30 J			100 U	
A19	**12**	**05**	**18382**	**30.0**	**0.136**	**0.218**	**0.213**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.52 U**
Z68	13	01	18540	4.0	0.71		3.96				
Z68	13	01	18541	5.0	0.49		1.89			100 U	
Z68	13	01	18542	6.0	0.44		0.94 J				
Z68	13	01	18543	7.0	0.81		< 0.67			100 U	
Z68	13	01	18547	8.0	0.91		1.77 J				
Z68	13	01	18548	9.0	0.69		1.12 J			100 U	
Z68	13	01	18553	10.0	0.31		1.14 J				
Z68	13	01	18554	11.0	0.36		0.64 J			100 U	
Z68	13	01	18559	12.0	0.28		< 0.61				
Z68	13	01	18560	13.0	0.34		1.38			100 U	
Z68	13	01	18573	14.0	0.24		0.71 J				
Z68	13	01	18574	15.0	0.35		1.58			100 U	
Z68	13	01	18578	16.0	0.32		0.35 J				
Z68	13	01	18579	17.0	< 0.04		0.54 J			100 U	
Z68	13	01	18588	18.0	0.19		0.48 J				
Z68	13	01	18589	19.0	0.29		1.53 J			100 U	
Z68	13	01	18590	20.0	0.22		0.69 J				
Z68	13	01	18591	21.0	0.26		< 0.34			100 U	
Z68	13	01	18606	22.0	0.21		0.90 J				
Z68	13	01	18607	23.0	0.23		1.17 J			100 U	
Z68	13	01	18608	24.0	0.31		< 0.37				
Z68	13	01	18609	25.0	0.28		0.75			100 U	
Z68	13	01	18610	26.0	< 0.06		0.50 J				
Z68	13	01	18611	27.0	0.18		0.90 J			100 U	
Z68	13	01	18612	28.0	0.29		1.16				
Z68	13	01	18613	29.0	0.31		< 0.62			100 U	
Z68	**13**	**01**	**18614**	**30.0**	**0.108**	**0.189**	**0.159**	**0.0026 U**	**0.0026 U**	**2.7 J**	**0.52 U**
Z68	13	04	18701	1.0	0.72		3.93 J			100 U	
Z68	13	04	18702	2.0	0.60		1.27 UJ				
Z68	13	04	18703	3.0	0.76		12.00			41.9 J	
Z68	13	04	18704	4.0	0.74		1.68 J				
Z68	13	04	18705	5.0	0.48		1.22 J			100 U	
Z68	13	04	18706	7.0	0.74		< 0.75			100 U	
Z68	13	04	18707	8.0	0.59		3.14 J				
Z68	13	04	18708	9.0	0.48		0.62 J			100 U	
Z68	13	04	18709	10.0	0.48		0.69 UJ				
Z68	13	04	18710	11.0	0.28		0.26 UJ			100 U	
Z68	13	04	18711	12.0	0.37		0.53 UJ				
Z68	13	04	18712	13.0	0.38		0.62 J			100 U	
Z68	13	04	18716	14.0	0.25		1.04 J				

Table 4
LPH Investigation,
LPH12 and LPH13 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
Z68	**13**	**04**	**18717**	**15.0**	0.21		1.44 J			**4 U**	
Z68	13	04	18718	17.0	0.28		0.56 J			100 U	
Z68	13	04	18719	18.0	0.34		0.51 UJ				
Z68	13	04	18720	19.0	0.17		1.03 J			100 U	
Z68	13	04	18721	20.0	0.15		0.53 J				
Z68	13	04	18722	21.0	0.29		1.53			100 U	
Z68	13	04	18728	22.0	0.18		1.02 J				
Z68	13	04	18729	23.0	0.22		0.65 J			100 U	
Z68	13	04	18730	24.0	0.20		1.31 J				
Z68	13	04	18731	25.0	< 0.03		0.83 J			100 U	
Z68	13	04	18732	26.0	0.18		0.55 J				
Z68	13	04	18743	28.0	0.18		0.45 UJ				
Z68	13	04	18744	29.0	0.25		< 0.52			100 U	
Z68	**13**	**04**	**18745**	**30.0**	**0.142**	**0.198**	**0.164**	**0.0026 U**	**0.0026 U**	**3.4 J**	**0.51 U**
Z68	13	05	18619	1.0	< 0.11		4.42			100 U	
Z68	13	05	18620	2.0	0.75		14.24 J				
Z68	13	05	18621	3.0	0.62		6.59 J			100 U	
Z68	13	05	18622	4.0	0.68		2.06				
Z68	13	05	18623	5.0	0.78		1.95 J			100 U	
Z68	13	05	18624	6.0	0.51		1.06 J				
Z68	13	05	18625	7.0	0.67		1.68 J			100 U	
Z68	13	05	18633	8.0	1.19		1.04 J				
Z68	13	05	18634	9.0	0.51		1.88 J			100 U	
Z68	13	05	18635	10.0	0.63		1.72 J				
Z68	13	05	18636	11.0	0.31		< 0.49			100 U	
Z68	13	05	18637	12.0	0.42		1.65 J				
Z68	13	05	18638	13.0	0.26		1.08 J			100 U	
Z68	13	05	18651	14.0	0.38		0.81 J				
Z68	13	05	18652	15.0	0.26		< 0.56			100 U	
Z68	13	05	18663	16.0	0.30		0.28 UJ				
Z68	13	05	18664	17.0	0.33		1.77 J			100 U	
Z68	13	05	18671	19.0	< 0.05		0.97 J			100 U	
Z68	13	05	18682	20.0	0.37		1.44				
Z68	13	05	18683	21.0	0.28		1.49 J			100 U	
Z68	13	05	18686	22.0	0.21		1.03				
Z68	13	05	18687	23.0	0.29		1.29 J			100 U	
Z68	13	05	18688	25.0	0.22		< 0.51			100 U	
Z68	13	05	18689	26.0	0.17		1.13 J				
Z68	13	05	18690	27.0	0.34		1.52 J			100 U	
Z68	13	05	18696	28.0	0.23		1.37 J				
Z68	13	05	18697	29.0	< 0.06		1.21 J			100 U	
Z68	**13**	**05**	**18698**	**30.0**	**0.195**	**0.539**	**0.577**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**

Table 4
LPH Investigation,
LPH12 and LPH13 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 5 for boring locations.
On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.
Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.
Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.
Blank cell indicates analysis was not performed.

Table 5
LPH Investigation,
LPH14 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
Z71	**14**	**01**	**17903**	**20.0**	**0.87**	**24.5**	**22.2**	**0.00043 U**	**0.00071 U**	**30.2**	**0.56 U**
Z71	**14**	**01**	**17905**	**21.0**	0.50		7.62			**21.2**	
Z71	14	01	17906	22.0	0.20		1.92				
Z71	**14**	**01**	**17907**	**23.0**	0.29		6.14			**39.6**	
Z71	14	01	17908	24.0	0.21		3.78				
Z71	**14**	**01**	**17909**	**25.0**	0.18		2.93			**3.0 J**	
Z71	14	01	17910	26.0	0.34		2.71				
Z71	**14**	**01**	**17911**	**27.0**	0.19		1.32			**4.5**	
Z71	14	01	17919	28.0	0.30		2.19				
Z71	**14**	**01**	**17920**	**29.0**	0.26		1.33 J			**4.2 U**	
Z71	**14**	**01**	**17921**	**30.0**	**0.129**	**0.56**	**0.56**	**0.0027 U**	**0.0027 U**	**2.6 J**	**0.53 U**
Z71	14	02	18021	6.0	0.74		< 1.07				
Z71	14	02	18022	7.0	1.46		2.67			100 U	
Z71	14	02	18023	8.0	0.91		1.58				
Z71	**14**	**02**	**18024**	**9.0**	0.60		< 0.84			**4.1 U**	
Z71	14	02	18025	10.0	0.78		2.05 J				
Z71	14	02	18026	11.0	0.39		< 0.68			100 U	
Z71	14	02	18029	12.0	0.43		1.41 J				
Z71	14	02	18030	13.0	0.49		1.73			100 U	
Z71	14	02	18033	14.0	0.36		0.91 J				
Z71	14	02	18034	15.0	< 0.08		2.82			100 U	
Z71	14	02	18035	16.0	0.31		1.83				
Z71	14	02	18036	17.0	0.28		1.86 J			100 U	
Z71	14	02	18039	18.0	0.33		1.43				
Z71	14	02	18040	19.0	0.30		0.97 J			100 U	
Z71	14	02	18043	20.0	0.31		1.65				
Z71	14	02	18044	21.0	0.20		1.60			100 U	
Z71	14	02	18047	22.0	< 0.07		1.52				
Z71	14	02	18048	23.0	0.22		< 0.52			100 U	
Z71	14	02	18054	26.0	0.26		1.36				
Z71	14	02	18055	27.0	0.32		0.79 J			100 U	
Z71	14	02	18056	28.0	0.28		2.83 J				
Z71	14	02	18057	29.0	0.19		0.44 J			100 U	
Z71	**14**	**02**	**18058**	**30.0**	**0.161**	**0.119**	**0.106**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.25 J**
Z71	14	03	17926	2.0	1.14		16.32				
Z71	14	03	17927	3.0	0.61		1.83			100 U	
Z71	14	03	17932	4.0	1.85		3.96				
Z71	14	03	17933	5.0	0.92		1.96 J			100 U	
Z71	14	03	17934	6.0	0.67		2.27				
Z71	14	03	17935	7.0	0.51		1.51			100 U	
Z71	14	03	17940	8.0	0.74		1.30 J				
Z71	**14**	**03**	**17941**	**9.0**	0.56		1.57 J			**4.3**	
Z71	14	03	17942	10.0	0.48		1.84				
Z71	14	03	17943	11.0	0.24		0.49 J			100 U	
Z71	14	03	17944	12.0	0.31		1.12 J				
Z71	14	03	17945	13.0	0.37		1.44			100 U	
Z71	14	03	17948	14.0	0.41		0.64 J				
Z71	14	03	17949	15.0	0.30		0.54 J			100 U	
Z71	14	03	17950	16.0	0.39		1.00 J				
Z71	14	03	17951	17.0	0.27		< 0.22			100 U	
Z71	14	03	17955	18.0	< 0.06		1.00				
Z71	14	03	17956	19.0	0.19		1.28			100 U	
Z71	14	03	17957	20.0	0.24		0.95 J				
Z71	14	03	17958	21.0	0.22		< 0.50			100 U	
Z71	**14**	**03**	**17959**	**23.0**	< 0.02		1.00			**4.1 U**	
Z71	14	03	17960	24.0	0.21		0.88				
Z71	14	03	17961	25.0	< 0.03		0.59 J			100 U	

Table 5
LPH Investigation,
LPH14 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
Z71	14	03	17962	26.0	0.24		0.86				
Z71	14	03	17963	27.0	0.18		0.88			100 U	
Z71	14	03	17964	28.0	0.30		1.10 J				
Z71	**14**	**03**	**17965**	**29.0**	0.27		1.17			**4.1 U**	
Z71	**14**	**03**	**17966**	**30.0**	**0.163**	**0.170**	**0.172**	**0.0025 U**	**0.0025 U**	**2.6 J**	**0.28 J**
Z71	14	05	17977	4.0	0.55		1.31 J				
Z71	14	05	17978	5.0	0.46		1.41			100 U	
Z71	14	05	17989	6.0	0.47		1.65				
Z71	14	05	17990	7.0	0.92		2.15 J			100 U	
Z71	14	05	17991	8.0	0.97		2.25 J				
Z71	14	05	17992	9.0	1.58		3.49			100 U	
Z71	14	05	17993	10.0	0.87		1.05 J				
Z71	14	05	17994	11.0	1.32		3.11			100 U	
Z71	14	05	17995	12.0	1.22		0.83 J				
Z71	**14**	**05**	**17996**	**13.0**	0.29		0.54 J			**3.1 J**	
Z71	14	05	17997	14.0	1.25		2.06 J				
Z71	14	05	17998	15.0	0.17		0.64 J			100 U	
Z71	14	05	17999	16.0	0.28		< 0.40				
Z71	14	05	18000	17.0	0.23		< 0.43			100 U	
Z71	14	05	18001	18.0	0.29		0.82 J				
Z71	14	05	18002	19.0	0.32		1.68 J			100 U	
Z71	14	05	18008	20.0	0.24		0.87 J				
Z71	14	05	18009	21.0	0.30		1.21			100 U	
Z71	14	05	18010	22.0	0.28		1.43				
Z71	14	05	18011	23.0	0.27		< 0.44			100 U	
Z71	14	05	18014	24.0	< 0.07		1.92				
Z71	14	05	18015	25.0	0.25		0.53 J			100 U	
Z71	14	05	18016	26.0	0.16		0.56 J				
Z71	14	05	18017	27.0	0.25		0.63 J			100 U	
Z71	14	05	18018	28.0	0.26		0.88				
Z71	14	05	18019	29.0	0.27		1.13			100 U	
Z71	**14**	**05**	**18020**	**30.0**	**0.141**	**0.168**	**0.118**	**0.0026 U**	**0.0026 U**	**4.2 U**	**0.28 J**
Z71	14	06	18128	2.0	0.49		1.59				
Z71	14	06	18129	3.0	0.61		3.20			100 U	
Z71	14	06	18131	4.0	0.34		2.15				
Z71	14	06	18130	5.0	1.03		3.65 J			100 U	
Z71	14	06	18132	6.0	1.09		2.50 J				
Z71	14	06	18133	7.0	0.94		2.88 J			100 U	
Z71	14	06	18134	8.0	0.57		1.06 J				
Z71	14	06	18135	9.0	0.89		1.00 UJ			100 U	
Z71	14	06	18136	10.0	1.04		2.29 J				
Z71	14	06	18137	11.0	0.43		0.81 J			100 U	
Z71	14	06	18138	12.0	0.68		1.46				
Z71	14	06	18139	13.0	1.08		0.92 J			100 U	
Z71	14	06	18140	14.0	0.65		< 0.94				
Z71	14	06	18141	15.0	< 0.05		< 0.50			100 U	
Z71	14	06	18143	16.0	0.35		1.09 J				
Z71	14	06	18144	17.0	0.38		1.56 J			100 U	
Z71	14	06	18145	18.0	0.19		0.47 J				
Z71	14	06	18146	19.0	0.28		0.61 J			100 U	
Z71	14	06	18147	20.0	0.28		1.72 J				
Z71	14	06	18148	21.0	0.29		1.00 J			100 U	
Z71	14	06	18151	22.0	0.33		< 0.51				
Z71	14	06	18152	23.0	0.22		1.00			100 U	
Z71	14	06	18153	24.0	< 0.04		< 0.54				
Z71	**14**	**06**	**18154**	**25.0**	0.28		0.97 J			**4.1 U**	
Z71	14	06	18155	26.0	0.24		1.81				

Table 5
LPH Investigation,
LPH14 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
Z71	14	06	18156	27.0	0.28		0.96 J			100 U	
Z71	14	06	18159	28.0	0.21		< 0.36				
Z71	14	06	18160	29.0	0.24		0.85 J			100 U	
Z71	**14**	**06**	**18161**	**30.0**	**0.146**	**0.119**	**0.125**	**0.0026 U**	**0.0026 U**	**2.3 J**	**0.52 U**
Z71	14	09	18072	2.0	0.62		4.23 J				
Z71	14	09	18073	3.0	0.49		1.82 J			100 U	
Z71	14	09	18074	4.0	0.60		1.84 J				
Z71	14	09	18075	5.0	0.50		1.62 J			100 U	
Z71	14	09	18076	6.0	0.92		2.37 J				
Z71	14	09	18077	7.0	1.16		2.23			100 U	
Z71	14	09	18078	8.0	0.75		2.31				
Z71	14	09	18079	9.0	1.24		1.96			100 U	
Z71	14	09	18088	10.0	0.35		1.49 J				
Z71	14	09	18089	11.0	0.32		1.26 J			100 U	
Z71	14	09	18091	12.0	0.36		1.10 J				
Z71	14	09	18092	13.0	0.43		0.48 J			100 U	
Z71	14	09	18099	14.0	0.33		< 0.48	0.095 U	0.095 U		
Z71	14	09	18100	15.0	0.31		0.58 J			100 U	
Z71	14	09	18101	16.0	0.27		1.62 J				
Z71	14	09	18102	17.0	0.22		1.32 J			100 U	
Z71	14	09	18112	18.0	< 0.08		0.96 J				
Z71	**14**	**09**	**18113**	**19.0**	0.29		1.30			**4.1 U**	
Z71	14	09	18114	20.0	0.37		0.66 UJ				
Z71	14	09	18115	21.0	0.24		1.50			100 U	
Z71	14	09	18116	22.0	0.26		1.04 J				
Z71	14	09	18117	23.0	0.24		0.79 J			100 U	
Z71	14	09	18118	24.0	0.14		0.78 J				
Z71	14	09	18119	25.0	< 0.08		0.84 J			100 U	
Z71	14	09	18120	26.0	0.29		1.23 J				
Z71	14	09	18121	27.0	0.34		0.64 J			100 U	
Z71	14	09	18124	28.0	0.38		1.10 J				
Z71	14	09	18125	29.0	< 0.03		0.62 J			100 U	
Z71	**14**	**09**	**18126**	**30.0**	**0.132**	**0.225**	**0.208**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**

Table 5
LPH Investigation,
LPH14 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
< - Validation qualifier (for on-Site radiological constituents used to indicate that the result was qualified as non-detect.

Notes:

See Figure 6 for boring locations.

On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.

Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.

Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.

Blank cell indicates analysis was not performed.

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
S69	15	01	18157	5.0	NS		NS			100 U	
S69	15	01	18158	7.0	0.46		2.46			100 U	
S69	15	01	18162	8.0	0.87		1.55 J				
S69	15	01	18163	9.0	0.40		1.17			100 U	
S69	15	01	18164	10.0	< 0.12		2.31				
S69	15	01	18165	11.0	0.53		1.23 J			100 U	
S69	15	01	18166	13.0	0.55		< 0.62			100 U	
S69	15	01	18168	15.0	0.84		< 0.93			100 U	
S69	15	01	18180	17.0	0.54		0.98 J			100 U	
S69	15	01	18182	19.0	0.25		0.54 J			100 U	
S69	15	01	18185	21.0	0.24		0.69 J			100 U	
S69	15	01	18192	22.0	0.31		2.14				
S69	15	01	18193	23.0	0.32		< 0.56			100 U	
S69	15	01	18195	24.0	0.43		0.95				
S69	15	01	18196	25.0	0.34		1.26			100 U	
S69	15	01	18197	26.0	0.33		1.70				
S69	15	01	18198	27.0	0.22		< 0.48			100 U	
S69	15	01	18199	28.0	0.22 J		0.71 J				
S69	15	01	18200	29.0	0.27		0.94 J			100 U	
S69	**15**	**01**	**18211**	**30.0**	**0.10**	**0.151**	**0.155**	**0.0026 U**	**0.0026 U**	**3.3 J**	**0.52 U**
S69	15	02	18302	1.0	0.96		2.22			100 U	
S69	15	02	18303	2.0	0.62		1.14 J				
S69	15	02	18304	3.0	0.47		2.45			100 U	
S69	15	02	18305	4.0	0.32		0.69 J				
S69	15	02	18306	5.0	0.49		1.61			100 U	
S69	15	02	18307	6.0	0.66		1.59 J				
S69	15	02	18308	7.0	0.69		1.89			100 UJ	
S69	15	02	18309	8.0	0.52		2.37				
S69	**15**	**02**	**18310**	**9.0**	0.27		1.20 J			**4.1 U**	
S69	15	02	18323	10.0	0.27		1.41 J				
S69	15	02	18324	11.0	0.22		1.07 J			100 UJ	
S69	15	02	18325	12.0	0.27		0.94 J				
S69	15	02	18326	13.0	0.49		1.49 J			100 UJ	
S69	15	02	18328	14.0	0.22		0.90 J				
S69	15	02	18327	15.0	0.21		1.59			100 UJ	
S69	15	02	18329	16.0	0.36		1.22				
S69	15	02	18330	17.0	0.25		0.71			100 UJ	
S69	15	02	18331	18.0	0.26		1.04 J				
S69	15	02	18332	19.0	0.26		0.58 J			100 UJ	
S69	15	02	18348	20.0	0.19		0.73 J				
S69	15	02	18349	21.0	0.21		< 0.40			100 UJ	
S69	15	02	18350	22.0	0.24		1.10				
S69	15	02	18351	23.0	< 0.06		0.66 J			100 UJ	
S69	15	02	18358	24.0	< 0.03		0.91 J				
S69	15	02	18359	25.0	0.33		0.62 J			100 UJ	
S69	15	02	18360	26.0	0.33		0.67 J				
S69	15	02	18361	27.0	< 0.07		2.11 J			100 UJ	
S69	15	02	18362	28.0	0.22		0.58 J				
S69	15	02	18363	29.0	0.31		1.43 J			100 UJ	
S69	**15**	**02**	**18366**	**30.0**	**0.161**	**0.190**	**0.195**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**
S69	15	03	18428	5.0	0.81		1.78 J			100 U	
S69	15	03	18429	6.0	0.54		< 0.37				

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
S69	15	03	18430	7.0	0.45		0.83 J			100 U	
S69	15	03	18445	9.0	NS		NS			100 U	
S69	15	03	18443	11.0	0.64		2.42			100 U	
S69	15	03	18444	13.0	0.66		1.31 J			100 U	
S69	15	03	18469	15.0	0.44		< 0.69			100 U	
S69	15	03	18470	17.0	0.40		0.78 J			100 U	
S69	15	03	18471	19.0	NS		NS			100 U	
S69	15	03	18472	21.0	NS		NS			100 U	
S69	15	03	18473	23.0	0.62		1.60 J			100 U	
S69	15	03	18476	24.0	0.24		1.28				
S69	15	03	18477	25.0	0.25		< 0.37			100 U	
S69	15	03	18478	26.0	0.20		1.17				
S69	15	03	18479	27.0	0.28		1.42			100 U	
S69	15	03	18484	28.0	0.29		0.53 J				
S69	15	03	18485	29.0	0.18		0.57 J			100 U	
S69	**15**	**03**	**18488**	**30.0**	**0.149**	**0.293**	**0.209**	**0.0027 U**	**0.0027 U**	**2.4 J**	**0.53 U**
S69	15	04	18220	4.0	0.59		2.02 J				
S69	15	04	18221	5.0	1.03		1.02 J			100 U	
S69	15	04	18222	6.0	0.68		1.55 J				
S69	15	04	18223	7.0	0.79		2.35			100 U	
S69	15	04	18235	9.0	0.54		1.50			100 U	
S69	15	04	18236	10.0	0.62		2.14				
S69	15	04	18237	11.0	0.60		2.32 J			100 U	
S69	15	04	18238	13.0	NS		NS			100 U	
S69	15	04	18239	15.0	0.27		0.88 J			100 U	
S69	15	04	18240	16.0	0.34		1.91				
S69	15	04	18241	17.0	0.28		0.89			100 U	
S69	15	04	18242	18.0	0.31		1.30				
S69	15	04	18243	19.0	0.22		1.54 J			100 U	
S69	15	04	18252	20.0	0.28		0.66 J				
S69	15	04	18253	21.0	0.28		0.70 J			100 U	
S69	15	04	18261	22.0	0.27		1.06				
S69	15	04	18262	23.0	0.20		< 0.28			100 U	
S69	15	04	18263	24.0	< 0.08		< 0.42				
S69	15	04	18264	25.0	0.37		2.29 J			100 U	
S69	15	04	18265	26.0	0.31		1.79				
S69	15	04	18266	27.0	< 0.03		1.46			100 U	
S69	15	04	18279	28.0	0.29		1.63 J				
S69	15	04	18280	29.0	0.26		0.66 J			100 U	
S69	**15**	**04**	**18281**	**30.0**	**0.107**	**0.217**	**0.212**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**
S69	15	05	18367	1.0	0.72		1.79			100 UJ	
S69	15	05	18368	2.0	0.82		2.38				
S69	15	05	18369	3.0	0.91		2.85			100 UJ	
S69	15	05	18370	4.0	0.54		1.16 J				
S69	15	05	18371	5.0	0.95		1.57 J			100 UJ	
S69	15	05	18376	6.0	1.81		1.87 J				
S69	15	05	18377	7.0	0.78		1.08 J			100 U	
S69	15	05	18383	8.0	0.46		2.33				
S69	15	05	18384	9.0	0.38		1.25 J			100 U	
S69	15	05	18385	10.0	< 0.11		0.97 J				
S69	15	05	18386	11.0	0.29		1.29			100 U	
S69	15	05	18387	12.0	0.30		1.25				

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
S69	15	05	18388	13.0	0.57		1.38			100 U	
S69	15	05	18389	14.0	0.38		1.11 J				
S69	15	05	18390	15.0	0.25		< 0.66			100 U	
S69	15	05	18391	16.0	0.36		1.64 J				
S69	15	05	18392	17.0	0.43		1.11 J			**2.2 J**	
S69	15	05	18393	18.0	0.40		< 0.79				
S69	15	05	18394	19.0	< 0.04		0.97			100 U	
S69	15	05	18395	20.0	0.19		0.67 J				
S69	15	05	18396	21.0	< 0.05		1.31			100 U	
S69	15	05	18397	22.0	0.11		0.50 J				
S69	15	05	18398	23.0	0.23		0.58 J			100 U	
S69	15	05	18399	24.0	< 0.04		0.51 J				
S69	15	05	18400	25.0	0.24		1.37 J			100 U	
S69	15	05	18401	26.0	< 0.02		0.86 J				
S69	15	05	18402	27.0	0.19		0.53 J			100 U	
S69	15	05	18413	28.0	0.21		0.56 J				
S69	15	05	18414	29.0	0.18		1.89			100 U	
S69	**15**	**05**	**18415**	**30.0**	**0.151**	**0.130**	**0.165**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.71**
R69	16	01	18544	5.0	0.59		1.92 J			100 U	
R69	16	01	18545	7.0	0.71		1.62 J			100 U	
R69	16	01	18546	9.0	0.59		1.52 J			100 U	
R69	16	01	18557	11.0	NS		NS			100 U	
R69	16	01	18558	13.0	0.30		1.17 J			100 U	
R69	16	01	18563	14.0	0.31		0.73 J				
R69	16	01	18564	15.0	0.25		1.63 J			100 U	
R69	16	01	18569	16.0	0.28		0.58 J				
R69	16	01	18570	17.0	0.47		1.03 J			100 U	
R69	16	01	18571	18.0	< 0.05		1.06				
R69	16	01	18572	19.0	0.21		0.50 J			100 U	
R69	16	01	18575	21.0	0.15		1.11 J			100 U	
R69	16	01	18576	22.0	0.46		0.72 J				
R69	16	01	18577	23.0	0.30		1.27 J			100 U	
R69	16	01	18592	24.0	0.24		0.76 J				
R69	16	01	18593	25.0	0.39		1.03 J			100 U	
R69	16	01	18594	26.0	0.24		0.50 J				
R69	16	01	18595	27.0	0.24		0.55 J			100 U	
R69	16	01	18596	28.0	0.16		1.25 J				
R69	16	01	18597	29.0	0.25		0.63 J			100 U	
R69	**16**	**01**	**18603**	**30.0**	**0.137**	**0.068 J**	**0.176**	**0.0026 U**	**0.0026 U**	**2.2 J**	**0.51 U**
R69	16	02	18713	5.0	0.97		2.10			100 U	
R69	16	02	18714	7.0	0.51		0.96 J			100 U	
R69	16	02	18715	9.0	0.68		< 0.42			100 U	
R69	16	02	18723	11.0	0.40		0.97 J			100 U	
R69	16	02	18724	12.0	0.20		1.30 J				
R69	16	02	18725	13.0	0.24		0.98 J			100 U	
R69	16	02	18726	14.0	0.39		1.25 J				
R69	16	02	18727	15.0	0.22		0.58 J			100 U	
R69	16	02	18735	16.0	0.18		0.65 J				
R69	16	02	18733	17.0	0.31		1.49 J			100 U	
R69	16	02	18734	18.0	0.31		0.73 J				
R69	16	02	18736	19.0	0.20		0.46 UJ			100 U	
R69	16	02	18737	21.0	< 0.07		0.44 J			100 U	

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
R69	16	02	18738	22.0	0.18		0.63 J				
R69	16	02	18739	23.0	0.24		0.28 UJ			100 U	
R69	16	02	18740	25.0	0.25		0.86 J			100 U	
R69	16	02	18741	26.0	0.22		0.83 J				
R69	16	02	18742	27.0	0.31		0.90 J			100 U	
R69	16	02	18746	28.0	0.22		1.33				
R69	16	02	18747	29.0	0.19		0.82 J			100 U	
R69	**16**	**02**	**18748**	**30.0**	**0.120**	**0.099 J**	**0.121**	**0.0026 UJ**	**0.0026 UJ**	**3.0 J**	**0.51 U**
R69	16	03	18615	5.0	0.52		1.82			100 U	
R69	16	03	18616	7.0	NS		NS			100 U	
R69	16	03	18617	9.0	NS		NS			100 U	
R69	16	03	18618	11.0	0.06 UJ		1.57 J			100 U	
R69	16	03	18639	13.0	0.29		0.76 J			100 U	
R69	16	03	18640	14.0	0.30		0.98 J				
R69	**16**	**03**	**18641**	**15.0**	0.23		0.74 J			**4.1 U**	
R69	16	03	18642	16.0	0.20		0.99 J				
R69	16	03	18643	17.0	0.29		0.77 J			100 U	
R69	16	03	18653	18.0	0.28		1.16 J				
R69	16	03	18654	19.0	0.37		0.68 J			100 U	
R69	16	03	18655	21.0	0.21 J		0.90 J			100 U	
R69	16	03	18656	23.0	0.14		0.74 J			100 U	
R69	16	03	18672	25.0	0.18		0.28 UJ			100 U	
R69	16	03	18673	26.0	0.27		0.90 J				
R69	16	03	18674	27.0	0.18		0.48 UJ			100 U	
R69	16	03	18675	28.0	0.16		0.29 UJ				
R69	16	03	18676	29.0	0.28		1.83			100 U	
R69	**16**	**03**	**18677**	**30.0**	**0.140**	**0.098 J**	**0.118**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**
R69	16	04	18751	1.0	0.58		1.09 J			100 U	
R69	16	04	18752	2.0	0.50		2.04				
R69	16	04	18753	3.0	0.78		2.24			100 U	
R69	16	04	18754	4.0	0.76		1.22 J				
R69	16	04	18755	5.0	0.83		1.60			100 U	
R69	16	04	18756	6.0	< 0.09		0.74 J				
R69	16	04	18757	7.0	0.49		1.10			100 U	
R69	16	04	18758	8.0	0.60		2.49				
R69	16	04	18759	9.0	0.37		1.04 J			100 U	
R69	16	04	18760	10.0	0.36		1.65				
R69	16	04	18761	11.0	0.32		1.88 J			100 U	
R69	16	04	18762	12.0	0.31		1.85				
R69	**16**	**04**	**18763**	**13.0**	0.25		< 0.57			**2.2 J**	
R69	16	04	18764	14.0	0.36		1.36				
R69	16	04	18765	15.0	< 0.03		1.68 J			100 U	
R69	16	04	18766	16.0	0.56		1.15 J				
R69	16	04	18767	17.0	0.22		1.12			100 U	
R69	16	04	18768	18.0	0.37		< 0.54				
R69	16	04	18769	19.0	0.25		1.61			100 U	
R69	16	04	18770	20.0	0.14		0.35 J				
R69	16	04	18771	21.0	0.31		< 0.53			100 U	
R69	16	04	18772	22.0	< 0.04		0.86 J				
R69	16	04	18773	23.0	0.37		2.21			100 U	
R69	16	04	18774	25.0	0.26		0.74 J			100 U	
R69	16	04	18775	26.0	0.18		0.61 J				

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
R69	16	04	18776	27.0	0.20		0.53 J			100 U	
R69	16	04	18778	28.0	0.17		< 0.45				
R69	16	04	18779	29.0	0.25		0.82 J			100 U	
R69	**16**	**04**	**18780**	**30.0**	**0.109**	**0.121**	**0.079 J**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.52 U**
R69	16	05	18781	5.0	0.59		2.11			100 U	
R69	16	05	18782	7.0	0.24		< 0.54			100 U	
R69	16	05	18783	8.0	0.36		2.19				
R69	16	05	18784	9.0	0.38		1.38			100 U	
R69	16	05	18785	10.0	0.40		1.49				
R69	16	05	18786	11.0	0.54		2.01			100 U	
R69	16	05	18787	12.0	0.26		1.18				
R69	16	05	18788	13.0	0.35		1.61			100 U	
R69	16	05	18789	14.0	0.33		0.99 J				
R69	16	05	18790	15.0	0.31		0.86 J			100 U	
R69	16	05	18791	16.0	0.30		1.60				
R69	16	05	18792	17.0	0.23		0.95 J			100 U	
R69	16	05	18793	18.0	0.22		1.68				
R69	16	05	18794	19.0	< 0.05		1.16			100 U	
R69	16	05	18795	21.0	0.30		0.44 J			100 U	
R69	16	05	18796	22.0	0.17		0.71 J				
R69	16	05	18797	23.0	0.32		0.64 J			100 U	
R69	16	05	18798	24.0	0.21		0.54 J				
R69	16	05	18799	25.0	< 0.06		1.54			100 U	
R69	16	05	18800	26.0	0.29		0.74 J				
R69	16	05	18801	27.0	0.33		0.49 J			100 U	
R69	16	05	18802	28.0	< 0.04		< 0.24				
R69	16	05	18803	29.0	0.29		1.11 J			100 U	
R69	**16**	**05**	**18804**	**30.0**	**0.108**	**0.106**	**0.118**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**
R69	16	06	18805	4.0	0.89 J		2.74				
R69	16	06	18806	5.0	1.06 J		3.55 J			100 U	
R69	16	06	18807	7.0						100 U	
R69	16	06	18808	9.0	0.55 J		1.46 J			100 U	
R69	16	06	18818	10.0	0.28		1.30 J				
R69	16	06	18819	11.0	0.36 J		0.64 J			100 U	
R69	16	06	18820	12.0	0.25		1.17				
R69	16	06	18821	13.0	0.05 UJ		2.09			100 U	
R69	16	06	18822	14.0	0.26		0.65 J				
R69	16	06	18823	15.0	0.40 J		0.96 J			100 U	
R69	16	06	18843	17.0	0.19 J		< 0.27			100 U	
R69	16	06	18844	18.0	0.31		0.55 J				
R69	16	06	18845	19.0	0.28 J		0.97 J			100 U	
R69	16	06	18846	21.0	0.25 J		1.11			100 U	
R69	16	06	18847	22.0	0.30 J		0.98 J				
R69	16	06	18848	23.0	0.30 J		1.14			100 U	
R69	16	06	18849	25.0	0.19 J		0.71 J			100 U	
R69	16	06	18850	26.0	0.24		0.59 J				
R69	16	06	18851	27.0	0.22 J		0.44 J			100 U	
R69	16	06	18860	28.0	0.23		1.46				
R69	16	06	18861	29.0	0.23		0.80 J			100 U	
R69	**16**	**06**	**18862**	**30.0**	**0.118**	**0.181**	**0.139**	**0.0026 U**	**0.0026 U**	**2.0 J**	**0.51 U**
R69	16	07	18871	1.0	0.46		1.38 J			100 U	
R69	16	07	18872	2.0	0.36		1.38				

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
R69	16	07	18873	3.0	0.74		1.14 J			100 U	
R69	16	07	18879	4.0	0.60 J		1.12 J				
R69	16	07	18880	5.0	0.41 J		1.27 J			100 U	
R69	16	07	18893	6.0	0.31 J		0.69 J				
R69	**16**	**07**	**18894**	**7.0**	0.48 J		< 0.38			**3.2 J**	
R69	16	07	18895	8.0	0.44		0.58 J				
R69	16	07	18896	9.0	0.34 J		< 0.50			100 U	
R69	16	07	18897	10.0	0.35		0.77 J				
R69	16	07	18898	11.0	0.45		0.73 J			100 U	
R69	16	07	18905	12.0	0.31 J		< 0.58				
R69	16	07	18906	13.0	0.30 J		1.18			100 U	
R69	16	07	18907	14.0	0.40 J		0.60 J				
R69	16	07	18908	15.0	0.27		0.73 J			100 U	
R69	16	07	18909	16.0	0.23		< 0.26				
R69	16	07	18910	17.0	0.27 J		1.52			100 U	
R69	16	07	18916	19.0	0.13 J		0.44 J			100 U	
R69	16	07	18917	21.0	0.36 J		1.56			100 U	
R69	16	07	18922	23.0	0.34 J		1.10 J			100 U	
R69	16	07	18927	24.0	0.23		0.56 J				
R69	16	07	18928	25.0	0.06 UJ		1.11 J			100 U	
R69	16	07	18929	26.0	0.19		< 0.43				
R69	16	07	18930	27.0	0.09 J		< 0.47			100 U	
R69	16	07	18942	28.0	< 0.04		0.56 UJ				
R69	16	07	18943	29.0	0.28 J		< 0.30			100 U	
R69	**16**	**07**	**18944**	**30.0**	**0.113**	**0.105**	**0.117**	**0.0026 U**	**0.0026 R**	**4.1 U**	**0.51 U**
R69	16	08	18948	1.0	0.73 J		1.80			100 U	
R69	16	08	18950	3.0	1.11		2.50 J			49.4 J	
R69	16	08	18952	4.0	0.06		0.22 J				
R69	16	08	18953	5.0	0.50 J		0.63 J			100 U	
R69	16	08	18964	6.0	0.63 J		1.07 J				
R69	16	08	18965	7.0	0.60		1.24 J			100 U	
R69	16	08	18966	8.0	0.52		0.62 J				
R69	16	08	18967	9.0	0.42 J		3.18			100 U	
R69	16	08	18975	11.0	0.39 J		< 0.53			100 U	
R69	16	08	18976	13.0	0.36 J		1.61 J			100 U	
R69	16	08	18992	15.0	0.51		0.66 J			100 U	
R69	16	08	18993	16.0	0.31 J		1.86				
R69	16	08	18994	17.0	0.26		1.34			100 U	
R69	16	08	18995	19.0	0.28 J		1.42			100 U	
R69	16	08	18996	21.0	0.28		< 0.49			100 U	
R69	16	08	19014	23.0	0.40 J		< 0.36			100 U	
R69	16	08	19015	24.0	0.26		0.29 UJ				
R69	16	08	19016	25.0	< 0.06		0.69 J			100 U	
R69	16	08	19017	26.0	0.39 J		1.01 J				
R69	16	08	19018	27.0	0.24		0.93 J			100 U	
R69	16	08	19021	29.0	0.10 J		1.10			100 U	
R69	**16**	**08**	**19022**	**30.0**	**0.061 J**	**0.153**	**0.111**	**0.0026 U**	**0.0026 U**	**4.1 U**	**0.51 U**
R69	16	09	19029	5.0	0.76		1.51 J			100 U	
R69	16	09	19030	6.0	0.36		1.01 J				
R69	16	09	19031	7.0	0.41 J		1.40 J			100 U	
R69	16	09	19032	8.0	0.33		0.37 UJ				
R69	16	09	19033	9.0	0.42		1.09 J			100 U	

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
R69	16	09	19038	11.0	0.34		0.57 UJ			100 U	
R69	16	09	19039	13.0	0.50 J		< 0.35			100 U	
R69	16	09	19047	15.0	0.41		0.63 J			100 U	
R69	16	09	19050	16.0	0.34		0.66 J				
R69	16	09	19051	17.0	0.29		1.49 J			100 U	
R69	16	09	19054	19.0	0.21		0.86 J			100 U	
R69	16	09	19058	20.0	0.18		1.31				
R69	16	09	19059	21.0	0.20		0.31 UJ			100 U	
R69	16	09	19060	22.0	0.27		2.06 J				
R69	16	09	19061	23.0	0.28		0.98 J			100 U	
R69	16	09	19062	25.0	0.20		0.90 J			100 U	
R69	16	09	19067	26.0	0.30		1.23 J				
R69	16	09	19068	27.0	0.16		0.30 J			100 U	
R69	16	09	19076	28.0	0.15		0.95				
R69	16	09	19077	29.0	< 0.07		0.74 J			100 U	
R69	**16**	**09**	**19078**	**30.0**	**0.198**	**0.139**	**0.164**	**0.0026 U**	**0.0026 U**	**2.7 J**	**0.51 U**

Table 6
LPH Investigation,
LPH15, LPH16 and LPH17 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

R - Validation qualifier used to indicate that the result is considered unusable.
U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 7 for boring locations.
On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.
Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.
NS - Not sampled due to insufficient recovery.
Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.
Blank cell indicates analysis was not performed.
Due to the proximity of LPH16 and LPH17, all soil borings were given the designation LPH16.

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L05	20	01	19775	1.0	0.76 J		13.54			332	
L05	20	01	19776	2.0	0.85		< 0.72				
L05	20	01	19777	3.0	1.32 J		1.38 J			100 U	
L05	20	01	19785	4.0	0.52 J		1.38 J				
L05	20	01	19782	5.0	0.37 J		1.37 J			100 U	
L05	20	01	19783	6.0	0.42 J		1.76 J				
L05	20	01	19784	7.0	0.60 J		1.66			100 U	
L05	20	01	19797	9.0	0.34 J		0.66 J			100 U	
L05	20	01	19798	11.0	0.18 J		0.64 J			100 U	
L05	20	01	19799	13.0	0.33 J		< 0.50			100 U	
L05	20	01	19840	15.0	0.28 J		0.78 J			100 U	
L05	20	01	19841	17.0	0.26 J		< 0.39			100 U	
L05	20	01	19842	18.0	0.06 UJ		0.55 J				
L05	20	01	19843	19.0	0.31 J		0.92			100 U	
L05	20	01	19844	20.0	0.33 J		1.51 J				
L05	20	01	19845	21.0	0.18 J		0.75 J			100 U	
L05	20	01	19848	22.0	0.29 J		1.27 J				
L05	20	01	19849	23.0	0.30 J		1.40			100 U	
L05	20	01	19862	25.0	0.06 UJ		0.49 J			100 U	
L05	20	01	19861	26.0	0.18 J		0.79 J				
L05	**20**	**01**	**19863**	**27.0**	0.20 J		0.55 J			**2.8 J**	
L05	20	01	19877	29.0	0.05 UJ		< 0.29			100 U	
L05	**20**	**01**	**19882**	**30.0**	**0.101**	**0.135**	**0.158**	**0.0026 U**	**0.0026 U**	**2.5 J**	**0.28 J**
L05	20	02	19906	1.0	1.10		4.56 J			205	
L05	20	02	19907	2.0	1.03 J		3.83				
L05	20	02	19908	3.0	1.75 J		2.06 J			100 U	
L05	20	02	19911	4.0	1.61		3.01 J	0.093 U	0.132		
L05	20	02	19912	5.0	0.99 J		3.15			100 U	
L05	20	02	19913	6.0	0.54 J		1.60 J				
L05	20	02	19914	7.0	0.65		0.81 UJ			100 U	
L05	20	02	19916	9.0	0.42 J		0.81 J			42.3 J	
L05	20	02	19919	11.0	NS		NS			100 U	
L05	20	02	19920	13.0	0.45		0.45 UJ			100 U	
L05	20	02	19921	15.0	0.31		0.70 J			100 U	
L05	20	02	19922	16.0	0.39		1.51 J				
L05	20	02	19923	17.0	0.48		1.77			100 U	
L05	20	02	19937	19.0	0.28		1.24			100 U	
L05	20	02	19938	21.0	0.33 J		1.06 J			100 U	
L05	20	02	19939	22.0	< 0.05		0.40 J				
L05	20	02	19940	23.0	< 0.07		0.61 J			100 U	
L05	20	02	19951	25.0	0.24 J		1.49			100 U	
L05	20	02	19952	26.0	0.28		0.61 J				
L05	20	02	19953	27.0	0.20		0.94 J			100 U	
L05	20	02	19964	29.0	0.34 J		1.31 J			100 U	
L05	**20**	**02**	**19974**	**30.0**	**0.145**	**0.153**	**0.155**	**0.0026 U**	**0.00035 J**	**2.6 J**	**0.27 J**
L05	20	03	20045	1.0	0.76		14.02			85.2 J	
L05	20	03	20046	2.0	0.66		7.98				
L05	20	03	20047	3.0	1.08		6.86			100 U	
L05	20	03	20063	4.0	0.37		2.04				
L05	20	03	20064	5.0	0.96		2.73 J			100 U	
L05	20	03	20065	6.0	0.54		1.96 J				
L05	20	03	20066	7.0	0.59		1.90 J			100 U	

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L05	20	03	20072	9.0	0.42		2.19			100 U	
L05	20	03	20076	11.0	0.43		0.96 J			100 U	
L05	20	03	20079	13.0	0.49		1.15 J			100 U	
L05	20	03	20087	15.0	0.27		0.54 J			100 U	
L05	20	03	20088	16.0	0.41		0.88 J				
L05	20	03	20089	17.0	0.27		2.16 J			100 U	
L05	20	03	20092	19.0	0.32		2.17 J			100 U	
L05	20	03	20101	21.0	0.19		1.12 J			100 U	
L05	20	03	20102	22.0	0.24		1.77 J				
L05	20	03	20103	23.0	0.30		0.51 J			100 U	
L05	20	03	20110	25.0	0.37		1.30 J			100 U	
L05	20	03	20111	26.0	0.26		< 0.67				
L05	20	03	20112	27.0	0.23		0.43 J			100 U	
L05	20	03	20121	29.0	0.24		1.27			100 U	
L05	**20**	**03**	**20126**	**30.0**	**0.166**	**0.161**	**0.154**	**0.0026 U**	**0.0026 U**	**1.8 J**	**0.51 U**
L05	20	04	20133	1.0	0.92		12.75			1105 J	
L05	20	04	20134	2.0	NS		NS	0.088 U	0.482		
L05	20	04	20135	3.0	1.02		7.06			100 U	
L05	20	04	20136	5.0	0.43		0.66 J			100 U	
L05	20	04	20144	7.0	0.98		1.14 J			100 U	
L05	20	04	20145	9.0	0.50		1.82			100 U	
L05	20	04	20146	11.0	0.39		1.64 J			100 U	
L05	20	04	20147	12.0	0.36		0.68 J				
L05	20	04	20148	13.0	0.24		0.44 J			100 U	
L05	20	04	20149	15.0	0.20		< 0.23			100 U	
L05	20	04	20159	16.0	0.28		1.20				
L05	20	04	20160	17.0	0.31		1.03 J			100 U	
L05	20	04	20161	19.0	< 0.09		0.82 J			100 U	
L05	20	04	20165	21.0	0.40		0.71 J			100 U	
L05	20	04	20168	22.0	0.29		0.22 UJ				
L05	20	04	20169	23.0	0.27		1.00 J			100 U	
L05	20	04	20172	25.0	0.24		0.56 J			100 U	
L05	20	04	20179	26.0	0.24		1.24				
L05	20	04	20180	27.0	0.17		1.33 J			100 U	
L05	20	04	20181	29.0	0.16		0.68 J			100 U	
L05	**20**	**04**	**20182**	**30.0**	**0.141**	**0.159**	**0.124**	**0.0026 U**	**0.0026 U**	**2.1 J**	**0.16 J**
L05	20	05	19978	1.0	1.07		40.07 J			201	
L05	20	05	19979	2.0	0.64 J		< 0.73	0.098 U	0.098 U		
L05	20	05	19980	3.0	1.17 J		2.19			100 U	
L05	20	05	19981	5.0	0.63		1.00 J			100 U	
L05	20	05	19982	6.0	0.59		2.99 J				
L05	20	05	19983	7.0	0.49		1.24 J			100 U	
L05	20	05	19997	8.0	0.76 J		1.01 J				
L05	20	05	19998	9.0	0.38		1.33 J			100 U	
L05	20	05	19999	11.0	0.26		0.69 J			100 U	
L05	20	05	20000	13.0	0.62		< 0.85			100 U	
L05	20	05	20007	15.0	0.37		< 0.57			100 U	
L05	20	05	20008	16.0	0.32		< 0.48				
L05	20	05	20009	17.0	0.21		0.61 J			100 U	
L05	20	05	20010	19.0	0.20		0.69 J			100 U	
L05	20	05	20019	21.0	0.41		1.52			100 U	
L05	20	05	20020	22.0	0.28		1.84				

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L05	20	05	20021	23.0	0.26		1.18 J			100 U	
L05	20	05	20026	25.0	0.28		1.51			100 U	
L05	20	05	20027	26.0	0.19		< 0.47				
L05	20	05	20028	27.0	0.31		0.62 J			100 U	
L05	20	05	20035	29.0	0.41		1.21			100 U	
L05	**20**	**05**	**20041**	**30.0**	**0.161**	**0.147**	**0.182**	**0.0026 U**	**0.0026 U**	**2.8 J**	**0.33 J**
I06	21	01	19179	3.0	NS		NS			100 U	
I06	21	01	19187	5.0	0.80		6.43			100 U	
I06	21	01	19188	7.0	1.23		33.35			100 U	
I06	21	01	19197	9.0	0.85		35.34			100 U	
I06	21	01	19200	11.0	0.90		39.73			100 U	
I06	21	01	19201	12.0	0.65		35.82				
I06	21	01	19202	13.0	1.09		45.44			100 U	
I06	21	01	19207	15.0	1.08		46.15			43.3 J	
I06	**21**	**01**	**19221**	**16.0**	**20.5**	**612**	**82**	**1600**	**40000 J**	**125 J**	**0.86 U**
I06	21	01	19222	19.0	3.35		11.49	33.412 D	1344.441 J	100 U	
I06	21	01	19227	21.0	0.75		5.69	0.117 U	0.337	100 U	
I06	21	01	19240	22.0	NS		NS	0.113 U	0.219		
I06	21	01	19239	23.0	0.78		5.27 J			100 U	
I06	21	01	19261	25.0	0.50		4.33				
I06	21	01	19265	26.0	0.53		< 1.15				
I06	21	01	19266	27.0	1.16		16.82 J				
I06	21	01	19278	29.0	0.34		< 1.17				
I06	**21**	**01**	**19279**	**30.0**	**0.250**	**7.27**	**4.74**	**0.0026 U**	**0.0026 R**	**2.4 J**	**0.51 U**
I06	21	02	19588	1.0	0.77		7.18 J			100 U	
I06	21	02	19589	2.0	0.84		4.74 J				
I06	21	02	19590	3.0	1.40 J		< 1.51			100 U	
I06	21	02	19599	4.0	0.40		2.50 J				
I06	21	02	19600	5.0	0.37		1.07 J			100 U	
I06	21	02	19605	6.0	0.35		0.96 J				
I06	21	02	19606	7.0	0.56		2.35 J			100 U	
I06	21	02	19611	8.0	0.77		4.00				
I06	21	02	19612	9.0	0.36		1.22 J			100 U	
I06	21	02	19613	10.0	0.29		2.49 J				
I06	21	02	19614	11.0	0.32		1.61 J			100 U	
I06	21	02	19616	12.0	0.30 J		2.21				
I06	21	02	19617	13.0	0.43 J		< 0.80			100 U	
I06	21	02	19618	14.0	0.22		7.63 J				
I06	21	02	19619	15.0	0.30		9.07 J			100 U	
I06	21	02	19620	16.0	0.22		9.73				
I06	21	02	19621	17.0	0.51 J		14.93			100 U	
I06	21	02	19622	18.0	0.41		7.88 J				
I06	21	02	19623	19.0	0.20		8.37 J			100 U	
I06	21	02	19624	21.0	0.42		15.16			100 U	
I06	21	02	19625	22.0	0.45 J		8.24				
I06	21	02	19626	23.0	0.34		9.36			100 U	
I06	21	02	19627	25.0	0.04 UJ		10.85			100 U	
I06	21	02	19628	26.0	0.27		11.38				
I06	21	02	19629	27.0	0.06 UJ		13.78			100 U	
I06	21	02	19637	28.0	0.32 J		15.68				
I06	21	02	19638	29.0	0.15		9.09			100 U	
I06	**21**	**02**	**19641**	**30.0**	**0.132**	**6.58**	**5.97**	**0.0026 U**	**0.0026 U**	**1.6 J**	**0.089 J**

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I06	21	03	19315	2.0	1.00		16.87 J				
I06	21	03	19316	3.0	1.15		14.63			100 U	
I06	21	03	19335	4.0	0.50		11.59				
I06	21	03	19336	5.0	< 0.10		11.55			100 U	
I06	21	03	19342	6.0	0.33		1.91 J				
I06	21	03	19343	7.0	0.55		2.65			100 U	
I06	21	03	19348	9.0	0.90		3.49			100 U	
I06	21	03	19354	11.0	0.30		2.96			100 U	
I06	21	03	19359	12.0	0.36		4.41				
I06	21	03	19360	13.0	0.30		3.87			100 U	
I06	21	03	19365	15.0	1.00		10.93			100 U	
I06	21	03	19371	16.0	1.30		11.77				
I06	21	03	19372	17.0	2.44		14.97			100 U	
I06	21	03	19379	18.0	1.40		9.13				
I06	21	03	19380	19.0	1.40		3.47			100 U	
I06	21	03	19384	20.0	1.36		5.37				
I06	21	03	19385	21.0	0.85		< 0.97			100 U	
I06	21	03	19390	22.0	1.10		10.74				
I06	21	03	19391	23.0	0.99		7.34			100 U	
I06	21	03	19407	25.0	0.88		14.70			100 U	
I06	21	03	19408	26.0	0.92		17.11				
I06	21	03	19409	27.0	0.98		22.38			100 U	
I06	21	03	19420	28.0	0.68		13.89				
I06	21	03	19421	29.0	0.46		17.87			100 U	
I06	**21**	**03**	**19422**	**30.0**	**0.63**	**22.3**	**13.9**	**0.0026 U**	**0.0026 R**	**2.2 J**	**0.12 J**
I06	21	04	19497	3.0	1.45		9.54			100 U	
I06	21	04	19694	4.0	0.76		11.93				
I06	21	04	19502	5.0	0.53		1.49			100 U	
I06	21	04	19503	6.0	0.51		2.75				
I06	21	04	19504	7.0	0.69		6.53			100 U	
I06	21	04	19514	9.0	0.34		1.04 J			100 U	
I06	21	04	19520	11.0	0.27		3.18			100 U	
I06	21	04	19521	12.0	0.20		< 0.49				
I06	21	04	19522	13.0	0.48		4.07			100 U	
I06	21	04	19525	15.0	0.71		3.76			100 U	
I06	21	04	19526	16.0	0.78		6.14				
I06	21	04	19529	17.0	1.62		6.44			100 U	
I06	21	04	19530	19.0	1.01		6.18			100 U	
I06	21	04	19528	21.0	0.72		5.80			100 U	
I06	21	04	19531	22.0	0.79		2.49				
I06	21	04	19532	23.0	1.10		3.97			100 U	
I06	21	04	19538	25.0	0.99		5.30			100 U	
I06	21	04	19539	26.0	1.22 J		3.18				
I06	21	04	19540	27.0	2.77		5.01			100 U	
I06	21	04	19541	28.0	1.25		3.96 J				
I06	21	04	19542	29.0	1.12		4.81 J			100 U	
I06	**21**	**04**	**19578**	**30.0**	**0.62**	**13.4**	**8.07**	**0.0026 U**	**0.0026 U**	**1.3 J**	**0.51 U**
I06	21	05	19692	2.0	1.01		18.35				
I06	21	05	19693	3.0	0.77		9.66			100 U	
I06	21	05	19695	5.0	2.97		27.44			100 U	
I06	21	05	19696	7.0	2.74		46.94			100 U	
I06	21	05	19697	9.0	0.93		15.38			100 U	

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I06	21	05	19698	10.0	2.33		59.20				
I06	21	05	19699	11.0	3.22		33.89			100 U	
I06	21	05	19703	13.0	NS		NS			100 U	
I06	21	05	19704	14.0	0.90		3.75				
I06	21	05	19705	15.0	1.58		7.06			100 U	
I06	21	05	19706	16.0	1.54		16.18				
I06	21	05	19707	17.0	1.14		9.20			100 U	
I06	21	05	19721	18.0	0.86		7.55				
I06	21	05	19722	19.0	1.04		13.45			100 U	
I06	21	05	19723	21.0	1.00		6.97			100 U	
I06	21	05	19728	22.0	1.04		7.08				
I06	21	05	19729	23.0	1.14		4.02			100 U	
I06	21	05	19737	24.0	1.27		3.99				
I06	21	05	19738	25.0	0.98		1.55			100 U	
I06	21	05	19747	26.0	1.89		4.04				
I06	21	05	19748	27.0	2.45		3.79			100 U	
I06	21	05	19753	28.0	1.33		3.86				
I06	21	05	19754	29.0	1.65		2.33			100 U	
I06	**21**	**05**	**19768**	**30.0**	**0.150**	**0.166**	**0.147**	**0.0025 U**	**0.0025 U**	**1.8 J**	**0.51 U**
I06	21	06	20602	1.0	0.82		5.64 J			100 U	
I06	21	06	20603	2.0	0.93		2.08				
I06	21	06	20604	3.0	1.02		2.43			100 U	
I06	21	06	20605	5.0	0.42		14.28			100 U	
I06	21	06	20607	6.0	0.37		11.39				
I06	21	06	20608	7.0	0.53		16.60			100 U	
I06	21	06	20614	8.0	1.07		13.41				
I06	21	06	20615	9.0	0.50		3.36 J			100 U	
I06	21	06	20623	11.0	0.41		1.20 J			100 U	
I06	21	06	20624	13.0	0.27		2.84			100 U	
I06	21	06	20652	15.0	0.36		1.34 J			100 U	
I06	21	06	20653	16.0	0.32		3.17 J				
I06	21	06	20654	17.0	0.34		3.82			100 U	
I06	21	06	20661	19.0	0.29		1.27 J			100 U	
I06	21	06	20662	21.0	0.27		1.89			100 U	
I06	21	06	20678	22.0	0.17		1.09 J				
I06	21	06	20679	23.0	0.25		0.62 J			100 U	
I06	21	06	20684	25.0	< 0.02		0.48 J			100 U	
I06	21	06	20685	26.0	< 0.02		0.79 J				
I06	21	06	20686	27.0	0.23		< 0.51			100 U	
I06	21	06	20689	29.0	< 0.04		0.36 J			100 U	
I06	**21**	**06**	**20700**	**30.0**	**0.137**	**0.097 J**	**0.137**	**0.0025 U**	**0.0025 U**	**1.6 J**	**0.14 J**
I06	21	07	20709	1.0	0.60		< 1.20			100 U	
I06	21	07	20711	2.0	1.25		8.38				
I06	21	07	20712	3.0	0.88		3.16			100 U	
I06	21	07	20713	5.0	0.41		1.56			100 U	
I06	21	07	20719	6.0	0.60		1.93				
I06	21	07	20720	7.0	0.49		1.51			43.1 J	
I06	21	07	20731	9.0	0.77		0.85 J			100 U	
I06	21	07	20732	11.0	0.29		2.57			100 U	
I06	21	07	20751	13.0	< 0.05		< 0.58			100 U	
I06	21	07	20758	15.0	0.27		1.10			100 U	
I06	21	07	20762	16.0	0.25		0.96 J				

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I06	21	07	20763	17.0	0.31		0.77 J			100 U	
I06	21	07	20771	19.0	0.21		1.43			100 U	
I06	21	07	20772	21.0	0.25		0.60 J			100 U	
I06	21	07	20780	22.0	0.22		1.42 J				
I06	21	07	20781	23.0	0.29		0.90			100 U	
I06	21	07	20791	25.0	0.24		1.59			100 U	
I06	21	07	20792	26.0	0.30		3.97				
I06	21	07	20793	27.0	0.26		8.07			100 U	
I06	21	07	20804	29.0	0.27		1.61			100 U	
I06	**21**	**07**	**20813**	**30.0**	**0.195**	**6.48 J**	**7.06 J**	**0.0025 U**	**0.0025 U**	**2.6 J**	**0.32 J**
I06	21	08	20400	1.0	0.99		6.81			100 U	
I06	21	08	20401	3.0	0.98		1.66 J			100 U	
I06	21	08	20414	5.0	0.54 J		1.08 J			100 U	
I06	21	08	20427	7.0	0.91		1.42 J			100 U	
I06	21	08	20428	9.0	0.51		3.55			100 U	
I06	21	08	20434	11.0	0.35		0.96 J			100 U	
I06	21	08	20435	12.0	0.29		< 0.62				
I06	21	08	20436	13.0	0.33		0.70 J			100 U	
I06	21	08	20442	15.0	0.34		1.27 J			100 U	
I06	21	08	20443	16.0	0.29		1.40				
I06	21	08	20444	17.0	0.37		1.58 J			100 U	
I06	21	08	20448	19.0	0.25		5.96			100 U	
I06	21	08	20454	21.0	0.31		10.58			100 U	
I06	21	08	20455	22.0	0.20		5.32				
I06	21	08	20456	23.0	0.28		10.16			100 U	
I06	21	08	20475	25.0	< 0.07		8.76			42.7 J	
I06	21	08	20476	26.0	0.30		7.80				
I06	21	08	20477	27.0	0.29		9.51			100 U	
I06	21	08	20490	29.0	0.23		10.70			100 U	
I06	**21**	**08**	**20500**	**30.0**	**0.124**	**6.06**	**5.91**	**0.0025 U**	**0.0025 U**	**0.85 J**	**0.049 J**
I06	21	09	20534	1.0	0.53		2.11			100 U	
I06	21	09	20535	2.0	1.41		4.63				
I06	21	09	20536	3.0	1.45		2.52			100 U	
I06	21	09	20537	5.0	0.42		0.96 J			41.9 J	
I06	21	09	20545	6.0	0.67		1.35 J				
I06	21	09	20546	7.0	0.59		3.18			100 U	
I06	21	09	20553	9.0	1.22		3.04			100 U	
I06	21	09	20554	11.0	0.26		0.94 J			100 U	
I06	21	09	20555	12.0	0.41		< 0.53				
I06	21	09	20556	13.0	0.28		0.68 J			55.2 J	
I06	21	09	20561	14.0	< 0.09		1.79				
I06	21	09	20562	15.0	0.29		0.71 J			100 U	
I06	21	09	20563	16.0	0.34		1.09				
I06	21	09	20564	17.0	0.35		1.21			100 U	
I06	21	09	20565	19.0	0.20		1.42 J			100 U	
I06	21	09	20566	21.0	0.36		2.27			100 U	
I06	21	09	20569	22.0	0.33		3.48				
I06	21	09	20570	23.0	0.31		2.14			100 U	
I06	21	09	20578	25.0	0.23		1.47			100 U	
I06	21	09	20587	27.0	0.20		< 0.24			42.8 J	
I06	21	09	20590	29.0	0.28		1.73			100 U	
I06	**21**	**09**	**20595**	**30.0**	**0.120**	**0.68**	**0.58**	**0.0026 U**	**0.0026 U**	**1.7 J**	**0.11 J**

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
I06	21	13	20294	1.0	0.93		8.02			100 U	
I06	21	13	20297	2.0	0.93		14.35				
I06	21	13	20298	3.0	0.68		0.70 J			100 U	
I06	21	13	20302	4.0	0.38		1.29				
I06	21	13	20303	5.0	0.71 J		1.70 J			100 U	
I06	21	13	20304	7.0	< 0.08		0.69 J			100 U	
I06	21	13	20305	8.0	0.90		2.15 J				
I06	21	13	20306	9.0	0.59 J		< 0.63			100 U	
I06	21	13	20307	11.0	0.26		0.82			100 U	
I06	21	13	20309	12.0	0.42		0.91 J				
I06	21	13	20310	13.0	0.08 UJ		< 0.58			100 U	
I06	21	13	20337	15.0	0.29 J		2.03			100 U	
I06	21	13	20338	16.0	0.50		1.45 J				
I06	21	13	20339	17.0	0.21 J		1.02 J			100 U	
I06	21	13	20340	19.0	0.31		1.42			100 U	
I06	21	13	20354	21.0	0.28 J		0.95			100 U	
I06	21	13	20355	22.0	0.26		1.04				
I06	21	13	20356	23.0	0.33		1.00 J			100 U	
I06	21	13	20360	25.0	0.27		1.29 J			100 U	
I06	21	13	20369	26.0	0.26 J		1.17 J				
I06	21	13	20370	27.0	0.18		1.84			100 U	
I06	21	13	20378	29.0	0.22		1.21			100 U	
I06	**21**	**13**	**20385**	**30.0**	**0.144**	**0.165**	**0.202**	**0.0026 U**	**0.0026 U**	**3.2 J**	**0.17 J**

Table 7
LPH Investigation,
LPH20 and LPH21 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

R - Validation qualifier used to indicate that the result is considered unusable.
U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
D - Validation qualifier used to indicate that analysis was performed on a sample requiring dilution.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 8 for boring locations.

On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.

Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.

NS - Not sampled due to insufficient recovery.

Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.

Blank cell indicates analysis was not performed.

Result is above Site cleanup level.

Table 8
LPH Investigation,
LPH34 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
E08	34	01	28631	1.0	0.63		1.01 UJ			100 U	
E08	34	01	28632	2.0	0.57		2.21				
E08	34	01	28639	3.0	0.62		4.22			100 U	
E08	34	01	28640	4.0	0.63		4.01				
E08	34	01	28645	5.0	0.34		2.61 J			100 U	
E08	34	01	28646	6.0	0.42		1.11 J				
E08	34	01	28651	7.0	0.66		2.28 J			100 U	
E08	34	01	28663	8.0	0.31		0.50 J				
E08	34	01	28664	9.0	0.33		0.88 J			100 U	
E08	34	01	28667	10.0	0.37		1.33 J				
E08	34	01	28682	11.0	0.32		1.08 J			100 U	
E08	34	01	28687	12.0	0.29		0.70 J				
E08	34	01	28694	13.0	0.42		1.45 J			100 U	
E08	34	01	28695	14.0	0.27		0.62 J				
E08	34	01	28698	15.0	0.22		0.92 J			100 U	
E08	34	01	28699	16.0	0.23		1.37				
E08	34	01	28708	17.0	0.20		0.62 J			100 U	
E08	34	01	28717	18.0	0.20		4.00 J				
E08	34	01	28723	19.0	0.23		3.97 J			100 U	
E08	34	01	28732	20.0	0.23		2.48 J				
E08	34	01	28801	21.0	0.21 J		2.35			100 U	
E08	34	01	28802	22.0	0.17 J		2.19				
E08	34	01	28803	23.0	0.23		1.05 J			100 U	
E08	34	01	28811	24.0	0.18 J		1.08				
E08	34	01	28823	25.0	0.27		0.59 J			100 U	
E08	34	01	28829	26.0	0.47 J		1.04 J				
E08	34	01	28835	27.0	0.24		0.44 J			100 U	
E08	34	01	28848	28.0	0.15		< 0.40				
E08	34	01	28847	29.0	0.25		0.72 J			100 U	
E08	**34**	**01**	**28850**	**30.0**	**0.194**	**0.187**	**0.179**	**0.0026 U**	**0.0026 U**	**2.3 J**	**0.17 J**
F08	34	03	29838	2.0	0.42		2.79				
F08	34	03	29839	3.0	0.33		1.37 J			100 U	
F08	34	03	29840	4.0	0.30		1.17				
F08	34	03	29841	5.0	0.89		1.72 J			100 U	
F08	34	03	29844	7.0	0.54		1.69			100 U	
F08	34	03	29845	8.0	0.35		< 0.47				
F08	34	03	29846	9.0	0.33		1.33 J			100 U	
F08	34	03	29856	10.0	< 0.09		1.12 J				
F08	34	03	29857	11.0	0.28		1.52 J			100 U	
F08	34	03	29860	12.0	0.34		1.93 J				
F08	34	03	29861	13.0	0.30		0.65 J			100 U	
F08	34	03	29863	14.0	0.26		< 0.27				
F08	34	03	29864	15.0	0.19		< 0.33			100 U	
F08	34	03	29865	16.0	0.33		1.50				
F08	34	03	29866	17.0	0.20		0.90 J			100 U	
F08	34	03	29873	18.0	0.29		< 0.49				
F08	34	03	29874	19.0	0.28		1.50			100 U	
F08	34	03	29875	20.0	0.46		1.67 J				
F08	34	03	29876	21.0	0.27		0.96 J			100 U	
F08	34	03	29879	22.0	0.27		1.29 J				
F08	34	03	29880	23.0	0.28		0.82 J			100 U	
F08	34	03	29884	24.0	0.36		1.11 J				

Table 8
LPH Investigation,
LPH34 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
F08	34	03	29885	25.0	0.31		< 0.53			100 U	
F08	34	03	29886	26.0	0.25		0.81 J				
F08	34	03	29887	27.0	0.30		0.93 J			100 U	
F08	34	03	29888	28.0	0.22		1.21				
F08	34	03	29889	29.0	0.22		< 0.48			100 U	
F08	**34**	**03**	**29890**	**30.0**	**0.140**	**0.117**	**0.084 J**	**0.0025 U**	**0.0025 UJ**	**2.1 J**	**1.0**
E08	34	04	27455	1.0	0.66		5.13			100 U	
E08	34	04	27456	3.0	NS		NS			100 U	
E08	34	04	27461	9.0	NS		NS			100 U	
E08	**34**	**04**	**27462**	**10.0**	< 0.10		5.66	**0.0025 U**	**0.0025 U**		
E08	34	04	27463	14.0	0.25		< 1.11	0.094 U	0.094 U		
E08	34	04	27464	15.0	0.31 J		6.70			100 U	
E08	34	04	27467	16.0	0.22		5.87	0.113 U	0.113 U		
E08	34	04	27468	17.0	0.17		3.94			100 U	
E08	34	04	27469	18.0	0.31		6.06	0.112 U	0.112 U		
E08	34	04	27470	19.0	0.17		4.17			100 U	
E08	**34**	**04**	**27479**	**20.0**	0.28		5.01	**0.0025 U**	**0.0025 U**		
E08	34	04	27480	21.0	0.28		4.41			100 U	
E08	34	04	27481	22.0	0.22		3.39	0.111 U	0.111 U		
E08	34	04	27482	23.0	0.17		3.06			100 U	
E08	34	04	27483	24.0	0.13 J		2.66	0.131 U	0.131 U		
E08	34	04	27484	25.0	0.24		3.58			100 U	
E08	34	04	27490	26.0	0.19 J		2.74	0.107 U	0.107 U		
E08	34	04	27491	27.0	0.16		< 0.77			100 U	
E08	34	04	27492	28.0	0.24		9.45	0.109 U	0.109 U		
E08	34	04	27493	29.0	0.24 J		4.01			100 U	
E08	**34**	**04**	**27494**	**30.0**	**0.167 J**	**4.47**	**4.41**	**0.0025 U**	**0.0025 U**	**5.7**	**0.14 J**
E08	34	04	27506	32.0	0.18		< 0.84	0.112 U	0.112 U		
E08	34	04	27507	33.0	0.19		< 0.80			100 U	
E08	34	04	27508	34.0	0.22		2.40	0.109 U	0.109 U		
E08	34	04	27509	35.0	0.19		0.67 J			100 U	
E08	34	04	27515	36.0	< 0.04		1.02	0.115 U	0.115 U		
E08	34	04	27516	37.0	0.24 J		0.94			100 U	
E08	34	04	27517	38.0	0.02 UJ		< 0.24	0.115 U	0.115 U		
E08	34	04	27518	39.0	0.22 J		< 0.43			100 U	
E08	**34**	**04**	**27519**	**40.0**	0.21 J		0.60 J	**0.0026 U**	**0.0026 U**		
E08	34	04	27520	41.0	0.10 J		0.69 J			100 U	
E08	34	04	27527	42.0	0.17 J		0.73	0.116 U	0.116 U		
E08	34	04	27536	43.0	0.48 J		1.02 J			100 U	
E08	34	04	27537	44.0	0.46 J		< 0.57	0.115 U	0.115 U		
E08	34	04	27538	45.0	0.33 J		< 0.50			100 U	
E08	34	04	27539	46.0	0.29 J		0.60 J	0.135 U	0.135 U		
E08	34	04	27540	47.0	0.30 J		1.78			100 U	
E08	34	04	27541	48.0	1.33 J		2.27	0.098 U	0.098 U		
E08	34	04	27542	49.0	1.12 J		3.15			100 U	
E08	**34**	**04**	**27545**	**50.0**	0.82 J		2.22 J	**0.0030 U**	**0.00089 U**		
E08	34	04	27546	51.0	0.67 J		2.39 J			100 U	
E08	34	04	27547	52.0	0.75 J		1.10 J	0.093 U	0.093 U		
E08	34	04	27548	53.0	0.61 J		< 0.57			100 U	
E08	34	04	27551	54.0	0.61 J		1.16 J	0.115 U	0.115 U		
E08	34	04	27552	55.0	0.52 J		< 0.64			100 U	
E08	34	04	27553	56.0	0.33 J		1.17 J	0.111 U	0.111 U		

Table 8
LPH Investigation,
LPH34 Soil Boring Sample Results

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
E08	34	04	27554	57.0	0.34 J		0.94 J			100 U	
E08	34	04	27557	58.0	0.41 J		2.11	0.112 U	0.112 U		
E08	34	04	27558	59.0	0.46 J		1.54 J			100 U	
E08	34	04	27559	60.0	0.54 J		1.30	0.115 U	0.115 U		
E08	34	04	27560	61.0	0.27 J		0.89 J			100 U	
E08	34	04	27562	62.0	0.36 J		0.70 J	0.124 U	0.124 U		
E08	34	04	27563	63.0	0.32 J		1.89			100 U	
E08	**34**	**04**	**27564**	**64.0**	**0.50 J**	**0.212**	**0.138**	**0.0027 U**	**0.0027 U**	**0.47 J**	**0.072 J**
E08	34	05	28751	1.0	0.71		5.94 J			100 U	
E08	34	05	28752	2.0	0.87		6.99 J				
E08	34	05	28755	3.0	0.80		7.10 J			100 U	
E08	34	05	28800	4.0	0.39 J		1.12 J				
E08	34	05	28863	5.0	0.65 J		5.08			100 U	

Table 8
LPH Investigation,
LPH34 Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.
< - Validation qualifier (for on-Site radiological constituents) used to indicate that the result was qualified as non-detect.

Notes:

See Figure 9 for boring locations.

On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.

Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.

NS - Not sampled due to insufficient recovery.

Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.

Blank cell indicates analysis was not performed.

Table 9
Summary of LPH Soil Boring Sample Results Above Site Cleanup Levels

Subcell	LPH	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
L14	03	01	21511	6.0	NS		NS	0.105 U	1.982		
L14	03	05	21698	16.0	NS		NS	0.133 U	12.370 D		
M14	04	01	21947	22.0	0.97		79.12	0.176 U	6.364		
N15	**05**	**DL07**	**12386**	**24.0**	1.68		124.79 J			**955 J**	
N15	05	DL07	12387	24.5	1.53		119.27				
N15	05	DL07	12389	25.0	0.47		9.38	0.095 U	6.132 D		
O18	06	DL10	12238	10.0	0.73		74.78				
O18	06	DL10	12239	11.0	0.69		81.39				
O18	06	DL10	12255	12.0	0.57 J		51.24				
O18	06	DL10	12274	15.0	0.40		51.62				
O18	06	DL13	12350	14.0	0.24		82.70				
O18	06	DL13	12351	15.0	0.24		71.52				
L05	20	04	20133	1.0	0.92		12.75			1105 J	
I06	**21**	**01**	**19221**	**16.0**	**20.5**	**612**	**82**	**1600**	**40000 J**	**125 J**	**0.86 U**
I06	21	01	19222	19.0	3.35		11.49	33.412 D	1344.441 J	100 U	
I06	21	05	19698	10.0	2.33		59.20				

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
D - Validation qualifier used to indicate that analysis was performed on a sample requiring dilution.

Notes:

See Figure 2, Figure 4 and Figure 8 for boring locations.

On-Site sample results are in plain font and include radionuclides (Th-232 and U-238) analyzed by the gamma spectroscopy system; volatile organic compounds (TCE and PCE) by solid phase microextraction and capillary gas chromatography by Stone Environmental, Inc.; and Ni by x-ray fluorescence spectroscopy by Stone Environmental, Inc.

Off-Site sample results are in **bold font** and indicate that the analysis was performed by Severn Trent Laboratories, Inc.

NS - Not sampled due to insufficient recovery.

Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.

Site background concentration for Th-232 assumed to be approximately 0.6 pCi/g.

Blank cell indicates analysis was not performed.

Result is above Site cleanup level.

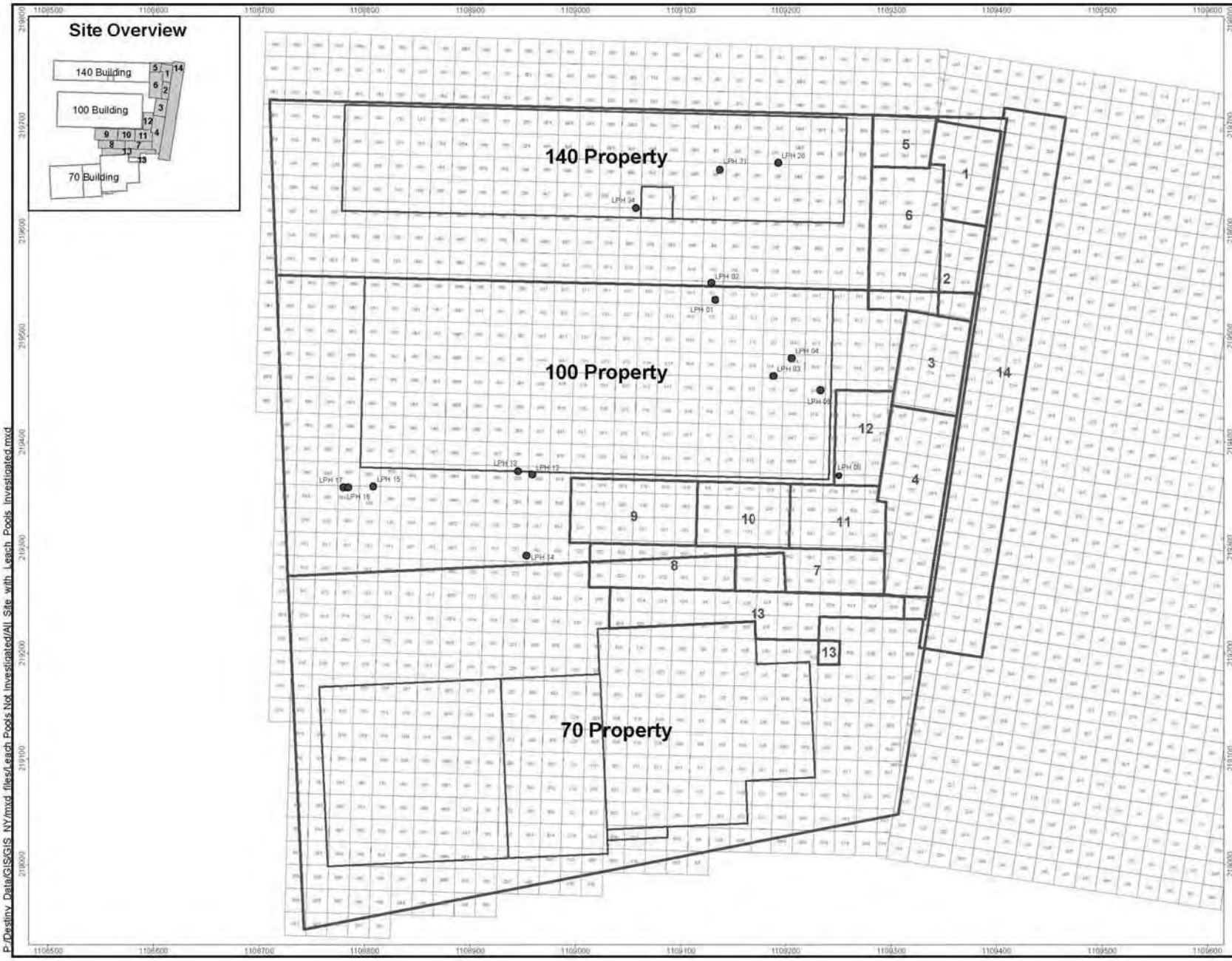

Figure 1
Historic Leach Pools Investigated

Legend

- Historic Leach Pool
- Building
- Property Line
- Subcell Boundary
- Cell Boundary

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet

0 80 160

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00089-1 URS27010-039

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DRI_ID: 1006.H6673 March 16, 2006

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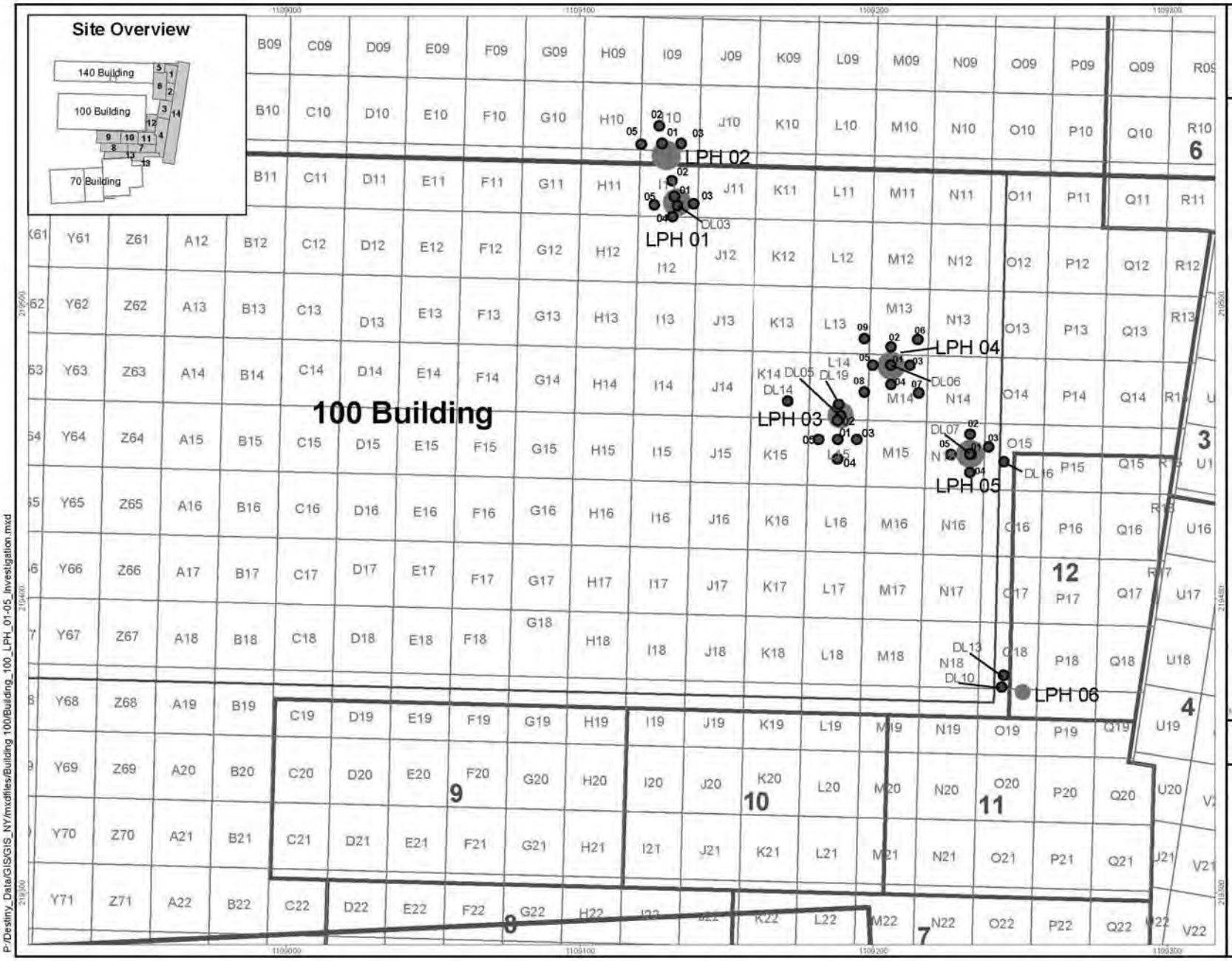

Figure 2
Spring 2004 Investigation and LPH Investigation Soil Boring Locations

Legend

- Spring 2004 Investigation Boring Location
- LPH Investigation Boring Location
- Building
- Property Line
- Historic Leach Pool
- Subcell Boundary
- Cell Boundary

See Table 1, Table 2 and Table 3 for summarized sample results.

Borings DL06 and 01 in LPH04 and borings DL07 and 01 in LPH05 are very close and are shown with one circle on the figure.

Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet

0 30 60

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00069-1 URS27010-039

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DRI_ID: 1006.H6770 March 21, 2006

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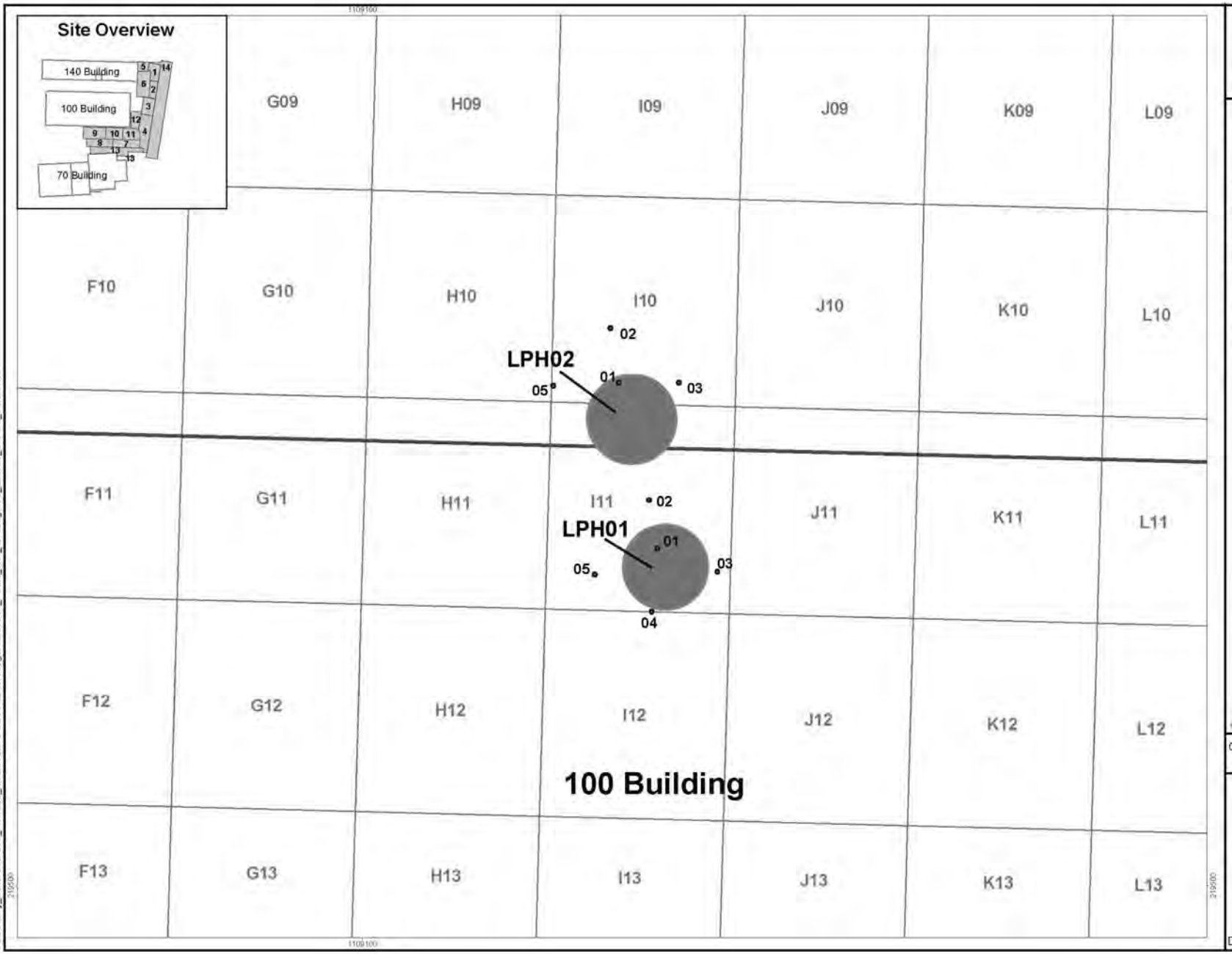

Figure 3
Historic Leach Pools Investigation of LPH01 and LPH02

Legend

- LPH Investigation Boring Location
- Building
- Property Line
- Historic Leach Pool
- Subcell Boundary

See Table 2 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet

0 5 10

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00859-1

URS27010-039

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DRI_ID: 1006.H6672

March 21, 2006

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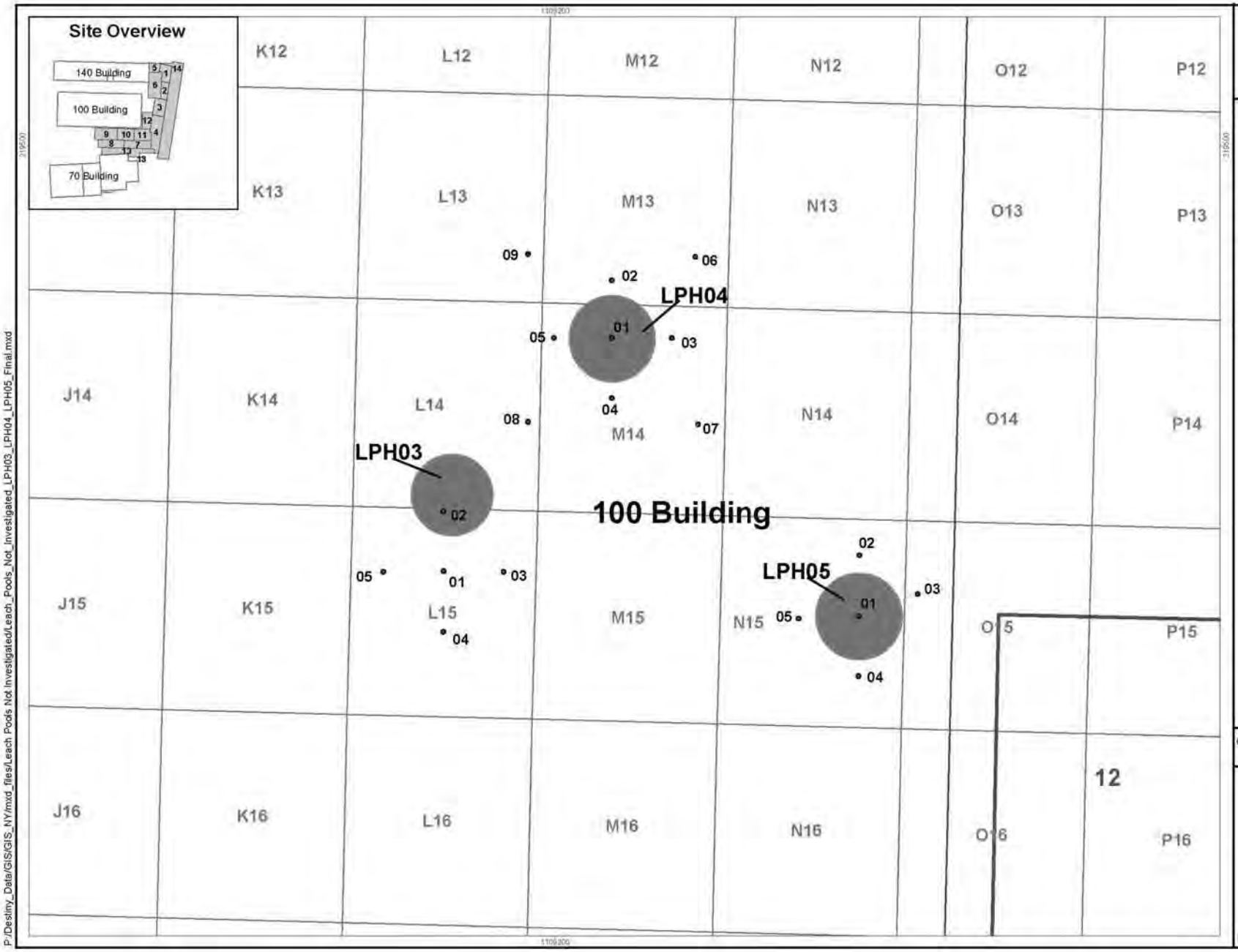

Figure 4
Historic Leach Pools Investigation of LPH03, LPH04 and LPH05

Legend

- LPH Investigation Boring Location
- Building
- Historic Leach Pool
- Subcell Boundary
- Cell Boundary

See Table 3 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet
0 5 10

Projection Information
State Plane
Long Island Zone
North American Datum 1983
Feet

IVY8DEC V00069-1 DRS27010-039

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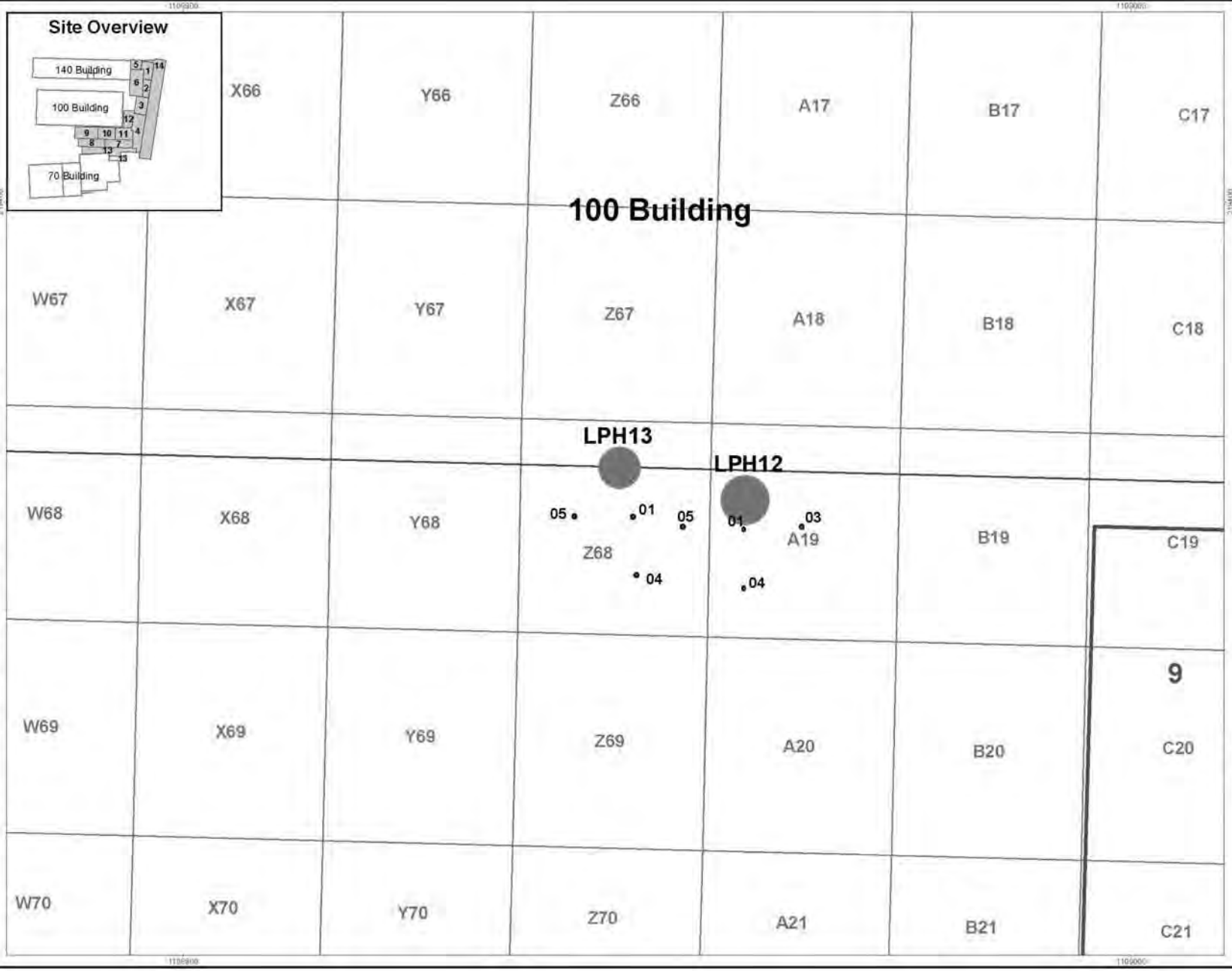

Figure 5
Historic Leach Pools Investigation of LPH12 and LPH13

Legend

- LPH Investigation Boring Location
- Building
- Historic Leach Pool
- Subcell Boundary
- Cell Boundary

See Table 4 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet

0 5 10

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NTS/SEC: W8089-1 DR#227810-059

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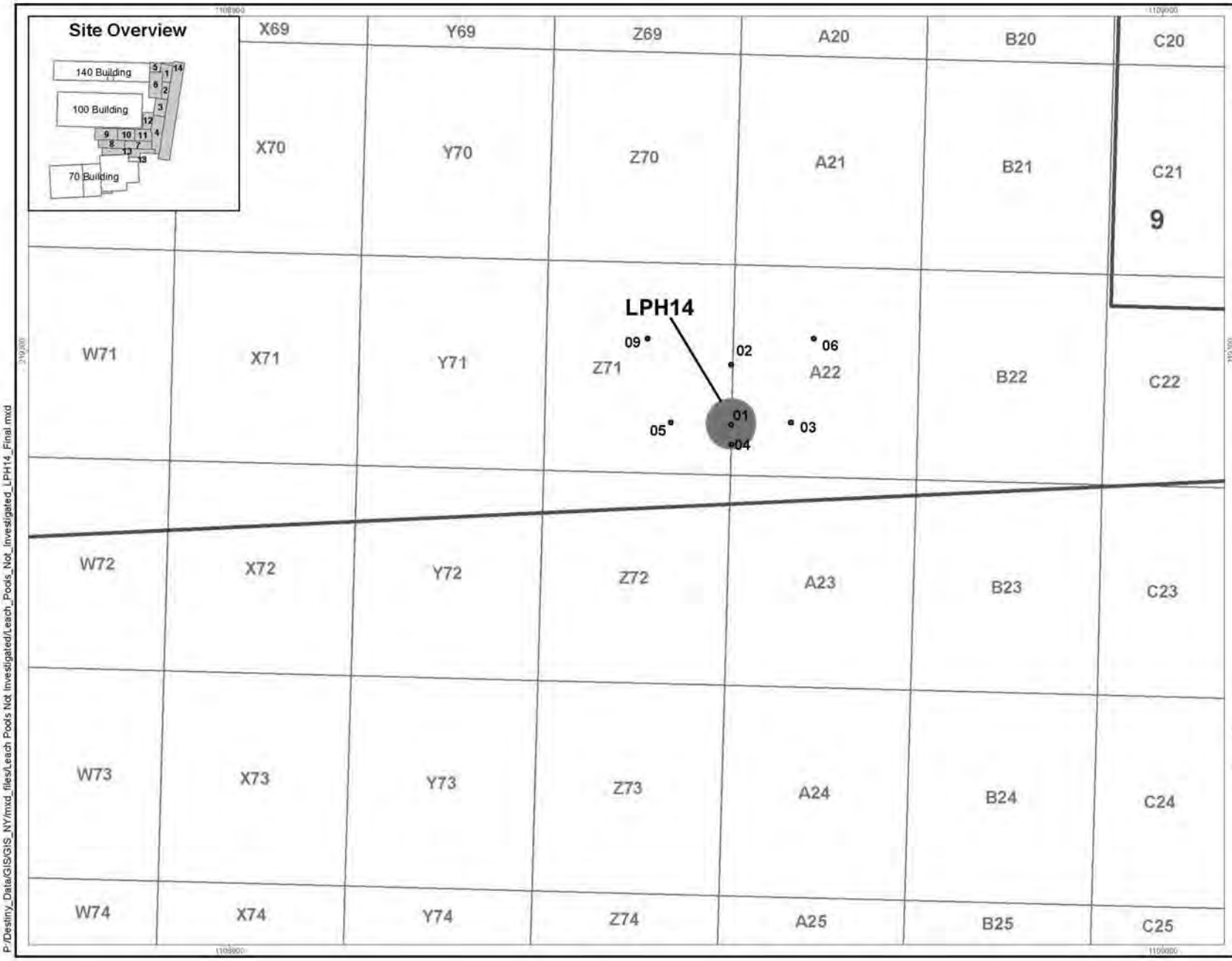

Figure 6
Historic Leach Pools Investigation of LPH14

Legend

- LPH Investigation Boring Location
- Property Line
- Historic Leach Pool
- Subcell Boundary
- Cell Boundary

See Table 5 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet

0 5 10

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

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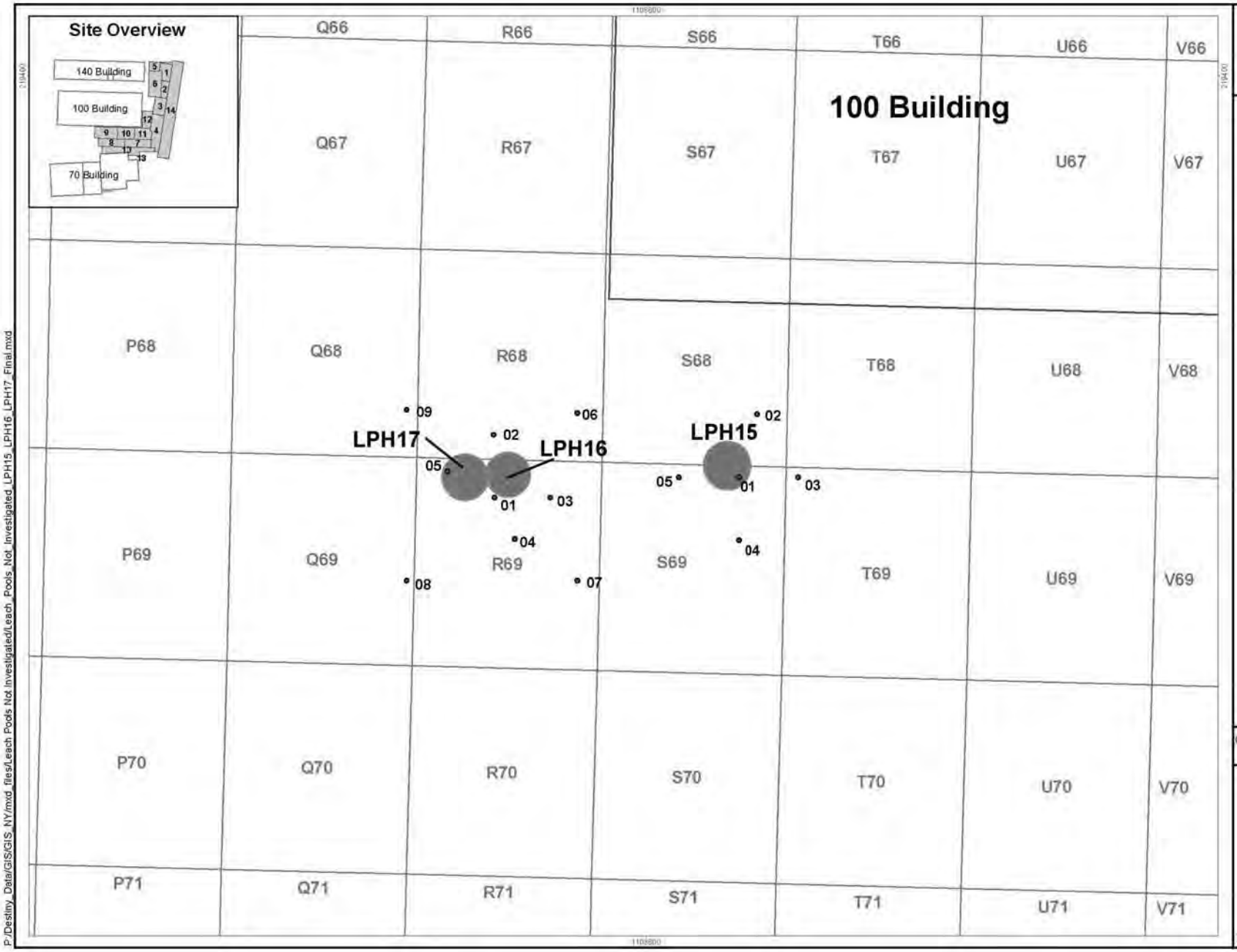

Figure 7
Historic Leach Pools Investigation of LPH15, LPH16 and LPH17

Legend

- LPH Investigation Boring Location
- Building
- Historic Leach Pool
- Subcell Boundary

See Table 6 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

Due to the proximity of LPH16 and LPH17, all soil borings were given the designation LPH16.

N

Feet

0 5 10

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00069-1 UKS2/010929

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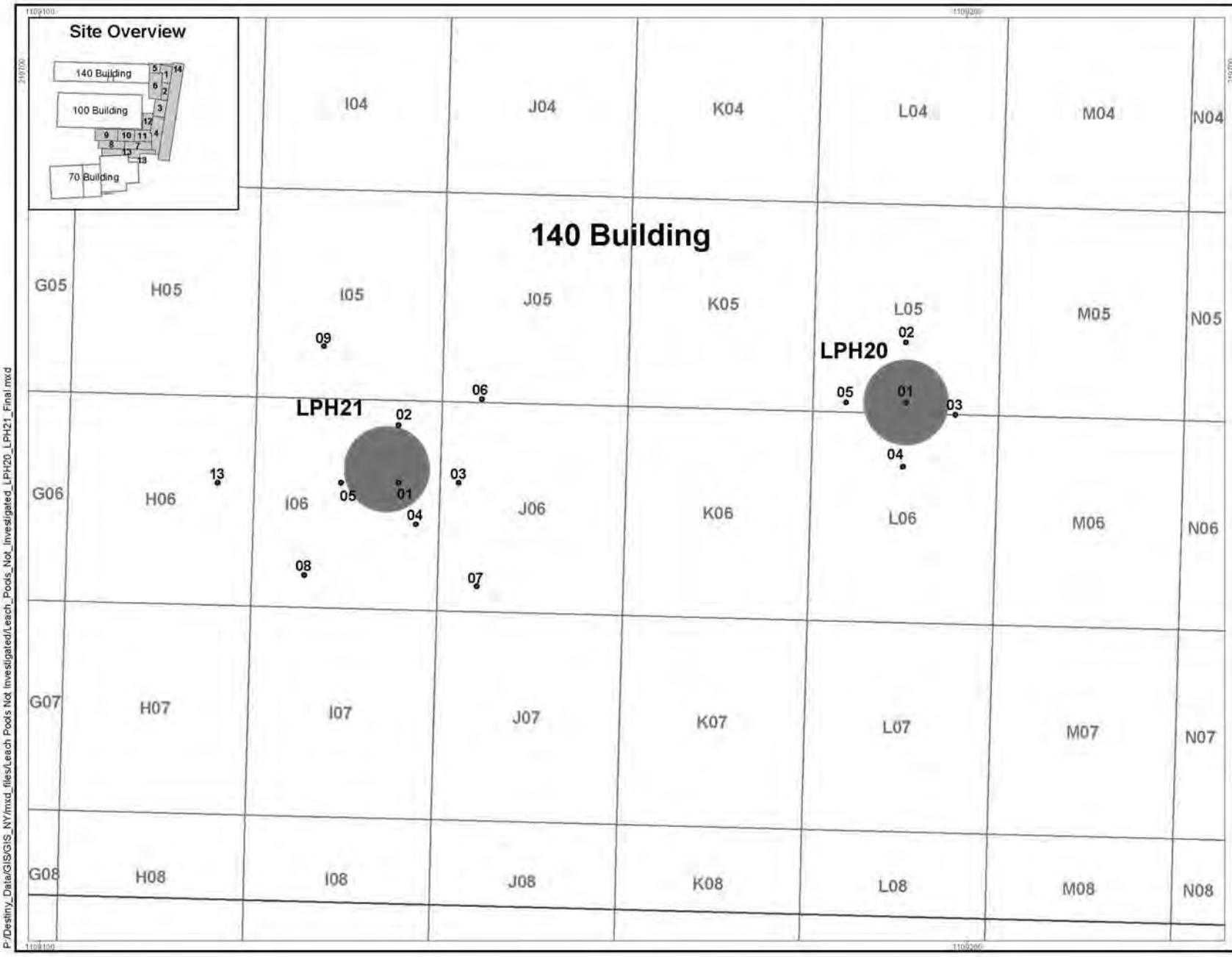

Figure 8
Historic Leach Pools Investigation of LPH20 and LPH21

Legend

- LPH Investigation Boring Location
- Building
- Historic Leach Pool
- Subcell Boundary

See Table 7 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

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March 21, 2006

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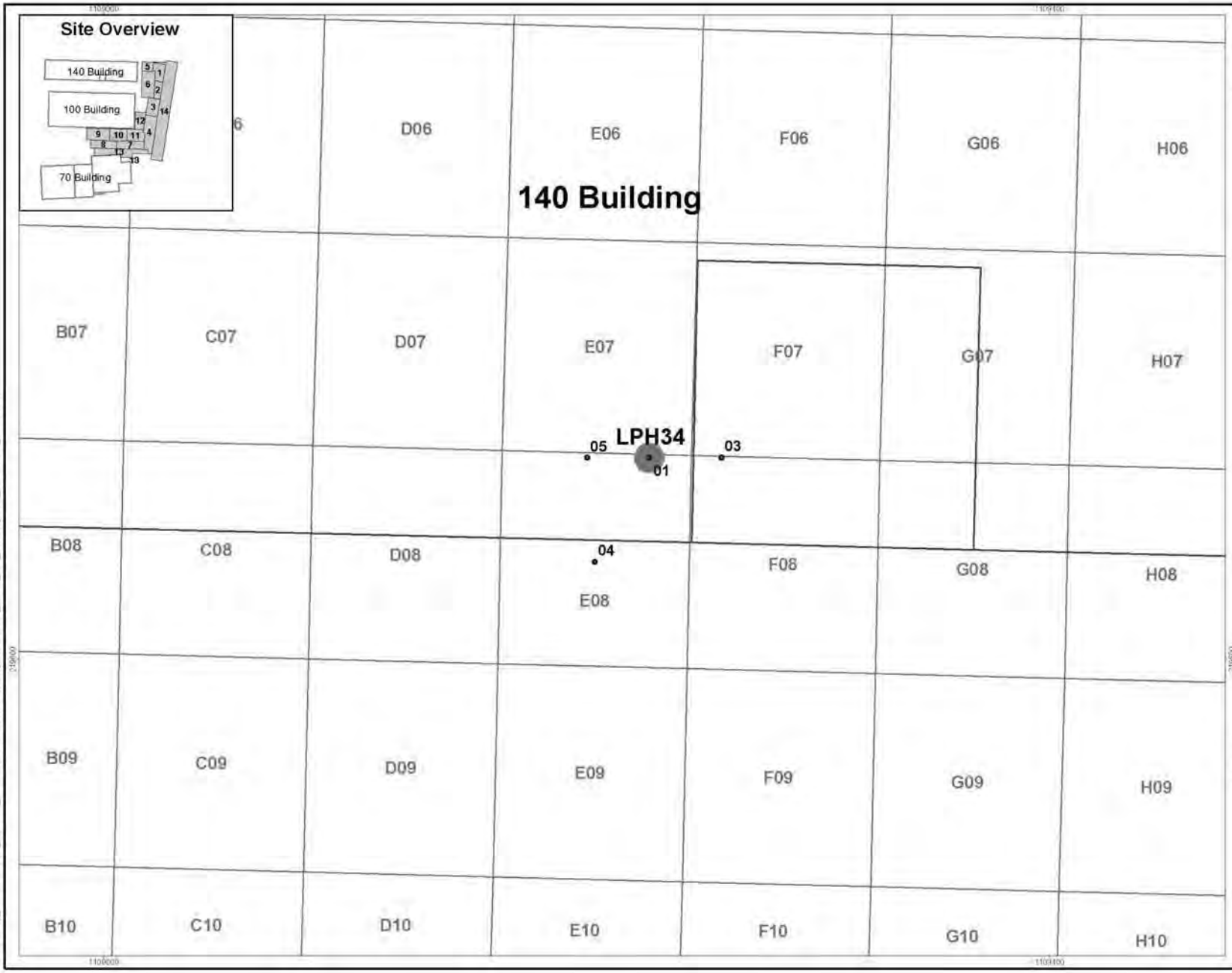

Figure 9
Historic Leach Pools Investigation of LPH34

Legend

- LPH Investigation Boring Location
- Building
- Historic Leach Pool
- Subcell Boundary

See Table 8 for summarized sample results.

Note: Leach pool information and locations were gathered from available historical maps, shallow excavations, and ground penetrating radar data.

N

Feet
0 5 10

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

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DRI_ID: 1006.H6703 March 21, 2006

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Subsurface Soil
Sampling and Analysis Plan
Historic Leach Pools

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York
GTE Operations Support Incorporated

Revision 1: October 2004

NYSDEC: V-00089-1; URS: 27010-039

This Leach Pool Sampling and Analysis Plan (LPH Plan) has been reviewed by URS Corporation – New York, and I am in agreement with the methods and procedures to be used in this investigation.

URS Corporation – New York

Robert D. Brathovde, P.E.
Engineer of Record

This Leach Pool Sampling and Analysis Plan (LPH Plan) has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the methods and procedures to be used in this investigation.

, CHP for Shane Brightwell

Shane Brightwell, CHP
President, PRCI

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Figure 1 – Historic Leach Pools Scheduled for Investigation
Figure 2 – Historic Leach Pools Sample Pattern Example

1.0 INTRODUCTION

During the last two years, soils containing residual uranium (U) and thorium (Th); certain volatile organic compounds (VOCs), specifically tetrachloroethene (PCE) and trichloroethene (TCE); and nickel (Ni), (collectively "target analytes") were excavated from defined areas at the Former Sylvania Electric Products Incorporated (Sylvania) property (the Site) and shipped off Site to an approved disposal facility. During excavation, various structures were encountered or otherwise identified. Those structures include, for example, historic leach pools, recharge basins, dry wells, and sumps. For the purposes of this Leach Pool Sampling and Analysis Plan (LPH Plan), historic leach pools, dry wells and catch basins are collectively referred to as historic leach pools (LPHs).

GTE Operations Support Incorporated (GTEOSI) is now preparing to investigate residual contamination in subsurface soils at locations on Site that formerly were used as LPHs. The purpose of this LPH Plan is to describe procedures to be used during investigation of the subsurface soils associated with LPHs. Fifteen suspected LPHs that have not been remediated remain on the Site as shown in Figure 1. Of the fifteen, LPH 24 is on the 70 Property and will be investigated at a later date; and LPH 06 was previously investigated and no further work is planned, however the data will be presented with the findings from this LPH investigation. All other LPHs shown on Figure 1 will be investigated pursuant to this LPH Plan.

The various sections of this plan will present the steps to be implemented in order to characterize the subsurface soils in the areas around the former LPH locations. The steps are written in such a manner that supports the characterization of a single LPH with no other LPHs in the vicinity. Modification to these steps will be permitted when two or more LPHs are located (or suspected) in the same general area or when field conditions or sample results indicate the modifications would better support the intent and objective of this plan as stated in Section 2.0. For example, the location of sampling points may be varied to delineate the perimeter surrounding several LPHs in close proximity to each other. All modifications to steps in this plan shall be made with the prior concurrence of the Radiation Safety Officer (or his designated alternate) and the prior approval of the Project Coordinator.

2.0 OBJECTIVE

The objective of the LPH Plan is to investigate the soils in the areas of the LPHs for the presence of these target analytes and, if such compounds are present above the cleanup criteria specified in the *Comprehensive Soil Remediation Work Plan*, Revision 5, June 2003 (Work Plan), delineate the areas of impact. Once the vertical and horizontal extents and associated concentrations have been delineated, this information will be used to evaluate the need for remediation.

3.0 APPLICABLE GUIDANCE

Remediation at the Site is being performed in accordance with a Voluntary Cleanup Agreement, Site V-00089-1, Index W1-0903-01-12, between New York State Department of Environmental Conservation (NYSDEC) and GTEOSI. Field procedures and analytical methods identified in the approved Site Work Plan have been incorporated in this sampling plan where appropriate. The investigation of soils to determine the presence of, concentrations, extent, and boundaries of contaminants is termed a *characterization* survey. The principles for a characterization survey described in Chapter 5 of *NUREG 1575, Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM), have been considered in developing this Plan. Specific methods recommended in MARSSIM for subsurface soil sampling, have been incorporated in this LPH Plan.

4.0 LPH INVESTIGATION

The areas where the LPHs are located, shown in Figure 1, are covered with asphalt, concrete, building foundations or other surface materials. Additionally, the top of the each LPH may range from 0.15 meters (6 inches) to 2 meters (6.5 feet) below ground surface (bgs). The LPHs will be preliminarily located using historic maps and ground penetrating radar (GPR) data. This information will be used as a starting point in the field to locate each LPH. An excavator may then be employed to remove surface materials and/or overburden to physically locate the LPHs so that sampling patterns can be aligned accordingly. The construction of the pools, to the extent possible, will be documented in the field notes. Once an LPH is located, the starting sample location will be selected as described below.

4.1 SAMPLE LOCATIONS

The starting LPH sample location will be selected as close as possible to the geometric center of the main body of the historic leach pool as determined by reference to historical maps and other information, visual inspection, and use of ground-penetrating radar. Sampling coordinates will be determined using global positioning system (GPS) or laser positioning system (LPS). Once the center starting point location, sampling, and on-Site analyses are completed and the results evaluated, the associated sample pattern for the next four locations will be established. The spacing for the adjacent sampling locations will be established on a circular pattern as shown on Figure 2, just outside the LPH ring approximately 2 meters from the center location (more if necessary to remain outside the LPH). If needed, additional sampling points will be established on a concentric ring pattern outside the first ring as described below.

1. *Sampling Pattern* - The sampling pattern has been designed for delineating uniform (symmetrical) or non-uniform zones or areas of residual contamination. Sampling can be stopped along boundaries where residual contamination is no longer identified, and continued in the direction(s) where residual contamination is detected. Sampling will be performed as follows:

a. Sample points on the circles with 2-meter and 6-meter radii are placed on rays at 0°, 90°, 180°, and 270°. Sample points on the circle with a 4-meter radius are placed on rays at 45°, 135°, 225°, and 315°;
b. Samples on the 8-meter radius circle are spaced 45° apart, starting at 22.5°;
c. Samples on the 10-meter radius circle are spaced 45° apart, starting at 0°; and
d. If radial sample intervals are required at a distance of 12 meters or greater from the center, the sample locations can be set at 22.5° apart following the same pattern, pattern as set forth in subparts b and c, as applicable.

2. *Horizontal Boundary* - This pattern continues until the analytical data and associated trends demonstrate that the horizontal boundary of the impacted area has been established.

3. *Vertical Interval* - Based on the results of excavation and subsurface soil investigations performed during Site remediation completed to date, LPH impacts often were identified in relatively thin soil layers. Specifically, concentrations in LPH impacts increased from not detected to greater than the cleanup criteria in the next lower 0.3-meter (1-foot) interval. Within the same boring, the concentrations may then decrease rapidly over the next 0.3 to 0.6-meter (1- to 2-foot) intervals. As a result, subsurface soil delineation (DL) samples will be collected and analyzed by on-Site analytical capabilities at minimum of 0.3-meter (1-foot) intervals.

4. *Vertical Boundary* - Typically, the impacts at depth detected in the LPHs investigated to date were consistent with the depth of each LPH bottom [approximately 5 to 7 meters (16 to 23 feet) bgs], with occasional impacts found in fill soils within the LPH above the former bottom elevation. In certain instances, impacts were identified at depths deeper and widths broader than the LPH structure due to vertical and horizontal migration of contaminants. Impacts detected outside the LPHs were always accompanied by impacts identified within the LPH. Therefore, the initial sampling will be within the LPH footprint and the initial target depth will be the first soils encountered below the top of the LPH. (Note: Soil voids have been encountered in some of the LPHs investigated to date.) Sampling will continue if indications are that impacts continue, until two consecutive 0.3-meter (1-foot) intervals are observed as containing impacts less than the cleanup levels as defined in the Work Plan. Sampling will continue to the bottom of the LPH regardless of whether impacts above cleanup levels occurred in the two intervals above the bottom. After determining the vertical extent of impacts, the final sample after two consecutive samples with impacts less then cleanup levels will be collected and analyzed using the confirmation/verification (CF/VF) sampling procedure specified in the Work Plan. Subsequently, all other sampling locations identified during the horizontal delineation of the LPH will be sampled to the depth established during the vertical delineation.

4.2 MATERIALS AND METHODS

The following narrative describes the sample collection, analysis, and evaluation methodology to be used to execute this Plan.

4.2.1 Soil Sampling

The subsurface soil sampling prescribed in this LPH Plan can be performed by one of two methods:

1. A hollow-stem auger drill rig with split-spoon sampling capabilities can be used to collect soil samples. The split spoon (2 feet in length and 3 inches in diameter) is advanced in 2-foot intervals. Two, 1-foot interval samples will be collected per split-spoon. If access with a drill rig is not feasible, then a hand-held auger may be used as described below. Minor modifications to the hollow-stem auger drill rig will occur during use inside a building.

2. Although the hollow-stem auger method is preferred, a hand auger may be used for subsurface sampling of soils if:
    a. Solids (cobbles, debris, etc.) do not cause refusal;
    b. Soil conditions (moisture, etc.) do not cause excessive sloughing; and
    c. Preservation of the soil sample integrity for physical testing is not required.

The hand auger (8 inches in length and 4 inches in diameter) collects approximately 8 inches of soil. The hand auger will be advanced to the next sampling interval prior to subsequent sample collection.

4.2.2 Sample Field Screening and Preparation

Each sample will be field screened with a 3-inch sodium iodide (NaI) gamma detector to evaluate potential residual radiological impacts and a photoionization detector (PID) to evaluate the presence of VOCs. In addition, an x-ray fluorescence (XRF) spectrometer will be used on Site to screen samples for nickel. The field observations will be documented on the boring logs.

4.2.3 Sample Collection

Samples collected for radiological analysis will be placed in 1-liter Marinelli containers. Samples collected from the surface down to the depth required based on analytical results (as described earlier) will be labeled as "DL" (delineation) samples. DL samples will be used for radiological screening and analyzed on Site using gamma spectroscopy. The bottom sample interval will be labeled as "SP" (sample point) samples. The SP samples will be analyzed for radionuclides both on Site and off Site, consistent with the Work Plan criteria for CF/VF sampling.

Samples collected for chemical analysis will be placed in pre-preserved methanol vials and non-preserved 40-ml vials. The DL samples are not analyzed for VOCs or nickel unless field screening/observations support collection of a chemical or nickel sample. The SP samples will be analyzed for VOCs both on Site and off Site, consistent with the Work Plan criteria for CF/VF sampling.

A geologist will describe the samples in general accordance with the Unified Soil Classification System (USCS). Sample descriptions will include soil type, color, moisture, and other visual observations and field readings. This information will be documented on soil boring logs.

All samples will be logged into the Site sample tracking / barcode system.

4.2.4 Sample Analysis

Each DL sample will be analyzed for 10 minutes by on-Site gamma spectroscopy (providing a nominal detection limit of approximately 0.014 pCi/g for Th-232 and 3.6 pCi/g for U-238, both of which are far below their associated cleanup level) to quantify the concentrations of target radionuclides of U and Th. Each SP sample will be analyzed for 30 minutes by on-Site gamma spectroscopy (providing a nominal detection limit of approximately 0.008 pCi/g for Th-232 and 2.0 pCi/g for U-238, both of which are far below their associated cleanup level as well as by alpha spectroscopy (alpha-spec) at the off-Site laboratory [Severn Trent Laboratories, Earth City, Missouri (STL)] for isotopic Th and U.

If DL samples are collected for chemical analyses, they will be analyzed for VOCs on Site by Stone Environmental. Each SP sample will be analyzed for VOCs on-Site by Stone Environmental as well as off Site by STL for VOCs and nickel.

5.0 SAMPLING/ANALYSIS PROCEDURE

The following is the step-by-step procedure for sample collection and subsequent analysis. It is the responsibility of each technician to read, understand, and question if they do not understand, the following procedures.

1. The applicable Chemical/Radiological Work Permit (C/RWP) and Activity Hazards Analysis (AHA) will be in place prior to commencement of sampling.

2. The field crew will be briefed on this procedure prior to commencement of sampling.

3. Each sampling location will be located and surveyed in the field using either a LPS or GPS surveying system.

4. Investigate sample locations for utilities and obstructions prior to excavation to locate the LPH. If utilities or obstructions are present, take necessary steps to place them in safe condition prior to proceeding (lock out/tag out).

5. Physically locate and expose the top of the LPH using available means such as excavation. Any overburden will be stockpiled, if possible, in such a way that it can be screened or sampled for waste characterization if necessary. Again where possible, overburden will be staged in Lift Liners® that can be readily packaged for disposal or re-opened and placed back on the LPH after completion, as applicable.

6. Continuous sampling will be conducted at 1-foot intervals beginning with the soil first encountered within the LPH to identify potential impacts of target analytes. These samples will be documented as DL samples.

7. Radiological field screening of samples will be conducted on each sample using a NaI gamma detector.

8. Chemical field screening of samples for VOCs will be conducted on each sample using a PID. An XRF spectrometer will be used for on-Site nickel screening of every other sample beginning with the second sample in the boring, continuing with the fourth sample, sixth sample, etc. Soil samples (~100g) for Ni screening by XRF will be collected in Ziploc® bags if the soils are relatively dry and in glass jars if the moisture content is 20% or higher. The samples will be delivered to Stone Environmental for either direct screening by XRF, or for drying in an oven, and then screening by XRF. For those DL quality control (QC) samples to be submitted to STL, the soils will be transferred from the Ziploc® bags to 40-ml glass vials in the sample preparation area. For QC purposes, every tenth sample will be screened by XRF and then submitted to STL for duplicate analyses.

9. A geologist will log the borings and record observations and measurements consistent with the USCS nomenclature and procedures, noting indications of soil impacts by chemicals and other potential contributors to contamination.

10. Radiological DL samples will be analyzed by on-site gamma spectroscopy for a 10-minute count time. If the bottom two 0.3-meter (1-foot) DL sample intervals are lower than target levels and the nickel screening results meet the cleanup objectives, then a SP sample will be collected. If not, then continue with sampling procedure until the DL sample criteria are met.

11. The SP sample will be collected after the DL sampling criteria have been met and will be treated in the same manner as a CF/VF samples. For the central boring (boring location 1) an additional SP sample will be collected as near as discernable to the bottom of the LPH to provide information about the contents of the structure. At times, it may not be possible to locate the LPH bottom; in this instance, if the bottom is anticipated at a specific depth (knowledge from near-by LPHs), than an SP sample should be collected just above the assumed depth of the bottom. If no evidence exists to support the presence of the LPH sediment at the bottom, then no additional sample will be collected. Radiological SP samples will be analyzed by on-Site gamma spectroscopy for a 30-minute count time as well as off-Site isotopic analyses for U and Th by STL. Chemical SP samples will be collected and placed in vials with methanol for on-Site analysis by Stone Environmental and in 40-ml vials for submission to STL for analysis of VOCs. For those soils designated as SP samples, following the XRF screening, the soils will be transferred from the Ziploc® bag and placed in 40-ml glass vials in the sample preparation area and submitted to STL for nickel and beryllium analysis (as requested by NYSDEC).

12. If oily soils are encountered, they will be collected while sampling as either DL or SP samples. Pursuant to the NYSDEC request, these soils will be submitted to STL for analysis

of polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs) base/neutral fraction, only, in addition to VOCs, isotopic analyses for U and TH, nickel, and beryllium. The soils collected for PCB and SVOC analyses will be placed in 250-ml glass jars; a minimum of 100g is needed to accommodate both analyses. The containers for the other analyses will follow the instructions provided above. (If sufficient sample volume of oily soils is not available, the chemical analyses for VOCs, SVOCs, PCBs, nickel and beryllium will take precedence over samples for radiological analyses.)

13. After the completion of sampling from a given location, the borehole will be backfilled with clean cuttings and/or on-Site clean backfill material to within 0.1 to 0.15 meters (4 to 6 inches) of the top of the borehole. The remaining 0.1 to 0.15 meters (4 to 6 inches) will be filled with asphalt or applicable surfacing material.

14. Decontamination of sampling equipment will be performed in accordance with SOP-RAD-011, Equipment Decontamination and to meet chemical decontamination specifications.

6.0 TARGET CONCENTRATIONS

The soil concentrations for all samples will be compared to the Site cleanup levels, NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4060, or Site background concentrations, as appropriate, as defined in the Work Plan.

7.0 SCHEDULE

The work described in this LPH Plan was initiated on September 27, 2004.

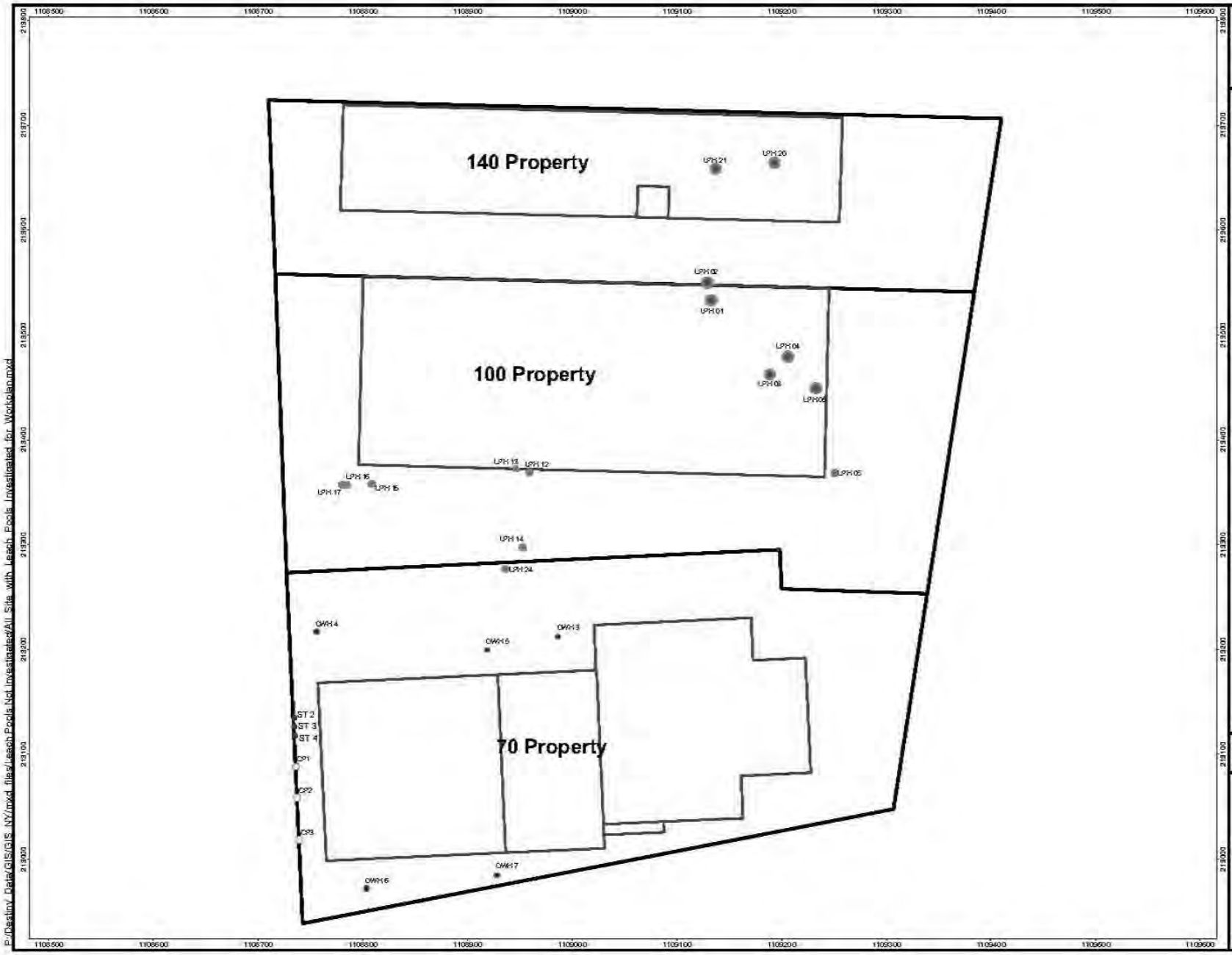

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Figure 1
Historic Leach Pools Scheduled for Investigation

Legend

- Leach Pool Historical
- Historical Cistern
- Historic Dry Well
- Historical Cesspool
- Building
- Property Line

Note: Leach pool data provided by available historical maps.

N

Feet

0 80 160

Projection Information
Stateplane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00069-1 URS27010-039

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DRI_ID: 1006.H6761 August 10, 2004

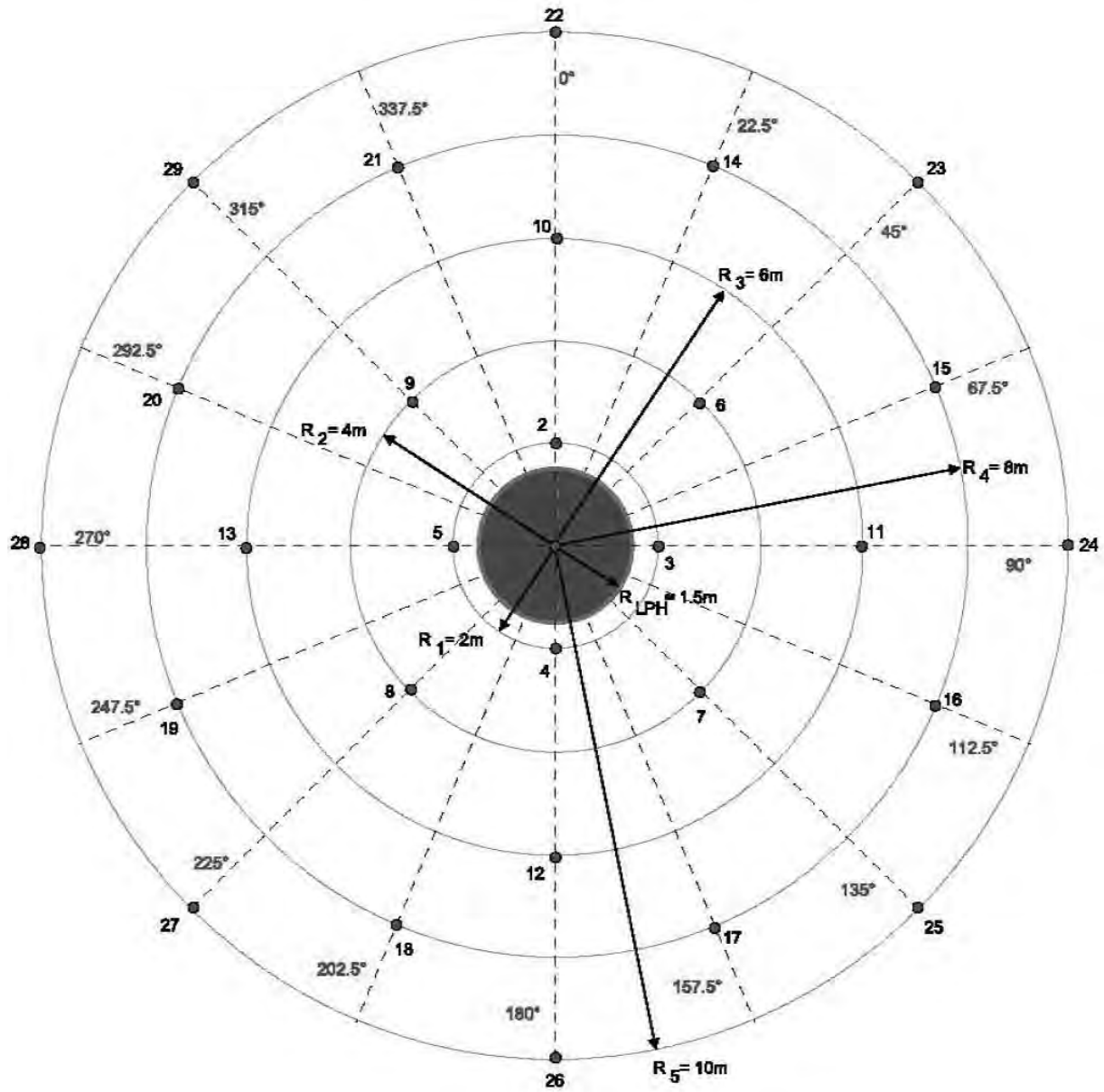

Figure 2
Historic Leach Pools
Sample Pattern Example

Legend

Leach Pool Historical

R Radius
m Meters
1 Boring Sequence Number
45° Degrees

N

NYSDEC-V00089-1 UR827010-039

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DRI_ID: 1008.H5228 August 13, 2004

Intrinsic_mimmd_files/Leach_Pool_Sample_Pattern.mxd

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Building 40 - SUNY, Stony Brook, New York 11790-2356
Phone: (631) 444-0240 • **FAX:** (631) 444-0248
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

September 17, 2004

Jean Agostinelli, Vice President - Controller
GTE Operations Support Inc.
140 Cantiague Rock Road
Hicksville, NY 11801

Re: Sub Surface Soil Sampling and Analysis Plan, Historical Leaching Pools, September 2004
Former Sylvania Electric Products Facility, #V00089-1

Dear Ms. Agostinelli:

The Department has the following comments on the subject work plan:

1) Page 1, Section 1.0 - There are some other historical leaching pools, sanitary pools, and dry wells on the 70 parcel indicated on the 1966 H2M survey that are not indicated on your figure. Their locations make it difficult to evaluate them at this time for this active facility. However, these pools will have to be evaluated later in a subsequent investigation.

2) Page 4, Section 4.2.4 - Please also analyze the soil samples for beryllium.

3) Additional sampling parameters may be necessary based on field observations. Any soils that have an oily appearance should also be analyzed for SVOCs (base neutrals) and PCBs.

3) Data evaluation, as specified in the previously approved work plans, will be required.

4) In understand that, as have been done previously during the preliminary evaluation of leaching pools on the 100 parcel, the slab or pavement will be removed around the suspected location in an attempt to sample directly from inside the leaching pools. Previous leaching pool sampling suggests that this is the only effective and accurate way to evaluate the leaching pools.

5) The construction of the pools must be documented. (Are the walls solid or perforated? Is the bottom solid or open? What pipes are visible in the sidewalls? What is the size of the pool? Is it precast or a block pool?)

6) The XRF results are for field screening only as an aid in selecting the most appropriate samples to be sent for off-site analysis.

7) In the event that a leaching pool cannot be found and sampled directly from inside the pool, other methods to further evaluate the area, such as soil gas sampling and/or groundwater sampling, should be discussed with the Department.

8) Investigation of potential groundwater impacts will be required later in a subsequent investigation, if appropriate.

9) Community air monitoring, as specified in NYSDOH's generic CAMP, is required during the leaching pool investigation.

Under the above conditions, I find the work plan to be acceptable. No revisions to the work plan are necessary. However, please attach a copy of this letter to the approved work plan.

Sincerely,

Robert R. Stewart

Robert R. Stewart
Environmental Engineer I

cc: W. Parish
K. Carpenter
J. Riggi
J. Nealon, NYSDOH

verizon

GTE Operations Support Incorporated
600 Hidden Ridge Drive
Mail Code: HQE03E75
Irving, TX 75038

October 8, 2004

Robert R. Stewart
Environmental Engineer I
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Building 40 - SUNY
Stony Brook, New York 11790-2356

Re: **Sub Surface Soil Sampling and Analysis Plan, Historical Leaching Pools, September 2004**
Former Sylvania Electric Products Facility Incorporated
By: GTE Operations Support Incorporated
Site #: V00089-1 Index #: W1-903-01-12

Dear Mr. Stewart:

In response to the Department's comments on the subject Work Plan conveyed in the letter of September 17, 2004, GTE Operations Support Incorporated (GTEOSI) offers the following:

NYSDEC Comment 1) Page 1, Section 1.0 *- There are some other historical leaching pools, sanitary pools, and dry wells on the 70 parcel indicated on the 1966 H2M survey that are not indicated on your figure. Their locations make it difficult to evaluate them at this time for this active facility. However, these pools will have to be evaluated later in a subsequent investigation.*

GTEOSI Response: We concur that the investigations on the 70 Property at a later time would be appropriate. We will note such leaching pools, sanitary pools, and dry wells on the figure.

NYSDEC Comment 2) Page 4, Section 4.2.4 *- Please also analyze the soil samples for beryllium.*

GTEOSI Response: We will add the analysis of beryllium for soils slated for the nickel analysis in the SP samples (or oily samples, see NYSDEC comment 3-a) sent to STL. Please see item #11 in Section 5.0 Sampling/Analysis Procedure of the revised Subsurface Soil Sampling and Analysis Plan Historic Leach Pools – Revision 1: October 2004.

NYSDEC Comment 3-a): *Additional sampling parameters may be necessary based on field observations. Any soils that have an oily appearance should also be analyzed for SVOCs (base neutrals) and PCBs.*

GTEOSI Response: Should oily soils be encountered during the investigation, these soils will be submitted for PCBs and SVOCs (base/neutral fraction) analysis. Please see item #12 in Section 5.0 Sampling/Analysis Procedure of the revised Subsurface Soil Sampling and Analysis Plan Historic Leach Pools – Revision 1: October 2004.

NYSDEC Comment 3-b): *Data evaluation, as specified in the previously approved work plans, will be required.*

GTEOSI Response: We agree and will prepare a report of investigative procedures and findings.

NYSDEC Comment 4): *In understand that, as have been done previously during the preliminary evaluation of leaching pools on the 100 parcel, the slab or pavement will be removed around the suspected location in an attempt to sample directly from inside the leaching pools. Previous leaching pool sampling suggests that this is the only effective and accurate way to evaluate the leaching pools.*

GTEOSI Response: We will attempt to remove surficial soils and overburden to uncover the LPHs as stated in Section 4.0 of the Subsurface Soil Sampling and Analysis Plan Historic Leach Pools – Revision 1: October 2004.

NYSDEC Comment 5*):* *The construction of the pools must be documented. (Are the walls solid or perforated? Is the bottom solid or open? What pipes are visible in the sidewalls? What is the size of the pool? Is it precast or a block pool?)*

GTEOSI Response: To the extent that the uncovering of the LPH top and the drilling operations will reveal the details of the structures, they will be documented. We will not be excavating the LPHs at this time. Hence, it will not be possible, with this boring program, to determine the walls, the bottom, visible pipes, etc.

NYSDEC Comment 6): *The XRF results are for field screening only as an aid in selecting the most appropriate samples to be sent for off-site analysis.*

GTEOSI Response: We concur that the XRF data will be used for screening purposes; off-Site analysis at STL will be used for the confirmation/verification samples.

NYSDEC Comment 7): *In the event that a leaching pool cannot be found and sampled directly from inside the pool, other methods to further evaluate the area, such as soil gas sampling and/or groundwater sampling, should be discussed with the Department.*

GTEOSI Response: LPHs that cannot be located will be evaluated in light of the analytical results which are available; other methods will be evaluated and discussed with NYSDEC as to a feasible approach for assessment.

NYSDEC Comment 8): *Investigation of potential groundwater impacts will be required later in a subsequent investigation, if appropriate.*

GTEOSI Response: Agree.

NYSDEC Comment 9): *Community air monitoring, as specified in NYSDOH's generic CAMP, is required during the leaching pool investigation.*

GTEOSI Response: Agree. We will continue with the CAMP as the LPH investigation is an invasive procedure and the CAMP would be conducted during all such procedures. In addition, work place monitoring will be conducted as appropriate.

NYSDEC Comment): *Under the above conditions, I find the work plan to be acceptable. No revisions to the work plan are necessary. However, please attach a copy of this letter to the approved work plan.*

GTEOSI Response: Your letter, dated September 17, 2004, in addition to this response letter will be attached to the LPH Work Plan. Also enclosed is the revised Subsurface Soil Sampling and Analysis Plan Historic Leach Pools – Revision 1: October 2004.

Sincerely,

Jean Agostinelli
Vice President and Controller

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Appendix C – LPH Boring Logs

This section provides the boring logs from investigation of the historical leaching pools on Site. Borings were advanced using hand augers and hollow-stem auger drilling rigs. Boring logs are provided in sequential order by LPH number, then by sequential boring number. Boring logs from the spring of 2004 investigation are provided after the LPH boring locations.

The main lithologic group name with the appropriate group symbol is described at the top of each stratum. The main lithologic group is in capital letters and bold font. Minor variations within the soil stratum are called out at the approximate elevation in which they occur, and the main lithologic group is not repeated nor any variations above the one identified.

Fill is defined as non-native material (evidenced by color, texture, structure, or miscellaneous debris), other than the material GTEOSI used to backfill excavations, which is noted as 'backfill' in the logs.

A plus sign (+) is used in the 'Notes' or 'Remarks' column of the boring logs and indicates a depth above ground surface. A minus sign (-) is displayed in the 'Depth (feet)' column and has the same meaning (depth above ground surface) but is used due to program restrictions.

MAJOR DIVISIONS			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL CLASSIFICATION CHART

MATERIAL SIZE	PARTICLE SIZE			
	LOWER LIMIT		UPPER LIMIT	
	MILLIMETERS	SIEVE SIZE*	MILLIMETERS	SIEVE SIZE*
SAND				
FINE	.074	#200*	0.42	#40*
MEDIUM	0.42	#40*	2.00	#10*
COARSE	2.00	#10*	4.76	#4*
GRAVEL				
FINE	4.76	#4*	19.1	3/4"•
COARSE	19.1	3/4"•	76.2	3"•
COBBLES	76.2	3"•	304.8	12•
BOULDERS	304.8	12•	914.4	36"

*U.S. STANDARD •CLEAR SQUARE OPENINGS

GRADATION CHART

Notes:

1. Dual symbols are used to indicate borderline classifications or intermixed strata.

2. Soil descriptions and classification are based on field observations, not on laboratory testing of soil physical properties.

3. When used on the boring logs, the following terms are used to describe the consistency of cohesive soils and the relative compactness of cohesionless soils:

Cohesive Soils	Cohesionless Soils
Very Soft	*Very Loose*
Soft	*Loose*
Medium Stiff	*Medium Dense*
Stiff	*Dense*
Very Stiff	*Very Dense*
Hard	

4. When used on the boring logs, the following terms indicate the volume percentage of the minor soil components estimated in the field based on visual observations:
trace: 1 to 10% *little: 10 to 20%* *some: 20 to 35%* *and: 35 to 50%.*

5. Moisture Content:
Dry: Absence of moisture, dusty, dry to the touch
Moist: Damp but no visible water
Wet: Visible free water, usually soil is below the water table

UNIFIED SOIL CLASSIFICATION SYSTEM AND KEY TO BORING LOGS

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0101
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated to 3' bgs	
1							
2							
3						Void (inside of leach pool)	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Void (inside of leach pool)	
14							
15			*WR	3	0.0	**FILL**, brown, sandy silt, little fine to coarse gravel (likely slough)	*WR = Weight of the rods
16						Light tan to brown, silty, fine sand	
17			*WR	12	0.0	Black, organic layer from 16.75-17.25' Brown to reddish gray, fine to coarse sand, little gravel	
18							
19			*WR	17	0.0	Tan Gravelly from 19.8-20'	
20							
21	SW		20	6	0.0	Brown to tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
22						Tan, little gravel	
23	SP		12	24	0.0	Tan with red laminations, fine to medium **SAND**, medium dense, moist	
24	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense, moist Brown-red, some fine to coarse gravel	
25			12	18	0.0		
	GW					Fine to coarse **GRAVEL** and fine to coarse **SAND**, moist	
26	SW					Brown, fine to coarse **SAND**, moist	

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GW		24	24	0.0	Fine to coarse **GRAVEL**, some brown to tan, fine to coarse sand, medium dense, moist Brown, gravel and fine to coarse sand from 26.7-27.3' Fine gravel layer from 27.2-27.3'	
	SP					Light tan, fine to medium **SAND**, little fine to coarse gravel	
28	SW		22	20	0.0	Red, fine sand layer from 27.5-27.6' Brown from 27.6-28' Brown-red, fine to coarse **SAND**, little fine to coarse gravel, moist	
29	SP					Tan, fine to medium **SAND**, little fine to coarse gravel	
	SW					Dark tan to brown, fine to coarse **SAND**, little fine to coarse gravel, moist	
30	SP		13	17	0.0	Dark tan to brown, fine to medium **SAND**, medium dense, moist Trace fine gravel	
31	SW					Dark tan to brown, fine to coarse **SAND**, some fine to coarse gravel, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/10/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/16/04 4. Analytical samples collected from 15-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0102
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			9	18	0.0	**BACKFILL** Previously excavated to 3' and backfilled with dark tan, silty, fine sand, little fine to coarse gravel, trace clay	
2							
3			10	12	0.0	**FILL**, black, silty, fine sand, little fine to coarse gravel, trace clay	
4							
5			5	16	0.0	1" light tan to white, clayey silt layer	
6	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, loose, trace silt Silt grades out	
7	GW		12	22	0.0	Fine to coarse **GRAVEL**, little medium to coarse sand	
	SP					Tan, fine **SAND, medium dense** 2.5" fine to coarse sand layer at 7.3'	
8							
9	SW		3	11	0.0	Tan, fine to coarse **SAND**, little fine gravel, loose	
	SP					Tan, fine **SAND**	
10							
11	GM		7	14	0.0	Brown, silty, fine to coarse **SAND** and fine to coarse **GRAVEL, loose**	
12	SP					Tan, fine to medium **SAND, loose** Tan and brown, trace fine silt and fine gravel, medium dense	
13			13	17	0.0	2" fine to medium sand and fine to coarse gravel layer	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0102
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, trace fine to coarse gravel, medium dense	
14	SW					Tan, fine to coarse **SAND**, trace fine to coarse gravel, moist	
	SP		14	19	0.0	Tan, fine **SAND**, moist	
15	SW					Tan to gray, fine to coarse **SAND** Fine to coarse gravelly from 15.6-16'	
16	SP		34	24	0.0	Tan, fine to medium **SAND**, some fine to coarse gravel, dense 1" coarse sand layer at 16.75' Gravel grades out	
17	SW					Tan to brown, fine to coarse **SAND**, some fine to coarse gravel	
18	SP		17	20	0.0	Tan, fine to medium **SAND**, little fine gravel and silt, medium dense, moist Brown laminations	
19	GP					Black, fine **GRAVEL** and coarse **SAND**, little fine to medium sand, trace coarse gravel, moist	
	SP					Black and tan, fine to medium **SAND**, little fine to coarse gravel, moist	
20	SW		23	23	0.0	Brown, black, and tan, fine to coarse **SAND**, some fine to coarse gravel, moist Tan	
21	SP		14	19	0.0	Brown, fine to medium **SAND**, little fine gravel, moist Light tan	
22	SW					Brown, fine to coarse **SAND**, some fine to coarse gravel, moist	
23	SP		19	18	0.0	Brown, fine to medium **SAND**, trace fine gravel, moist	
24	SW					Tan to brown, fine to coarse **SAND**, some fine to coarse gravel, moist	
25							
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW		26	24	0.0	Tan to brown, fine to coarse **SAND**, some fine to coarse gravel, moist 1" gray layer, gravel grades out, medium dense 2" coarse sand and fine gravel layer at 26.9' Light tan, some fine to coarse gravel	
27							
28			24	18	0.0	Orange-tan	
29	SP					Tan with brown laminations, fine **SAND**, trace fine gravel	
	SW					Orange-tan, fine to coarse **SAND**, some fine to coarse gravel, moist	
30			19	23	0.0	Little gravel	
31	SP					Orange-tan, fine **SAND** 2" fine gravel and coarse sand layer at 31.6' Brown, fine to medium sand from 31.8'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0103
Date Drilled: 11/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			19	23	0.0	**BACKFILL** Previously excavated to 2' and backfilled with tan, silty, fine sand, little fine to coarse gravel	
2						**FILL**, black, silty, fine to medium sand, little fine to coarse gravel	
3	SW		25	15	0.0	Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
4							
5	ML		8	16	0.4	Tan mottled with gray, sandy **SILT**, little fine gravel, loose	
6	SP					Tan-orange, fine to medium **SAND**, little fine to coarse gravel, trace clay	
7	SW		21	20	0.0	Tan, fine to coarse **SAND,** little fine to coarse gravel, medium dense	
	SP					Tan, fine to medium **SAND** Fine to coarse sand, trace fine gravel layer from 7.8-8'	
8	SM		14	14	0.0	Brown, silty, fine to medium **SAND**	
9	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
	SP					Tan to brown, fine **SAND**, trace silt	
10	SW		11	14	0.0	Tan and gray, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
11							
12							
13			21	18	0.0		

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Date Drilled: 11/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GW					Fine to coarse **GRAVEL** with fine to coarse sand	
14	SW					Tan and gray, fine to coarse **SAND**, some to little fine to coarse gravel, medium dense	
15			24	16	0.0		
16	SP					Tan, fine to medium **SAND**, little fine to coarse gravel	
17			28	19	0.0		
18	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel 1" fine sand layer at 17.5'	
19			23	19	0.0		
	SP					Tan, fine to medium **SAND** Medium to coarse sand, little fine gravel from 19.3-19.5'	
20	SW					Tan, fine to coarse **SAND**	
	GP					Orange-red to brown, trace fine gravel and silt	
21			18	16	0.0	Orange-tan **SAND** and fine **GRAVEL**	
						Tan, fine to coarse **SAND**	
22	SW					Tan-orange, some fine to coarse gravel Dark brown, moist Tan, little fine gravel, coarse gravel grades out	
23			15	20	0.0		
	GW					Brown to gray-tan, fine to coarse **GRAVEL** and fine to coarse **SAND**, moist	
24							
25	SW		17	18	0.0	Brown, fine to coarse **SAND**, little fine to coarse gravel, medium dense Light tan, gravel grades out Dark brown, some fine gravel	
26	SP					Light tan, medium to coarse **SAND**, some fine to coarse gravel	

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Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0103
Date Drilled: 11/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
	GW					Light brown, medium to coarse **SAND** and fine to coarse **GRAVEL**	
27	SP		31	19	0.0	Brown fine **SAND**, grading to tan, fine to medium sand, little fine to coarse gravel, dense	
28	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
29	SP		23	16	0.0	Tan-orange grading to brown-red grading to tan, fine **SAND** 1" fine to coarse sand layers at 28.8' and 29'	
30						Brown to tan, fine to medium sand, little fine to coarse gravel, moist	
31	SW		18	19	0.0	Brown, fine to coarse **SAND**, little fine to coarse gravel, moist Tan-orange Brown-orange	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/15/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0104
Date Drilled: 11/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated to 0.8' and backfilled with brown, silty, fine sand, little fine to coarse gravel and cobbles	
1			12	11	0.0	**FILL**, brown to black, sandy silt, little fine to coarse gravel, medium dense	
2							
3			24	17	0.0	Brown and black, fine to medium sand, some asphalt debris, little gravel Black to brown, clayey silt, little fine to coarse gravel	
4						Gray and tan mottled, trace fine to coarse gravel	
5			6	17	0.0		
	ML					Brown to tan, sandy **SILT**	
6	SW					Tan to light tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
7			24	20	0.0		
	SP					Tan, fine **SAND**	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
8						Tan, fine **SAND**, medium dense	
9	SP		20	14	0.0		
	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
10	SP					Tan-orange, fine **SAND**	
11	GW		14	16	0.0	Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**	
12	SP					Tan, fine to medium **SAND**, little fine to coarse gravel 3" fine sand layer at 12' Tan with red, little fine gravel, coarse gravel grades out	
13	SW		23	15	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0104
Date Drilled: 11/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
14							
	SP		22	16	0.0	Tan, fine to medium **SAND**, some fine to coarse gravel	
15						Gravel grades out	
						Little fine to coarse gravel	
16						Trace fine to coarse gravel, dense	
17	GW		32	24	0.0	Tan, fine to coarse **SAND** and fine to coarse **GRAVEL** grading to little fine to coarse gravel by 17'	
18	SP					Light tan, fine **SAND** Tan, fine to medium sand	
	SW					Brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
19	SP		19	16	0.0	Brown, fine to medium **SAND**, little fine to coarse gravel	
20						1" dark brown followed by tan, fine to coarse **SAND**, some fine gravel	
						Light tan, some fine to coarse gravel	
21	SW		14	16	0.0	Tan, some fine gravel, little coarse gravel	
22						Little fine to coarse gravel	
	SP					Orange-tan, fine to medium **SAND**	
23	GP		13	20	0.0	Red-brown, coarse **SAND** and fine **GRAVEL,** some fine to medium sand	
24						Tan, fine to coarse **SAND**, some fine gravel	
						Little fine to coarse gravel, medium dense	
25	SW		14	17	0.0	Tan with orange, fine to medium sand layer from 24.8-25'	
						Some fine to coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0104
Date Drilled: 11/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine gravel, medium dense	
	GP					Light tan, fine to coarse **SAND** and fine **GRAVEL**, little coarse gravel	
27			26	22	0.0	Tan-orange, fine to medium **SAND**, little coarse gravel	
	SP						
28						Tan to gray, gravel grades out, moist	
29			23	17	0.0	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, moist Red-tan, little fine to coarse gravel Tan to brown	
30	SW					Tan-orange	
31			20	18	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/15/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0105
Date Drilled: 11/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2			21	19	0.0	**BACKFILL** Previously excavated to 2.4' and backfilled with tan to gray, silty, fine sand, little fine to coarse gravel, trace clay	
3			31	24	0.0	**FILL**, asphalt to 3.2', followed by black, silty, fine sand, little fine gravel Brown, clayey silt, little fine gravel, trace sand	
4, 5	ML		5	18	0.0	Tan mottled with gray, clayey **SILT**, little fine gravel, trace sand, medium stiff	
6	SP					Tan to tan-orange, fine to medium **SAND**, trace fine gravel, dense Medium sand grades out	
7	SW		45	17	5.0	Tan, fine to coarse **SAND**, some fine to coarse gravel 1" tan-orange, fine sand layer at 6.5'	
8	SP					Tan, fine grading to fine to medium **SAND**, little fine to coarse gravel, some to trace cobbles Very dense	
9	SP		83	16	0.0		
10	SP					Cobbles grade out, medium dense	
11	SP		18	15	0.0		
12	SP					Dense	
13	GW		32	11	1.0	Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0105
Date Drilled: 11/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, little fine to coarse gravel, dense	
14	SW					Light tan, fine gravel, coarse gravel grades out, medium dense	
15			21	16	0.0	Brown, trace coarse gravel	
16							
	SP					Tan-orange, fine to medium **SAND**, little fine to coarse gravel, dense, moist	
17			50	18	0.0	Tan	
18	SW					Tan, fine to coarse **SAND**, little fine gravel, medium dense, moist	
	SP					Tan with intermittent brown layers, fine to medium **SAND**, trace fine gravel, moist	
19			18	19	0.0		
	SW					Tan with intermittent brown layers, fine to coarse **SAND**, little fine gravel, moist	
20						Brown to tan	
21			13	16	0.0		
	GP					Brown fine to coarse **SAND** and fine **GRAVEL**, moist	
22							
						Tan and brown, fine **SAND**, trace fine to coarse gravel, moist	
23	SP		12	19	0.0	Tan, fine to medium sand	
24							
	SW					Brown, fine to coarse **SAND**, moist	
	GP					Dark brown **SAND** and fine **GRAVEL**, little coarse gravel	
25	SP		11	22	0.0	Light tan, fine **SAND**	
	SW					Tan to brown, fine to coarse **SAND**, little fine to coarse gravel, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0105
Date Drilled: 11/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown, fine to coarse **SAND**, little fine to coarse gravel, medium dense, moist	
27	SP		24	19	0.0	Light tan, fine to medium **SAND**, some coarse sand, little fine to coarse gravel, moist	
28						Orange-tan	
29	SW		22	16	0.0	Tan, fine to coarse **SAND**, trace fine to coarse gravel, moist	
30	GP					Coarse **SAND** and fine **GRAVEL**, little fine to medium sand and coarse gravel, moist	
31	SW ML		18	17	0.0	Orange-tan, fine to coarse **SAND**, little fine to coarse gravel, moist 1" brown, sandy silt at 31.2'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/12/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0201
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1						**BACKFILL** Previously excavated to 6' bgs	
2							
3							
4							
5							
6						**FILL**, dark brown, silty sand, some gravel, moist	
7			1	12	0.0		
8							
9			5	6	0.0		
10						Some cobbles, with construction debris	
11			4	7	0.0		
12							
13			7	12	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0201
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, silty sand, some gravel and cobbles, moist	
14							
15	SP		12	23	0.0	Dark orange-tan, fine to medium **SAND**, some coarse sand and gravel, medium dense 1" brown layer at 15' Dark tan, trace coarse sand, gravel grades out	
16						2" brown, fine to coarse sand layer at 16' Tan, trace gravel and cobbles	
17			16	19	0.0		
18							
19	SW		28	20	0.0	Tan with intermittent dark tan layers, fine to coarse **SAND**, some gravel	
20	SP					Tan, fine to medium **SAND**, trace coarse gravel Trace coarse sand, gravel grades out	
21	SW		17	23	0.0	Tan, fine to coarse **SAND**, some fine gravel	
22							
23	SP		34	24	0.0	Orange-tan, fine to medium **SAND**, some coarse sand and gravel, dense	
24						1" reddish brown layer at 23.75' Tan, trace coarse sand, gravel grades out, medium dense	
25			29	20	0.0	Orange-tan, some coarse sand and gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0201
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		38	19	0.0	Orange-tan, fine to medium **SAND**, some coarse sand and gravel, dense 2" brown, trace silt at 26.5'	
28							
29	SW		31	20	0.0	Orange-tan, fine to coarse **SAND**, some fine gravel	
30	SP					Tan, fine to medium **SAND**, trace coarse sand and fine gravel	
31			36	22	0.0	Some coarse sand and gravel Reddish brown laminations at 31.75'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/9/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/15/04 4. Analytical samples collected from 7-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0202
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			5	12	1.9	Asphalt and gravel	
						FILL, tan, silt, trace clay and sand	
2	SW		32	19	0.5	Tan, fine to coarse **SAND**, some gravel, dense	
3	SP					Tan with brown laminations, fine to medium **SAND**, trace coarse sand	
	SW					Tan, fine to coarse **SAND**, some gravel	
4	SP		29	18	0.0	Tan, fine to medium **SAND**, trace coarse sand and gravel, medium dense	
5						Increasing coarse sand content from 5-6'	
6	SW		43	20	0.0	Tan, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dense	
						Light brown, some fine to coarse gravel, trace silt	
7	SP					Tan, fine to medium **SAND**, trace coarse sand	
8			39	3	0.0	Trace cobbles	
9							
10			35	19	0.0	Trace gravel	
11						Increasing gravel content from 11-12'	
12			41	5	0.0	Light brown, some coarse sand and gravel	
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0202
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to medium **SAND**, some coarse sand and gravel, trace cobbles, dense	
14							
15			34	22	0.0	Orange-tan, trace gravel, cobbles grade out	
						Light brown	
16							
17	SP		33	19	0.0	Tan, trace coarse sand, coarse gravel grades out	
						Some coarse sand and fine to coarse gravel	
18						Trace coarse sand, gravel grades out	
19			35	18	0.0	Dark orange-tan, some coarse sand and fine gravel	
						Tan, fine to coarse gravel	
20							
21	SW		38	18	0.0	Light brown, fine to coarse **SAND**, some gravel	
						Tan, trace fine gravel, coarse gravel grades out	
22							
23	SP		25	19	0.0	Orange-tan, fine to medium **SAND**, some coarse sand, trace fine gravel, occasional cobbles, medium dense	
24							
	SW					Tan, fine to coarse **SAND**, some fine gravel, dense	
25			48	19	0.0		
	SP					Orange-tan, fine to medium **SAND**, some coarse sand and gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0202
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine gravel, dense	
27	SP		51	20	0.0	Orange-tan, fine to medium **SAND**, some coarse sand and gravel, very dense	
28						Dense	
29			29	19	0.0		
30							
31			32	20	0.0		
	SW					Orange-tan, fine to coarse **SAND**, trace fine gravel	
	SP					Orange-tan, fine to medium **SAND**, trace coarse sand	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/10/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/11/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0203
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4' bgs	
5	SP		4	18	0.0	Orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel, loose	
6, 7	SP		4	16	0.0	Some coarse sand and fine gravel	
8, 9	SP		4	8	0.0		
9, 10	SW					Dark brown, fine to coarse **SAND**, some gravel, trace silt	
11	SP		8	15	0.0	Tan, fine to medium **SAND**, some coarse sand and gravel	
12	SP					Orange-tan, trace coarse sand and gravel, medium dense	
13	SP		17	20	0.0	Dark orange-tan with dark brown laminations	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0203
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP					Dark orange-tan with dark brown laminations, fine to medium **SAND**, trace coarse sand and gravel, medium dense Tan, laminations grade out	
15	SW		27	21	0.0	Dark tan, fine to coarse **SAND**, some fine gravel	
16	SP					Tan, fine to medium **SAND**, trace coarse sand Dark laminations at 16.5'	
17	SW		18	23	0.0	Brown, fine to coarse **SAND**, trace fine gravel Tan	
18						Brown, some fine gravel	
19	SP		11	22	0.0	Tan with brown laminations, fine to medium **SAND**	
20							
21			14	21	0.0		
22	SW					Dark tan, fine to coarse **SAND**, some fine to coarse gravel	
23			24	19	0.0	Tan, gravel grades out	
24	SP					Dark tan, fine to medium **SAND**, some coarse sand and fine gravel	
	SW					Tan, fine to coarse **SAND**, dense	
25	SP		37	20	0.0	Dark brown, fine to medium **SAND** Tan, trace coarse sand and gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0203
Date Drilled: 11/9/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		32	21	0.0	Tan, fine to medium **SAND**, trace coarse sand and gravel, dense Some coarse sand	
28						Trace coarse sand Medium dense	
29			28	20	0.0		
30							
31			26	23	0.0	Orange-tan, some coarse sand and fine gravel, coarse sand grades out	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/10/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/15/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0205
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3						**BACKFILL** Previously excavated to 4' bgs	
4	SP					Tan, fine to medium **SAND**, some coarse sand and fine gravel, dense	
5			31	18	0.0		
6						Dark tan, fine to coarse gravel, trace cobbles to 8'	
7			36	21	0.0		
8						Medium dense	
9			20	19	0.0	Orange-tan, trace coarse sand and gravel Tan, some coarse sand, trace fine gravel	
10						Gravel grades out, dense	
11			36	20	0.0	Dark tan to light brown, some coarse sand, trace gravel	
12						Tan	
13			37	23	0.0	Orange-tan, trace coarse sand, gravel grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0205
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Orange-tan, fine to medium **SAND**, trace coarse sand, dense Tan, some coarse sand, trace gravel	
14							
						Trace coarse sand, coarse gravel grades out	
15	SP		31	23	0.0		
16							
17			26	19	0.0		
	SW					Tan, fine to coarse **SAND**, some fine gravel, medium dense	
18							
						Tan, fine to medium **SAND**, trace coarse sand and fine gravel	
19			19	18	0.0		
						2" orange-tan layer at 19'	
20	SP						
21			17	20	0.0		
						Light brown, fine to coarse **SAND**, some fine gravel	
22						Tan	
23	SW		24	20	0.0		
24						Dense	
25			41	22	0.0		
	SP					Orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I11 - LP0205
Date Drilled: 11/10/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		30	19	0.0	Orange-tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense Some coarse sand and fine gravel	
28							
29			31	20	0.0		
30							
31			32	23	0.0	Tan, trace coarse sand, gravel grades out	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/15/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0301
Date Drilled: 11/16/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated to 4' bgs	
1			26	18	1.2		
2							
3			24	16	3.8		
4						**FILL**, brown, silty, fine to coarse sand with fine to coarse gravel	
5			12	18	4.2	Black, gravel grades out Tan, fine sand	
6						Black and brown, silty sand, little fine to coarse gravel and asphalt debris	
7			6	14	0.8	Black, sandy silt, little fine to coarse gravel Tan, fine to coarse sand, little fine to coarse gravel	
8						Dark brown to black, silty, fine to coarse sand, little fine to coarse gravel	
9			11	17	1.6		
10						Dark brown to black, sandy silt, some debris, trace clay and fine to coarse gravel	
11			7	19	6.1		
12						Grading to silty sand	
13			10	13	4.2		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0301
Date Drilled: 11/16/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown to black, sandy silt grading to silty sand, trace fine to coarse gravel, construction debris (brick, asphalt and concrete)	
14						Silty sand grading to sandy silt, trace clay, with wood fragments	
15			4	15	4.9		
16							
17			12	15	15.0		
	SW					Gray, fine to coarse **SAND**, little fine gravel, medium dense	
	SP					Gray, fine **SAND**	
18						Light tan to gray, fine to coarse **SAND**, some fine gravel	
19	SW		15	19	2.6		
20							
	SP					Light tan to white, fine **SAND**	
21			16	16	4.3	Light tan to white, fine to coarse **SAND**, little fine gravel, trace coarse gravel	
22							
23	SW		14	20	3.4		
24						Tan	
25			15	15	3.2		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0301
Date Drilled: 11/16/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown, fine to coarse **SAND**, little coarse gravel, dense	
27	SP		38	18	3.6	Tan-orange, fine to medium **SAND**, little fine gravel, trace coarse gravel, dense	
28						Coarse gravel grades out, medium dense	
29			19	18	2.7		
30						1" coarse sand layer followed by 1" fine to coarse sand layer at 29.75'	
31			20	14	4.8		
	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/17/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/23/04 4. Analytical samples collected from 5-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0302
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown silt, little coarse gravel	
1			10	15	0.0		
2							
3			2	15	0.0	Dark brown, sandy, little fine to coarse gravel	
4						Dark brown to black, 3" asphalt layer from 4.75-5'	
5			10	16	2.5	Brown to tan, silty, fine to coarse sand, little fine to coarse gravel	
6						Tan, fine to coarse sand, little fine to coarse gravel	
7			4	21	1.4		
8						Brown with gray silt, trace fine to coarse gravel, loose	
						Tan, fine to medium sand, little fine to coarse gravel, trace cobbles	
9			3	18	1.0		
10						Tan to brown, fine to coarse sand, little fine to coarse gravel and silt	
11			3	16	1.1		
12						Tan (12-12.3') to light tan (12.3-12.5'), fine to medium sand, little coarse sand and fine to coarse gravel to 12.3'	
13			7	13	1.6	Tan, fine to coarse sand, little fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0302
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, tan, fine to coarse sand, little fine to coarse gravel	
14							
						Tan, fine to medium sand, trace fine gravel Fine gravel layer from 14.4-14.6'	
15			14	15	5.0	Little coarse sand, trace fine to coarse gravel Tan, fine to coarse sand, trace fine to coarse gravel	
16						Tan to gray, some fine to coarse gravel Gray sand and coarse gravel, trace roots	
17			24	18	4.1	Tan and red, fine to coarse **SAND**, some coarse gravel and cobbles, medium dense	
18	SW					Gray, gravel grades out	
19			19	16	2.7	Gray to white to tan, trace fine gravel, cobbles grade out Tan to gray, little fine to coarse gravel Coarse sand layer from 18.5-18.6' White to brown	
20	SP					Tan, fine **SAND**	
21	SW		14	18	2.2	Light tan, fine to coarse **SAND**, some fine to coarse gravel	
22	SP					Tan, medium to coarse **SAND**, some fine gravel, trace coarse gravel	
23	SW		15	18	1.4	Light tan, fine to coarse **SAND**, trace fine gravel Tan, some gravel and cobbles Fine gravel layer from 23.2-23.4'	
24						Tan, medium to coarse **SAND**, some fine gravel	
25	SP		15	14	1.4	Fine to medium sand, trace fine to coarse gravel and cobbles	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0302
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GW					Tan, fine to coarse **SAND** and fine **GRAVEL**, little coarse gravel, dense	
27	GP		35	18	3.7	Brown	
	SW					Tan-orange, fine **GRAVEL** and fine to coarse **SAND**, little coarse gravel	
28						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
29	SP		24	16	1.4	Tan-orange, fine to medium **SAND**, trace fine to coarse gravel Tan-orange-red, some coarse sand, little fine to coarse gravel, medium dense	
30						Gravel grades out	
31			18	18	1.2	Fine to coarse sand with fine to coarse gravel layer from 30.4-30.6' Trace fine gravel	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/19/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/23/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0303
Date Drilled: 11/17/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2			16	17	0.0	**BACKFILL** Previously excavated to 2.6' and backfilled with brown, silty, fine sand, little fine to coarse gravel and cobbles	
3			38	20	0.0	**FILL**, dark brown, silty sand, little coarse gravel Black, some brick and asphalt debris	
4						Black silt, little coarse gravel and debris	
5			10	16	1.1	Brown, trace clay	
6						Orange-red, silty, fine sand, trace fine gravel	
7	ML		23	20	0.9	Brown to tan **SILT**, medium dense	
						Tan, fine to coarse **SAND**, little fine gravel, medium dense	
8						With fine to coarse gravel, very dense	
9	SW		71	19	0.8		
10						Dense	
11			34	17	0.5		
12						Tan with orange, fine to medium **SAND**, trace coarse gravel	
13	SP		30	16	0.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0303
Date Drilled: 11/17/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, dense	
14	SW					Medium dense	
15			23	15	0.8		
16							
	SM					Tan-orange, fine to medium **SAND**, little coarse gravel, dense	
17	SP		32	16.5	0.0	1/2" dark brown, silty seam at 16.7' Some coarse sand	
18							
						Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
19	SW		15	12	3.5		
20						Tan, little fine to coarse gravel	
21			14	16	2.0		
	SP					Light tan, fine **SAND**	
22						Light tan, fine to coarse **SAND**, some fine gravel	
						Tan, little coarse gravel	
23			16	22	1.9		
24	SP						
25			11	18	1.1		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0303
Date Drilled: 11/17/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		35	24	3.2	Tan, fine to coarse **SAND**, some fine gravel, little coarse gravel, dense	
28						Tan-orange, little fine gravel, coarse gravel grades out, medium dense	
29			22	18	3.0		
30	SP					Tan, fine to medium **SAND**, trace fine to coarse gravel	
31	SW		18	19	4.0	Tan-orange, fine to coarse **SAND**, little fine to coarse gravel 1" red at 31'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/18/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/23/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0304
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			22	15	0.0	**FILL**, brown, sandy silt, little coarse gravel and cobbles	
2							
3			33	15	2.6	Black	
4						Asphalt debris from 4-4.6'	
5			13	16	2.2	Orange-brown, silty, fine to coarse sand, little fine to coarse gravel and cobbles	
6						Brown silt, little fine to coarse gravel and cobbles	
7			21	21	1.3	Red-brown, sandy, gravel grades out Tan-orange, fine sand, little medium to coarse sand and fine gravel, trace silt	
8						Brown to tan, fine to coarse **SAND**, some fine to coarse gravel and cobbles, very dense	
9	SW		61	18	1.0		
10						Tan, little fine to coarse gravel, cobbles grade out, dense	
11			34	16	1.5	Cobble layer at 10.75'	
12	SP					Tan, fine **SAND**, little fine gravel Medium to coarse sand	
13			30	13	1.9		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0304
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	GP					Coarse **GRAVEL** and **COBBLES**, some fine gravel and fine to coarse sand, dense	
	SW					Tan, fine to coarse **SAND**, little fine gravel, medium dense	
15	SP		21	15	1.6	Tan, fine to medium **SAND**, some coarse sand and little fine to coarse gravel, trace cobbles	
16	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel and cobbles, dense	
17	SP		35	18	1.4	Tan, fine to medium **SAND**, some coarse sand, little fine to coarse gravel, trace cobbles	
18						Cobbles grade out, medium dense	
19			19	16	2.2		
20	GW					Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**	
21	SP		12	18	1.8	Tan-orange, fine to medium **SAND**, trace fine to coarse gravel Light tan, fine to coarse sand layer from 20.7-20.8' Tan with red-brown laminations, gravel grades out	
22	GW					Fine to coarse **GRAVEL** and fine to coarse **SAND** and **COBBLES**, trace silt	
	SP					Light tan, fine to medium **SAND**	
23	SW		12	18	1.5	Tan, fine to coarse **SAND**, trace fine to coarse gravel Light tan, some fine to coarse gravel	
24						Some cobbles	
25			17	14	1.1	Tan to brown	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0304
Date Drilled: 11/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		40	18	2.0	Brown-red, fine to medium **SAND**, dense Fine to coarse sand layer from 26.5-26.6' Tan, little coarse sand Red-brown, fine gravel layer from 27.3-27.4'	
28						Fine gravel layer from 27.8-28' Medium dense	
29	GW		28	16	1.4	Some coarse sand, little fine to coarse gravel Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**	
30	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
31	SP		25	18	1.9	Tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel	
32	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, little cobbles	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/22/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/22/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0305
Date Drilled: 11/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			26	18	1.2	**BACKFILL** Previously excavated to 2.25' bgs and backfilled with brown, silty, fine sand, little fine to coarse gravel and cobbles	
2							
3			24	16	3.8	**FILL**, dark brown to black, sandy silt, little fine to coarse gravel and cobbles, asphalt debris	
4							
5			12	18	4.2	Tan, silty sand, little fine to coarse gravel Brown and dark brown, sandy silt, trace coarse gravel Tan, fine sand	
6						Dark brown, sandy silt, little fine to coarse gravel	
7			6	14	0.8	Tan, fine to medium sand, little coarse sand and fine to coarse gravel	
8							
9			11	17	1.6	Brown, silty sand Light brown, fine to coarse sand, some fine to coarse gravel, trace silt Black and tan, silty, fine to coarse sand, little fine to coarse gravel and debris	
10						Dark brown, sandy silt, little fine to coarse gravel	
11			7	19	6.1	4" asphalt at 11.3'	
12						Dark brown, sandy silt, little fine to coarse gravel Asphalt and brick debris, trace clay	
13			10	13	4.2		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0305
Date Drilled: 11/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14						**FILL**, dark brown, sandy silt, little fine to coarse gravel and debris, trace clay	
15			4	15	4.9		
16							
17			12	15	15.0	Tan with red, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
18	SW					Red-brown, trace silt	
19			15	19	2.6	2" tan followed Brown, silt grades out	
	SP					1" fine gravel followed by brown, medium to coarse **SAND**, some fine gravel	
20	SW					Light tan, fine to coarse **SAND**, little fine to coarse gravel	
21	SP		16	16	4.3	Tan to tan-orange, fine to medium **SAND**, some coarse sand, little fine to coarse gravel	
22							
23	SW		14	20	3.4	Tan to brown, fine to coarse **SAND**, little fine to coarse gravel Some fine to coarse gravel	
24	SP					Tan to brown, fine to medium **SAND**	
	SW					Tan to brown, fine to coarse **SAND**, little fine to coarse gravel	
	GW					Fine to coarse **GRAVEL** and fine to coarse **SAND**	
25	SW		15	15	3.2	Tan, fine to coarse **SAND**, some fine to coarse gravel	
26	GW					Fine to coarse **GRAVEL**, some fine to coarse sand	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L14 - LP0305
Date Drilled: 11/18/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
27	SP		38	18	3.6	Tan-orange, fine **SAND**, some medium to coarse sand, little fine to coarse gravel, dense	
28	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
29	SP		19	18	2.7	Tan, fine **SAND**, little medium to coarse sand, trace fine to coarse gravel	
30						Fine to medium sand	
31			20	14	4.8		
	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/18/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/23/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0401
Date Drilled: 11/23/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated to 4' bgs and backfilled	
1			27	18	0.0		
2							
3			25	16	1.4		
4						**FILL**, brown, sandy silt Tan and brown, fine sand, trace coarse gravel, with roots, from 4.25'	
5			11	18	3.0	Brown and dark brown, sandy clay with roots, trace fine gravel	
6						Concrete from 5.75-6.1'	
7			17	20	4.0		
8						Black, organic silt and clay, little fine to coarse gravel	
9			37	17	0.0		
10						Brown, fine to coarse sand, little fine to coarse gravel, trace clay, construction and wood debris	
11			31	16	1.6		
12						Trace cobbles	
13			34	15	1.7		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0401
Date Drilled: 11/23/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown, fine to coarse sand, little fine to coarse gravel, trace clay, construction and wood debris	
14							
15			29	14	2.3	Asphalt debris 15.3-15.7' Brown to dark brown, silty, fine to coarse sand, little fine to coarse gravel, trace clay	
16							
17			36	24	2.7	Tan Dark brown with debris	
18							
19			16	15	3.9		
20							
21			14	16	4.0		
22						Black silty sand and brown silt, some fine to coarse gravel, trace organics	
23			13	18	3.0	Dark gray, medium to coarse sand, trace fine to coarse gravel, moist Gray, fine to medium sand, trace fine to coarse gravel, moist	
24							
25	SP		16	17	3.7	Tan, medium to coarse **SAND**, some fine to coarse gravel and cobbles, medium dense	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0401
Date Drilled: 11/23/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, little fine gravel, trace coarse gravel, dense	
27			41	18	3.9		
28							
29	SW		30	17	0.0		
30						Medium dense	
31			19	17	3.3		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/17/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0402
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			27	20	0.0	**FILL**, brown, sandy silt, little coarse gravel and cobbles, concrete fragments	
2							
3			34	19	0.0	Dark brown to black	
						Tan, fine to coarse sand, little fine to coarse gravel	
4						Dark brown to black, sandy silt, little coarse gravel and cobbles	
5			11	17	1.6		
6						Asphalt debris	
7			21	16	2.4		
8						Brown, silty, fine to coarse sand, little coarse gravel, trace cobbles	
9			10	13	3.5		
10						Brown, fine to coarse sand, little fine to coarse gravel, trace silt, moist	
11			4	15	2.3		
12						Gray grading to tan grading to gray, fine to coarse sand, silt grades out	
13			3	11	10.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0402
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, silty sand, little fine to coarse gravel, loose	
						Brown, fine to coarse sand, little silt and fine to coarse gravel, moist	
14						Gray, trace silt	
15			3	14	2.5		
16							
17			*WR	16	2.5		
18						Little tan, silt grades out	
19			5	22	4.3		
20						Gray, fine sand	
21			7	16	4.5	Gray, fine gravel and medium to coarse sand, little fine sand and coarse gravel Tan, fine to coarse sand, little fine to coarse gravel 1" black, organic silt and fine sand at 21.9'	
22							
						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
23			16	24	5.6	Light tan from 22.2'	
24	SW					Tan, some gravel	
25			19	15	1.7		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0402
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		38	18	2.4	Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles, dense	
28							
	SP					Tan-orange, fine to medium **SAND**, trace fine gravel, medium dense	
29			22	20	3.6		
	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
	SP					Tan, fine **SAND**	
30							
	SW					Tan, fine to coarse **SAND**, trace fine to coarse gravel	
31	SP		24	19	2.3	Tan, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel	
32						Medium sand and gravel grade out	
	EOB						
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' bgs on 12/1/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 12/16/04
4. Analytical samples collected from 1-29':
   a. On-Site radiological every foot where soil recovery permitted
   b. On-Site nickel every odd-numbered foot
5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0403
Date Drilled: 11/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			16	19	0.0	**BACKFILL**, previously excavated to 3.3' and backfilled with brown, silty, fine sand, little fine to coarse gravel	
2							
3			13	19	1.6		
4						**FILL**, black, sandy silt, little fine to coarse gravel, trace clay Black and tan, fine to coarse sand, little fine to coarse gravel, trace silt and clay Brown, trace clay	
5			4	14	4.7	Black, sandy silt, little fine to coarse gravel, trace clay	
6							
7			4	15	4.7		
8	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
	SP					Tan, fine **SAND**, trace coarse sand	
9			20	15	1.2	Tan, fine to coarse **SAND**, little fine to coarse gravel	
10	SW					Dense	
11			33	18	2.1		
	SP					Tan, fine to medium **SAND**, trace fine gravel	
12	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
13			23	16	1.7		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0403
Date Drilled: 11/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
	SP					Tan, fine to medium **SAND**, trace fine gravel	
14	SW					Tan, fine to coarse **SAND**, little coarse gravel	
15	SP		24	14	1.2	Tan, fine to medium **SAND**, little coarse sand and coarse gravel	
16	SW					Tan, fine to coarse **SAND**, little fine gravel Some fine to coarse gravel	
17			30	18	1.8		
18	SP					Tan, fine to medium **SAND**, trace fine gravel	
19	SW		15	15	0.0	Tan, fine to coarse **SAND**, little fine to coarse gravel	
20	SP					Light tan, medium to coarse **SAND**, little fine to coarse gravel	
21	SW		17	17	4.2	Tan, fine to coarse **SAND**, some fine to coarse gravel Gray, little gravel	
22						Gray-tan	
23			11	17	5.0		
24	GP					Gray-tan, fine to coarse **SAND** and fine **GRAVEL**, little coarse gravel	
25	SW		20	18	2.8	Tan, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0403
Date Drilled: 11/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		39	18	3.9	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles to 28', dense	
28						Medium dense	
29			22	14	4.8		
30	SP					Tan, fine to medium **SAND**	
31	SW		13	18	6.8	Tan, fine to coarse **SAND**, some fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/17/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0404
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			27	18	0.0	**FILL**, brown, sandy silt, little coarse gravel and cobbles	
2							
3			25	16	1.4	Dark brown, silty sand, little fine to coarse gravel, trace cobbles Light tan to white silt from 3.5-3.6'	
4						Tan to brown, silty sand, little coarse gravel and cobbles Brown, trace clay	
5			11	18	3.0		
6							
7			17	20	4.0	Dark brown to black, sandy silt, trace clay Black, silty sand with fine gravel and asphalt debris	
8							
9	SW		37	17	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel, little cobbles, dense	
10						Intermittent red layers from 10-12'	
11			31	16	1.6		
12						Gravel grades out	
13	SP		34	15	1.7	Tan with orange layers, fine to medium **SAND**, dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0404
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan with orange layers, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles, dense	
14	SP					Tan, fine to medium **SAND**	
15	SW		29	14	2.3	Tan to brown, fine to coarse **SAND**, some fine to coarse gravel and cobbles	
16	SP					Brown, fine to medium **SAND**, some coarse sand	
17	SW		36	24	2.7	Brown, fine to coarse **SAND**, little fine to coarse gravel Tan, gravel grades out Red-brown Tan, some fine to coarse gravel, trace cobbles	
18 19	SP		16	15	3.9	Tan, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, medium dense	
20 21 22	SW		14	16	4.0	Tan, fine to coarse **SAND**, some fine gravel Tan to light tan, some fine to coarse gravel	
23	SP		13	18	3.0	Light tan, fine to medium **SAND**, little coarse sand and fine gravel Fine to coarse sand layer from 23.1-23.2', gravel grades out	
24 25 26	SW		16	17	3.7	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel Coarse gravel layer from 24.2-25.4' Tan, little fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0404
Date Drilled: 11/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		41	18	3.9	Tan-orange, medium to coarse **SAND**, some fine gravel, trace cobbles, dense Fine to medium sand, some coarse sand and fine to coarse gravel, cobbles grade out	
28						Tan, little coarse gravel, coarse sand and coarse gravel grade out	
29	SW		30	17	0.0	Red-tan, fine to coarse **SAND**	
	SP					Tan, fine to medium **SAND**, some coarse gravel	
30	GW					Red-orange-tan, fine to coarse **SAND** and fine to coarse **GRAVEL** Medium dense Brown and tan, silty sand from 30.8-31'	
31	SM		19	17	3.3		
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/30/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/17/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0405
Date Drilled: 12/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown silt, little coarse gravel	
1			26	20	1.1	Concrete Brown, sandy silt, little coarse gravel and cobbles	
2							
3			27	19	3.6	Dark brown to black, asphalt debris	
4							
5			25	17	0.0		
6						Concrete debris	
7			10	16	3.2	Dark brown and tan, silty sand, some fine to coarse gravel, trace cobbles	
8						Tan, fine to medium sand, some fine to coarse gravel	
9			7	13	1.3	Brown silt, little coarse gravel and cobbles	
10						Gray, fine to coarse sand, little fine gravel, trace organics	
11			4	15	2.6	Brown to gray, trace silt and organics	
12						Dark brown, silty sand, some fine to coarse gravel and cobbles, trace organics	
13			9	11	4.3		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0405
Date Drilled: 12/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, silty sand, some fine to coarse gravel and cobbles, trace organics	
14							
						Tan to gray, fine to medium **SAND**, some fine to coarse gravel, with roots, loose	
15	SP		3	14	2.7		
16							
17			5	16	5.8		
	SM					Brown, silty, fine to coarse **SAND**, little coarse gravel and cobbles	
						Tan to gray, fine to coarse **SAND**, some fine to coarse gravel	
18							
19			5	22	4.5		
20							
	SW					Light gray to tan, medium dense	
21			12	16	3.9		
						Tan to gray, little fine to coarse gravel	
22							
23			13	24	5.0	Light tan to white, some fine to coarse gravel	
	SP					Light tan with red, fine to medium **SAND**, little coarse gravel	
24						Light tan to white, fine to coarse **SAND**, little fine to coarse gravel	
						Some fine to coarse gravel	
25	SW		17	15	0.0		
26						2" brown and light tan, fine to medium sand followed by 3" fine gravel at 25.6'	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0405
Date Drilled: 12/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		28	18	2.1	Tan, fine to medium **SAND**, medium dense Little coarse sand and fine to coarse gravel	
28						Coarse gravel grades out	
29	SW		21	20	3.7	Tan-orange, fine to coarse **SAND**, little fine gravel, trace cobbles	
30	SP					Tan, fine to medium **SAND**, little coarse sand	
31	GP		22	19	3.6	Tan, fine to coarse **SAND** and fine **GRAVEL**, trace coarse gravel and cobbles	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/15/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0406
Date Drilled: 12/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			24	14	0.0	**FILL**, brown silt, little fine sand, coarse gravel and cobbles	
2							
3			17	21	1.8	Black, sandy, construction debris (brick, asphalt, etc.)	
4							
5			13	14	5.3		
6							
7			10	17	2.1	Brown to tan, fine to coarse sand, some fine to coarse gravel, trace silt	
8						Black, organic silt, little coarse gravel	
9			8	16	1.2	Tan, fine to coarse sand, little fine to coarse gravel Black, organic silt, trace fine to coarse gravel, asphalt fragments	
10						Tan grading to brown, fine to coarse sand, some fine to coarse gravel, little cobbles	
11			19	15	1.8	Concrete	
12						Gray and black, fine to coarse sand, some fine to coarse gravel, wood and degraded organics	
13	SP		30	16	2.9	Tan, fine to medium **SAND**, little coarse sand and cobbles, dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0406
Date Drilled: 12/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP					Tan, fine to medium **SAND**, little coarse sand and cobbles, dense Tan-orange, medium dense	
	SW					Tan, fine to coarse **SAND**, some fine gravel	
15	SP		27	18	1.6	Tan, fine to medium **SAND**, little coarse sand	
	SW					Tan-orange, fine to coarse **SAND**, some fine gravel, trace coarse gravel	
16							
17	SP		31	18	1.8	Tan, fine to medium **SAND**, little coarse sand and fine gravel, dense Tan-orange, medium to coarse sand, little fine sand and fine to coarse gravel Tan, fine to medium sand, some coarse sand	
18							
19	SW		20	16	2.2	Tan, fine to coarse **SAND**, some fine gravel, medium dense Brown, gravel grades out	
20	SP					Light tan, fine **SAND** Tan, coarse sand, some fine to medium sand and fine gravel	
21			17	15	1.9	Fine to medium sand, little coarse sand and fine to coarse gravel	
22	GP					Tan, fine **GRAVEL** and fine to coarse **SAND**, some coarse gravel	
23	SP		23	24	2.7	Tan, fine to medium **SAND**	
24	GP					Light tan to white, fine **GRAVEL** and fine to coarse **SAND**, some coarse gravel	
25	SW		17	16	3.0	Tan, fine to coarse **SAND**, some fine to coarse gravel Brown layer from 25.8-26	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0406
Date Drilled: 12/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GP					Tan, fine to coarse **SAND** and fine **GRAVEL**, little cobbles, dense	
27			39	24	1.8		
	SP					Tan-orange, fine to medium **SAND**, some coarse sand, little fine to coarse gravel and cobbles	
28						Medium dense	
29			28	16	3.1		
30							
31	SW		24	NA	2.9	Tan-orange, fine to coarse **SAND** with fine gravel, little coarse gravel	NA = Not available (recovery not recorded)
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0407
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			13	13	1.3	**FILL**, brown, sandy silt, little coarse gravel and cobbles	
2							
3			16	22	3.2	Dark brown, fine to coarse gravel, trace clay, asphalt debris	
4							
5			6	18	8.2		
6							
7			13	19	2.5	Tan, fine to coarse sand, some coarse gravel Black sandy silt, trace fine to coarse gravel and clay 1" brown, silty sand at 7.3'	
8						Black and brown, little gravel	
9			7	16	1.2	Brown and tan, silty sand, some debris	
	SP					Tan, fine to medium **SAND**, little coarse gravel, loose	
10							
11	SW		47	16	1.9	Tan, fine to coarse **SAND** with fine to coarse gravel, dense Increasing coarse gravel content, trace silt	
	SP					Tan, fine to medium **SAND**, little coarse sand and fine gravel	
12							
13	SW		36	16	0.0	Tan, fine to coarse **SAND** with fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0407
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND** with fine to coarse gravel, dense	
14							
15	SP		34	17	1.2	Tan, fine to medium **SAND**, some coarse sand, little fine gravel Dark tan sand and coarse gravel, trace silt from 14.6-15.7'	
16							
	SW					Tan to brown, fine to coarse **SAND**, little fine gravel Fine gravel layer, trace silt from 16.4-16.7'	
17	SP		43	17	3.0	Tan, fine to medium **SAND**, some coarse sand and fine to coarse gravel	
18						Light tan with orange laminations, trace fine gravel, medium sand and coarse gravel grade out, medium dense Orange layer from 18.6-19'	
19			15	17	2.2		
	SW					Light tan, fine to coarse **SAND** with fine gravel, some coarse gravel, moist	
20							
	SP					Light tan, fine **SAND**	
21	SW		12	16	2.8	Tan, fine to coarse **SAND**, some fine to coarse gravel 3" light tan sand and gravel layer	
	SP					Light tan, fine to medium **SAND**, little fine to coarse gravel	
22							
23	SW		13	17	1.8	Light tan, fine to coarse **SAND**, some fine gravel, little coarse gravel, moist	
24							
25			17	14	4.0		
	SP					Tan, fine to medium **SAND**	
26	SW					Tan, fine to coarse **SAND**, some fine grave, little coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0407
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light tan, fine to coarse **SAND** with fine gravel, medium dense	
27	SP		29	24	4.2	Tan-orange, fine to medium **SAND**, some coarse sand and fine gravel	
28	GP					Tan-red, fine **GRAVEL** and fine to coarse **SAND**	
	SW					Tan, fine to coarse **SAND**, little fine gravel	
	SP					Tan-orange, fine to medium **SAND**, little coarse sand	
29	SW		23	16	4.8	Tan, fine to coarse **SAND**, little fine gravel, trace coarse gravel	
30						Some fine to coarse gravel, moist	
31			19	16	5.1		
	SP					Tan with brown laminations, fine to medium **SAND**, some coarse sand, little coarse gravel, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/7/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/05 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0408
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			16	13	0.0	**FILL**, brown, sandy silt, little coarse gravel and cobbles	
2						Asphalt debris	
3			28	22	1.3	Dark brown Black, little fine to coarse gravel	
4						Brown **SILT**, little coarse gravel, loose	
5	ML		6	18	1.6	Brown-red, trace coarse gravel and clay	
6						Tan-orange, fine to coarse **SAND**, some coarse gravel, very dense	
7			50	19	1.1		
8	SW					Tan	
9	ML		52	16	0.0	1" brown silt at 9.3'	
10						Trace coarse gravel, medium dense	
11			25	16	0.0	Tan, fine to medium **SAND**, trace coarse gravel	
12	SP					Some coarse sand and fine to coarse gravel, dense	
13			31	16	1.3		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0408
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, some coarse sand and fine to coarse gravel, dense	
14	SP						
						Medium dense	
15			20	17	1.4		
						Tan-orange, fine to coarse **SAND** with fine gravel, little coarse gravel	
16							
	SW						
17			24	17	2.7	Tan, fine gravel grades out	
18							
	SP					Tan, fine to medium **SAND**, little coarse sand	
19			16	17	1.8	Tan-orange, fine to coarse **SAND**, some fine gravel, little coarse gravel	
20						Tan	
21	SW		12	16	3.4		
22						2" reddish layer at 22' Some fine to coarse gravel	
23			15	17	1.8		
	SP					Tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel	
24							
						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
25	SW		17	14	2.0	2" coarse gravel layer at 24.8'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0408
Date Drilled: 12/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
27	SP		31	24	1.8	1" tan-red followed by tan-orange, fine to medium **SAND**, some coarse sand and fine to coarse gravel, dense	
28	SW					Tan-red, fine to coarse **SAND**, some fine gravel, trace coarse gravel, medium dense	
29			26	16	1.7	Tan-orange, some fine to coarse gravel	
30							
31			19	16	4.0	Tan	
32	SP					Tan, fine **SAND**	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/6/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/14/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0409
Date Drilled: 12/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			23	16	0	**FILL**, brown silt, little fine sand, coarse gravel and cobbles	
2							
3			34	21	1.2	Black, sandy, metal debris	
4						Brown, silty sand, some fine to coarse gravel Black silt, trace coarse gravel and cobbles	
5			10	18	2.4	Brown, little fine to coarse gravel, cobbles grade out from 5.2-5.7' Black, sandy, trace coarse gravel, fine gravel grades out from 5.7-6'	
6						Red and tan, silty sand Tan to white silt, trace cobbles, medium dense	
7			10	19	1.3	Red and tan, silty sand, trace coarse gravel and cobbles Tan to gray silt, trace clay and cobbles, medium dense	
8							
9	SW		48	17	1.5	Tan grading to brown, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles, dense	
10							
11	SP		31	17	0	Tan, medium to coarse **SAND** with fine gravel, some coarse gravel	
	ML					Brown **SILT**, little coarse gravel	
12						Tan, fine to coarse **SAND**, some fine to coarse gravel, little cobbles	
13	SW		34	17	0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0409
Date Drilled: 12/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, little cobbles, dense	
14							
15	SP		27	18	1.3	Tan-orange, fine to medium **SAND**, little coarse sand and fine to coarse gravel, medium dense	
16							
17	SW		36	24	1.6	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, dense	
18						Medium dense	
19			17	17	3.8	1" fine gravel layer at 19.4'	
20	SP					Light tan, coarse **SAND**, little fine to medium sand and fine gravel	
	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
21	GW		14	18	1.8	Light tan, fine to coarse **GRAVEL**, little fine to coarse sand	
	SW					Light tan, fine to coarse **SAND**, little coarse gravel	
22	SP					Tan with red, fine to medium **SAND**, some coarse sand	
23	SW		17	18	1.8	Tan, fine to coarse **SAND**, some fine to coarse gravel	
	SP					Tan, medium to coarse **SAND**, some fine sand and fine gravel	
24						Tan to red, medium sand grades out from 23.6-24'	
	SW					Brown, fine to coarse **SAND**, little fine to coarse gravel	
25			24	17	1.7	Tan, some coarse gravel, fine gravel grades out	
	SP					Brown, fine to medium **SAND**, little coarse sand	
26	SW					Tan, fine to coarse **SAND**, some fine gravel, trace cobbles	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: M14 - LP0409
Date Drilled: 12/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		42	19	2.9	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, little cobbles, dense	
28							
29	SP		24	17	1.4	Tan-orange, fine to medium **SAND**, little coarse sand and fine gravel, medium dense	
30							
31	SW		22	NA	2.5	Tan-orange, fine to coarse **SAND** with fine gravel, some coarse gravel	NA = Not available (recovery not recorded)
	SP					Tan and brown, fine **SAND**	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/3/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/15/04 4. Analytical samples collected from 0-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			22	16	0.0	**FILL**, brown, fine to medium sand, some silt and coarse sand and fine gravel	
2							
3			10	12	0.0		
						Black, silty, fine to coarse sand, little coarse gravel and asphalt debris	
4			*WR	2	3.7	Tan to brown, fine to coarse sand, little silt and fine gravel	* WR = Weight of rods
5						Void (inside of leach pool)	
6							
7							
8							
9							
10							
11							
12							
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Void (inside of leach pool)	
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25			*WR	7	1.7	**FILL**, tan to brown, fine to coarse sand, little silt and fine gravel 1" black silt layer at 25.8'	* WR = Weight of rods
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		*WR	11	6.1	Tan, fine to medium **SAND**, little coarse sand and coarse gravel	* WR = Weight of rods
28							
29	SW		10	17	10.3	Tan, fine to coarse **SAND**, with fine gravel, trace coarse gravel, loose, moist	
30							
31			9	17	9.8	1" brown, medium to coarse sand layer 1" tan, fine to medium sand layer at 30.6'	
	SP					Tan, fine **SAND**, moist	
32	SW					Tan, fine to coarse **SAND**, little fine gravel, medium dense, moist 1" tan-orange layer at 32.4'	
33			18	17	6.1	Tan, fine to medium **SAND**, some coarse sand, little fine gravel, moist 1" tan-orange, fine to coarse sand layer at 33.3' Dark tan, little coarse gravel, coarse sand and fine gravel grade out	
34	SP					Tan, medium sand grades out	
35			17	15	9.0		
36	SW					Tan, fine to coarse **SAND** with fine to coarse gravel	
37	SP		23	17	5.6	Tan with brown laminations, fine to medium **SAND**, little coarse sand and coarse gravel	
38	SW					Brown, fine to coarse **SAND**, some fine gravel, moist	
39			20	16	0.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GP					Red-brown, medium to coarse **SAND** and fine **GRAVEL**, little fine sand	
40	SW					Brown, fine to coarse **SAND** with fine gravel, some coarse gravel Tan, some fine gravel, little coarse gravel, medium dense, moist	
41			20	16	1.3	2" brown, medium to coarse sand layer at 40.9' Little fine to coarse gravel Brown layer from 41.9-42'	
42	SP					Light tan, fine to medium **SAND**, little coarse sand and fine gravel	
43			26	17	4.0	2" red, fine to coarse sand layer at 43.2'	
44						Tan with brown laminations, gravel grades out, moist	
45	SW		19	15	4.0	Red-tan, fine to coarse **SAND**, some fine to coarse gravel	
46	SP					Dark tan, fine to medium **SAND** Tan, little coarse sand, trace coarse gravel	
47			26	20	5.4	2" red-tan, fine to coarse sand layer 2" tan, fine sand layer 2" dark brown, medium to coarse sand layer, some silt at 47.2' Tan with orange laminations to 48'	
48						Brown to tan, trace coarse gravel, medium sand grades out, moist	
49			22	20	3.2		
50						Tan, gravel grades out	
51	SM		24	20	7.8	Brown, silty **SAND**, trace clay	
52	SP					Tan, fine **SAND**	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
53	SW		25	22	10.5	Tan, fine **SAND**, medium dense Brown, silt layer from 52.2-52.5' Dark brown, fine to medium sand with gravel layer from 53.25-53.5'	
	SM					Dark tan, silty **SAND**, trace clay	
54	CL					Brown to dark tan, silty **CLAY**, very stiff	
55	SP		22	18	2.0	Tan, fine **SAND** 1/4" dark reddish brown seam at 55.5'	
56	GW					Fine to coarse **GRAVEL**, some fine sand	
57	SW		90	11	4.0	Tan to brown with some red, fine to coarse **SAND** with fine gravel, some coarse gravel, moist	
	SP					Tan, fine **SAND**, very dense, moist	
58							
59			68	11	4.4		
60							
61			57	20	3.0	Red-tan layer, trace silt from 60.8-61.2'	
62						Light tan with sporadic red spots, medium dense	
63			23	19	3.2		
64						Red, trace silt, very dense layer from 63.75-64'	
65			24	19	6.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0501
Date Drilled: 12/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light tan with sporadic red spots, fine **SAND**, medium dense	
66	EOB						
67						NOTES: 1. Boring completed to a depth of 66' bgs on 12/9/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/13/04 4. Analytical samples collected from 1-4' and from 25-63': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 64', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0502
Date Drilled: 12/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			23	12	0.0	**FILL**, brown, fine to medium sand, little silt and coarse gravel, trace cobbles	
2							
3			32	14	1.3		
						Black, silty, fine to coarse sand, little coarse gravel and asphalt debris	
4						Brown, fine to coarse sand, some silt, little fine gravel, asphalt debris	
5	ML		12	11	1.1	Brown to gray **SILT**, little fine to coarse gravel, trace clay	
						2.5" brown-red, fine to medium sand, some silt at 5.4'	
6						Tan, fine to medium **SAND**, little coarse gravel, trace cobbles, dense	
7			32	17	1.1		
8						2.5" brown, fine sand layer at 7.8'	
	SP					Some coarse sand, little coarse gravel, cobbles grade out, medium dense, moist	
9			28	13	2.3	Tan-red, some coarse gravel	
						Tan, some fine to coarse gravel, trace cobbles	
10						Dark tan, medium to coarse sand	
11			22	15	0.7	Tan, fine to medium sand, some coarse sand, fine gravel grades out	
						Dark tan, fine to coarse **SAND**, some fine gravel	
12	SW					Tan, some coarse gravel, fine gravel grades out	
						Red-tan and black from 12.8-13'	
13			22	17	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0502
Date Drilled: 12/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, some coarse gravel, medium dense	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
14							
	SP		19	14	0.0	Tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel	
15						Tan with brown laminations, medium sand and gravel grade out	
16	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, moist	
17			18	17	0.0		
18						Little fine gravel, coarse gravel grades out	
19			10	17	0.0	With fine gravel, some coarse gravel	
						Little fine to coarse gravel	
20						Tan-orange	
21			10	16	0.0	Red layer at 21'	
22						Tan, trace coarse gravel, fine gravel grades out	
23			13	18	0.0	With fine gravel, some coarse gravel	
	SM					1/4" black, silty sand	
24	SP					Tan, fine to medium **SAND**, little coarse gravel, moist Light tan	
	SW					Light tan, fine to coarse **SAND**, little fine to coarse gravel	
25	SP		19	16	0.0	Brown, fine **SAND**, trace coarse gravel, moist	
	GW					Fine to coarse **GRAVEL**, little fine to coarse sand	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0502
Date Drilled: 12/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		26	18	3.5	Tan, fine **SAND**, medium dense Fine to medium sand, some coarse sand, little fine gravel	
28	SW					Fine sandy gravel to 28' followed by tan-orange, fine to coarse **SAND**, little fine gravel, moist	
29	SP		20	15	2.5	Tan, fine to medium **SAND**, trace fine gravel, moist	
30	SW					Tan, fine to coarse **SAND** with fine gravel, little coarse gravel, moist	
31	SP		14	15	0.0	Tan, fine to medium **SAND**, little coarse sand and fine gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/10/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0503
Date Drilled: 12/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			58	8	0.0	Intact concrete and concrete debris, some fine to coarse sand	
2							
3			14	19	0.9	**FILL**, brown, fine sand, some silt, little coarse gravel	
4						Black, fine to coarse sand, some silt, little fine to coarse gravel, trace clay	
5			5	19	1.3	Brown, silty sand, little fine to coarse gravel, trace clay	
	ML					Brown to gray **SILT**, little fine to coarse gravel, trace clay	
	SW					Brown, fine to coarse **SAND**, little fine to coarse gravel, trace silt, loose, moist	
6	SP					Tan, fine to medium **SAND**, dense, moist	
7	SW		41	19	1.3	Tan, fine to coarse **SAND**, some fine to coarse gravel, moist	
	SP					Brown with dark brown laminations, fine to medium **SAND**	
8						Tan, fine to coarse **SAND**, little fine to coarse gravel, moist	
9			34	19	0.0	Dark tan to brown, some fine to coarse gravel, trace cobbles	
10						Tan, cobbles grade out, medium dense	
11	SW		24	14	0.0		
12						With fine gravel, some coarse gravel, trace cobbles, dense	
13			33	16	1.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0503
Date Drilled: 12/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW					Tan, fine to coarse **SAND** with fine gravel, some coarse gravel, trace cobbles, dense, moist Light tan	
15 16	SP		20	14	1.1	Tan, fine to medium **SAND**, some coarse sand, little fine gravel, medium dense, moist	
17	SW		19	18	1.5	Tan, fine to coarse **SAND**, some fine to coarse gravel, moist	
18	SP					Light tan, fine to medium **SAND**, moist, loose	
19	GP		9	16	2.6	Coarse **GRAVEL**, some fine gravel and fine to coarse sand	
20 21 22	SW		12	17	4.3	Tan-orange, fine to coarse **SAND**, some fine gravel, moist 1.5" brown, trace silt layer at 19.9', medium dense Tan with orange and brown laminations Tan sand with fine gravel, some coarse gravel	
23	SP SM		10	15	7.0	Tan, fine to medium **SAND**, little coarse gravel, moist Black silty sand seam at 23.4'	
24 25 26	SW		24	14	4.3	Brown, fine to coarse **SAND**, some fine to coarse gravel, moist Tan-orange Brown, fine gravel grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0503
Date Drilled: 12/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GP					Dark tan, fine to coarse **SAND** and coarse **GRAVEL**, medium dense, moist	
	SP						
27			27	18	3.9	Red-tan, medium to coarse **SAND** with fine gravel, some coarse gravel, moist	
						Tan, fine to coarse **SAND**, little fine gravel, moist	
28						Trace coarse gravel	
	SW						
29			17	17	3.0		
30						Tan-orange, some fine gravel	
31	SP		13	17	4.0	Tan with light brown layers, fine to medium **SAND**, little coarse gravel, moist	
	SW					Tan, fine to coarse **SAND** with fine gravel, little coarse gravel, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/13/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0504
Date Drilled: 12/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			24	11	0.0	**FILL**, brown, fine to medium sand, some silt, little coarse gravel	
2							
3			28	16	1.3	Black, fine to coarse sand, some silt, little fine to coarse gravel, trace clay and asphalt	
4						Black and tan, sandy silt, little fine gravel, trace clay	
5	ML		8	13	1.1	Tan **SILT**, little coarse gravel, trace clay	
6	SW					Dark tan, fine to coarse **SAND**, some coarse gravel, trace silt, loose	
	SP					Tan, fine to medium **SAND**, little coarse gravel, dense 2" fine gravel layer at 6.3'	
7			31	17	1.3	Tan, fine to coarse **SAND** with fine gravel, some coarse gravel	
8	SW					Trace coarse gravel, fine gravel grades out from 8-8.4' Medium dense	
9			28	15	0.0	Dark tan, moist Brown, fine gravel grades out	
10	SP					Dark tan, fine to medium **SAND**, some coarse gravel	
11	SW		23	18	3.8	Tan, fine to coarse **SAND** with fine gravel, little coarse gravel, moist Little fine to coarse gravel	
12	GW					Tan, medium to coarse **SAND** and fine to coarse **GRAVEL**, little fine sand	
13			17	15	1.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0504
Date Drilled: 12/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GW					Tan, medium to coarse **SAND** and fine to coarse **GRAVEL**, little fine sand Brown, fine gravel	
14	SW					Dark tan, fine to coarse **SAND** with fine gravel, little coarse gravel, medium dense	
15	SP		23	16	2.8	Dark tan, fine to medium **SAND**, little fine to coarse gravel and coarse sand	
16						Tan-orange, coarse sand and fine gravel grade out	
17			19	18	5.3	Medium to coarse sand with fine gravel, some coarse gravel	
18						Light tan, fine to medium sand, little fine to coarse gravel, loose	
19			9	17	3.2	Tan, medium to coarse sand with fine gravel, some coarse gravel, little fine sand	
20	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
21	SP		11	17	5.7	Tan, fine to medium **SAND** with fine gravel, little coarse gravel	
22						Little fine to coarse gravel 2" fine gravel layer at 22.3'	
23			7	16	7.7	Light tan, trace coarse sand and coarse gravel	
24	GP					Tan, fine to coarse **SAND** and fine **GRAVEL**, some coarse gravel, moist Medium dense	
25	SP		27	13	5.5	Dark tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0504
Date Drilled: 12/15/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, little coarse gravel	
27	SW		31	18	3.5	Tan, fine to coarse **SAND** with fine gravel, some coarse gravel, dense	
28						Medium dense	
29			19	18	8.8		
	SP					Tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel, moist	
30	SW					1" tan-orange, medium to coarse sand layer at 29.5'	
	SP					Tan, fine to coarse **SAND**, some fine gravel, moist	
	SW					Dark tan, fine to medium **SAND**, little fine to coarse gravel	
31	SP		13	17	4.5	Tan, fine to coarse **SAND**, trace coarse gravel, moist	
32						Tan, fine to medium **SAND**	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/16/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0505
Date Drilled: 12/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			25	6	0.0	**FILL**, brown, fine to medium sand, some silt, little coarse gravel	
2							
3			35	16	0.0	Black, fine to coarse sand, some silt, little fine to coarse gravel, trace asphalt debris	
4						Black silt, little coarse gravel	
5	ML		6	19	0.8	Tan to gray **SILT**, little coarse gravel Some brown-orange, fine sand	
6							
7	SW		31	17	0.5	Tan with intermittent brown layers, fine to coarse **SAND**, little fine to coarse gravel, dense	
	SP					Dark tan, fine **SAND**, trace coarse gravel	
8	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
	SP					1" tan, medium to coarse followed by fine to medium **SAND**	
9			39	17	0.7	Tan, fine to coarse **SAND** with fine to coarse gravel, trace cobbles Brown	
10	SW					Brown to tan, trace silt	
11			31	19	0.0	3" fine gravel layer at 11.7'	
12	SP					Tan, medium to coarse **SAND**, some fine to coarse gravel, little fine sand, moist	
13			30	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0505
Date Drilled: 12/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, medium to coarse **SAND**, some fine to coarse gravel, little fine sand, dense, moist	
14	SP					Dark tan, fine to medium sand, little coarse sand and fine to coarse gravel, medium dense	
15			22	15	4.9	1" coarse sand layer at 14.8' Tan, medium sand and gravel grade out	
16						Fine to medium sand, little fine to coarse gravel	
						Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, moist	
17			22	17	1.9		
18	SW						
19			11	16	4.0		
20						Tan, trace coarse gravel	
21			12	16	.8		
	SP					Tan, fine to medium **SAND**, trace fine gravel	
22							
						Tan, fine to coarse **SAND**, some fine to coarse gravel	
23	SW		16	21	3.7		
	SP					Tan, fine to medium **SAND**, little coarse sand and fine gravel	
24							
	SW					Light tan, fine to coarse **SAND**, some fine to coarse gravel	
25	GW		18	18	6.0	Fine to coarse **GRAVEL**, little fine to coarse sand	
	SW					Dark tan, fine to coarse **SAND**, little fine to coarse gravel	
	GP					Fine **GRAVEL**, some coarse gravel, little medium to coarse sand	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: N15 - LP0505
Date Drilled: 12/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine gravel, little coarse gravel, dense	
	SP						
27			31	19	7.1	Tan, fine to medium **SAND**, little coarse gravel	
						Tan, fine to coarse **SAND**, some fine gravel, trace coarse gravel	
28						With fine gravel, some coarse gravel, medium dense	
	SW						
29			21	16	1.5		
						1.5" brown layer at 29.7'	
30							
						Tan, fine to medium **SAND**, little coarse sand and fine to coarse gravel	
31	SP		13	17	1.6	Medium sand and gravel grade out	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 12/14/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 12/16/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1201
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Kyle Strumfels

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4'	
4						**FILL**, Dark brown and brown, silty, fine to medium sand, trace fine gravel, medium dense, moist	
5			14	18	33.8	Yellow-brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
6						Black at 5.5'	
7			27	16	13	Red-brown to yellow-brown, trace silt	
8						Trace cobbles, dense Black at 8'	
9	SW		32	18	0.9		
10						Brown	
11			34	18	1.1	Light brown Red-Brown	
12							
13			42	18	0.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1201
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Kyle Strumfels

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Red-brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles and silt, dense, moist	
14							
15	SM		41	20	0.3	Brown to light brown, silty, fine to medium **SAND**, little fine to coarse gravel, with 1/8 - 1/4" seams of light brown and red-brown, fine to coarse sand and fine gravel	
16							
17	SW		38	21	0.3	Yellow-brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
18							
19			36	20	2.0		
20							
21	SP		18	18	1.4	Yellow-brown to light brown, fine to medium **SAND**, some fine to coarse gravel, trace silt, with 1/4" seams of light brown and red-brown coarse sand and fine gravel, medium dense, moist 7" brown fine sand layer	
22							
23			16	19	0.4		
24							
25	SW		17	17	0.3	Light brown, fine to coarse, **SAND** with fine gravel, trace silt	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1201
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Kyle Strumfels

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse, **SAND** with fine gravel, trace silt, dense	
27	SP		35	21	0.0	Light brown, fine to medium **SAND**, little fine gravel, dense, moist	
28						Medium dense	
29			25	24	0.1		
30							
31			21	24	0.2		
32						1/16 - 1/8" dark brown seams from 31.5 - 32'	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/12/04 4. Analytical samples collected where sufficient recovery from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot c. On-Site field sample VOC at 4' (not barcoded) 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1203
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown, fine to medium sand, little fine to coarse rounded gravel	
1			16	23	1.9	Dark gray, silty, fine to medium sand, with fine gravel, medium dense, moist	
						Brown, fine to medium sand, some fine to coarse gravel , little cobbles	
2						Dark gray, silty sand, cobbles grade out, loose	
3			9	17	0.0		
4						Electrical cable debris	
5			10	18	1.7	Yellow-red, fine to medium **SAND**, some fine gravel, trace silt, medium dense, moist	
6						Dense	
7	SP		36	20	1.7	Light brown, little fine to coarse gravel	
						Yellow-red, some fine to coarse gravel	
8						Brown, trace fine gravel, coarse gravel grades out	
	SM					Dark gray, silty, fine **SAND**, trace fine gravel, dense, moist	
	SW						
9	SM		30	23	0.1	Yellow-brown, fine to coarse **SAND**, with fine to coarse gravel	
	SW					Brown, silty, fine to medium **SAND**, trace fine to coarse gravel	
10	SP					Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, medium dense, moist	
	SM						
11	SW		14	19	0.3	Yellow-brown fine to medium **SAND**, little to trace gravel, medium dense, moist	
						Brown, silty, fine to medium **SAND**, little to trace gravel	
12	SP					Red-brown, fine to coarse **SAND**, little to trace gravel, medium dense, moist	
13			34	20	0.0	Brown fine **SAND**, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1203
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW					Brown to red-brown to light brown, fine to coarse **SAND**, with fine to coarse gravel, dense	
						Yellow-brown	
15			32	22	0.2		
16	SP					Yellow-brown, fine to medium **SAND**, little fine gravel, dense, moist Stratified with 2-3" layers of fine to coarse sand, little fine gravel	
17			36	17	0.0		
18						Light brown, medium dense	
19			20	19	0.1	2" red-brown layer	
20							
21			16	19	0.0		
22	GP					Light brown, coarse **SAND** and fine **GRAVEL**, medium dense, moist	
23	GW		20	16	0.0	Light brown, medium to coarse **SAND** and fine to coarse **GRAVEL**, medium dense, moist	
24							
25	SW		17	16	0.0	Light brown fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1203
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		25	19	0.0	Light brown to brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
28						1" Yellow-red layer	
29	SP		23	22	0.0	Light brown, fine to medium **SAND**, trace fine to coarse gravel and silt, medium dense, moist	
30							
31			20	20	0.0		
32	SW					Light brown, fine to coarse **SAND**, little fine to coarse gravel, medium dense, moist	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/7/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/12/04 4. Analytical samples collected where sufficient recovery from 0 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1204
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			4	24	79.9	**BACKFILL** Previously excavated to approximately 1.5' bgs	
2						**FILL**, dark gray, silty, fine sand, little fine gravel, loose, moist	
						Dark gray, silty sand, medium dense	
3			13	8	4.2		
						Brown, silty, fine to medium sand, trace fine gravel, loose, moist	
4							
5	SP		16	24	1.6	Yellow-brown, fine to medium **SAND**, some fine to coarse gravel, trace silt, medium dense, moist	
6						Trace fine gravel	
	ML					Some fine gravel	
						Gray-brown, fine sandy **SILT**, loose, moist	
7			32	24	4.0	Yellow-brown, fine to medium **SAND**, some fine to coarse gravel, trace silt, dense, moist	
8						Brown-yellow, silt grades out	
9	SP		39	20	0.0		
10						Dense	
11			28	21	0.0		
12							
13	SW		37	24	0.0	Brown-yellow, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1204
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown-yellow, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
14	SP					Brown, fine to medium **SAND**, little fine gravel, trace silt, dense, moist	
15			34	22	0.0		
16						Little fine to coarse gravel	
17			39	22	0.0	Light brown, trace fine gravel, coarse gravel grades out	
18	SW					Yellow-red, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
19			11	24	0.0	Brown, little fine to coarse gravel, medium dense	
20							
21			19	17	0.0		
22	SP					Light brown, fine to medium **SAND**, little fine gravel, trace silt, medium dense, moist	
23			17	23	0.0	Brown, coarse gravel grades out Light brown, little fine to coarse gravel	
24	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
25			15	16	0.0	Brown, trace silt	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1204
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown fine to coarse **SAND**, some fine to coarse gravel, trace silt, medium dense, moist	
27			26	23	0.0	Brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
28	SP					Stratified with yellow-brown and light brown, trace gravel	
29			17	20	0.0		
30							
31	SW		20	24	0.0	Brown, fine to coarse **SAND**, little fine gravel, trace silt	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/7/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/12/04 4. Analytical samples collected where sufficient recovery from 0 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot c. On-Site VOC field sample collected at 1' (not barcoded) 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1205
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown, fine to medium sand, medium dense, moist	
1			13	16	0.0	Dark brown, silty, fine to medium sand with fine to coarse gravel and black asphalt debris	
2							
3			13	20	0.6	Brick debris	
4						Brown Dark brown	
5			10	17	0.0	Yellow-red, fine to medium **SAND** with fine gravel, trace silt, medium dense, moist	
6	SP						
7			25	18	0.0	Brown-yellow, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
8	SM					1/4" gray, silty, fine sand seam at 8.3'	
9	SW		48	19	0.0		
10							
11			30	18	0.0	Yellow-red, with fine to coarse gravel	
12	SM					Brown, silty, fine **SAND**, little fine gravel, medium dense to dense, moist	
	SW					Yellow-brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
13			40	20	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1205
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Yellow-brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
14						Medium dense	
15	SW		28	16	0.0		
						Interlayered brown and light brown	
16						Light brown	
17			46	20	0.0		
	SP					Brown-yellow, fine to medium **SAND**, trace fine gravel and silt, dense, moist	
18						Interlayered brown and light brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
19			34	21	0.0		
	SW						
20							
21			36	21	0.0		
22							
	SP					Light brown, fine to medium **SAND** with fine to coarse gravel, medium dense	
23			21	17	0.0	1/4" black seam	
	SW					Brown-yellow, fine to coarse **SAND**, some fine to coarse gravel	
24							
						Light brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
25	SP		15	17	0.0		
						Little fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: A19 - LP1205
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		19	15	0.0	Light brown, fine to medium **SAND**, little fine gravel, medium dense, moist	
28							
29	SW		28	21	0.0	Light brown, fine to coarse **SAND**, some fine gravel, trace cobbles, medium dense, moist	
30							
31			25	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/6/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/12/04 4. Analytical samples collected where sufficient recovery from 1 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1301
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
2, 3, 4						**BACKFILL** Previously excavated and backfilled to 4' bgs	
4						**FILL**, brown, silty, fine to medium sand, little fine gravel, trace silt, medium dense, moist	
5, 6	SW		13	14	0.0	Yellow-red, fine to coarse **SAND**, little fine gravel, trace silt, medium dense, moist	
7	SP		25	18	0.0	Brown-yellow, fine **SAND**, trace silt, medium dense, moist	
8	ML ML					Brown-gray, silt layer from 7.8-8' Little silt, dense Brown-gray, fine sandy silt, trace fine gravel, moist layer from 8.3-8.5'	
9	SW		40	20	0.0	Yellow-red, fine to coarse **SAND**, little fine gravel, dense moist	
10	SP					Yellow-brown, fine to medium **SAND**, little fine to coarse gravel, dense, moist	
11, 12			22	19	0.0	Light brown, trace fine gravel and silt, coarse gravel grades out	
13, 14	SW		30	24	0.0	Stratified layers of brown, yellow-brown and red-brown fine to coarse **SAND**, little fine to coarse gravel and fine to medium sand, trace silt, medium dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1301
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
15	SW		23	24	0.0	Stratified layers of brown, yellow-brown and red-brown fine to coarse **SAND**, little fine to coarse gravel and fine to medium sand, trace silt, medium dense, moist	
16	SP					Brown-yellow fine to medium **SAND**, trace fine gravel, dense, moist	
17	GW		36	24	0.0	Light brown, fine to medium **SAND** and fine to coarse **GRAVEL**, trace cobbles, dense, moist	
18						Intermittent coarse sand seams to 20'	
19			23	24	0.0	Medium dense	
20	SP					Light brown, fine to medium **SAND**, some fine gravel, medium dense, moist	
21			18	16	0.0		
22							
23			14	16	0.0	Trace cobbles	
24	SW					Light brown, fine to coarse **SAND**, with fine to coarse gravel, trace cobbles, medium dense, moist	
25			19	18	0.0		
26							
27			24	18	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1301
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, with fine to coarse gravel, trace cobbles, medium dense, moist	
28	SP					Light brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
29			29	23	0.0	Stratified with 1/16 - 1/4" thick red brown seams from 28 - 29.8'	
30						Stratified with 5-6" thick light brown to brown fine to coarse sand and fine to coarse gravel, trace cobbles layers from 29.8 - 32'	
31	SP/ GW		24	20	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/8/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/12/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							
40							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1304
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			21	21	0.0	**FILL**, dark brown, silty, fine to medium sand and fine to coarse, subangular gravel and asphalt fragments, medium dense, moist	
2						Asphalt grades out	
3			10	16	0.0		
4						Dark brown, fine sandy silt, trace subangular gravel, moist from 3.75-4'	
5	SP		9	14	0.0	Yellowish brown, fine to medium **SAND**, little silt and fine, subrounded gravel, trace cobbles, loose, moist	
6							
7	GP		10	13	4.6	Yellowish brown fine to medium **SAND** and fine to coarse, subrounded **GRAVEL**, trace silt	
8	SM					Yellowish brown, silty, fine **SAND**, trace subrounded, fine gravel, loose, moist	
9	SW		35	21	0.0	Yellowish brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, trace silt, dense, moist	
10	SP					Light brown, fine **SAND**, trace fine, subrounded gravel, dense, moist	
11			26	19	0.0		
12	SW					Yellowish brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, trace silt, medium dense, moist	
13			22	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1304
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Yellowish brown, fine **SAND**, medium dense, moist	
14	SW					Yellowish brown, fine to coarse **SAND** with fine to coarse, subrounded gravel, trace silt, medium dense, moist	
15			24	17	0.0		
16							
17			22	14	0.0		
18							
19			16	21	0.0		
20							
21			22	22	0.0		
22	GW					Yellowish brown to brown, fine to medium **SAND** and fine to coarse, subrounded **GRAVEL**, loose to medium dense, moist 1/8" Black layer from 22-23'	
23			10	16	0.0		
24							
25			10	17	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1304
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		19	15	0.0	Light brown, fine to coarse **SAND** with subrounded, fine gravel, medium dense, moist	
28							
29			13	15	0.0		
30							
31	SP		16	16	0.0	Light brown to brown, fine **SAND**, trace fine, subrounded gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/12/04 4. Analytical samples collected from 0-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1305
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			8	14	0.0	**FILL**, dark brown, silty, fine to medium sand, little fine, subrounded gravel and asphalt fragments, loose, moist	
2						Brown, asphalt grades out	
3			8	19	0.0		
4							
5	SM		14	19	0.0	Yellowish brown, fine to medium **SAND** with fine to coarse, subrounded gravel, trace silt, medium dense, moist Silty sand, moist layer at 5'	
6							
7	SP		38	20	0.0	Light brown, trace gravel, medium sand grades out, dense	
8						Yellowish brown, gravel grades out	
9			29	22	0.0	Yellowish brown, fine to coarse **SAND**, trace fine, subrounded gravel, medium dense, moist	
10	SW						
11			27	19	0.0		
12	SP					Light brown, fine to medium **SAND**, trace fine, subrounded gravel, medium dense, moist	
13			29	21	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1305
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND** with fine, subrounded gravel, medium dense, moist	
14							
	SP					Yellowish brown, fine to medium **SAND**, trace fine, subrounded gravel, medium dense to dense, moist	
15			30	14	0.0		
	GW					Yellowish brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense to dense, moist	
16							
17	SP		35	22	0.0	Yellowish brown to brown, fine **SAND**, trace fine, subrounded gravel, dense, moist	
	GW					Yellowish brown, fine to coarse **SAND** and fine to coarse, subrounded **GRAVEL**, medium dense to dense, moist Medium dense, occasional cobbles	
18							
19			22	14	0.0		
20							
21			14	24	0.0		
22							
23			19	24	0.0		
24							
25			13	11	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z68 - LP1305
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		25	17	0.0	Light brown, fine to medium **SAND** with fine, subangular gravel, medium dense, moist	
28							
29			18	21	0.0	1" dark brown layer at 29.5'	
30							
31	SW		20	21	0.0	Light brown to brown, fine to coarse **SAND** with fine to coarse, subangular gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/12/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1401
Date Drilled: 9/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1						**FILL**, dark brown, silty, fine to medium sand and crushed gravel	
2						Brown to light orange-brown, fine to medium sand, some silt and fine to coarse gravel, trace cobbles, moist	
3							
4						**VOID** from 3.5 - 19'	
5							
6							
7							
8							
9							
10							
11							
12							
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1401
Date Drilled: 9/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14, 15, 16, 17, 18, 19						**VOID** from 3.5 - 19'	
20			3	10	0.0	**FILL,** dark brown, silty, fine to medium sand with fine to coarse gravel, very loose, moist (sediment from leach pool) Very dark brown-gray with dark reddish to orange mottles, fine to coarse sand and fine gravel	
21			5	8	0.0		
23	GW		11	16	0.0	Light brown mottled dark reddish orange, fine to coarse **SAND** and fine to coarse **GRAVEL**, trace silt, medium dense, moist	
24						Light brown stratified with layers of dark reddish orange	
25			21	24	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1401
Date Drilled: 9/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GW		19	21	0.2	Light brown stratified with layers of dark reddish orange, fine to coarse **SAND** and fine to coarse **GRAVEL**, medium dense, moist	
28							
29	SW		15	19	0.0	Light brown, fine to coarse **SAND**, some fine to coarse gravel	
30							
31	GP		18	17	0.0	Light brown, fine to medium **SAND** with fine **GRAVEL**, trace silt, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 9/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/5/04 4. Analytical samples collected from 21 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 20' and 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1402
Date Drilled: 10/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4, 5, 6						**BACKFILL** Previously excavated to approximately 6' bgs and backfilled with clean sand	
7, 8	SM		12	21	0.0	Yellow-brown, silty, fine to coarse **SAND**, little fine gravel, medium dense, moist Stratified with gray silty, fine sand, trace fine gravel Gray, silty, fine sand, gravel grades out	
9, 10, 11	GM		58 33	23 18	0.0 0.0	Yellowish brown, silty, fine to medium **SAND** and fine to coarse **GRAVEL**, trace cobbles, very dense, moist	
12, 13	SP		39	19	0.0	Light brown, fine to medium **SAND**, some fine to coarse gravel, trace silt, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1402
Date Drilled: 10/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to medium **SAND**, some fine to coarse gravel, trace silt, dense, moist	
14	SP						
15			27	17	0.0	Brown Light brown	
16							
						Yellow-brown, fine to coarse **SAND**, some fine gravel, trace silt, dense, moist	
17			30	17	0.0		
18						Medium dense	
19			19	16	0.0		
20						Trace cobbles	
21	SW		18	16	0.0		
22							
23			17	16	0.0		
24						No recovery from 24 - 26'	
25			46	0	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1402
Date Drilled: 10/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		24	19	0.0	Yellow-brown, fine to coarse **SAND**, little fine gravel, trace cobbles and silt	
28						Light brown, cobbles grade out	
29			13	20	0.0		
30						Some fine to coarse gravel	
31			20	24	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/1/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/7/04 4. Analytical samples collected where sufficient recovery from 6 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1403
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt, crushed stone	
1						**FILL**, brown, silty, fine to medium sand, some fine to coarse gravel, trace silt, moist	
2						Dark brown to brown, medium dense	
3			12	18	0.0		
4						Gray, fine sandy silt with fine to coarse gravel, loose	
5			6	20	0.0		
6							
7			51	18	0.0	Light brown and light orange, fine to medium **SAND** with fine to coarse gravel, trace silt, very dense, moist	
8	SP					Dense	
9			40	17	0.0		
10						Light brown, silt grades out	
11			35	15	0.0	Light brown, fine to coarse **SAND**, some gravel, dense, moist	
12	SW					Trace cobbles	
13			45	18	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1403
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some gravel, trace cobbles, dense, moist	
14						Little fine to coarse gravel, cobbles grade out	
15			20	16	0.0		
16						Light brown with seams of light brown and reddish yellow, trace fine to coarse gravel, medium dense	
17			20	16	0.0		
18						Light brown, some fine to coarse gravel	
19	SW		17	20	0.0		
20							
21			22	18	0.0		
22						Light gray seams from 22 - 22.5'	
23			21	12	0.0		
24						1/2" layers of reddish yellow, little fine to coarse gravel	
25			25	18	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1403
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		28	18	0.0	Light brown with 1/2" layers of reddish yellow, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
28							
29			18	18	0.0		
30						Seams of light brown and reddish yellow, little fine gravel	
31			23	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 9/30/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/5/04 4. Analytical samples collected from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1404
Date Drilled: 9/28/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt and gravel	
1						**FILL**, brown, silty, fine to medium sand and crushed gravel, moist	
2						Dark brown, sandy silt and fine to coarse gravel, dense	
			47	17	0.0	3" brown, silty, fine to medium sand and fine to coarse gravel layer	
3							
4						**VOID** from 3.5 - 19'	
5							
6							
7							
8							
9							
10							
11							
12							
13							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1404
Date Drilled: 9/28/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14 15 16 17 18 19						**VOID** from 3.5 - 19'	
20			5	18	0.0	**FILL**, brown, fine to medium, sandy silt, trace fine gravel, sludge 3" black silt, trace concrete 2" reddish brown and black silt, sludge Fine to coarse sand with fine gravel, loose, moist Light brown, medium to coarse sand and fine gravel	
21	EOB						
22 23 24 25 26						NOTES: 1. Boring completed to a depth of 21' bgs on 9/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/8/04 4. On-Site field sample collected at 19' (not barcoded)	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1405
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt, crushed stone	
1						**FILL**, brown, silty, fine to medium sand and fine gravel, moist	
2							
						No recovery 2 - 4'	
3			29	0	NA		NA = Not available (no recovery)
4							
						Dark brown, fine sandy silt, some fine gravel	
5			33	18	0.0	Yellow-brown, fine to medium **SAND**, little fine gravel, trace silt, dense, moist	
6	SP						
						Some fine to coarse gravel, trace cobbles	
7			33	19	0.0		
8							
						Gray mottled with brown, fine sandy **SILT**, trace fine gravel, medium dense, moist	
9	ML		22	19	0.0		
10							
						Gray-brown, silty, fine **SAND**, trace coarse sand, medium dense, moist	
11	SM		25	15	0.0		
12							
						Brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
13	SW		42	20	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1405
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
14	SM					Gray-brown, silty, fine **SAND**, trace coarse sand	
15	GW		18	24	0.0	Fine to coarse **SAND** and fine to coarse **GRAVEL**, medium dense, moist	
16						Dense	
17			35	19	0.0		
18							
19	SP		11	17	0.0	Brown, fine to medium **SAND**, trace fine gravel and silt, medium dense, moist	
20							
21			22	23	0.0		
22							
23			24	18	0.0		
24							
25	GP/ SP		19	24	0.0	2-3" thick light brown, fine to coarse **SAND** and fine **GRAVEL** and fine to medium **SAND,** layers, medium dense, moist	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1405
Date Drilled: 9/30/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GP/ SP		23	19	0.0	2-3" thick light brown, fine to coarse **SAND** and fine **GRAVEL** and fine to medium **SAND,** layers, medium dense, moist	
28							
29	SP		13	18	0.0	Light brown, fine to medium **SAND**, little fine gravel, medium dense, moist	
30							
31			17	19	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 9/30/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/5/04 4. Analytical samples collected where sufficient recovery from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1406
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt and crushed gravel	
1						**FILL**, brown, silty, fine to medium sand and fine to coarse gravel, moist	0-2' lithology from cuttings
	SP					Red-brown, fine to medium **SAND**, trace silt and fine gravel	
2							
3	SM		12	19	1.9	Yellow-brown, silty, fine to medium **SAND**, little fine gravel, medium dense, moist	
4							
5			15	19	0.4		
6							
	ML					Gray, fine sandy **SILT**, some fine gravel	
7			47	18	11.9	Alternating 3 - 4" layers of light brown, dark brown and brown, fine to medium **SAND**, trace silt, gravel and cobbles, dense, moist	
8	SP					Yellow-brown to light brown, fine sand, gravel grades out, dense	
9			36	19	0.0		
10	SM					Brown-gray, silty, fine **SAND**, trace fine gravel, medium dense, moist	
11	SW		29	16	0.0	Red-brown to light brown, fine to coarse **SAND**, trace fine gravel, moist, medium dense	
12	SP					Red-brown, fine to medium **SAND**, trace silt and fine gravel, dense, moist	
13			31	17	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1406
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Red-brown, fine to medium **SAND**, trace silt and fine gravel, dense, moist	
14							
15			44	18	0.0	Light brown, some fine to coarse gravel, trace cobbles	
16	SP					Red-orange-brown, trace fine gravel, medium dense	
17			25	22	0.0	Light brown, some fine to coarse gravel	
18						Dense	
19			33	22	0.0		
20						Light brown to yellow-brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, medium dense, moist	
21			19	19	0.6		
22							
23	SW		24	17	0.0		
24						Trace cobbles	
25			21	21	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1406
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown to yellow-brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt and cobbles, medium dense, moist	
27			26	19	0.0	Light brown, fine to medium **SAND**, little fine gravel, medium dense, moist	
28							
29	SP		21	20	0.0		
30							
31			21	19	0.0		
	SW					Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/7/04 4. Analytical samples collected where sufficient recovery from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1409
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt and crushed gravel	
1						**FILL**, brown to black, silty, fine to medium sandy, fine to coarse gravel	
2						Dark brown, silty, fine to medium sand, some fine to coarse gravel, medium dense, moist	
3	SP		15	18	0.0	Yellow-brown, fine to medium **SAND**, little fine gravel, trace silt	
4							
5			15	16	0.0		
6	ML					Gray-brown, fine sandy, **SILT** with pockets of yellow-brown, fine to medium sand, trace silt and fine gravel	
7			28	16	0.0		
8							
9			29	21	0.0		
10	SP					Yellow-brown, fine to medium **SAND**, little gravel, trace silt, medium dense, moist	
11	SW		31	20	0.0	Yellow-brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
12						Light brown, medium dense	
13			20	19	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1409
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, dense, moist	
14							
						Trace cobbles	
						1/8 - 1/4" black	
15			36	17	0.0		
16							
						Yellow-brown	
17			31	19	0.0		
18							
						Little fine to coarse gravel, medium dense	
19	SW		22	15	0.0		
20							
						Light brown, some fine to coarse gravel	
21			22	16	0.0		
22							
23			17	21	0.0		
24							
25			26	21	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: Z71 - LP1409
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt	
27	SP		25	21	0.0	Light brown, fine to medium **SAND**, trace fine gravel and silt, medium dense, moist	
28							
29	SW		17	19	0.0	Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace silt, medium dense, moist	
30							
31	SP		18	19	0.0	Light brown, fine to medium **SAND**, trace fine gravel and silt, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/4/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/7/04 4. Analytical samples collected where sufficient recovery from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1501
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, fine to coarse sandy, silt, some cobbles, fine to coarse gravel and construction debris (concrete)	
2							
3							
4							
5			7	12	0.0		
						Asphalt and concrete debris	
6						Light brown	
7			10	10	0.0		
8						3" compacted sand layer	
9			91	23	0.6	Weathered concrete from 9 -12'	
10							
11			19	15	0.5		
12						No recovery from 12 - 13'	
13			9	12	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1501
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, sandy silt, some cobbles, coarse gravel and construction debris, dry	
14						Dark brown, silty, fine to medium sand, some fine gravel, moist	
15			3	21	0.2		
16							
17			NA	8	1.4	Yellow-brown, fine to coarse **SAND**, some fine gravel, trace silt, moist	NA = Not available (blow counts not recorded)
18						Medium dense	
19			13	8	0.2		
20						Yellow-brown to brown, loose	
21	SW		4	12	0.2		
22							
23			9	16	0.1		
24						Yellow-brown, trace cobbles, medium dense	
25			16	15	0.3		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1501
Date Drilled: 10/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		22	24	0.1	Brown to light brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles and silt, medium dense, moist Interbedded with 3 - 6" thick layers of brown, light brown, and yellow-brown, fine to medium sand, trace fine gravel	
28							
29	SP		18	17	0.0	Light brown, fine to medium **SAND**, trace fine gravel, medium dense, moist 1/4 - 1/2" black at 28.5' Yellow-brown, little gravel, trace cobbles	
30							
						Gravel grades out	
31			15	17	0.1	Light brown, trace gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/11/04 4. Analytical samples collected where sufficient recovery from 4 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot c. On-Site field sample VOC at 29' (not barcoded) 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1502
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			16	16	0.0	**FILL**, medium brown, sandy silt, some fine gravel	
2						Medium brown, silty sand, some fine gravel	
3			19	20	0.0		
4						Medium brown, sandy silt, trace fine gravel	
5	SP		10	17	0.0	Orange-tan, fine to medium **SAND**, some coarse sand, trace fine gravel, loose	
	SW					Tan, fine to coarse **SAND**, some gravel, loose	
6						Tan, sandy **CLAY**, trace gravel, stiff	
7	CL		9	22	0.0	Sand and gravel grade out	
8						Tan, fine to coarse **SAND**, some fine gravel, loose	
						Dense	
9			30	20	0.3		
10	SW					Some cobbles, very dense	
11			56	21	0.3		
12						Cobbles grade out	
13			39	18	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1502
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, some coarse sand and gravel, dense	
14							
	SP						
15			32	20	0.5		
16							
						Tan, fine to coarse **SAND**, some gravel	
17	SW		31	22	0.6		
18							
						Tan, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense	
19	SP		15	18	0.3	Fine sand, some medium sand	
20							
21			14	16	0.2	Tan, fine to coarse **SAND**, some fine to coarse gravel	
22	SW						
23			17	20	0.1		
24	SP					Tan, fine **SAND**, some medium to coarse sand, trace gravel	
						Tan, fine to coarse **SAND**, some gravel, trace cobbles	
25	SW		28	20	0.4		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1502
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some gravel, trace cobbles, dense	
27	SP		35	20	1.6	Orange to tan, fine **SAND**, some medium sand, trace coarse sand and fine gravel, dense	
28						Tan, fine to medium sand, gravel grades out, medium dense	
29			26	18	0.1	Some coarse sand, fine gravel	
30							
31	SW		24	18	0.2	Tan to orange-tan, fine to coarse **SAND**, some fine gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/6/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/11/04 4. Analytical samples collected where sufficient recovery from 2 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1503
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated to 4' bgs	
1							
2							
3							
4						**FILL**, tan, fine sand, trace coarse sand	
5			4	12	0.0	Dark brown, sandy silt	
6						With gravel	
7			25	22	0.0	Concrete debris Some gravel, debris grades out	
8						Concrete debris	
9			14	4	0.0		
10						Medium brown Little concrete debris at 10'	
11			2	16	0.0		
12							
13			4	10	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1503
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, medium brown, sandy silt, some gravel	
14							
						Brown	
15			3	16	0.0		
16						Light brown, fine to coarse sand, some gravel	
17			4	6	0.0		
18						**VOID**	
19			0	2	0.0		
20							
21			0	2	0.0		
22							
23			5	13	0.0	**FILL**, tan, fine to medium sand, some coarse sand and gravel, brick debris	
24	SW					Tan fine to coarse **SAND**, some fine gravel, loose	
25	SP		8	18	0.2	Tan, fine to medium **SAND**, trace coarse sand and fine gravel, loose	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1503
Date Drilled: 10/7/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine gravel	
27	SP		15	23	0.2	Tan, fine **SAND**, trace coarse sand, medium dense	
28							
29	SW		18	19	0.0	Tan, fine to coarse **SAND**, trace fine gravel	
30	SP					Tan, fine to medium **SAND**, trace coarse sand Fine sand, trace fine gravel, medium to coarse sand grades out	
31			17	18	0.0	Fine to medium sand, some coarse sand	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/7/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/11/04 4. Analytical samples collected where sufficient recovery from 4 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1504
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

URS
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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1						**FILL**, dark brown, silty, fine to coarse sand, some fine to coarse gravel, cobbles and construction debris	
2							
3							
4						Dark brown to brown, coarse sand and cobbles grade out, moist	
5			5	14	0.1		
6							
7			4	19	0.1		
8							
9			4	6	0.1		
10							
11			2	18	0.0		
12							
13			3	6	1.7		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1504
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown to brown, silty, fine to medium sand and fine to coarse gravel, moist	
14						3" compacted sand layer	
15			4	15	0.6		
						Brown, fine to medium **SAND**, some coarse sand, trace fine to coarse gravel, loose, dry	
16						Trace coarse sand and fine gravel, coarse gravel grades out	
17			7	22	0.0		
18	SP					Occasional coarse gravel	
19			10	20	0.5		
20						Moist	
21			9	18	0.2	Brown, fine to coarse **SAND**, trace fine gravel, loose, moist	
22						Some fine to coarse gravel, medium dense	
	SW						
23			16	16	1.0		
24						Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
25	SP		13	19	0.4		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1504
Date Drilled: 10/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Gary Webber, Carrie Olsen

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		24	24	1.8	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, medium dense, moist Fine sand, trace medium to coarse sand and fine gravel	
28							
29			19	22	0.7	Some medium to coarse sand and fine gravel	
30							
31			24	24	0.2		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/5/04 4. Analytical samples collected where sufficient recovery from 4 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1505
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt	
1			14	12	0.7	**FILL**, dark gray, silty sand, with asphalt debris and gravel	
2						Tan, fine to medium sand	
						Dark brown, sandy silt, with wood debris	
3			14	16	0.7	Tan, silty sand, some gravel	
						Wood layer from 3 - 3.2'	
						Asphalt layer from 3.2 - 3.5'	
4						Dark brown, silt, some sand, trace fine gravel	
5	SP		6	14	0.1	Tan to orange, fine to medium **SAND**, some coarse sand and gravel, loose	
6							
7	CL		8	20	0.0	Tan, sandy **CLAY**, medium stiff Sand grades out	
8						Tan, fine to medium **SAND**, trace gravel	
						Trace coarse sand, medium dense	
9	SP		30	22	0.3	Some coarse sand and gravel	
10							
11	SW		50	16	0.2	Dark tan to orange-tan, fine to coarse **SAND** with gravel and cobbles, very dense	
12							
13	SP		34	20	0.0	Tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1505
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense	
14							
						Medium dense	
15	SP		28	20	0.4		
16							
	SW					Tan, fine to coarse **SAND**, some fine gravel	
17			29	23	1.1		
	SP					Orange-tan, fine to medium **SAND**, trace fine gravel and coarse sand	
						Tan	
18							
						Tan, fine to coarse **SAND**, some gravel, medium dense	
19			14	18	0.5		
20	SW						
21			13	18	0.2	Some fine gravel	
22							
						Tan, fine to medium **SAND**, some coarse sand, trace fine gravel	
23	SP		11	18	0.3		
24							
	SW					Orange-tan, fine to coarse **SAND**, some gravel, trace cobbles	
25			24	16	0.3		
	SP					Tan, fine to medium **SAND**, some coarse sand, some fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: S69 - LP1505
Date Drilled: 10/6/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		45	20	0.8	Tan, fine to medium **SAND**, same coarse sand, some fine gravel, dense Trace coarse sand, fine gravel and cobbles	
28						Medium dense	
29			19	19	0.6		
30							
31	SW		19	20	0.3	Tan, fine to coarse **SAND**, trace gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/6/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 10/11/04 4. Analytical samples collected where sufficient recovery from 1 - 29': a. On-Site radiological every foot b. On-Site nickel every odd numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOC's and nickel and off Site only for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1601
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Previously excavated and backfilled to 4' bgs	
1							
2							
3							
4						**FILL**, medium brown, sandy silt, some gravel	
5			4	14	0.1		
						Asphalt debris at 5.5' bgs	
6							
						Asphalt debris at 6.5' bgs	
7			3	14	0.0		
8							
9			8	13	0.3		
10						Paper material at 10' bgs Concrete layer at 10-11' bgs	
11			9	6	0.0	Tan, fine to medium **SAND**, trace fine gravel, loose	
12	SP					Some coarse sand and fine gravel, medium dense	
13			25	13	0.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1601
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, some coarse sand and fine gravel, medium dense	
14						Cobbles at 14' bgs Dense	
15			42	18	0.0	Trace coarse sand and fine gravel, medium sand grades out	
16	SP						
17			30	18	0.2	Some coarse sand and fine gravel Trace coarse sand, gravel grades out	
18						Tan fine to medium sand, trace gravel, medium dense	
19			17	18	0.1		
20						Tan, fine to coarse **SAND**, some fine gravel	
21			15	16	0.1	Orange-brown layer at 21' bgs	
22	SW						
23			20	20	0.0		
24						Dark tan, fine **SAND** Tan, fine to medium sand, some fine gravel	
25	SP		18	18	0.0	Trace gravel, medium sand grades out	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1601
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		41	20	0.8	Tan, fine to coarse **SAND**, some gravel, dense	
28	SP					Tan, fine **SAND**, some coarse sand and fine gravel Fine to medium sand, trace gravel, medium dense	
29			25	20	0.1		
30						Dark tan, trace silt, gravel grades out Tan, trace gravel	
31			22	18	9.3		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/8/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1602
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4' bgs	
5			2	16	0.0	**FILL**, dark brown, sandy silt, trace gravel	
6, 7			4	14	0.0	Dark tan, fine to medium sand, trace coarse sand and gravel	
8, 9			3	15	0.1	Orange-tan to tan, sandy clay, some gravel	
10	SW					Tan, fine to coarse **SAND**, some fine gravel, loose	
11			33	15	0.0	Dense	
12	SP					Dark tan, fine to medium **SAND**, some fine gravel and coarse sand, trace silt	
13			32	20	0.0	Light tan, silt grades out	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1602
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light tan, fine to medium **SAND**, trace coarse sand and fine gravel, dense Tan	
14							
15			37	20	0.0	Some coarse sand and fine gravel	
16							
17	SP		22	20	0.0	Some coarse sand, medium dense 3" dark brown, fine to coarse sand, trace silt layer at 16.5' 1" dark brown, fine to coarse sand, trace silt at layer 17' Trace coarse sand, gravel grades out	
18							
19			17	19	0.0		
20							
21			13	19	0.0		
22							
23	SW		14	21	0.0	Orange-tan, fine to coarse **SAND**, some gravel Tan	
24	SP					Tan, fine to medium **SAND**	
25	SW		17	20	0.0	Tan, fine to coarse **SAND**, some gravel Orange-tan from 25-25.25'	
26	SP					Orange-tan, fine to medium **SAND** Tan	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1602
Date Drilled: 10/11/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		28	22	0.0	Tan with dark laminations to 28', fine to medium **SAND**, medium dense	
28						Trace fine gravel	
29			22	20	0.0	Some coarse sand and gravel	
30							
31			22	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1603
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3						**BACKFILL** Previously excavated to 4' bgs	
4						**FILL**, dark brown, silty sand, some gravel, asphalt fragments	
5			42	6	0.0	Concrete debris	
6						Gray, fine to coarse sand and concrete debris	
7			25	2	0.6		
8						Dark brown, sandy clay, with concrete debris	
9			1	8	0.2		
10						Grayish brown, sandy silt, trace fine gravel, wet	
11			17	12	0.0	Concrete debris	
12	SP					Tan, fine to medium **SAND**, some fine gravel, medium dense Trace gravel, dense	
13			43	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1603
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SW					Tan, fine to coarse **SAND**, some fine gravel, dense	
15	SP		41	20	0.0	Tan, fine to medium **SAND**, some fine to coarse gravel	
16						Some coarse sand	
17			37	18	0.0	Dark brown, medium to coarse sand layer from 17-17.2'	
18						Medium dense	
19			19	18	0.1		
20	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
21			17	16	0.0		
22						Dark tan to orange-tan Tan to orange-tan	
23			22	16	0.1		
24							
25			16	16	0.0		
26	SP					Tan, fine to medium **SAND**, some fine gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1603
Date Drilled: 10/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan to light brown, fine to coarse **SAND**, some fine gravel, medium dense	
27	SP		30	24	0.0	Tan, fine to medium **SAND** Some coarse sand and gravel	
28							
29			24	22	0.0	Some medium sand, trace coarse sand, gravel grades out Fine to medium sand, some coarse sand and gravel	
30							
31			20	18	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/11/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/15/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1604
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL	
1			12	20	0.0	Brown, sandy silt, some gravel	
2						Dark tan to light brown, silty sand, some gravel	
						Brown, sandy silt, some gravel	
3			29	22	0.0	Light brown, silty sand, some fine gravel	
						Dark brown, clayey sand, some silt and gravel	
4						Dark brown, clayey silt, some sand, clay content increasing with depth	
5			4	22	0.0		
6							
7	SP		27	21	0.0	Tan, gravelly, fine to medium **SAND**, some coarse sand, medium dense Trace gravel	
8							
9			28	20	0.0		
10						Very dense	
11			57	22	0.0		
12						Medium dense	
13			29	18	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1604
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some gravel, medium dense	
14							
15	SP		31	23	0.0	Tan, fine to medium **SAND**, some coarse sand, trace gravel, dense	
16							
17			51	20	0.0	Orange-tan, very dense 1" gravelly layer at 17' Some medium sand, gravel grades out	
18						1/2" seam of brown, medium to coarse sand at 17.8' Medium dense	
19			16	18	0.0	Tan, fine to medium sand, trace gravel	
20							
21	SW		16	20	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
22						Orange-tan	
23			17	16	0.0		
	SP					Tan, fine to medium **SAND**, trace coarse sand and fine gravel to 23.5'	
24	SW					Tan, fine to coarse **SAND**, some gravel, occasional cobbles	
25			21	16	0.0		
	SP					Tan, fine to medium **SAND**, trace coarse sand	
	SW					Tan, fine to coarse **SAND**, some fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1604
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, medium dense	
27			30	20	0.1		
	SW					Tan, fine to coarse **SAND**	
						Tan, fine to medium **SAND**, trace coarse sand and fine gravel	
28						Some coarse sand and gravel	
29			23	19	0.0		
30	SP					Dark tan	
31			18	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/12/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1605
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4' bgs	
5			2	18	0.5	**FILL**, dark brown, silty, fine sand, trace gravel	
6	SW					Tan, fine to coarse **SAND**, trace gravel, medium dense	
7	SP		15	18	1.3	Tan, fine to medium **SAND**, some coarse sand and fine gravel	
8						Trace fine gravel, coarse sand grades out	
9			18	20	0.2	Some coarse sand and fine gravel	
10, 11	SW		35	17	0.0	Tan, fine to coarse **SAND**, some gravel, occasional cobbles, dense	
12						Medium dense	
13			26	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1605
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some gravel, occasional cobbles, medium dense	
14						Tan, fine to medium **SAND**, some coarse sand, trace fine gravel	
						Some fine gravel; decreasing gravel with depth	
15	SP		25	20	0.0		
						Trace coarse sand, gravel grades out	
16						Orange-tan, some coarse sand and fine gravel	
	SW					Brown, fine to coarse **SAND,** some gravel	
17			26	20	0.0	Tan, fine to medium **SAND**, trace coarse sand	
	SP					Orange-tan, some coarse sand and fine gravel	
18						Tan to orange-tan, fine to coarse **SAND**, some fine gravel	
	SW						
19			14	20	0.1		
	SP					Tan to orange-tan, fine to medium **SAND**, some coarse sand and fine gravel	
20						Tan, fine to coarse **SAND**, some fine gravel	
21	SW		16	16	0.0		
22							
23			19	20	0.2	Tan, fine to medium **SAND**, some coarse sand and fine gravel	
24	SP						
25			17	18	0.0	Tan, fine to coarse **SAND**, some gravel	
	SW						
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1605
Date Drilled: 10/12/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		34	20	0.2	Tan, fine to medium **SAND**, some coarse sand and fine gravel, occasional cobbles, dense Dark tan	
28						Tan, trace gravel, medium dense	
29			22	18	0.0		
30							
31			18	17	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/12/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/18/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1606
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4' bgs on 10/7/04	
5			2	20	0.0	**FILL**, dark brown silt, some sand, trace clay Some clay, trace fine gravel	
6, 7	SP		5	8	0.0	Dark tan, fine to medium **SAND**, some coarse sand and fine to coarse gravel, occasional cobbles, loose	
8, 9	SP		2	16	0.0	Some clayey silt to 10'	
10, 11	SP		45	20	0.0	Tan, coarse gravel grades out, dense Orange-tan	
12, 13	SP		29	20	0.0	Tan, trace coarse sand and fine gravel, medium dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1606
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense	
	SW					Tan, fine to coarse **SAND**, some gravel	
14							
	SP		40	19	0.0	Tan, fine to medium **SAND**, trace coarse sand, dense	
15						Dark tan, some coarse sand and fine gravel	
16							
	SW					Dark tan, fine to coarse **SAND**, some gravel, medium dense	
17			27	16	0.0		
	SP					Dark brown, medium to coarse **SAND**, some fine sand from 17-17.2'	
	SW					Orange-tan, fine to medium, trace coarse **SAND**	
18						Light brown, fine to coarse **SAND**	
	SP					Dark brown, medium to coarse **SAND**, some fine sand	
	SW					Orange-tan, fine to coarse **SAND**, trace gravel	
19			20	19	0.1		
	SP					Tan, fine to medium **SAND**	
	SW					Orange-tan, fine to coarse **SAND**, trace gravel	
20							
	SP					Orange-tan, fine to medium **SAND**, some coarse sand and fine gravel	
21			17	16	0.0		
22							
23			23	22	0.2		
						Tan	
24							
	SW					Light brown, fine to coarse **SAND**, trace fine gravel	
25			17	16	0.0	Tan, fine to medium **SAND**, some coarse sand, trace gravel	
	SP						
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1606
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Aimee Clark

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		24	20	0.2	Tan, fine to medium **SAND**, trace coarse sand, medium dense Some coarse sand, trace gravel Dark tan, some gravel	
28						Orange-tan, trace coarse sand and fine to coarse gravel	
29			23	18	0.0		
30						Tan	
31			22	18	0.0	2" reddish brown, fine to coarse sand layer at 31'	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/13/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/15/04 4. Analytical samples collected from 4-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1607
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			24	11	0.0	**FILL**, black, gravelly, fine to coarse sand to 1.5'	
2						Orange Concrete debris from 2-2.5' Dark brown to orange silt, trace clay	
3	SP		33	16	0.0	Orange, fine to medium **SAND**, some gravel, dense	
4							
5	SW		35	20	0.0	Orange-tan, fine to coarse **SAND**, some gravel	
6							
7	SP		66	22	0.0	Tan, fine to medium **SAND**, some gravel, very dense Trace gravel	
8	SW					Tan, fine to coarse **SAND**, some gravel, dense	
9	SP		40	20	0.0	Tan, fine to medium **SAND**, trace gravel	
10							
11	SW		50	18	0.0	Tan, fine to coarse **SAND**, some gravel Tan-orange	
12							
13	SP		42	18	0.0	Tan, medium to coarse **SAND**, some gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1607
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, medium to coarse **SAND**, some gravel, dense	
14	SP					Fine to medium sand	
15			32	18	0.0	Trace gravel	
16	SW					Tan, fine to coarse **SAND**, some gravel	
17			41	18	0.0	Trace gravel	
18						Some gravel, medium dense	
19			20	20	0.0		
	SP					Tan, fine to medium **SAND**, trace gravel	
20	SW					Tan, fine to coarse **SAND**, trace gravel	
21			25	16	0.0		
22						Orange-tan, trace fine gravel, coarse gravel grades out	
23			22	18	0.0		
	SP					Light tan, fine to medium **SAND**, trace fine gravel Brown from 23.5'	
24	SW					Tan, fine to coarse **SAND**, trace fine gravel to 24'	
25			20	20	0.0		
	SP					Dark tan, fine to medium **SAND**, little to trace fine gravel Light tan	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1607
Date Drilled: 10/13/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		37	20	0.0	Tan, fine to medium **SAND**, trace fine gravel, dense	
28	SP					Medium dense	
29	SP		24	22	0.0		
30	SP						
31	SP		27	24	0.0		
	SW					Tan, fine to coarse **SAND**, trace fine gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/14/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 10/15/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1608
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			16	16	*71	**FILL**, brown, silty sand, some organics (roots), trace fine to coarse gravel	*High PID reading due to the presence of fresh spray paint marking borehole location
2						Trace clay	
3	ML		20	10	0.0	Tan **SILT**, trace fine to coarse gravel	
4							
5	SP		49	20	0.0	Tan, fine to medium **SAND**, some fine to coarse gravel, dense Brown layer from 5.5-5.7'	
6	SW					Tan, fine to coarse **SAND**, some fine gravel Orange-tan, trace fine gravel from 6' Medium dense	
7			28	20	0.0	Orange-tan, fine to medium **SAND**, trace fine gravel	
8	SP					Orange-tan and dark orange layers, dense	
9			42	20	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
10						Orange-tan	
11	SW		47	16	0.0		
12						Tan, trace fine gravel, coarse gravel grades out,	
13			38	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1608
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine gravel, dense	
14	SW						
						Trace gravel, medium dense	
15			27	18	0.0		
	SP					Brown, fine to medium **SAND**, trace silt	
16	SW					Brown, fine to coarse **SAND**, trace silt and fine gravel, dense	
17	SP		42	22	0.0	Tan, fine to medium **SAND**, trace gravel Medium to coarse sand layer from 17.2-17.3'	
						Tan, fine to coarse **SAND**, trace gravel	
18	SW					Medium dense	
19	SP		20	18	0.0	Tan, fine to medium **SAND**	
						Tan, fine to coarse **SAND**, trace gravel	
20						Some fine gravel, trace cobbles, dense	
21	SW		31	14	0.0		
22						Trace fine gravel, cobbles grade out, medium dense	
23			23	16	0.0		
24	SP					Olive-gray, fine to medium **SAND**, trace gravel, moist Tan from 24'	
25			19	18	0.0	Red and tan, fine to coarse sand layer from 25-25.2'	
	SW					Tan, fine to coarse **SAND**, some gravel	
26						Fine to medium sand layer from 25.8-26'	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1608
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		32	22	0.0	Tan, fine to coarse **SAND**, trace gravel, dense Dark brown layer at 27'	
28	SP					Tan, fine to medium **SAND**, medium dense Some gravel	
29			20	18	0.0		
30							
31	SW		30	18	0.0	Tan, fine to coarse **SAND**, trace fine gravel	
	SP					Tan, fine to medium **SAND**	
32	SW					Brown, fine to coarse **SAND**, some to trace gravel Tan from 31.7	
	EOB						
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' bgs on 10/14/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 10/18/04
4. Analytical samples collected from 1-29':
   a. On-Site radiological every foot where soil recovery permitted
   b. On-Site nickel every odd-numbered foot
5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1609
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1, 2, 3, 4						**BACKFILL** Previously excavated to 4' bgs on 10/7/04	
5			2	12	8.0	**FILL**, dark brown, silty sand, trace gravel	
7	SP		43	18	0.0	Tan, fine to medium **SAND,** trace gravel, dense	
9			30	18	0.0		
11	SW		44	18	0.0	Tan, fine to coarse **SAND**, trace fine to coarse gravel	
13			35	18	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1609
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, trace fine to coarse gravel, dense	
14							
						Coarse gravel grades out	
15			39	18	0.0		
16	SW						
17			35	22	0.0		
18						Medium dense	
19			16	18	0.0		
	SP					Tan, fine to medium **SAND**	
						Tan, fine to coarse **SAND**, trace fine gravel	
20						Little gravel	
21			17	20	0.0		
22	SW					Trace orange at 21.8' Some gravel	
23			27	20	0.0		
24						Tan, fine to medium **SAND**, trace gravel	
25	SP		17	16	0.0	Fine to coarse sand layer from 25-25.2' Trace red at 25.8'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: R69 - LP1609
Date Drilled: 10/14/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		33	24	0.0	Tan, fine to coarse **SAND**, some gravel, dense	
28	SP					Tan, fine to medium **SAND**, trace gravel to 28'	
29	SW		33	18	0.0	Tan, fine to coarse **SAND**, trace gravel	
30						Some gravel, medium dense	
31	SP		21	22	0.0	Tan, fine to medium **SAND** Brown, fine to coarse seam at 31'	
32	SW EOB					Dark tan, fine to coarse **SAND**, some gravel	
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' bgs on 10/15/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 10/18/04
4. Analytical samples collected from 4-29':
   a. On-Site radiological every foot where soil recovery permitted
   b. On-Site nickel every odd-numbered foot
5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2001
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			10	6	6.9	**FILL**, brown to black, sandy silt, some fine to coarse gravel	
2						Black, sand grades out	
3			9	14	0.5	Tan-gray	
4							
5	SP		20	16	0.0	Tan, fine to medium **SAND**, little fine to coarse gravel, medium dense	
6	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, dense	
7	SP		41	22	0.0	Tan, fine to medium **SAND**, little fine to coarse gravel	
8							
9	SW		26	16	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense	
10							
11			21	16	0.0		
12						Dense	
13			36	16	1.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2001
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, dense	
14							
						Tan-orange, cobbles grade out, medium dense	
15	SW		23	16	0.0		
16						Little fine to coarse gravel	
17			21	16	0.0		
	SP					Tan-orange, fine to medium **SAND**	
						Tan-orange, fine to coarse **SAND**, some fine to coarse gravel	
18						Tan	
	SW						
19			16	18	0.0		
						Brown-tan	
20							
	SP					Tan-orange, fine to medium **SAND**	
21			14	16	0.0		
	SW					Tan-orange, fine to coarse **SAND**, some fine to coarse gravel	
22							
	SP					Tan-orange, fine to medium **SAND**, little gravel	
						Light tan, fine to coarse **SAND**, some fine to coarse gravel	
23			10	20	0.0		
	ML						
24						Brown silt seam at 23.7'	
	SW					Tan-orange, fine to medium sand layer from 23.7-24'	
						Tan-orange	
25			15	16	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2001
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Orange-tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
27	SP		22	16	0.0	Light tan, medium to coarse **SAND**, some fine to coarse gravel Orange-brown, fine to medium sand, little fine to coarse gravel	
28	SW					Orange-tan, fine to coarse **SAND**, some fine to coarse gravel	
29	SP		15	16	0.0	Orange-tan, fine to medium **SAND**, little fine to coarse gravel	
30							
31	SW		16	NA	0.0	Brown, fine to coarse **SAND**, some fine to coarse gravel Tan from 31.2'	NA = Not available (recovery not recorded)
32	SP EOB					Tan, fine to medium **SAND**, little fine to coarse gravel	
33							
34							
35							
36							
37							
38							
39							

NOTES:
1. Boring completed to a depth of 32' bgs on 10/27/04
2. Groundwater not encountered
3. Boring backfilled to grade with clean soil on 11/2/04
4. Analytical samples collected from 1-29':
   a. On-Site radiological every foot where soil recovery permitted
   b. On-Site nickel every odd-numbered foot
5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2002
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			19	22	31	**FILL**, brown silt, some gravel	
2							
3			9	16	2.0	Tan, clayey to 4', little coarse gravel	
4						Tan with orange and gray	
5			10	20	18.9	Tan-orange, fine to medium **SAND**, little fine to coarse gravel, medium dense	
6	SP					Light brown to tan	
7			30	20	1.6		
	SW					Light brown to tan, fine to coarse **SAND**, little fine to coarse gravel, dense	
	SP						
8						Light brown to tan, fine to medium **SAND**, little fine to coarse gravel	
	SM					Brown, silty **SAND**, little coarse gravel	
9	SP		35	18	1.3	Tan, fine to medium **SAND**, little coarse gravel, trace cobbles	
10							
11	SW		51	4	0.0	Tan, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles, very dense	
12							
13	SP		32	18	0.0	Tan, fine to medium **SAND**, little fine to coarse gravel, dense	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2002
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to medium **SAND**, little fine to coarse gravel, dense	
14	SP						
						Light brown, medium dense	
15			28	14	0.0		
						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
						Brown-orange, some fine to coarse gravel	
16	SW					Tan-orange	
17			26	22	0.0		
	SP					Tan-orange with brown laminations, fine to medium **SAND**	
						Tan, fine to coarse **SAND**, some fine gravel	
18						Some fine to coarse gravel, trace cobbles	
19	SW		15	NA	0.0		NA = Not available (recovery not recorded)
20							
	SP					Tan, fine to medium **SAND**, little fine gravel	
21			11	16	0.0		
	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
	SP					Tan, fine to medium **SAND**, little fine to coarse gravel	
22							
						Tan, fine to coarse **SAND**, some fine to coarse gravel	
23			13	18	0.0		
24	SW					Orange-tan	
25			13	14	0.0	1" fine gravel layer at 25' Tan	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2002
Date Drilled: 10/27/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Light tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
27	SP		23	24	0.0	Tan-orange, fine to medium **SAND**, little fine to coarse gravel	
28						Coarse gravel grades out	
29			16	20	0.0		
30						Tan with brown laminations, moist	
	SW					Tan, fine to coarse **SAND**, little fine gravel	
31			15	18	0.0	Orange-brown from 31-31.3'	
	SP					Tan with brown and orange laminations, fine to medium **SAND**	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/28/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/2/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot c. On-Site VOCs at 4' 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2003
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			17	24	3.5	**FILL**, dark brown to black, sandy silt, little fine to coarse gravel and asphalt debris, trace cobbles	
2							
	ML		13	18	1.8	Brown to tan **SILT**, trace fine to coarse gravel	
3	SP					Orange-brown, fine **SAND**, trace silt, medium dense	
4	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, dense	
5	SP		30	20	0.0	Tan with brown laminations, fine to medium **SAND**	
	SW					Brown to tan, fine to coarse **SAND**, little fine to coarse gravel	
6	SP					Tan with brown laminations, fine to medium **SAND**, little fine gravel, very dense	
7	SW		76	24	1.1	Tan, fine to coarse **SAND**, some fine gravel	
	GP					Tan with brown, fine **GRAVEL**	
	SP					Tan-orange, fine to medium **SAND**, little fine gravel	
8	SM					Brown, silty, fine to medium **SAND**, trace fine gravel, dense	
9	SW		33	18	0.0	Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, dense	
10						Medium dense	
11	GP		18	20	0.0	Fine **GRAVEL**, some fine to coarse sand	
	SP					Light tan, fine to medium **SAND**, trace fine gravel	
12	SW					Light tan, fine to coarse **SAND**, trace fine gravel, dense	
13			33	20	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2003
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light tan, fine to coarse **SAND**, little fine to coarse gravel, dense Orange-tan from 13.25	
14						Medium dense	
15			23	20	0.0		
16						Dense	
17			32	14	0.0		
18						Medium dense	
19	SW		14	18	0.0	Tan	
20							
21			15	14	0.0	Orange layer at 21'	
22						Some gravel	
23			16	22	0.0		
24						Orange-tan to tan	
25			16	16	0.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2003
Date Drilled: 10/29/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
27			29	20	0.0	Orange-tan, trace fine gravel, coarse gravel grades out	
						Brown-orange, little fine to coarse gravel	
28						Tan-orange	
29	SW		18	18	0.0		
						Gravelly layer from 29.6-30'	
30						Some fine gravel, coarse gravel grades out	
31			17	20	0.0	Tan, little gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/1/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/2/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2004
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			10	18	360	**FILL**, brown to black, sandy silt, little fine to coarse gravel, with asphalt debris	
2							
3	ML		8	18	460	Brown to tan with gray **SILT**, trace clay and fine to coarse gravel, medium dense	
4							
5	SW		29	18	0.0	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
6						Little fine to coarse gravel, dense	
7			43	18	0.0		
8						Brown	
9	SM		40	18	0.0	Brown silty **SAND** to sandy silt, little fine to coarse gravel	
10	GP					Orange-brown, fine to coarse **SAND** and fine **GRAVEL** Tan at 9.6'	
11	SW		21	16	0.0	Light tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
	SP					Brown with reddish layers, fine to medium **SAND**	
12	SW					Light tan, fine to coarse **SAND**, some fine to coarse gravel, dense Tan-orange	
13			40	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2004
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light tan, little gravel	
14						Light tan, fine to coarse **SAND**, little fine to coarse gravel, dense 1/2" orange seam at 13.4'	
						Tan, medium dense	
15			22	18	0.0	1" orange, fine gravel layer at 14.4' 1" orange, fine gravel layer at 15'	
16	SW						
17			22	24	0.0		
18						Brown, some fine gravel, coarse gravel grades out	
	SP					Light tan, fine to medium **SAND**	
19			14	18	0.0	Light tan with orange seams, fine to coarse **SAND**, some fine gravel	
20	SW					Tan to brown, little fine to coarse gravel Light tan, gravel grades out	
21	SP		15	16	0.0	Tan and orange layers, fine to medium **SAND**	
	SW					Light tan, fine to coarse **SAND**, little fine gravel	
22						Fine gravel, some silt from 21.8-22'	
23	GW		16	24	0.0	Tan-orange fine to coarse **SAND** and fine to coarse **GRAVEL**	
24	GP					Tan, fine to medium **SAND** and fine **GRAVEL**	
25	SW		13	18	0.0	Tan, fine to coarse gravelly, fine to coarse **SAND** Some gravel from 25.2'	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2004
Date Drilled: 11/1/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GP					Tan, fine to coarse **SAND** and fine **GRAVEL**, medium dense	
27			28	24	0.0	Orange-tan, fine to coarse **SAND**, some fine gravel	
28	SW					Tan, gravel grades out Gravelly layer, trace silt from 28.8-30'	
29			17	20	0.0	Tan, fine to medium **SAND**	
	SP						
30							
31	SW		19	24	0.0	Tan, fine to coarse **SAND**, little fine gravel 1" fine gravel layer at 31' Brown, some fine gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/2/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/2/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2005
Date Drilled: 10/28/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			11	16	42	**FILL**, dark brown, sandy silt with fine to coarse gravel	
2						Brown, trace fine to coarse gravel	
3			6	18	35	Brown and tan with some gray, little fine to coarse gravel	
4						Orange and tan, clayey silt, trace fine gravel	
5			17	14	2.3	Tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
6						Some fine gravel, coarse gravel grades out, very dense	
7	SW		111	24	1.3	1" tan with brown laminations, fine to medium sand layer at 6.5'	
8						Tan-orange, little fine gravel Tan, dense	
9	ML		34	16	2.4	Sandy **SILT**, some fine to coarse gravel	
	SW					Light tan, fine to coarse **SAND**, some fine to coarse gravel	
10							
11	SP		27	14	0.0	Tan to light tan, medium to coarse **SAND**, some fine gravel, medium dense	
12	SW					Light tan, fine to coarse **SAND**, trace fine gravel Dense	
13			37	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2005
Date Drilled: 10/28/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan-orange, fine to coarse **SAND**, some fine gravel, dense	
14						Brown, fine to medium sand layer from 13.5-13.7' Little fine gravel, medium dense	
						Tan, gravel grades out	
15	SW		23	16	0.0	Orange-tan, fine to medium sand layer from 15-15.2' Tan to tan-orange, some fine gravel	
16							
17			27	24	0.0		
	GP					Tan to tan-orange, fine to coarse **SAND** and fine **GRAVEL**	
	SP					Tan-orange, fine **SAND**, some fine gravel	
18						Tan-orange, fine to coarse **SAND**, some fine gravel	
19			14	18	0.0		
20						Tan, trace cobbles	
21			12	16	0.0	Trace fine to coarse gravel	
22	SW					Tan-orange, little fine gravel, coarse gravel grades out	
23			15	22	1.3		
24							
25			14	16	0.0	Tan, some fine gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: L05 - LP2005
Date Drilled: 10/28/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	GP		22	24	0.2	Tan, fine to medium **SAND** and fine **GRAVEL**, trace cobbles, medium dense 2" fine to coarse gravel layer at 26.8' Tan-orange, trace fine gravel from 27' 2" brown layer at 27.3'	
28	SW					Tan-orange, fine to coarse **SAND**, little to trace fine gravel	
29	SP		13	18	0.0	Tan-orange with brown laminations, fine to medium **SAND**	
30	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel, trace silt from 30-30.25'	
	SP					Tan with brown laminations, fine to medium **SAND**	
31	SW		13	18	0.0	Tan, fine to coarse **SAND**, some fine gravel	
	SP					Tan with brown laminations, fine to medium **SAND**, trace fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/29/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil 11/2/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot c. On-Site VOCs at 2' 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2101
Date Drilled: 10/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1						**BACKFILL** Previously excavated to 4' bgs	
2							
3			8	6	3.2	**FILL**, brown, silty, fine to coarse sand, trace fine gravel	
4						Dark brown, clayey silt, some fine gravel, with asphalt fragments to 6'	
5			6	14	11.6		
6							
7			5	16	21.0		
8						Concrete and metal debris to 10'	
9			6	15	20.0		
10							
11			4	12	11		
12						Glass and concrete debris to 13'	
13			4	22	15.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2101
Date Drilled: 10/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, dark brown, clayey silt, some fine gravel, glass and concrete debris to 14'	
14							
15			7	13	3.8		
16						Black sludge with odor from 16.3-16.7' Brown paper in layers parallel to surface from 16.7-16.9'	
17			4	22	9999	Tan to brown, fine to coarse **SAND**, trace fine gravel, loose, moist	
18						Tan, some fine to coarse gravel	
19			3	12	315		
20	SW					Trace silt to 22'	
21			10	14	421		
22						Medium dense	
23			15	16	520	Fine to medium sand layer from 22.7-22.9' Orange-tan, coarse gravel grades out	
24						Tan, fine to medium **SAND**, trace fine to coarse gravel	
25	SP		26	14	23.0		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2101
Date Drilled: 10/19/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, some fine to coarse gravel, medium dense	
	SW						
27			13	20	19.0	Tan, fine to coarse **SAND**, some fine gravel	
						Tan-orange, fine to medium **SAND**	
28	SP					Brown seam at 27.8' Little gravel, dense	
29			31	18	12.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
30						Medium dense	
	SW						
31			20	13	3.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/20/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 2-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot c. On-Site VOC at 19', 21' and 22' 5. SP samples collected at 16' and 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2102
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Concrete	
1			-	-	-	**FILL**, brown, silty sand, some fine to coarse gravel	
2						Black to brown, sandy silt, some fine to coarse gravel	
3			14	20	1.2		
4						Tan, fine to coarse **SAND**, little fine to coarse gravel, dense	
5	SW		36	18	0.0	2" fine to medium sand layer at 5'	
6						Light tan, fine to medium **SAND**, trace fine to coarse gravel	
7	SP		32	18	3.5	Tan-orange, some fine to coarse gravel	
8						Brown-orange, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense	
9			25	14	0.0	Tan, trace fine to coarse gravel, cobbles grade out	
10	SW					Light tan, some fine to coarse gravel, trace cobbles	
11			16	16	0.0		
12						Tan	
13			25	24	3.1		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2102
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense	
14						Tan-orange, cobbles grade out	
15			14	16	0.0		
16							
17			20	24	0.0		
18							
19	SW		12	20	0.0		
20						1" sandy gravel layer at 19.7', trace cobbles	
21			19	16	0.0		
22						Cobbles grade out	
23			16	24	0.0	2" brown layer at 22.5'	
24						Light tan, fine to medium **SAND**	
25	SP		13	16	0.0	Tan-orange, medium to coarse sand, some fine to coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2102
Date Drilled: 10/25/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
27			27	24	0.0		
	SP					Dark brown, fine to medium **SAND**, some fine to coarse gravel Tan	
28							
29			20	20	0.0	Tan and brown, medium to coarse sand layer from 29-29.3'	
	SW					Tan and brown mottled, fine to coarse **SAND**, some fine to coarse gravel	
30							
						Trace fine gravel, coarse gravel grades out	
31			15	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/26/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2103
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1						**BACKFILL** Previously excavated to 2' bgs on 10/12/04	
2						**FILL**, black with debris and gravel	
3	ML		34	15	1.6	Tan **SILT**, trace fine to coarse gravel	
4						Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
5			29	16	0.9	Brown layer from 5-5.3'	
6	SW					Dense	
7			35	22	1.6		
8						Some cobbles, medium dense	
9	ML		17	14	1.2	1" brown silt layer	
	SP					Tan, fine to medium **SAND**	
10						Tan, fine to coarse **SAND**, some fine to coarse gravel	
11	SW		17	16	2.2		
12						Tan to tan-orange	
13			18	22	2.1		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2103
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						2" gravel layer Tan to tan-orange, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
14						Tan-orange	
15			24	16	1.1		
16						Tan	
17			27	23	1.1	Reddish gravelly layer at 16.5'	
18							
19	SW		13	16	0.0	Trace red at 19'	
20							
21			11	12	0.0		
22							
23			15	20	0.0		
24							
25			14	14	0.0	Reddish gravelly layer at 25.4-25.5'	
						Reddish tan, medium to coarse **SAND**, medium dense	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2103
Date Drilled: 10/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		27	24	0.0	Tan grading to brown, medium to coarse **SAND**, some fine gravel, medium dense	
	SW					Brown, fine to coarse **SAND**, some fine gravel	
28							
29	SP		17	16	1.7	Tan, fine to medium **SAND**, little fine gravel	
30	SW					Brown, fine to coarse **SAND**, some fine to coarse gravel	
31			16	16	1.9	Tan, little fine gravel, coarse gravel grades out	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/21/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 2-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2104
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1						**BACKFILL**, previously excavated and backfilled to 2' bgs on 10/12/04	
2							
3			34	15	1.6	**FILL**, black, silty sand, some fine to coarse gravel	
4	ML					Tan, clayey **SILT**, some fine to coarse gravel	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
5	SP		29	16	0.9	Tan, fine to medium **SAND**	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
6							
7	SP		35	22	1.6	Tan, fine to medium **SAND**, some fine to coarse gravel, dense	
8							
9			17	14	1.2	Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
10	SW						
11			17	16	2.2		
12						Trace reddish brown at 11.5'	
13			18	22	2.1		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2104
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
	SP					Tan-orange, fine to medium **SAND**	
14							
						Tan-orange, fine to coarse **SAND**, some fine to coarse gravel	
15			24	16	1.1		
	SW						
16							
						Tan	
						Tan-orange, gravel grades out	
17			27	23	1.1		
	SP					Light tan with red, orange and brown laminations to 17.3', fine to medium **SAND**, trace fine gravel	
18							
						Tan	
						Tan-orange, fine to coarse **SAND**, trace fine to coarse gravel	
19			13	16	0.0		
						Light tan, some fine to coarse gravel	
20							
						Tan-orange to light tan	
21			11	12	0.0		
	SW						
						Red at 21.5'	
22							
						Tan, trace cobbles	
23			15	20	0.0		
24							
						Trace fine to coarse gravel, cobbles grade out	
25			14	14	0.0		
	SP					Tan, fine to medium **SAND**, some fine to coarse gravel	
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2104
Date Drilled: 10/22/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
27			27	24	0.0		
	SP					Tan, fine to medium **SAND**, trace fine to coarse gravel	
28							
						Tan, fine to coarse **SAND**, trace fine gravel	
29			17	16	1.7		
30	SW					Trace fine to coarse gravel	
31			16	16	1.9		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/25/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 2-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2105
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
1			10	6	6.9	**BACKFILL**	
2							
3			9	14	0.5	**FILL**, black, sandy silt, trace fine to coarse gravel	
						Brown, silty sand, trace fine to coarse gravel and cobbles	
4						Dark brown to black, cobbles grade out	
5			20	16	0.0	Some clay to 10'	
6							
7			41	22	0.0		
8						Moist	
9			26	16	0.0		
10						Fine to coarse sand with fine to coarse gravel	
11			21	16	0.0		
12						Brown, some fine to coarse gravel, trace cobbles	
13			36	16	1.8		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2105
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						FILL, brown, silty, fine to coarse sand, some fine to coarse gravel, trace cobbles	
14	SP					Brown-orange, fine to medium **SAND**, some fine to coarse gravel, medium dense, moist	
15	SW		23	16	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
16	SP					Light tan, fine to medium **SAND**	
17	SW		21	16	0.0	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel, moist	
18						Tan	
19			16	18	0.0	Red and orange seam at 19'	
20						Orange-tan	
21			14	16	0.0	Tan	
22							
23			10	20	0.0		
24	SP					Tan to brown, fine to medium **SAND**	
25	SW		15	16	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2105
Date Drilled: 10/26/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SP		22	16	0.0	Tan, fine to medium **SAND**, trace fine to coarse gravel, medium dense	
28	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
29	SP		15	16	0.0	Tan, medium to coarse **SAND**, some fine to coarse gravel	
30	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
31	SP		16	NA	0.0	Tan, fine to medium **SAND**, trace fine to coarse gravel	NA = Not available (recovery not recorded)
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 10/26/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 2-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2106
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Brown, silty, fine sand, little fine to coarse gravel	
1			15	22	0.0	**FILL**, brown, silty, fine to coarse sand, little fine to coarse gravel	
2						Tan to brown, fine to coarse sand, little fine to coarse gravel	
						Black, silt, little fine to coarse gravel Tan to tan-gray	
3			25	17	1.2		
						Tan-orange, fine to medium **SAND**, some fine to coarse gravel, medium dense	
4							
	SP					Tan, little fine to coarse gravel, dense	
5			42	18	0.0		
6							
	GW					Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**	
7			43	18	2.5		
	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
8							
	ML					Brown, sandy **SILT**, little fine to coarse gravel	
9			36	18	2.0	Tan, fine to medium **SAND**, little fine to coarse gravel	
	SP						
10							
	SW					Tan, fine to coarse **SAND**, little fine gravel, medium dense 2" sand and fine gravel, little coarse gravel from 10.6-10.9'	
11			21	16	1.3		
	SP					Tan, fine to medium **SAND**, little fine to coarse gravel	
12							
	SW					Tan, fine to coarse **SAND**, little fine gravel	
13			19	18	3.5		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2106
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, little fine gravel, medium dense	
14							
						Tan-orange, some gravel	
15	SW		17	16	0.0		
16							
17			28	20	0.0		
	SP					Tan-orange, fine to medium **SAND**	
18						Tan-orange, fine to coarse **SAND**, some fine to coarse gravel Tan	
19			16	16	0.0		
20							
21			14	16	0.0		
	SW						
22							
23			17	24	0.0		
24						Little fine to coarse gravel	
25			12	16	0.0		
	GW					Brown, fine to coarse **GRAVEL**, some fine to coarse sand	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2106
Date Drilled: 11/5/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	GW					Tan, fine to coarse **GRAVEL**, some fine to coarse sand	
27	SP		28	22	0.0	Tan, fine to medium **SAND**, medium dense	
	SW					Tan, fine to coarse **SAND**, some fine gravel	
28						Little fine to coarse gravel	
29			18	20	0.0		
30						Light brown, trace tan	
31			13	16	0.0		
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/5/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2107
Date Drilled: 11/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL (concrete previously removed)	
1			23	18	4.4	**FILL**, dark brown, silty, fine to coarse sand, little fine to coarse gravel, asphalt fragments	
2							
3			38	20	3.1	Tan to brown, silty, fine sand	
4	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel, dense	
	SP					Tan, fine **SAND**	
5	SW		40	16	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
6	SP					Tan, fine **SAND**, trace fine gravel	
7			42	16	0.0	Tan, fine to coarse **SAND**, little fine to coarse gravel, trace cobbles	
8							
9	ML SW		37	14	0.0	1" brown silt at 8.7' Some fine to coarse gravel	
10						Medium dense	
11			26	15	0.0		
12						Cobbles grade out	
13			27	16	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2107
Date Drilled: 11/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
14						Little fine to coarse gravel	
15			25	17	0.0		
16							
17			24	24	0.0		
18						Light tan, some fine to coarse gravel	
19	SW		14	16	0.0		
20						Tan to light tan	
21			14	16	0.0		
22						Little fine to coarse gravel	
23			14	24	0.0		
24						Coarse gravel grades out	
25			16	16	0.0		
26						1" tan to dark tan, fine to medium sand layer Some fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2107
Date Drilled: 11/8/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		27	20	0.0	Tan to dark tan, fine to coarse **SAND**, little fine to coarse gravel, medium dense	
	SP					Tan, fine to medium **SAND,** trace fine gravel	
28	SW					Tan, fine to coarse **SAND**, trace fine to coarse gravel	
	SP					Tan, fine to medium **SAND,** trace fine gravel	
29	GP		16	20	1.9	Fine **GRAVEL**, some coarse gravel, little fine to coarse sand	
30	SP					Tan with brown laminations to 30', fine to medium **SAND** Little fine to coarse gravel	
31	SW		19	16	0.0	Tan, fine to coarse **SAND**, some fine to coarse gravel	
32	SP					Tan, fine to medium **SAND**, little fine to coarse gravel	
	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/8/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2108
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen, Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			10	18	0.0	**FILL**, dark brown with black, silty, fine sand, trace fine to coarse gravel and asphalt debris, dry	
2						Dark brown, fine sand, some silt and fine to coarse gravel, dry Trace cobbles	
3			11	18	2.1	Dark brown with black, silty, fine sand, some brown clay lenses and fine to coarse gravel, dry	
4	ML					Brown, clayey **SILT**, trace fine gravel, moist	
						Light brown, fine **SAND**, dense, dry	
5			47	14	1.0	Fine to coarse gravelly, trace cobbles	
6	SP					Trace coarse sand and fine gravel, coarse gravel grades out, moist	
7			46	17	2.3		
8	SM					Brown, silty **SAND**, some fine gravel, trace coarse gravel, dense, moist	
9			31	16	0.0	Light brown, fine **SAND**, trace coarse sand and fine to coarse gravel, occasional cobbles, dense, dry	
10						Fine to medium sand, some coarse sand, trace fine gravel, coarse gravel and cobbles grade out, medium dense	
11	SP		17	16	0.8		
12						Light brown to orange mottled with reddish brown, medium sand and gravel grade out, moist from 11.7-12'	
13			27	24	0.8	Fine to coarse gravelly sand layer from 12.75-13.25'	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2108
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen, Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
14	SP					Light brown, fine to medium **SAND**, some coarse sand and fine gravel, medium dense, dry	
						Brown, trace coarse gravel	
15			18	14	0.9		
16	SW					Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dry	
17	SP		29	24	1.1	Brown, fine **SAND**, dry	
18	SW					Brown, fine to coarse **SAND**, some fine gravel, trace coarse gravel, dry	
	SP					Brown, fine to medium **SAND**, moist	
19	SW		14	15	0.7	Brown, fine to coarse **SAND**, moist	
	SP					Brown, fine to medium **SAND**, trace fine gravel, moist, trace reddish brown-black, wet	
20	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel	
21			15	16	0.0	Fine gravelly layer, coarse gravel grades out from 21-21.25'	
	SP					Tan with brown laminations, fine to medium **SAND**	
22	SW					Tan with orange seams, fine to coarse **SAND**, little fine to coarse gravel	
23			20	24	0.0		
24	SP					Tan to brown, fine to medium **SAND**	
25			15	15	0.0		
	GW					Tan to brown, fine to coarse **SAND** and fine to coarse **GRAVEL**	
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2108
Date Drilled: 11/3/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Carrie Olsen, Jessica Ross

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine gravel, medium dense	
27	SP		30	22	0.0	Tan with brown laminations, fine to medium **SAND**	
28						Some coarse sand	
29			20	16	0.0		
30	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel	
31			19	18	0.0		
	SM					Brown, silty, fine to coarse **SAND**, little fine to coarse gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/4/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2109
Date Drilled: 11/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL Dark brown, silty, fine sand, some clay, little fine to coarse gravel	
1			30	16	0.0	**FILL**, dark brown, silty, fine to coarse sand, little fine to coarse gravel	
2						Tan, fine to coarse sand, trace fine gravel	
						1" black Brown to tan, silt, little coarse gravel	
3			17	16	2.3		
4	GW					Tan, fine to coarse **SAND** and fine to coarse **GRAVEL**, decreasing gravel with depth, dense	
5	SP		42	14	1.5	Tan, fine to medium **SAND**, little fine gravel	
6	SW					Tan to brown, fine to coarse **SAND**, some fine to coarse gravel	
7			37	18	1.9		
	SP					Tan-orange, fine to medium **SAND**, little fine gravel	
8	SM					Tan, silty, fine **SAND**, little fine gravel Brown	
9			41	12	1.1		
	GM					Brown **SILT** and fine to coarse **GRAVEL**	
	SW					Brown, fine to coarse **SAND**, little fine to coarse gravel	
10	SP					Tan, fine to medium **SAND**, little fine to coarse gravel, medium dense	
11			22	14	0.0	Tan-brown, fine to coarse **SAND**, some fine to coarse gravel	
12	SW					Tan	
13			24	24	0.0		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2109
Date Drilled: 11/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
14	SP					Tan-orange, fine **SAND**, little fine to coarse gravel	
	SW					Tan-orange to tan, fine to coarse **SAND**, some fine to coarse gravel	
15	SM		17	18	0.8	2" gravel layer at 14.8' 2" fine to medium sand layer at 15' 1" brown, silty sand layer at 15.2'	
16	SP					Dark brown, medium to coarse **SAND**	
	SW					Tan-orange, fine to coarse **SAND**, little fine to coarse gravel	
17			16	22	0.5		
	SP					1" fine gravel layer at 17.1'	
18						Tan, fine to medium **SAND**, little to trace fine to coarse gravel 1" orange-tan, fine to coarse sand layer at 17.4'	
19	SW		11	16	0.0	Tan-orange, fine to coarse **SAND**, some fine to coarse gravel	
20	SP					Tan, fine to medium **SAND**	
	SW					Tan-orange, fine to coarse **SAND**, some fine to coarse gravel	
21	SP		14	16	0.4	Tan, fine **SAND**	
22						Tan-orange, fine to coarse **SAND**, little fine to coarse gravel Some gravel	
23	SW		22	24	0.3		
24							
	SP					Tan-orange, fine to medium **SAND**	
25	SW		16	16	0.0	Tan, fine to coarse **SAND**	
	GW					Fine to coarse **GRAVEL**, some fine to coarse sand	
26	SW					Tan-orange, fine to coarse **SAND**, little fine gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2109
Date Drilled: 11/4/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Light tan, fine to medium **SAND**, medium dense	
27			27	18	0.0		
	GW					Orange-red, fine to coarse **GRAVEL**, some fine to coarse sand	
						Light tan, fine to coarse **SAND**, some fine to coarse gravel	
28						Tan to tan-orange, little gravel	
	SW						
29			15	18	0.0		
						1" fine gravel layer at 29.5' Tan, gravel grades out	
30							
	SP					Tan with brown laminations, fine to medium **SAND**	
31			14	14	0.0	1" medium to coarse sand layer at 31'	
	SW					Tan, fine to coarse **SAND**, trace fine gravel	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/4/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2113
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						BACKFILL	
1			37	16	1.3	**FILL**, dark brown to brown, silty, fine to coarse sand, little fine to coarse gravel, trace cobbles, with asphalt debris	
2						Black silt, little fine to coarse gravel, with wood fragments	
3			44	20	1.7		
4	SP					Light tan, fine to medium **SAND**, little fine to coarse gravel, trace cobbles, dense	
						Tan to brown, trace fine to coarse gravel, cobbles grade out	
5			36	19	1.4	Tan, fine to coarse **SAND**, some fine gravel, trace coarse gravel	
6	SW						
	SP					Tan, fine to medium **SAND**, very dense	
7	SW		54	18	0.0	Tan, fine to coarse **SAND**, little fine gravel, trace cobbles	
8						Brown, silty, fine **SAND**, dense	
9	SM		37	18	0.7	Some fine to coarse gravel, trace cobbles	
10	SW					Tan, fine to coarse **SAND**, little fine to coarse gravel Medium dense	
11	SP		19	18	0.0	Tan, fine to medium **SAND**	
12	SW					Tan, fine to coarse **SAND**, little fine gravel, trace cobbles	
13			23	11	1.0	With fine to coarse gravel	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2113
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense	
						Trace brown and fine gravel, coarse gravel grades out	
14	SW					Brown, some fine gravel	
15			18	18	1.5		
	SP					Light brown with brown laminations, fine to medium **SAND**	
16						Tan, fine to coarse **SAND**, trace fine gravel	
						Brown, some fine gravel	
17			23	22	1.2	Tan, little fine gravel	
						Tan-orange, some fine gravel	
18							
	SW						
19			13	18	0.0	Dark orange layer at 18.9'	
20						Little fine gravel	
21			13	16	0.0		
22	GP					Brown-orange fine to coarse **SAND** and fine **GRAVEL**	
						Tan, fine to coarse **SAND**, some fine gravel, trace cobbles	
23			21	22	0.0		
24	SW					Light tan, some fine to coarse gravel	
25			15	16	0.0		
						Brown, gravelly sand layer from 25.6-25.75'	
26	SP					Tan, fine to medium **SAND**	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: I06 - LP2113
Date Drilled: 11/2/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Jessica Ross

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine to medium **SAND**, trace fine gravel, medium dense	
27	SW		21	24	0.0	Tan, fine to coarse, **SAND**, little fine to coarse gravel 1" fine gravel layer at 27.4' followed by 1" brown, silty layer	
	SP					Tan, fine to medium **SAND**, trace fine to coarse gravel	
28							
29	SW		19	16	0.0	Tan to brown, fine to coarse **SAND**, little fine gravel Tan, gravelly	
30						Little fine gravel	
31	SP		13	16	0.0	Tan with brown laminations, fine to medium **SAND**	
	GP					Fine **GRAVEL**, some fine to coarse sand	
32	EOB						
33						NOTES: 1. Boring completed to a depth of 32' bgs on 11/3/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 11/9/04 4. Analytical samples collected from 1-29': a. On-Site radiological every foot where soil recovery permitted b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs, and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3401
Date Drilled: 3/23/05
Sampler Type: Stainless steel hand auger
Logged By: Jessica Ross, Kyle Jackson

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
					Concrete	
1			-	-	**FILL**, brown, silty, fine to coarse sand, some fine to coarse gravel, moist	
			0.4	-		
2			0.3	-		
3			0.4	-	Asphalt layer	
4			0.4	-	Brown, fine to coarse **SAND**, some silt and fine to coarse gravel, moist	
5			0.4	-	Light brown, some fine gravel, little coarse gravel, silt grades out	
6			0.4	-	Tan	
7			0.5	-		
8	SW		0.3	-	Light brown-orange, trace cobbles and silt	
9			0.3	-	Light brown, trace cobbles	
10			0.0	-	Some fine to coarse gravel, cobbles grade out	
11			0.7	-	Trace cobbles	
12			0.3	-		
13						

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3401
Date Drilled: 3/23/05
Sampler Type: Stainless steel hand auger
Logged By: Jessica Ross, Kyle Jackson

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.0	-	Light brown-orange, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, moist	
14			0.1	-		
15			0.6	-		
16			0.0	-		
17			0.0	-		
18			0.2	-		
19	SW		0.1	-		
20			0.1	-		
21			0.5	-	Orange-brown to tan, cobbles grade out	
22			0.2	-	Orange-brown to light brown, trace fine to coarse gravel	
23			0.2	-	Some gravel	
24			0.2	-	Trace gravel	
25			0.2	-	Some gravel	
26						

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3401
Date Drilled: 3/23/05
Sampler Type: Stainless steel hand auger
Logged By: Jessica Ross, Kyle Jackson

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
	SW		0.1	-	Orange-brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, moist	
27						
	SP		0.1	-	Orange-brown to light brown, fine to medium **SAND**, trace coarse sand and fine gravel, moist	
28						
			0.1	-	Orange-brown to light brown, fine to coarse **SAND**, trace fine gravel, moist	
29						
			0.2	-	Trace fine to coarse gravel	
30	SW					
			0.2	-		
31						
			0.2	-		
32						
	EOB				NOTES: 1. Boring completed to 32' bgs on 3/28/05 2. Groundwater not encountered 3. Boring backfilled with clean soil on 3/28/05 4. Analytical samples: a. On-Site radiological every foot b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs and nickel and off Site for beryllium	
33						
34						
35						
36						
37						
38						
39						

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: F08 - LP3403
Date Drilled: 4/15/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Surface elevation at 144.3', 1' below reference	
1						Concrete	
2						**FILL**, dark brown, silty, fine to coarse sand, some fine to coarse gravel, with asphalt debris, moist	
3			12	20	0.9	Light brown to brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
4	SW					Fine to medium sand layer from 3.4-3.5'	
						Fine to medium sand layer from 3.9-4'	
5			45	18	0.2	Light brown, some fine gravel, dense	
						Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, dense, moist	
6						Brown to light brown, some coarse sand and fine to coarse gravel, medium dense	
7	SP		25	16	0.0		
8						Light brown, fine to coarse **SAND**, some fine to coarse gravel, trace cobbles, medium dense, moist	
9	SW		27	20	0.2		
10						Trace fine gravel	
11			21	18	0.1		
	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
12						Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, dense, moist	
	SW						
13			32	20	0.5		

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: F08 - LP3403
Date Drilled: 4/15/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SW					Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, dense, moist	
14						Coarse gravel grades out	
15			35	20	0.0		
16						Light brown, trace fine to coarse gravel, medium dense	
17			14	20	0.1		
18						Some gravel	
19			11	20	0.0		
20	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
21	SW		25	16	0.0	Light brown, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
22							
23	GW		19	22	0.2	Light brown, fine to coarse **SAND** and **GRAVEL**, medium dense, moist	
24	SW					Light brown, fine to coarse **SAND**, some fine to coarse gravel, dense, moist	
25			31	20	0.4		
	SP					Light brown, fine to medium **SAND**, some fine to coarse gravel, dense, moist	
26							

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: F08 - LP3403
Date Drilled: 4/15/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Brian Stoudt

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		21	20	0.1	Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
28						Some fine to coarse gravel, trace cobbles to 30'	
29			22	24	0.2		
30							
31			15	18	0.5		
	SP					Light brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist	
32	EOB						
33						NOTES: 1. Boring completed to 32' below reference on 4/15/05 2. Groundwater not encountered 3. Boring backfilled with clean soil on 4/15/05 4. Analytical samples from 2-29': a. On-Site radiological every foot b. On-Site nickel every odd-numbered foot 5. SP sample collected at 30', analyzed on and off Site for radioactivity, VOCs and nickel and off Site for beryllium	
34							
35							
36							
37							
38							
39							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Asphalt and gravel	
1						**FILL**, Dark brown to light brown, silty, fine to coarse sand, with brick fragments, moist	*1' spoon driven from 1-2' in order to return to even-numbered sampling intervals
2			*10	*9	0.2		
3			20	4	0.2	Light brown, fine to coarse sand, some coarse gravel, moist	
4						No recovery from 4-8' (Trace dark brown, silty sand and brick fragments)	Lithology observed in cuttings the same as that from 2-4'
5			3	0	NA		
6							NA = Not available (no recovery)
7			2	0	NA		
8							
9			58	4	0.4	Light brown, fine to medium sand, some coarse gravel, trace cobbles and dark brown, silty sand	
10						Light brown to tan, fine to coarse sand, trace coarse gravel, cobbles and dark brown, sandy silt	**100 blows over 8 in; augered to 12' and resumed sampling
11			**100	12	0.3	Refusal at 11'	
12						No recovery from 12-14'	***89 blows over 11 in
13			***89	0	NA		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						No recovery	
14							
15	SW		15	16	0.3	Light brown to tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
16	SM					Grayish brown to light brown, silty, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
17	SW		22	20	0.2	Orange-brown to tan, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
18						Orange-brown to light brown	
19			12	22	0.2		
20						Brown to light brown, gravel grades out	
21			22	16	0.2	Light brown to tan, some fine to coarse gravel	
22						Grayish brown to light brown, trace coarse gravel, coarse gravel grades out	
23			21	18	0.3	Orange-brown to tan, trace fine to coarse gravel	
24						Orange-brown to light brown, trace cobbles to 26'	
25			28	18	0.5		
26							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
27	SW		30	20	0.3	Brown to light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
28						Light brown, fine gravel grades out	
29			23	24	0.2	Light brown to tan with fine gravel, trace coarse gravel	
30	SM					Light brown to grayish brown, silty, fine to coarse **SAND**, trace coarse gravel, medium dense, moist	
31	SW		23	20	0.2	Light brown to tan, fine to coarse **SAND** with fine gravel, trace coarse gravel, medium dense, moist	
32	SM					Grayish brown to tan, silty, fine to coarse **SAND**, trace coarse gravel, medium dense, moist	
33	SW		23	18	0.5	Light brown to tan, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
34						Light brown with dark brown seams	
35			23	18	0.3		
36	SM					Brown to grayish brown, silty, fine to coarse **SAND**, trace coarse gravel and cobbles, medium dense, moist	
37	SW		25	20	0.4	Tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
38						2" brown followed by light brown to tan	
39			20	24	0.1		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
						Light brown to tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
40	SW					Light brown to brown, trace coarse gravel	
41	SM		25	20	0.3	Brown to grayish tan, silty, fine to coarse **SAND**, medium dense, moist	
	SW					Tan, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
42	SM					Brown to grayish brown, silty, fine to coarse **SAND**, medium dense, moist	
43	SP		22	20	0.2	Tan, fine **SAND**, trace fine gravel, medium dense, moist	
	CL/ ML					Brown to light brown, clayey **SILT** to 43.8', followed by brown, silty **CLAY**, stiff, moist	
44	SW						
	ML					Brown to light brown, fine to coarse **SAND**, medium dense, moist Grayish brown, clayey silt seam at 44.5'	
45			20	24	0.3	Orange-brown to tan, fine **SAND**, medium dense, moist	
	ML					Brown, clayey silt seam at 45.6'	
46	SP					Trace coarse sand	
47			16	20	0.3		
48	SM					2" grayish brown to brown, silty, fine sand layer	
49			34	24	0.0	Brown to light brown, silty **CLAY**, hard, moist	
	CL						
50	SM					2" orange-brown to tan, silty, fine sand layer at 49.8'	
51			46	24	0.1		
	SM					Light brown to tan, silty, fine to coarse **SAND**, dense, moist	
52							

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	CL					Grayish brown to orange-brown, silty **CLAY**, hard, moist	
53			39	22	0.1		
	SW					Orange-brown to tan, fine to coarse **SAND**, dense, moist	
	ML					Orange-brown to tan, sandy **SILT**, fine to coarse sand, trace fine to coarse gravel, dense, moist	
54	~~CL~~						
	SP					2" brown to tan, silty clay layer	
	CL					Tan, fine **SAND**, medium dense, moist	
55			27	24	0.1		
						Brown to tan, silty **CLAY**, very stiff, moist	
	~~ML~~					Orange-brown to tan, fine **SAND**, medium dense, moist	
56							
						Sandy silt seam at 55.7' Tan, dense	
57			37	20	0.3		
58						Trace dark brown inclusions	
59			31	20	0.1		
60	SP					Orange-brown laminations to 62'	
61			33	24	0.1		
62						1" orange-brown sand at 62.2'	
63			31	20	0.1		
64							
65			37	20	0.2		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Leach Pool/Lithological Drilling Programs
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3404
Date Drilled: 3/2/05
Sampler Type: 3-inch split spoon driven by 300-lb hammer
Logged By: Kyle Jackson

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	Description	Remarks
	SP					Tan, fine **SAND**, trace dark brown inclusions, dense, moist	
66	EOB						
67						NOTES: 1. Boring completed to a depth of 66' bgs on 3/305 2. Groundwater not encountered 3. Boring backfilled to grade with clean sand on 3/3/05 4. Analytical samples collected from 1-63' bgs: a. On-Site radiological every foot b. On-Site nickel every odd-numbered foot c. On-Site VOCs every even-numbered foot d. Off-Site VOCs at 10', 20', 30', 40', 50', and 64' (SP sample) e. Off-Site nickel and beryllim at 64' (SP sample)	
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							

Project No.: NYSDECD: V-00089-1; URS: 27010-039
Project: LPH Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: E08 - LP3405
Date Drilled: 3/24/05
Sampler Type: Stainless steel hand auger
Logged By: Jessica Ross, Kyle Jackson

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
					Concrete	
			-	-	**FILL**, brown, silty, fine to coarse sand, some fine to coarse gravel, moist	
1			0.4	-	Asphalt layer	
2			0.3	-		
3			0.4	-	Asphalt layer Concrete debris	
4			0.4	-	Dark brown to grayish brown, fine to coarse sand, some fine to coarse gravel, brick and concrete debris, dry	
5			0.4	-	Dark brown to light brown, silty, fine to coarse sand, trace fine gravel, dry	
6	EOB				NOTES: 1. Boring completed to 5.5' bgs on 3/28/05; refusal (concrete footer) encountered at 5.5' and boring discontinued 2. Groundwater not encountered 3. Boring backfilled with clean soil on 3/28/05 4. Analytical samples from 1-5': a. On-Site radiological every foot b. On-Site nickel every odd-numbered foot	
7						
8						
9						
10						
11						
12						
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL03-I11
Date Drilled: 3/31/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio, Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
					Concrete	
			0.9	12.3	**FILL**, brown, fine to medium sand, some fine to coarse gravel, dry	
1						
			0.5	12.9		
2						
			2.2	11.7	Concrete	
3					Dark brown, fine to medium sand with concrete debris	
			1.5	12.1		
4						
			1.6	11.5	Tan to brown, fine to coarse sand, trace fine to coarse gravel, dry	
5						
			1.5	11.5		
6						
			1.2	11.9		
					Brown, fine to medium sand, some fine to medium gravel, dry	
7					Concrete	
					VOID (inside of leach pool)	
8						
9						
10						
11						
12						
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL03-I11
Date Drilled: 3/31/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio, Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
14, 15, 16					**VOID** (inside of leach pool)	
17					**FILL**, dark brown to brown, fine to coarse sand, some fine to coarse gravel, trace cobbles and silt, with construction debris, dry	
			0.0	13.0		
18			0.7	12.4		
19			0.2	12.3		
20	EOB				NOTES: 1. Boring completed to a depth of 20' bgs on 04/02/04 2. Groundwater not encountered 3. Boring location covered and secured for additional investigation 4. On-site radiological samples were collected for every foot from 0-19' (except the void) and off-site nickel sample was collected at 17'	
21, 22, 23, 24, 25, 26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL05-L14
Date Drilled: 4/02/04
Sampler Type: Stanless Steel Hand Auger
Logged By: Kyle Strumfels

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.0	11.4	Concrete	
1			0.0	12.1	**FILL**, dark brown to brown sand, some gravel and cobbles, trace silt	
2			0.0	13.3		
3			1.6	12.5		
4					Concrete	
			1.6	11.9	**FILL**, dark brown sand, some gravel and cobbles, trace silt and construction debris, dry	
5			2.1	11.7	Cobbles and construction debris grade out	
6			1.6	11.3		
7			1.1	11.4	Light brown, silt grades out	
8			2.9	11.3		
9			6.0	11.1		
10			7.2	11.2		
11			7.9	11.2	Light brown, clayey silt, some gravel 2" lense of moist material at 11.5'	
12			5.7	11.1	Light brown to brown sand, trace silt, dry	
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL05-L14
Date Drilled: 4/02/04
Sampler Type: Stanless Steel Hand Auger
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			10.0	11.4	**FILL,** light brown to brown sand, dry	
14			10.1	10.9		
15			10.3	11.1		
16			12.3	11.8		
17			8.9	11.4		
18			5.9	11.7		
19			11.9	10.7		
20	SW				Light tan **SAND,** dry	
21	EOB				1. Boring completed to a depth of 20.5' bgs on04/05/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 04/05/04 4. Analytical samples collected a) on-site radiological samples collected every foot from 1-19' b) on-site VOCs collected at 16' c) on- and off-site for radioactivity and VOCs and off-site for nickel at 20'	
22						
23						
24						
25						
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL06-M14
Date Drilled: 04/05/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Rob Giordano

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
					Concrete	
1					**FILL**, dark brown to brown, fine to coarse sand with gravel, trace silt and concrete debris, moist	
			0.3	12.5		
2						
			0.4	12.2		
3						
			0.6	12.8		
4						
			0.6	12.8	Concrete	
5					**FILL**, dark brown, fine to coarse sand with gravel, trace silt, moist	
			0.9	12.7		
6						
			1.0	13.8		
7						
			1.3	12.9	Some cobbles	
8						
			2.1	13.0		
9						
			1.5	13.0		
10						
			0.0	13.0		
11					Slag material at 10.5'	
			0.0	11.1		
12					Dark brown, fine to coarse **SAND** with gravel, trace silt with asphalt debris, moist	
			0.0	10.9		
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL06-M14
Date Drilled: 04/05/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Rob Giordano

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.0	11.0	**FILL**, dark brown with light brown, fine to coarse sand, some silt and gravel, moist	
14			0.0	11.0		
15			0.0	11.0	Asphalt debris	
16			0.0	10.8		
17			0.0	10.9		
18	EOB				NOTES: 1. Boring completed to a depth of 17.5' bgs on 04/06/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 04/06/04 4. On site radiological samples collected every foot from 1 to 17'	
19						
20						
21						
22						
23						
24						
25						
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL07-N15
Date Drilled: 04/05/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Adam Kneeling

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
					Concrete	
			0.0	12.4	**FILL**, brown, fine to medium sand with silt, some coarse sand and fine gravel, dry	
1			0.0	12.1		
2					Dark brown	
			0.9	12.5		
3						
			2.0	13.7		
4						
			0.8	12.6		
5					Tan, fine to coarse sand and gravel, dry	
			1.2	11.8		
6						
			0.5	12.1		
7						
			1.3	12.3		
8					4" concrete lid at 8'	
					VOID (inside of leach pool)	
9						
10						
11						
12						
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL07-N15
Date Drilled: 04/05/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Adam Kneeling

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
14					**VOID** (inside of leach pool)	
15						
16						
17						
18						
19						
20						
21						
22						
23						
24			8.00	23.0	**FILL,** dark brown, fine to medium sand with silt, some gravel, moist	
			10.0	22.8		
25	SW		24.5	13.2	Brown, fine to coarse **SAND** and gravel, trace cobbles, moist	
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL07-N15
Date Drilled: 04/05/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Adam Kneeling

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
	SW		14.5	11.9	Light brown to brown, fine to coarse **SAND** and gravel, trace cobbles, moist	
27			19.0	13.5		
			6.7	10.3		
28			4.5	10.6		
29			7.7	10.4		
30			4.0	10.1		
31	EOB				NOTES: 1. Boring completed to a depth of 30.5' bgs on 04/06/04 2. Groundwater not encountered 3. Boring location covered and secured for additional investigation 4. Analytical samples collected: a) on-site radiological samples collected every foot (except void) b) on- and off-site VOCs and radiological at 27' and 30' c) off-site nickel at 24', 27' and 30' d) on-site VOCs at 25'	
32						
33						
34						
35						
36						
37						
38						
39						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL10-O18
Date Drilled: 3/31/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.1	12.4	**Backfill** Previously excavated to 2' and backfilled	
1						
			0.3	9.9		
2						
			0.0	13.6	**FILL**, dark brown to brown, fine to coarse sand with fine to medium gravel, trace cobbles, moist	
3						
			0.0	11.0		
4						
			0.1	12.0	Trace silt	
5						
			0.2	11.6	Brown, coarse gravel and cobbles grade out	
6						
			0.4	11.9		
7	SW					
			0.2	12.0		
8						
			0.2	12.7		
9						
			0.0	13.2		
10						
			0.0	14.8		
11						
			0.0	15.0		
12						
			0.0	14.9	Dark brown, trace silt and cobbles, black fine gravel	
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL10-O18
Date Drilled: 3/31/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
	SW		2.9	14.1	Brown, fine to coarse **SAND**, fine to coarse gravel, moist	
14			0.6	14.5		
15	SP		1.0	14.8	Tan to brown, fine to medium **SAND**	
16	SW		0.9	15.0	Brown and tan, fine to coarse **SAND** with fine to medium gravel, moist	
17			0.7	13.8		
18			2.0	13.8		
19			0.2	13.3		
20			0.3	13.2		
			1.2	13.4		
21	EOB				NOTES: 1. Boring completed to a depth of 21' bgs on 4/01/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 4/01/04 4. On-Site radiological samples collected for every foot from 0-20'; on- and off-site VOCs and radiological samples and off-site nickel sample collected at 20.5'	
22						
23						
24						
25						
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL13-O18
Date Drilled: 04/01/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.0	12.4	**FILL,** dark brown, fine to coarse sand with fine to medium gravel, moist	
1						
			0.0	14.0		
2					Trace silt	
			0.0	12.5		
3					Brown	
			0.0	12.7		
4						
			0.0	12.2		
5						
			0.0	12.0	Tan	
6						
	SP		0.0	11.7	Light brown, fine to medium with some coarse **SAND** and fine gravel, trace clay, moist	
7						
			0.0	11.9	Llight brown, fine to coarse **SAND**, fine to medium gravel	
8	SW					
			0.0	11.6		
9						
			0.0	11.5	Light brown, fine to medium with some coarse **SAND** and fine gravel, trace clay, moist	
10	SP					
			0.0	11.9		
11						
	SW		0.0	12.3	Light brown, fine to coarse **SAND,** fine to medium gravel, moist	
12						
			0.0	12.5		
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL13-O18
Date Drilled: 04/01/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
	SW		0.0	13.0	Light brown, fine to coarse **SAND,** fine to medium gravel, moist	
14			0.0	13.1		
15			0.0	13.2		
16			0.0	12.8		
17			0.0	12.2		
18			0.0	12.8		
19			0.0	12.2		
20			0.0	12.3		
21	EOB				NOTES: 1. Boring completed to a depth of 21' bgs on 4/02/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 4/08/04 4. On-Site radiological samples were collected for every foot from 0-20'; and at 20.5' on and off Site sample was collected for radioactivity and VOCs and off Site for nickel	
22						
23						
24						
25						
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL14-K14
Date Drilled: 04/06/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Kyle Strumfels

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.3	10.4	Concrete	
1			0.1	10.3	**FILL,** dark brown to brown sand, some gravel and cobbles, trace silt with construction debris, dry	
2			1.2	10.8	Concrete	
3			0.8	10.6	**FILL**, dark brown, some gravel and cobbles, trace silt, dry	
4			1.1	103	Concrete debris at 4.5'	
5						
6					Refusal at 6.3' (pipe)	
7	EOB				NOTES: 1. Boring completed to a depth of 6.3' bgs on 4/06/04 2. Groundwater not encountered 3. Boring backfilled with clean soil on 4/06/04 4. On-Site radiological samples collected every foot from 1' to 5'	
8						
9						
10						
11						
12						
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL16-O15
Date Drilled: 04/08/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Chris Ortolano, Rob Giordano

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13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			1.7	12.3	**Backfill** Previously excavated to 1.5' and backfilled	
1						
			0.0	12.7	**FILL,** dark brown silt, trace fine to medium sand and gravel, moist	
2						
			0.7	12.6		
3					Dark brown to dark gray, silty, fine to medium sand with gravel, moist	
			0.0	12.6		
4					Brown silt with fine sand and fine to medium gravel, moist	
			1.7	12.5		
5					Brown, silty, fine to medium sand, gravel, moist	
			0.0	12.1		
6					Brown, silty, fine to coarse sand with gravel, moist	
			0.0	12.1		
7						
			0,0	11.9		
8						
	SW		0.0	12.0	Brown, fine to coarse **SAND** and gravel, moist	
9						
			0.5	12.2		
10						
			1.0	12.2		
11					Light tan to brown, trace silt	
			0.0	12.0		
12					Light brown, silt grades out	
			0.5	12.0		
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL16-O15
Date Drilled: 04/08/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Chris Ortolano, Rob Giordano

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
	SW				Light brown, fine to coarse **SAND** with gravel, moist	
	EOB				Refusal at 13.4'	
14					NOTES: 1. Boring completed to a depth of 13.4' bgs on 4/08/04 2. Groundwater not encountered 3. Boring backfilled with clean soil on 4/08/04 4. On-Site radiological samples collected for every foot from 1-13'	
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL19-L14
Date Drilled: 04/08/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.0	10.8	Concrete	
1			0.0	11.1	**FILL,** brown, fine to medium sand, little fine gravel, dry	
2			0.0	11.4	Dark brown, fine sand, trace medium sand, some fine to coarse gravel	
3			0.0	11.5		
4			0.0	12.4	Dark brown to black and tan, fine to medium sand, some fine gravel	
5			1.2	12	Some fine gravel with concrete debris, moist	
6			0.4	13		
7			0.1	12.9	Trace gravel	
8			0.3	12.4	Light tan with dark brown, fine to coarse sand, trace fine to coarse gravel	
9			0.9	12.4	Light tan, some fine to coarse gravel	
10			0.4	12.3		
11			1.3	12		
12			1.9	12.7		
13						

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: 100 Bldg. Informal Investigation and Focused Sampling
Client: GTEOSI, Hicksville, NY
Log of Boring: B100-DL19-L14
Date Drilled: 04/08/04
Sampler Type: Stainless Steel Hand Auger
Logged By: Michael Buchanio

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Description	Remarks
			0.6	12.7	**FILL**, light tan, fine to coarse fine gravel	
14			2.4	12.9		
15			2.9	13	Tan to brown	
16	EOB				NOTES: 1. Boring completed to a depth of 16' bgs on 4/09/04 2. Groundwater not encountered 3. Boring backfilled to grade with clean soil on 4/09/04 4. On-Site radiological samples were collected every foot from 0' to 15'bgs, on- and off- site radiological and VOCs samples and off-site nickel sample collected at 15.5' bgs	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						

GTE Operations Support Incorporated
One Verizon Way (VC34W453)
Basking Ridge, NJ 07920
(908) 559-3687

March 23, 2006

Mr. Robert Stewart
Division of Environmental Remediation
New York State Department of Environmental Conservation
SUNY Campus Loop Bldg. 40
Stony Brook, New York 11790-2356

Re: **Voluntary Cleanup Agreement**
For: Former Sylvania Electric Products Incorporated Facility
By: GTE Operations Support Incorporated
Site #: V-00089-1 W1-0903-01-12

Transmittal of the *Systematic Subsurface Sampling and Analysis Report: Historic Leach Pools*

Dear Mr. Stewart:

Enclosed are four copies of the *Systematic Subsurface Sampling and Analysis Report: Historic Leach Pools.*

If you have any questions or require additional information, please do not hesitate to contact me. I can be reached at (908) 559-3687.

Sincerely,

Jean M. Agostinelli
Vice President and Controller

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POTENTIAL TRANSPORT OF URANIUM FROM SUBSURFACE SOILS IN CELL 1 TO THE POINT OF INTEREST

FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY

HICKSVILLE, NEW YORK

SITE NUMBER V 00089-1

Prepared by
URS Corporation
and
Envirocon, Inc.

For:

GTE Operations Support Incorporated
One Verizon Way
Basking Ridge, NJ 07920

October 2006

This Potential Transport of Uranium from Subsurface Soils in Cell 1 to the Point of Interest Report has been reviewed by URS Corporation – New York, and I am in agreement with the conclusions.

URS Corporation – New York

Robert D. Brathovde, P.E.
Engineer of Record

This Potential Transport of Uranium from Subsurface Soils in Cell 1 to the Point of Interest Report has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the conclusions.

Professional Radiation Consulting, Inc.

Shane Brightwell, CHP
President

This Potential Transport of Uranium from Subsurface Soils in Cell 1 to the Point of Interest Report has been reviewed by Envirocon, Inc. and I am in agreement with the conclusions.

Envirocon, Inc.

Richard Hafner
Radiation Safety Officer

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B Comparative Evaluation of Diffusion and Dispersion
C Evaluation of Applicable Ground Water Transport Models
D Description of MULTIMED Model
E U-238 Transport Assuming Paved Cell Surface
F Boring Logs
G Hydraulic Gradient and Length of Flow Path
H Volume and Mass Calculations for Residual Soils in Cell 1

The Boring Logs, Appendix F, are presented on the enclosed CD which also includes a complete electronic copy of the remainder of this report.

EXECUTIVE SUMMARY

Under the New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program, GTE Operations Support Incorporated (GTEOSI) conducted soil investigations and completed Phase 1 of a soil remediation program at the Former Sylvania Electric Products Incorporated (Sylvania) Facility, Hicksville, New York Site (the Site). During these remediation activities, soils above the cleanup level of 100 picoCuries per gram (pCi/g) of total uranium were excavated and replaced with clean fill. In certain portions (cells) of the Site, residual soils remain in limited areas at depths below the engineered excavation limits, but above the water table, with low levels of uranium (i.e., total uranium). Although these levels are generally below the soil cleanup levels, GTEOSI asked URS and Envirocon to conduct a preliminary study to evaluate whether these residual levels would, if mobilized by percolating rainwater, exceed the U.S. Environmental Protection Agency (USEPA) maximum contaminant level (MCL) for total uranium in drinking water after eventual transport to a Site boundary. This Report discusses the methodology and results of this study related to the levels of uranium in residual soils in Cell 1.

After a review of several numerical and analytical models (Appendix C), the MULTIMED model (USEPA, 1996a) was selected to simulate the ground water transport of uranium. This model has the capability to account for dispersion in three dimensions, retardation, source depletion, and dilution due to recharge by infiltration along the path of ground water transport. It assumes that a dominant direction of ground water transport can be identified along with the dimensions of the contaminated area and the concentration of uranium in infiltrating rainwater desorbed from contaminated soils entering the water table. A separate desorption model, which is based on linear equilibrium conditions between concentrations in the liquid and solid phases, was used to estimate the concentration entering the water table.

Detailed soil analytical data for the Site were collected and are available for the uranium isotope, U-238. Therefore, uranium-238 (U-238) is used as an indicator for the transport of uranium. The U-238 concentration in soils used as input for the desorption model was selected from the set of subcells with the highest weighted average concentration in Cell 1, specifically the series V subcells with an estimated weighted average concentration of 17.88 pCi/g (see Figure 1). This estimated weighted average concentration is substantially higher than the estimated weighted average U-238 concentrations in the adjacent subcells (subcell series U and W).

Simulations for U-238 transport using the MULTIMED model were conducted using reasonably conservative assumptions and model input parameters supported by available Site-specific data and commonly accepted literature values. Site-specific values were used for partition coefficient (K_d), hydraulic conductivity (K), porosity (φ), and bulk density (ρ_b). The partition coefficient values were obtained from laboratory analysis of soil samples collected at varying depths from several locations around the Site. The values of the other three parameters (K, φ, and ρ_b) were obtained from laboratory analysis of several samples taken from a bore hole drilled in the vicinity of Cell 1. Other parameters derived from Site-specific information include source dimensions, U-238 concentration in residual soils, direction of dominant ground water flow, and hydraulic gradient. The parameters that are based on literature values include infiltration, dispersivities, and effective aquifer thickness.

A baseline scenario was simulated using a vertical plane rectangular patch source configuration

and assuming that the area occupied by series V subcells in Cell 1 remains unpaved or undeveloped. This baseline scenario indicated a maximum U-238 concentration of approximately 7.25 picoCuries per liter (pCi/L) of U-238 in ground water at the southern Site boundary. This predicted concentration of 7.25 pCi/L is below the lower limit of the range of MCL for U-238 (i.e., 10 to 22.5 pCi/L).

Because it is likely that the area occupied by Series V subcells in Cell 1 may be developed in future and paved or covered with buildings, an additional simulation was performed to examine the effect of this condition. In this simulation, infiltration through the residual soils containing uranium is significantly reduced. The result of this simulation indicates much smaller concentration of U-238 at the southern Site boundary (see Appendix E).
Because there is considerable variation in measured U-238 concentrations in the data collected and the concentrations at different locations and depths include different and indeterminate degrees of dilution due to mixing with ambient ground water flow, reliable data for the calibration or "benchmarking" of a uranium transport model are not available. However, predicted U-238 concentration for the aforementioned baseline scenario is similar to the observed concentrations in downgradient monitoring wells and profiles. This suggests that the adopted model parameters are reasonable.

The results of this study indicate that future concentrations of U-238 or total uranium in ground water at the southern Site boundary associated with the uranium concentrations in residual soils in Cell 1 are below MCLs for drinking water.

1.0 INTRODUCTION

1.1 BACKGROUND

This report documents the method and results of ground water transport modeling at the Site. While the former Site is currently subdivided into three lots known as 140, 100 and 70 Cantiague Rock Road, it was a single site when operated by Sylvania in the 1950s and 1960s. Beginning in 1952, Sylvania used the Site to fulfill contracts with the U.S. Atomic Energy Commission (AEC) and the AEC's prime contractors for the production of nuclear fuel elements and components comprised of thorium, natural and enriched uranium, and aluminum alloys. Residual soil contamination created by operations conducted in support of these contracts includes uranium (U-238, U-235, and U-234).

Previous concurrence between NYSDEC and GTEOSI under Voluntary Cleanup Agreement (VCA), Site V-00089-1, Index W1-0903-01-12, established a cleanup level of 100 pCi/g of total uranium for soils at the Site. In this report, the words total uranium and uranium are used interchangeably and refer to all uranium isotopes. The above cleanup level was selected because it provides appropriate safety from the radiological and toxicological hazards of uranium for future users of the property if the remediated Site were released without restriction. To comply with the Agreement, most of the soils with uranium concentrations above the cleanup level were excavated and replaced with clean fill. However, residual soils remain with small amounts of uranium (i.e. generally below cleanup levels) in limited areas at depths below the engineered excavation limits in Cell 1.

Rather than performing a chemical analysis for total uranium during remediation, the State authorized analysis for specific isotopes at the Site. This approved methodology was adopted because of the ease and sensitivity of the radiometric method and because it provided the ability to analyze for enriched uranium. Since information on uranium contamination in residual soils is available in terms of U-238 concentrations, the U-238 isotope is used as an indicator of the transport of uranium in this study (see Appendix A).

The percentage distribution of the isotopes of uranium in Cell 1, on an activity basis, is as follows: U-238 $\approx$ 49%; U-234 $\approx$ 49%; and U-235 (and other isotopes) $\approx$ 2%. Therefore, the concentration of total uranium in soils in Cell 1 is assumed to be two times the measured concentration for U-238 and the results of the transport analysis (for U-238) conducted in this preliminary study were adjusted by a factor of two to reflect the approximate concentration of total uranium.

For Site management and excavation control, the area of interest was divided into cells, and soil removal and replacement were conducted on a cell-by-cell basis. To further facilitate remediation and monitoring of contamination in residual soils, each cell was divided into series of smaller subcells. Cell 1 is divided into three series of subcells, U, V and W. The subcells within Cell 1 include U04 to U07 in series U, V04 to V07 in series V, and W04 to W07 in series W. Residual soils in series V subcells in Cell 1 were found to contain relatively higher concentrations of U-238 compared to subcells in series U and W (Figure 1).

Identified concentrations of U-238 in residual soils, below the engineered excavation limits to a depth of approximately 64 feet (ft) below ground surface (bgs) vary from 3.5 pCi/g in subcell

W07 to 40.31 pCi/g in subcell V06. The investigative soil borings were stopped approximately 5 to 10 ft above the water table to prevent the introduction of potentially impacted soils or water from the unsaturated soil zone into the ground water environment.

1.2 OBJECTIVE

The objective of this preliminary modeling study is to understand and quantify the risk, if any, due to ground water contamination associated with uranium in residual soils by way of potential migration to ground water and eventual transport to the intersection with a Site boundary (Figures 1 and 2). Potential risk of ground water contamination is evaluated by comparison of predicted ground water contamination at the point of interest with the maximum permissible contaminant level (MCL) of uranium for drinking water established by the USEPA.

1.3 GROUND WATER STANDARDS FOR URANIUM

The USEPA regulates uranium in drinking water under the Safe Drinking Water Act, with MCLs published in Title 40 Code of Federal Regulations (CFR), Part 141. Uranium is a naturally occurring radioactive element and a heavy metal, and the MCL reflects consideration of both the chemical and radiological toxicities. The USEPA MCL for total uranium was set at 30 microgram/liter (μg/L) with an effective date of December 8, 2003 (USEPA, 2000a and 2002). The NYSDEC has adopted this MCL for radioactivity as an appropriate goal for evaluating the impacts of the contaminant on ground water at cleanup sites in New York (6 NYCRR Part 703).

For comparison to the MCL, it is necessary to convert the radiometric or activity measurements (picoCuries or pCi) of specific isotopes to the mass units of the MCL (microgram or μg). In this analysis, the range of conversion factors, 0.67 to 1.5 pCi/μg, recommended by USEPA for total uranium was considered (USEPA, 2002a and 2002b). Applicable to a variable isotopic mix of natural uranium, this range resulted in an equivalent MCL range of 20 to 45 pCi/L for total uranium. Based on the proportions of uranium isotopes on an activity basis measured in the soils in Cell 1 (see Subsection 4.1.1), this range of MCL for total uranium (20 to 45 pCi/L) is expressed as 10 to 22.5 pCi/L for U-238 and 10 to 22.5 pCi/L for U-234 (MCL for U-235 being less than 0.5 pCi/L). Thus, the cleanup target of 30 μg/L of total uranium in drinking water is interpreted as a range of 10 to 22.5 pCi/L of U-238 in ground water in this analysis (see Appendix A).

Data collected from ground water close to the water table and at various depths below the water table at the Site indicated either non-detect or relatively low levels below the range of MCL of U-238 in most monitoring wells and profiles. Exceptions are an unfiltered sample from monitoring well MW-2 collected on March 15, 2003, and field-filtered samples (analyzed in April-June 2005) from two profiles, P-103 and P-107, drilled and sampled in April and May, 2005 (see Section 3).

1.4 REPORT ORGANIZATION

This report is organized in seven sections as described below:

Section 1 (Introduction) describes the Site background, objective of the study, and relevant ground water standard for uranium and U-238.

Section 2 (Model Selection) describes relevant physical processes and the models selected to simulate those processes.

Section 3 (Field Data for Ground Water Depth and U-238 Concentrations) summarizes observed data for depth to ground water, U-238 concentrations, and their relevance to model development.

Section 4 (Estimation of Relevant Model Parameters) includes the process and sources for estimating different model parameters.

Section 5 (Baseline Simulation Scenario) includes description of the baseline scenario and model results for the baseline scenario.

Section 6 (Conclusion) summarizes the results of the study.

Section 7 (References) includes a list of references used in the study.

Relevant details of models evaluated for the study along with a list of relevant references, back-up material for the justification of specific items of information used in the analysis, an additional model simulation assuming paved surface of subcells, and the logs of the boreholes from which soil samples were taken for laboratory analyses are included in the appendices.

2.0 MODEL SELECTION

The physical processes that govern the fate and transport of uranium at the Site and provide the basis for model selection are described in the following subsection.

2.1 PHYSICAL PROCESSES

The rainwater infiltrating through a column of soil with U-238 contamination would dissolve (desorb) a portion of the U-238 adsorbed to the soils and transport it through the unsaturated soil column (known as the vadose zone) down to the water table. At the Site, U-238 in residual soils has been detected at various depths below the engineered excavation limits encountered during the Phase I soil remediation program down to approximately five to ten ft above the water table. The concentrations of U-238 in these residual soils are known. Since soil in the area above the residual soil was removed and replaced with clean soil, detailed modeling of the processes related to transport into the vadose zone has little relevance.

In most field situations, the transport from the vadose zone to the water table would occur under partially saturated conditions. This transport is generally not a steady state process. But, for the sake of simplicity and conservatism, it is assumed in the model that sufficient soil moisture is available and the exchange of contamination from soils to water occurs under equilibrium conditions corresponding to the average concentration in soils in subcells in Cell 1. As such, the infiltrating water continuously receives a portion of the U-238 from the soils. Due to the exchange of U-238 from soil to ground water, the soil concentration would be reduced from year to year. Thus, the vadose soil zone is a continuous source with gradually diminishing concentrations of U-238 available for transport into the saturated zone. In this analysis, however, it is assumed that the source concentration remains constant and does not deplete with time.

The transport of U-238 in the saturated zone is controlled primarily by the amount of contaminant present in the soils at the source; the rate of release from the source; and hydrologic factors such as dispersion (Subsection 4.4), advection (i.e., ground water flow velocity), dilution, and adsorption/desorption (Subsection 4.1.1). A brief description of the relevance of such processes to the present study is included in the following paragraphs.

Chemical Speciation

Chemical speciation is not relevant to this study because transport of U-238 (an isotope of uranium) is used as an indicator of the concentrations of total uranium.

Diffusion

In ground water transport modeling, the contribution of diffusion is usually accounted for by adding the molecular diffusion coefficient for the contaminant of concern to the dispersion coefficients. However, the molecular diffusion coefficient for total uranium may be several orders of magnitude smaller than the dispersion coefficients (see Appendix B). Therefore, the contribution of diffusion is not considered significant and is not incorporated in this study. So far as the dispersion of contaminants is concerned, this is a conservative assumption.

Relevant Processes

In view of the above, relevant processes governing the fate and transport of U-238 from the soils to the ground water environment at the Site include the following (see Figures 1 and 2):

- Transfer of U-238 contamination from soils to water due to desorption with infiltrating rainwater;
- Dilution of U-238 concentrations reaching the water table with ambient ground water flow beneath the cell; and
- Transport of the dissolved concentrations in ground water beneath the cell to the point of interest through the saturated soil zone with dispersion, retardation, radioactive decay, dilution due to ground water recharge, and dilution with ambient ground water flow.

The criteria for model selection and brief descriptions of ground water transport models evaluated to simulate the above processes are described in Appendix C. The specific models adopted for the study are described in Subsection 2.2.

2.2 SELECTED MODELS

The selected models include the main ground water transport model and a suite of supplementary models to estimate some of the input parameters for the transport model.

The descriptions of ground water transport models included in Appendix C suggest that the effort required and accuracy of prediction provided by a sophisticated finite-difference or finite-element model or suite of models may not be commensurate or possible with available Site-specific information and the objective of this analysis. Instead, a less complex and reasonably conservative approach is appropriate.

The comparative evaluation of different modeling approaches included in Appendix C indicates that the MULTIMED model (USEPA, 1996a) captures the essential processes associated with the transport of U-238 or total uranium and is expected to predict reasonably conservative concentrations at a specified downgradient location. Therefore, this model is selected for a preliminary and conservative analysis of the fate and transport of U-238.

The MULTIMED model (like most other models) requires supplementary models to estimate the source concentration for ground water transport and retardation factor. Brief descriptions of the MULTIMED model and supplementary models used to estimate initial concentration at the ground water source and retardation factor are included in Subsection 2.3.

2.3 DESCRIPTION OF SELECTED MODELS

Brief descriptions of the models selected for this analysis are included in the following subsections.

2.3.1 Transport Model

As indicated in Subsection 2.2, the transport model selected for this study is the MULTIMED model (USEPA, 1996a). The capabilities of the MULTIMED model are described in

Appendix D. In particular, this model can simulate dilution due to recharge by infiltration along the path of ground water transport. This simulation option assumes that the recharge and resulting dilution are uniformly distributed throughout the effective thickness of the aquifer.

In the case of the Site, the area with potentially contaminated soils was divided into several cells. Each cell was divided into several series of subcells and soil concentrations were measured at different spatial locations in each subcell. In this analysis, the series of subcells with maximum soil concentrations of U-238 is used to estimate the concentration in the infiltrating water entering the water table. U-238 concentration in the soil in each subcell is assumed to be uniformly distributed within the width of the subcell nearly perpendicular to the direction of dominant ground water flow. Contaminant concentrations in the soils in the vadose zone at the source are discussed in Subsection 4.6.

Due to desorption by infiltrating water, a portion of the contamination in residual soils in the vadose zone reaches the water table. After its entry into the saturated zone, this dissolved contamination mixes and moves with ambient ground water along the bottom of the contributing subcells. During this transport, it undergoes some dilution due to mixing with ambient ground water and reaches the vertical cross section of the aquifer at the downgradient edge of the contributing subcells. The soils in the area downgradient of the above-mentioned contributing subcells are relatively clean in the model and at the Site. Thus, infiltrating rainwater entering the water table through the vadose zone downgradient of the edge of the contributing subcells is relatively clean and is referred to as recharge (see Figure 2).

Within the abovementioned vertical cross section at the downgradient edge of the contributing subcells, the diluted contamination is distributed down to a depth, designated as the mixing zone depth. This vertical cross section in the saturated zone with its width equal to the width of the subcells and its depth equal to the mixing zone depth constitutes a vertical plane (designated as rectangular patch) source for ground water transport in the model domain.

The rectangular patch source is a vertical plane of finite width and depth located in the saturated zone at the downgradient edge of the relevant series of subcells in Cell 1 (see Figure 2). The concentration in ground water at every point along the vertical plane at the source is the same and does not undergo reduction with time. The effect of source depletion should be progressive reduction in the concentrations at the point of interest with time. Since modeling with the rectangular patch source does not provide for source reduction, the predicted concentration is overly conservative, remaining at a constant level and extending impacts unrealistically into the future.

2.3.2 Desorption Model

The desorption model is used to estimate the concentration of infiltrating water entering the water table beneath the series of subcells with residual contamination in soils in the vadose zone. It is based on the following linear equilibrium model (USEPA, 1988; ANL, 2001):

Eq. (1) $$C = S / K_{du}$$

where, C = equilibrium concentration in water (pCi/ml);
S = mass (or activity in pCi/g) adsorbed per unit mass of soil; and

K_{du} = partition/distribution coefficient (for the unsaturated zone) in milliliters per gram (ml/g).

This model assumes that the mass (or activity) adsorbed per unit mass of the soils (pCi/g) is in equilibrium with the liquid phase concentration (pCi/ml), and the relationship between concentrations in the solid (pCi/g) and liquid (pCi/ml) phases is linear. The parameter K_{du} is assumed to lump the effects of most partitioning processes (e.g., soil texture, soil grain size, soil classification, pH of ground water, and organic carbon content of the soil) into one value. The parameter K_d or K_{du} is discussed in more detail in Subsection 4.1.1.

Using the linear equilibrium model (Eq. 1), the following expression is developed to estimate the concentration in infiltrating water corresponding to the average concentration in the soil column in contributing subcells above the water table (IPCB, 2004):

Eq. (2) $$C_i = (C_s \rho_b) / (\varphi_w + \rho_b K_{du})$$

where, C_i = concentration in infiltrating water in the vadose zone (pCi/ml) entering the water table beneath the subcells;
C_s = average concentration in soils in the contributing subcells (pCi/g);
ρ_b = bulk density of soils in grams per cubic centimeter (g/cc); and
φ_w = water-filled porosity in the unsaturated soil zone (unitless).

Eq. 2 is designated as the desorption model. The concentration in infiltrating water, C_i, is used as input to the MULTIMED model. In this model, the ground water source for downgradient transport is a vertical plane located within the saturated zone at the downgradient edge of the subcells with U-238 in residual soils. With the concentration in infiltrating water reaching the water table as input, the MULTIMED model computes the concentration, C_0, at the ground water source after initial mixing of ambient ground water beneath the subcells with residual contamination in soils.

2.3.3 Retardation Factor

One of the effects of the partition/distribution coefficient on contaminants is to retard the rate (velocity) of transport in ground water. The retardation factor, R (unitless), used as input in the transport model, is computed as follows (USEPA, 1996a):

Eq. (3) $$R = 1 + (\rho_b K_d / \varphi)$$

where ρ_b = bulk density of soils in grams per cubic centimeter (g/cc);
φ = effective porosity in the saturated zone (unitless); and
K_d = partition/distribution coefficient for the saturated zone (ml/g).

Any other consistent set of units may also be used for the variables in Eq. 1-3.

3.0 FIELD DATA FOR GROUND WATER DEPTH AND U-238 CONCENTRATIONS

3.1 DEPTH TO GROUND WATER

Ground surface elevations from Cell 1 to the point of interest on the southern Site boundary vary from approximately 145.28 ft to 142.96 ft. In the vicinity of the Site, the water table was observed between 72 and 74 ft bgs.

3.2 CONCENTRATIONS OF U-238

Field data for U-238 concentrations are available for 112 ground water samples from 12 monitoring wells and 45 ground water profiles. Most of the measured values of U-238 concentrations in ground water were either non-detect or below the MCL. The data from those samples collected in 2002 and 2003 that exceeded 1.0 pCi/L are abstracted in Table 3-1. In addition, data based on analysis of field-filtered samples from three recent profiles are also included (e-mail communications with MPI, June-July, 2005) (see Figure 3). The term 'field-filtered sample' included in footnotes b and c to Table 3-1 indicates that the particulate matter in the ground water sample was filtered out before analyzing the filtrate for U-238 concentration.

Table 3-1. Observed U-238 Concentrations in Select Monitoring Wells and Profiles

Profile or Monitoring Well	Approx. Location (See Figure 3)	Depth (bgs) (ft)	Date of Sampling	U-238 Concentration (pCi/L)
P-2[a]	On the 140 Property, subcell W10, approximately 113 ft east of the 100 Building	98.8	October-December, 2002	1.27 (+ or – 0.44)
P-6[a]	On the 100 Property, subcell P23, approximately 90 ft south of the southeast corner of the 100 Building	82.8	October-December, 2002	2.43 (+ or – 0.78)
P-28[b]	On the Golf Course Driving Range, subcell 22A, approximately 63 ft east of the 100 Property	87.02	May 3, 2003	1.03 (+ or – 0.38)
P-35[a]	On the 70 Property, subcell W73, approximately 85 ft north of the 70 Building	87.2	July 9, 2003	1.43 (+ or – 0.48)
MW-01[a]	On the 70 Property, border of subcells F22 and F23, approximately 58 ft north of the 70 Building	58-78 (screened interval)	March 15, 2003	2.22 (+ or – 0.72)
MW-02[a]	On the 70 Property, subcell I22, approximately 56 ft north of the 70 Building	59-79 (screened interval)	March 15, 2003	38.3 (+ or – 8.1)
MW-12[a]	On the 70 Property, subcell R32, approximately 13 ft northwest of southeast corner of the 70 Property	120-130 (screened interval)	March 15, 2003	1.76 (+ or – 0.60)
P-103[c]	On the 100 Property, subcell G21, approximately 50 ft south of the 100 Building	74	April 19, 2005	26.5 (+ or – 2.9)
		84.5	April 19, 2005	3.34 (+ or – 0.62)
P-107[c]	Located on the 140 Property, appears to straddle subcells R08 and U08, approximately 73 ft east of the 140 Building	74.30	May 16, 2005	96 (+ or – 11)
		84.30	May 16, 2005	56.3 (+ or – 5.8)
		94.30	May 17, 2005	6.1 (+ or – 1.6)
		104.30	May 17, 2005	11.6 (+ or – 2.2)
P-108[c]	Located on the 100 Property, subcell W18, 100 ft east of the 100 Building and downgradient of Cells 1, 2, 6, and 3	84.15	May 02, 2005	0.75 (+ or – 0.28)

[a]Based on analysis of an unfiltered sample.
[b]Based on analysis of a field-filtered sample.
[c]Based on analysis of a field-filtered sample as per MPI (e-mail communications, June-July, 2005).

As noted in Table 3-1, the maximum concentrations of U-238 detected were between 10 to 20 ft below the water table. All concentrations measured below 100 ft bgs (30 ft or more below the water table) are below or close to the lower limit of the MCL for U-238 (10 to 22.5 pCi/L).

The data collected and listed in Table 3-1 indicate that there is significant variation in measured concentrations in different monitoring wells and profiles, and it is difficult to identify specific concentrations which may be used for model calibration. Additional limitations associated with this data include the following:

- The uranium found in soils existed in thin zones and not large source areas. The locations and dimensions (i.e., length, width, depth) of the uranium-impacted soils and the specific concentrations of uranium therein, which may be the source of ground water concentrations shown in Table 3-1, are not known.

- It is difficult to estimate the durations of the transport of uranium through the unsaturated and saturated soil zones from the source or sources to the respective profile or monitoring well indicated in Table 3-1.

- The concentrations in ground water at the respective sources and the corresponding mixing zone and effective aquifer depths applicable to the concentrations shown in Table 3-1 are difficult to identify.

- The orientations of the ground water flow paths to various profiles and monitoring wells and other transport parameters applicable to the transport process are also not known. This is further complicated by the fact that various sources of ground water recharge and extraction operated in the Site vicinity and historically have changed over time. These changes have locally impacted ground water flow rates and directions and resulted in the concentrations shown in Table 3-1.

Because of the above-mentioned limitations, the data included in Table 3-1 are not used for model calibration, per se. Instead, they are used for a qualitative assessment of the model parameters and model results presented in this study.

4.0 ESTIMATION OF RELEVANT MODEL PARAMETERS

The adopted model input parameters include Site-specific parameters based on field measurements, laboratory analysis of soil samples from boreholes in the vicinity, and information available in the literature.

4.1 SITE-SPECIFIC SOIL CHARACTERISTICS

Soil samples from various locations and depths have been analyzed to estimate specific values of relevant parameters. The results of the analysis for soils in the vicinity of the Site are summarized in the following subsections.

4.1.1 Solid/Liquid Phase Partition or Distribution Coefficient

Definition

The partition or distribution coefficient (K_{du} for unsaturated or vadose zone and K_d for saturated zone) is a soil parameter which is used to assess the degree to which a chemical species will be distributed in the solid and liquid phases. It provides an indication of how rapidly an ion can move relative to the rate of ground water movement under the geochemical conditions tested (ASTM, 1990). In simpler terms, K_d is defined as the concentration of a species of interest in the solid phase divided by the concentration of that species in the liquid phase, at steady-state (Brookhaven National Laboratory, 1999). In this analysis, the parameter K_{du} or K_d quantifies certain sorption (adsorption/desorption) processes relevant to the transport of uranium from the soils at the Site to the point of interest.

The soils in the unsaturated zone at the Site generally consist of poorly graded or gravelly sands with little or no fines which have a group symbol of SP according to the Unified Soil Classification System (USCS) (see Appendix F). Soils in the saturated zone at the Site generally consist of poorly graded or gravelly sands with little or no fines (USCS group symbol SP) with mixtures of silty sands (USCS group symbol SM). The average reported value of K_{du} or K_d for uranium for sandy soils is 35 ml/g, and generally higher average values are reported for finer materials (USEPA, 1999).

Site-specific Sampling

Usually, K_{du} or K_d values used for ground water transport modeling are obtained from literature or laboratory analysis of soil samples from a studied area. The K_{du} or K_d values for total uranium (or U-238) used for this analysis were obtained from laboratory analysis of soil samples collected from several locations, at various depths around the Site using the ASTM batch equilibrium method, ASTM D4319-83 as interpreted by Severn Trent Laboratories in their Standard Operating Procedure *K_d Leaching Procedure,* revision April 19, 2004 (see locations KD1, KD2, and KD4, Figure 3).

The K_{du} or K_d values measured in laboratory analysis pertain to total uranium. However, detailed field information regarding uranium found in residual soils relates to U-238. As such, the U-238 transport analysis assumes that the values of K_{du} or K_d estimated for total uranium are applicable to U-238 as well (see Appendix A).

Results of Laboratory Analysis

Generally, the same values of K_{du} and K_d are assumed to be applicable to both unsaturated and saturated soils. Laboratory analysis for K_{du} and K_d for soil samples from different depths at and adjacent to the Site indicated that there is appreciable variation with depth. In particular, the values for the saturated zone were lower than the values for the vadose zone.

In Cell 1, contaminated soils have been excavated and replaced with clean fill down to an average depth of approximately 21 ft bgs. Laboratory analysis of six samples from various locations in the unsaturated zone from depths ranging from 30 to 42 ft bgs indicate an average Site-specific value of 5.45 ml/g for K_{du} for uranium. The range of K_{du} values for these six values from the unsaturated zone was 2.98 to 7.72 ml/g.

Laboratory analysis of seven soil samples from various locations in the saturated zone in the Site vicinity from a depth range of 70 to 110 ft bgs indicated an average value of 0.89 ml/g for K_d. The range of K_d values for these seven values from the saturated zone was 0.52 to 1.01 ml/g.

Computations for the baseline case for Cell 1 were made using the average values of K_{du} = 5.45 and K_d = 0.89 ml/g for the unsaturated and saturated zones, respectively.

Implication of Site-specific K_{du} or K_d Values

A review of Site-specific K_{du} and K_d values indicates that they are generally lower than the average values reported in the literature for similar soils (i.e., sands) (USEPA, 1999).

The low (compared to literature values) Site-specific K_{du} or K_d values for uranium result in the following notable consequences so far as the transport of uranium is concerned:

- A higher equilibrium concentration of the contaminant in pore water in the subcells (see Eq. 1, Subsection 2.3.2);
- A higher concentration in infiltrating rainwater entering the water table (see Eq. 2, Subsection 2.3.2); and
- Lower retardation of the contaminant of interest (i.e., faster rate of movement of dissolved uranium with ground water) (see Eq. 3, Subsection 2.3.3).

4.1.2 Organic Content

Since Site-specific K_d or K_{du} values have been determined, organic carbon content is not required to estimate K_d or K_{du} values for this analysis

4.1.3 Hydraulic Conductivity

Laboratory analysis of three soil samples from depths of 25 to 64 ft bgs collected from Boring KD4 (Figure 3) indicated a Site-specific geometric mean hydraulic conductivity of 1.64×10^{-2} cm/sec (i.e., 46.50 ft/day or 5171.9 m/yr). This value is used for the baseline scenario. The three test results varied from 1.15×10^{-2} to 2.22×10^{-2} cm/sec (32.6 to 62.93 ft/day or 3626.6 to 7001 m/yr). Reported values of the hydraulic conductivity of the Magothy Formation range from 27

ft/day to 150 ft/day (see Subsection 4.5). The average value of 5171.9 m/yr (46.50 ft/day) is used for the baseline scenario simulated in this study.

4.1.4 Porosity

The three soil samples from Boring KD4 (depths of 25 to 64 ft bgs) were analyzed in the laboratory for dry unit weight and specific gravity. The porosity of the soils is estimated using the measured values of dry unit weight and specific gravity. The estimated values of porosity for the three samples vary from 0.386 to 0.413 with an average value of 0.39 for soils in the vicinity of Cell 1. For unconsolidated sediments coarser than silt size, effective porosity can be less than total porosity by approximately 2% to 5%. Typical values of effective porosity for fine to coarse sands reported in the literature vary from 0.10 to 0.35 (USEPA, 2000). The reported mean values of specific yield (which is generally equal to the effective porosity) for fine to coarse sands are between 0.30 and 0.33 (USEPA, 1985).

In view of the above, the effective soil porosity under saturated conditions (φ) is taken to be 0.30.

Default soil porosity under unsaturated soil conditions may vary from 0.15 at the ground surface to 0.30 for subsurface conditions and from 0.18 for sand to 0.20 for gravel (IPCB, 2005). Use of an empirical equation included in Tiered Approach to Corrective Action Objectives (TACO) (IPCB, 2004) suggests values in the range of approximately 0.16 to 0.19.

In view of the above, a value of 0.18 is adopted for porosity under unsaturated soil conditions (φ_w). Minor variations in the adopted value of porosity under unsaturated conditions (e.g., in the approximate range from 0.17 to 0.20) are not expected to have significant effect on the results of this analysis.

4.1.5 Bulk Density

Based on the results of the aforementioned laboratory tests of the three soil samples for dry unit weight, the bulk density of soils in the vicinity of Cell 1 is estimated to vary from 1.55 to 1.63 grams per cubic centimeter (g/cc) with an average of 1.60 g/cc. The average value of 1.60 g/cc is used in this analysis.

4.2 RADIOACTIVE DECAY

In most environmental transport models, the term decay is defined by the first-order decay coefficient which is a function of the half life of the constituent. U-238 has a relatively long half life of 4.47E+09 years resulting in little decrease in U-238 concentrations due to natural decay during the time period of interest in this study (www.ornl.gov/sci/isotopes). The other natural isotopes of uranium also have relatively long half lives (i.e., half life of U-234 = 2.46E+05 years and half life of U-235 = 7.04E+08 years). The longer half life (i.e., half life of U-238) with the corresponding lower decay coefficient of 0.155E-09 $year^{-1}$, is used in this study to analyze the transport of U-238.

4.3 HYDRAULIC GRADIENT

The selected ground water transport model simulates the propagation of concentration along a specified direction of ground water flow, i.e., along a vertical profile of the aquifer, with distinct localized hydraulic gradient. By definition, this localized hydraulic gradient (unitless) for ground water in unconfined situations is the slope of the water table between two points of interest or between points closest to the two points of interest on the above-mentioned vertical profile.

The dominant on-Site ground water flow direction and localized hydraulic gradient were identified from available field data. While the general regional ground water flow direction in the vicinity of the Site is towards the south, discrete areas within the Site have localized variation. This localized variation is important for ground water transport modeling within the relatively short transport distance considered in this study (see Figure 1).

For Cell 1, the source in ground water is assumed to be located at the downgradient edge of subcell V07 (see Subsection 4.6). Thus, the localized hydraulic gradient applicable to the transport of dissolved uranium from subcells in series V in Cell 1 to the point of interest is estimated by the difference in ground water levels in the monitoring wells closest to the downgradient edge of subcell series V of Cell 1 and the point of interest.

To estimate the localized hydraulic gradient, ground water elevations were used from three on-Site monitoring wells for two monitoring events. The localized hydraulic gradient was taken to be the average of values computed from ground water elevations measured during the December 2002 (URS Corporation, unpublished data) and March 2003 sampling events for monitoring wells MW-07, MW-11, and MW-09. Monitoring well MW-07 is located downgradient of Cell 1 and Cell 6 and MW-09 and MW-11 are located further downgradient near the southern Site boundary (see Figure 3). These three monitoring wells were selected because they define the plane representing the water table in the area between Cell 1 and the southern Site boundary.

Three different approaches were used to estimate the average hydraulic gradient using observed ground water elevations for the aforementioned monitoring wells, MW-07, MW-09, and MW-11 (see Appendix G).The estimated average hydraulic gradients using the three approaches are 0.00049, 0.00054, and 0.00056, respectively. To be conservative, the highest value of 0.00056 is used in this study.

The length of the transport distance from the downgradient edge of subcell V07 to its intersection with the southern Site boundary is estimated to be 574 ft (175 m).

4.4 DISPERSIVITY

The spreading of a contaminant dissolved in ground water beyond the region it is expected to occupy due to average flow alone is called dispersion. It is quantified by a factor called the dispersion coefficient. The dispersion coefficient is a function of a soil property known as dispersivity and the velocity of ground water through soil pores.

There is large variation in values of dispersivities reported in the literature (e.g., Maidment, 2003; USEPA, 1985). Based on commonly used practice, the longitudinal (α_x), transverse (α_y), and vertical (α_z) dispersivities for this analysis are estimated using the following equations

(USEPA, 1996a; IPCB, 2004; ASTM , 1995), i.e.,

Eq. (9) $(\alpha_x) = 0.1\ x$

Eq. (10) $(\alpha_y) = (\alpha_x)/3$ and

Eq. (11) $(\alpha_z) = 0.056\ (\alpha_x)$,

where x = the length of the ground water flow path (m).

These equations are based on a review of a range of values reported in the literature, are generally accepted for screening level (which are normally considered to be conservative and preliminary) analyses, and are included in several commonly used industry guides (e.g., IPCB, 2004; ASTM, 1995). In addition, they are included as 'other commonly used relationships' in several other models (e.g., USEPA, 1996b; USEPA, 2000b).

4.5 EFFECTIVE AVERAGE AQUIFER THICKNESS

Three major aquifers exist beneath the Site (i.e., Upper Glacial at the top underlain in order by the Magothy, and Lloyd Aquifers). These aquifers are interconnected to various degrees and the combined depth is fairly large (i.e., more than 600 ft) (Isbister, 1966). Recent Site-specific ground water investigations indicate that the Upper Glacial deposits in the vicinity extend to approximately 75 ft bgs. The water table was observed between 71 to 74 ft bgs, which is near the contact between the Upper Glacial and Magothy Aquifer. Thus, the saturated thickness of interest for this study is primarily within the Magothy Aquifer. The Magothy Aquifer was encountered during recent area investigations from approximately 75 ft bgs to as deep as 532 ft bgs (noted by Malcolm Pirnie during the ground water investigation in 2004-2005).

During ground water investigations, silt and clay lenses were encountered beneath and downgradient of the Site. This may limit the effective aquifer thickness available for contaminant transport. Also, the vertical dispersivity of the medium is relatively low (see Sub Section 4.4 and Table 5-1). These factors are expected to limit the depth of the zone of effective U-238 transport and effective thickness of the aquifer relevant to the transport of U-238 with ground water.

A review of the data for profiles downgradient or south and southwest of Cell 1 (i.e., P-103 and P-108) included in Table 3-1 indicates relatively low concentrations of U-238 at a depth of 84.5 ft bgs (or approximately 10 ft below the water table). In addition, there is significant reduction in U-238 concentrations with depth in Profile P-107 which is also located downgradient of Cell 1. This suggests that a relatively small portion of the total aquifer depth may be effective along the path of any appreciable transport of U-238 from Cell 1.

In view of the above, a relatively small effective aquifer thickness of 30 ft (i.e., extending to approximately 102 to 104 ft bgs) is used. The mixing zone depth corresponding to this effective aquifer thickness is internally calculated in the MULTIMED model using an analytical equation (IPCB, 2004; and USEPA, 1996a).

4.6 U-238 CONTAMINATION IN RESIDUAL SOILS AT SOURCE

The characteristics of the U-238 contamination at the source in soils in series V subcells in Cell 1 are described in the following subsections.

4.6.1 U-238 Concentration in Soils at Source

Measured concentrations of U-238 are available in the residual soils to a depth of approximately 64 ft bgs at various spatial locations in several borings in Cell 1. Because of different spatial locations of the borings, several values are available at each depth.

Cell 1 is divided into three series (rows) of subcells, U, V, and W (Figure 1). Each series of subcells constitutes a linear segment for U-238 or total uranium transport to the point of interest. The contamination originating from soils at different depths in a particular vertical column or subcell is likely to appear as mixed dissolved concentration at the bottom of the column near the water table. This mixed dissolved concentration from all such vertical columns or subcells would be transported downgradient with ambient ground water flow along the length of the series parallel to the direction of ground water flow. Ultimately, this mixed concentration from all columns or subcells in a series would appear at the downgradient edge of the contaminated subcells. The effect of mixing during ground water transport along the length of the subcells is internally computed in the MULTIMED model. Thus, the source concentration of dissolved U-238 or total uranium in ground water in the saturated zone appearing at the downgradient edge of a series of subcells would correspond to the average of depth-wise, width-wise, and length-wise soil concentrations in that series.

Cell 1 includes four subcells in each of series U, V, and W (see Figure 3). The weighted average soil concentration of U-238 in subcells in series V (i.e., subcells V04 to V07) in Cell 1 is higher than the weighted average of U-238 in subcells in series U (i.e., subcells U04 to U07) or subcells in series W (i.e., subcells W04 to W07) (see Figures 1 and 3 and Appendix H). To be conservative, the highest weighted average concentration in soils, located in subcells V04, V05, V06, and V07 in series V, is assumed to be the overall average concentration in soils at source in Cell 1.

The weighted average concentration of U-238 in subcells V04 to V07 in series V in Cell 1 is estimated from measured concentrations in soils at various depths within residual soils in areas occupied by these subcells. The computations are made using the EVS software (C Tech Development Corporation, 2005). The EVS software uses a three-dimensional interpolation algorithm to estimate concentrations at various points within the specified model domain based on relative proximity of each point from the surrounding points where measured values are available. The resulting grid or contours are used to estimate the volume or mass of soils and mass of contaminants represented by each point on the grid or between specified contours. This information is used to estimate the weighted average concentration in the specified model domain (e.g., an individual subcell).

Using the results of the EVS model for each subcell, the weighted average concentration of U-238 in the soil mass at the source (i.e., subcellsV04 to V07) is estimated. These computations are made using the following equation:

Eq. (12) $$X = [\sum w_i x_i] / [\sum w_i]$$

where X = weighted average concentration of U-238 (pCi/g) in subcells V04 to V07;
i = index identifying an individual subcell (e.g., V04, V05, etc.);

w_i = mass of soil (g) in subcell i;
x_i = weighted average concentration (pCi/g) within subcell i as estimated by the EVS software; and
$\sum$ indicates summation over all subcells from V04 to V07.

The information used to estimate the weighted average concentration of U-238 in the soils at the source is included in Table 4-1.

Table 4-1. Weighted Average Concentrations of U-238 in Soils at Source, Cell 1

Subcell	Average thickness of residual soils in subcell[a] (ft)	Mass of residual soils[a] (kg)	Weighted average U-238 concentration in subcell[a] (pCi/g)
V04	59.82	1176800	8.55
V05	55.58	1077200	23.43
V06	56.31	1101100	29.62
V07	56.35	1081100	10.54
Weighted average U-238 concentration in the four subcells (Eq. 12) = 17.88 pCi/g			

[a]EVS model output (see Appendix H)

The average of the thicknesses of residual soils with U-238 contamination at the source shown in Table 4-1 is approximately 57 ft and the estimated weighted average concentration of U-238 is 17.88 pCi/g. The corresponding source concentration of total uranium in soils at the source is taken to be twice the value for U-238 (i.e., a concentration of 35.76 pCi/g of total uranium in soils at the source).

The desorption model (Subsection 2.3.2, Eq. 2) is used to estimate the concentration of U-238 entering the water table beneath subcell series V corresponding to the afore-mentioned concentration (i.e., 17.88 pCi/g) in soils at the source (see Figure 2).

4.6.2 Length and Width of U-238-impacted Soils at Source

Cell 1 is nearly rectangular in plan (see Figure 3). The total length of subcells V04 to V07 in Cell 1 along the direction of ground water flow is 94 ft (28.6 m). This is the length along which desorbed U-238 enters the water table at the concentration, C_i, estimated by the desorption model (Eq. 2). The width of series V subcells (i.e., V04 to V07), nearly perpendicular to the direction of dominant ground water flow, is 20 ft (6.1 m). This is the width along which desorbed U-238 enters the water table.

Upon entry into the saturated zone, the desorbed U-238 undergoes mixing with ambient ground water as it moves along the length of the contaminated soils (subcells V04 to V07) at source. It is assumed that there is little lateral dispersion along this length. Therefore, the width of the contaminated water that reaches the downgradient edge of the contaminated soils at source remains the same as the width of the subcells. The initial dilution along this length of transport and the mixing depth, H, at the downgradient edge of this length are internally computed by the MULTIMED model. Due to mixing during this transport, the concentration changes from C_i to C_0. It is the above-mentioned width, mixing depth, and concentration in ground water, C_0, at the

downgradient edge of the subcells that constitute the physical dimensions and ground water concentration for the vertical plane source in the saturated zone used for ground water transport simulation in the MULTIMED model (see Figure 2).

4.7 PRECIPITATION, RECHARGE, AND INFILTRATION

In the MULTIMED model, the term infiltration is used to define the portion of precipitation that percolates through the soil at the source and enters the water table. With greater infiltration, more contaminant is mobilized from the soil into the ground water. Recharge is defined as the portion of precipitation that percolates from the ground surface along the path of ground water transport and enters the water table as relatively fresh water (i.e., water that is not impacted by the contamination at the source). Greater recharge means more dilution of contaminant along the path of ground water transport. Infiltration or recharge is estimated as precipitation minus surface runoff and other losses applicable to the source area or domain of ground water transport. They are expressed as the volume of water percolating per unit time per unit area of surface (i.e., m^3/yr per square meter, or more commonly, m/yr, or cm/yr).

4.7.1 Precipitation

The average annual precipitation for the period 1951-1980 at Mineola, New York was approximately 1.11 m (Gale Research Company, 1985). Based on 10 years (1994 to 2003) of daily precipitation data for Mineola, New York (with 48 missing daily values) the average annual precipitation is estimated to be 43.7 inches (1.11 m) (nrcc@cornell.edu). Mineola is approximately 7 miles west of Hicksville. This suggests that an annual average precipitation of 1.11 m is reasonable for the Site area.

4.7.2 Recharge

On an average, approximately 25 percent or more of annual precipitation is expected to infiltrate into the ground (Avon and Durbin, 1994; Donovan and Katzer, 2000). The 25 percent value is reported for arid climates. The average annual recharge in the Site vicinity, which is sub-humid to humid, is expected to be larger than 25 percent (e.g., 33 percent to 45 percent) of the average annual precipitation.

Previous studies reported in the literature have used different rates of recharge/infiltration. A report describing the Nassau County Groundwater Model (CDM, 2003) states an overall recharge rate of 51.8 percent of precipitation for the model as a whole. A qualifier is added suggesting that this amount of recharge could be slightly higher than would be expected during a normal year. This suggests that an overall recharge rate in the model domain may be approximately 50 percent of precipitation or 0.56 m/yr for the region. However, in the tabulated values of recharge in the CDM (2003) report, a rate of 80 percent of precipitation is shown for Nassau County. This suggests a recharge rate of approximately 0.89 m/yr for the Site area.

A USGS modeling study for Kings and Queens Counties, Long Island, New York (USGS, 1999) indicates a recharge rate of approximately 23.1 inches/year or 0.59 m/yr for Nassau County.

The estimated, reported, and adopted rates of annual recharge for the Site are abstracted in Table

4-2.

Table 4-2. Estimated, Reported, and Adopted Rates of Annual Recharge

Source	Annual Recharge Rate (m/yr)
Estimated as fraction of annual precipitation (Avon and Durbin, 1994; Donovan and Katzer, 2000)	0.37 to 0.50
CDM (2003)	0.56-0.89
USGS (1999)	0.59
Adopted (along potential path of ground water transport)	0.59

The information presented in the previous paragraphs and abstracted in Table 4-2 suggests that an average recharge rate of 0.59 m/yr may be reasonably conservative for the path of ground water transport from the area occupied by Cell 1 to the point of interest.

Recharge immediately below paved areas or areas occupied by buildings may be significantly lower. However, Nassau County regulations require that a system of leach basins should provide for most of the storm water runoff from a site to discharge into the subsoil even if the area is paved. This results in a greater portion of precipitation entering the ground water regime and greater net recharge.

4.7.3 Infiltration

Infiltration from unpaved source areas is taken to be the same as the recharge described in Subsection 4.7.2 (i.e., 0.59 m/yr).

If the source area occupied by subcells V04 to V07 in Cell 1 were to be paved, then water infiltration through the underlying unsaturated soils and the resulting contamination entering the saturated zone would be significantly reduced. For an estimate of the infiltration rate for paved areas, the Soil Conservation Service (SCS) curve number method is used (USDA, 1986). It is assumed that the entire amount of annual rainfall that does not appear as surface runoff from paved areas is lost as infiltration. The SCS curve number (CN) for paved areas is reported to be 98 (USDA, 1986). Computations using the SCS curve number method, with CN = 98, suggest that the annual infiltration from paved areas corresponding to an annual rainfall of 1.11 m may approximate 0.006 m (USDA, 1986). The infiltration rate at the location of the subcells may be even smaller than this if buildings were to occupy the surface area.

The estimated rates of annual infiltration for the Site are abstracted in Table 4-3.

Table 4-3. Estimated Rates of Annual Infiltration

Surface Condition	Annual Infiltration Rate (m/yr)
Unpaved areas of subcells	0.59
Paved areas of subcells (USDA, 1986)	0.006

5.0 BASELINE SIMULATION SCENARIO

The baseline scenario is modeled using average values of the estimated model parameters and rectangular source configuration in the MULTIMED model. In statistical terms, use of the average model parameters is expected to provide the most plausible results.

The baseline scenario assumes that the area occupied by subcell series V of Cell 1 (i.e., subcells V04 to V07) remains unpaved with an infiltration rate of 0.59 m/yr through the U-238-impacted residual soils.

The path of ground water transport intersects the southern Site boundary approximately 175 m from the downgradient edge of subcell V07 in Cell 1. This intersection with the southern Site boundary is the point of interest for model predictions.

Potential transport of U-238 is simulated using the average values of measured Site-specific parameters. Thus, the input parameters of this case include K_{du} and K_d values of 5.45 and 0.89 ml/g, respectively, for the unsaturated and saturated soil zones; geometric mean value of hydraulic conductivity, i.e., 5171.9 m/yr (46.50 ft/day); average annual recharge rate of 0.59 m/yr along the path of ground water transport; and infiltration rate of 0.59 m/yr for the unpaved surface of subcells V04 to V07 in Cell 1.

Relevant input parameters for this baseline scenario are abstracted in Table 5-1.

Table 5-1. Input Model Parameters for Baseline Scenario

Effective soil porosity (saturated conditions) (φ)	0.30
Water-filled soil porosity (unsaturated conditions) (φ_w)	0.18
Soil bulk density (ρ_b)	1.60 g/cc
Average Hydraulic conductivity (K)	5171.9 m/yr (46.5 ft/day)
Average hydraulic gradient (i)	0.00056
Average recharge rate (along path of ground water transport) (q)	0.59 m/yr (23.2 in/yr) (see Table 4-2)
Average infiltration rate in area occupied by subcells V04 to V07 (I)	0.59 m/yr (23.2 in/yr) (see Table 4-3)
Effective aquifer thickness gradient (B)	9.14 m (30 ft)
Partition/distribution coefficient for unsaturated zone (K_{du}) (Average of measured values)	5.45 ml/g
Partition/distribution coefficient for saturated zone (K_d) (Average of measured values)	0.89 ml/g
Retardation factor in saturated zone (Eq. 3, Subsection 2.3..3) (R)	5.75
Radioactive decay constant for U-238 (λ)	1.55E-10 yr^{-1}
Source depletion coefficient	0.0 yr^{-1}
Distance from downgradient edge of subcell V07 in Cell 1 to downgradient point on southern Site boundary (x)	175 m (570 ft)
Longitudinal dispersivity (α_x)	17.5 m (57 ft)
Transverse dispersivity (α_y)	5.83 m (19 ft)
Vertical dispersivity (α_z)	0.98 m (3.2 ft)
Length of series V subcells (V04 to V07) in Cell 1 (L)	28.6 m (94 ft)
Width of subcells in series V in Cell 1 (W)	6.1 m (20 ft)
Initial concentration of U-238 in soils (C_s)	17.88 pCi/g
Concentration of U-238 in rainwater entering the saturated zone (Eq. 2, Subsection 2.3.2) (Ci)	3,214 pCi/L (or 3.2 pCi/mL)

The rectangular patch source configuration implies that U-238 concentration in soils is uniformly distributed and remains at 17.88 pCi/g within the width of the subcell for all times in the future.

For the baseline scenario, the maximum predicted concentration at the point of interest (i.e., southern Site boundary) is 7.25 pCi/L. This is below the lower limit of the range of MCL for U-238 (i.e., 10 pCi/L). The predicted maximum concentration occurs after approximately 225 years from the start of the transport process and stays at that level thereafter. As noted in Section 2.3.1, because source depletion is not included in the analysis, the concentration at the point of interest remains at the equilibrium (or steady-state) value indefinitely.

6.0 CONCLUSION

Potential transport of U-238 or total uranium from residual soils in Cell 1 at the Former Sylvania Electric Products Incorporated Facility, Hicksville, New York Site has been analyzed using the MULTIMED model. The input data for this preliminary study include values based on commonly used practices, information available in the literature, and measured Site-specific parameters. In particular, values of partition/distribution coefficient are obtained from several soil samples from several locations and depths in the Site vicinity. Geotechnical properties including hydraulic conductivity, porosity, and soil bulk density are estimated from laboratory analysis of several soil samples obtained from Boring KD4, which is close to Cell 1 (see Appendix F and Figure 3).

Residual soils in series V subcells are found to contain the maximum concentration of U-238 in Cell 1. The estimated weighted average concentration of U-238 in residual soils in series V subcells in Cell 1 is 17.88 pCi/g. This concentration is used to estimate the U-238 concentration in infiltrating rainwater entering the saturated zone.

A baseline scenario is simulated using average values of parameters obtained from laboratory analysis of soil samples and a vertical plane rectangular patch source configuration assuming that the area occupied by subcell series V in Cell 1 remains unpaved or undeveloped.

The rectangular patch source implies constant and uniform concentration within the width of the source, which is equal to the width of the subcells. This is consistent with the use of a weighted average soil concentration in subcell series V.

The result of the scenario with rectangular patch source configuration for a condition which postulated that the area occupied by subcell series V in Cell 1 is paved is included in Appendix E.

The results of this study are summarized in Table 6-1 and discussed in the following subsections. Note that the predicted concentrations at the point of interest on the southern Site boundary, are below the lower limit of the estimated range of applicable MCL for U-238 (i.e., 10 to 22.5 pCi/L).

Table 6-1. Result of Ground Water Transport Analysis

Description of Scenario	Estimated Concentrations at Point of Interest
Point of Interest	Southern Site boundary, 175 m from source
BASELINE SCENARIO	
Average soil parameters; unpaved cell surface	
Maximum concentration of U-238 (pCi/L)	7.25
Maximum concentration of total uranium[a] (pCi/L)	14.5
Approximate time to maximum concentration (years)	225
PAVED CELL SURFACE (APPENDIX E)	
Reduced infiltration; more conservative model parameters	
Maximum concentration of U-238 (pCi/L)	0.18
Maximum concentration of total uranium[a] (pCi/L)	0.36
Approximate time to maximum concentration (years)	150

[a]MCL for total uranium is 20 to 45 pCi/L or 30 μg/L (Appendix A).

Simulation with average values of Site-specific parameters with a vertical plane rectangular patch source configuration indicates a maximum U-238 concentration of 7.25 pCi/L in ground water at the southern Site boundary. This concentration is below the lower limit of the range of MCL (i.e., 10 pCi/L) for U-238. Based on this simulation, the corresponding maximum concentration of total uranium in ground water is approximately 14.5 pCi/L. This indicates that future concentration of U-238 or total uranium in ground water at the southern Site boundary associated with the soils containing residual uranium in Cell 1 is below the lower limit of the range of MCL of 10 to 22.5 pCi/L for U-238 and 20 to 45 pCi/L for total uranium.

It is likely that the area occupied by Series V subcells in Cell 1 may be developed in future. To evaluate the effect of paved surface of subcell series V in Cell 1, an additional simulation was conducted assuming more conservative model parameters (see Appendix E). Even with relatively more conservative model parameters, the predicted concentration of U-238 at the southern Site boundary for this case is 0.18 pCi/L. With a paved surface of subcells, infiltration through residual soils with U-238 contamination is significantly reduced resulting in significant reduction in predicted U-238 concentrations at the southern Site boundary.

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APPENDIX A

RADIOMETRIC AND MASS UNITS AND MCLs FOR URANIUM AND U-238

A.1 Use of U-238 as Indicator of Total Uranium Transport

In its natural state, uranium consists of three radioisotopes, U-234, U-235 and U-238, all having uranium chemical properties, but differing in their radioactive characteristics. These radioisotopes each decay through alpha particle emission, but the rates of decay (and emission) for each isotope are quite different, as shown by the half-lives in Table A-1. The half-life influences the relative abundance when comparing the isotope content by activity (radiological properties) rather than by mass fraction (chemical properties).

Table A-1. Relative Abundances of Uranium Isotopes

Isotope	Half-life (years)	Relative Isotopic Abundance (%)			
		Natural Uranium		3% Enriched Uranium	
		By Mass	By Activity	By Mass	By Activity
U-234	246,000	0.0054	49.0	0.03	82.7
U-235	704,000,000	0.711	2.25	2.96	2.84
U-238	4,470,000,000	99.283	48.7	97.01	14.5

Half-life data from *Chart of Nuclides (14th Edition)*, General Electric Co, San Jose, CA, 1989

During the Site investigations, uranium was analyzed for isotope specificity rather than through chemical analysis for total uranium. The State approved this approach because of the ease and sensitivity of the radiometric method as well as the need to rule out (or identify) the presence of enriched uranium. Enriched uranium is natural uranium processed to enhance the U-235 through removal of a small fraction of the U-238. Uranium used at the Hicksville Site is understood to have included both natural and enriched uranium. Historically, the value of enriched uranium imposed special handling procedures, so that enriched uranium was rarely discarded as waste, but recycled to recapture the valuable asset. Consistent with this understanding, very little enriched uranium was found at the Hicksville Site. And, considering relative isotopic abundance by mass, U-238 makes up 99+% of the total uranium found. As such, U-238 is an appropriate marker for tracking or predicting transport of total uranium.

Chemical properties of total uranium (such as the partition or distribution coefficient or K_d) are unaffected by the radioisotope properties. Thus, K_d for the three radioisotopes is essentially the same as the K_d for uranium. While we use the radiometric properties for detection at very sensitive levels, the radiometric properties are transparent to the physical and chemical processes driving the environmental transport.

Environmental transport is fundamentally a physical transfer process influenced by chemical interactions of the contaminant species, independent of radioisotope properties (Sheppard and Thibault, 1990; Yu, et al., 1993). The only radionuclide property with any significant impact on environmental transport is the half-life, in that extremely short-lived radionuclides undergo significant decay during the periods elapsed for environmental transport processes. From Table

A-1 it is seen that all three uranium isotopes have long half-lives, so that the analysis of transport considered at the Hicksville Site is unaffected by uranium decay.

A.2 MCLs for Total Uranium and U-238

The USEPA regulates uranium in drinking water under the Safe Drinking Water Act, with MCLs published in Title 40 CFR Part 141. Uranium is a naturally occurring radioactive element and a heavy metal, and the MCL reflects consideration of both the chemical and radiological toxicities. The USEPA MCL for uranium was set at 30 microgram/liter (μg/L) with an effective date of December 8, 2003 (USEPA 2000). The NYSDEC has adopted the drinking water standard MCL for radioactivity as an appropriate goal for evaluating impacts of this contaminant on ground water at cleanup sites in New York (6 NYCRR Part 703).

Considering relative isotopic abundance by activity, the percentage of each of the U-238 and U-234 isotopes in the soils in Cell 1 is 49%. This is consistent with the information included in Table A-1.

For comparison to the MCL, it is necessary to convert the radiometric measurements (picoCuries or pCi) of specific isotopes to the units of the MCL (microgram or μg) for total uranium. In the supplementary information published when promulgating the MCL for uranium, USEPA indicated that "the typical conversion factors that are observed in drinking water range between 0.67 up to 1.5 pCi/μg" (USEPA 2000). According to USEPA's uranium activity to mass conversion factor guidelines (USEPA, 2002), "the mass to activity ratio for uranium in a water sample varies depending on the isotopic ratio in that water supply. The nature of radioactivity in drinking water is such that there can be a significant difference in the activity due to the mixtures of isotopes in different water supplies." "The major challenge is to determine which factor is most appropriate to use to calculate an exposure point concentration for compliance monitoring or to use in a human health risk assessment. Ideally the activity to mass ratio should be calculated for each water supply but if this is not possible, there is a health protective approach to evaluate compliance with the regulatory level." This health protective approach includes a conversion factor of 0.67 in Tier I and calculated site-specific value in Tier II.

In light of the fact that there are no public or private drinking water wells within a mile downgradient of the Site, it is not anticipated, and is almost improbable, that ground water at the Site boundaries would be used as a source of public water supply. And, ground water entering the public water supply downgradient of the Site would involve ground water contributed by a much larger extent of the aquifer than the limited area under the Site. However, recognizing that significant mixing and dilution with ambient ground water would occur before ground water downgradient of the Site can be extracted for any use, it is reasonable to consider the upper range of conversion factors in the analysis. But, for the present study to be conservative, the full range of factors are presented to qualitatively assess the impacts of uranium in residual soils at Cell 1 on ground water at the Site boundaries.

Using the recommended range of conversion factors of 0.67 to 1.5 pCi/μg and the total uranium MCL of 30 μg/L, the range of MCL for total uranium in radiometric units can be expressed as 20 to 45 pCi/L.

For the aforementioned abundance activity ratios, the range of MCL of 20 to 45 pCi/L for total

uranium can be expressed as 10 to 22.5 pCi/L for U-238 because the ratio of U-238 to total uranium in the soils in Cell 1 is 49%, i.e., approximately one-half.

Thus in this analysis, the cleanup target of 30 μg/L of total uranium in drinking water is interpreted as 10 to 22.5 pCi/L of U-238 in ground water. Modeling results for U-238 in ground water at the point of interest are compared to this range of 10 to 22.5 pCi/L to evaluate compliance.

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APPENDIX B
COMPARATIVE EVALUATION OF DIFFUSION AND DISPERSION

B.1 Introduction

The contribution of molecular diffusion is not included in the simulation of ground water transport for U-238 because its contribution is small compared to dispersion (see Subsection 2.1). To clarify the rational for this, a comparison of the coefficients of molecular diffusion and dispersion is presented below.

Diffusion or molecular diffusion is a microscopic and molecular scale process that results from the random thermal induced motion of the solute molecules within the liquid phase. It is independent of the advective motion of ground water. Dispersion or mechanical dispersion occurs predominantly on a macro and megascopic scale and is due to mechanical mixing of the solute. Mechanical mixing is caused by velocity variations within the pores, tortuosity of the porous medium, and variations in sizes of pore channels (USEPA, 1985).

In ground water transport modeling, the contribution of diffusion is usually accounted for by adding the molecular diffusion coefficient for the contaminant of concern to the dispersion coefficients. However, the molecular diffusion coefficient for total uranium may be several orders of magnitude smaller than the dispersion coefficients.

B.2 Diffusion Coefficient

Most chemical species are reported to have molecular diffusion coefficient in liquids on the order of 10^{-9} m^2/s to 10^{-10} m^2/s at 20° C and so the contribution of molecular diffusion is not included in most cases of ground water contaminant transport (Waterloo Hydrogeologic, Inc., 1994).

For most simple aqueous species, the diffusion coefficient, D_d, is approximately 10^{-9} m^2/s (0.0315 m^2/yr) (USEPA, 1999, Volume I, Page 2.35). The diffusion coefficient in soils is less than in free aqueous solutions due to the constrained geometry of the porous media represented by media characteristics such as tortuosity and porosity (USEPA, 1999, Volume I; Baehr, 1987). So, the effective diffusion coefficient for the Site conditions may be smaller than 10^{-9} m^2/s.

Based on an experimental investigation of molecular diffusion of radioisotopes, Duursma (1966; USEPA, 1985) reported molecular diffusion coefficients that ranged between 2x 10^{-10} to 6x 10^{-10} m^2/s (0.006 to 0.019 m^2/yr) for trivalent and monovalent ions (both positive and negative) in fine sand.

While the above values are not specific to the temperature and environmental conditions at the Site, they provide reasonable guidance for use in the analysis. The reasonableness of the above values is, in part, corroborated by the results of experimental and theoretical investigations reported in the literature to estimate self-diffusion of some metals under microgravity (Itami, et al., 2000). According to this report, the diffusion coefficients for lead (Pb), germanium (Ge), tin (Sn), and silicon (Si) vary from approximately 10^{-8} to 10^{-9} m^2/s at much higher ranges of temperatures (e.g., 400° to 1,700° K) than those expected in the field. The diffusion coefficients at lower temperatures are expected to be lower than these values.

B.3 Dispersion Coefficient

For comparison with the above values of diffusion coefficients, estimated values of longitudinal, transverse, and vertical dispersion coefficients for the Site conditions are set forth in Table B-1. The values of parameters used to estimate the dispersion coefficients are also shown in Table B-1 and are taken from Section 4.0.

Table B-1. Estimated Dispersion Coefficients for Cell 1

Hydraulic gradient (i) = 0.00056; effective porosity (φ) = 0.30; longitudinal dispersivity (α_x) = 17.5 m; transverse dispersivity (α_y) = 5.83 m; and vertical dispersivity (α_z) = 0.98 m.

Parameter	Maximum	Average	Minimum
Hydraulic Conductivity (K) (m/yr)	7001.0	5171.9	3626.6
Longitudinal dispersion coefficient[a] (m^2/yr)	228.7	168.9	118.5
Transverse dispersion coefficient[a] (m^2/yr)	76.2	56.3	39.5
Vertical dispersion coefficient[a] (m^2/yr)	12.8	9.5	6.6

[a]Longitudinal dispersion coefficient = K i α_x / φ, Transverse dispersion coefficient = K i α_y / φ, and Vertical dispersion coefficient = K i α_z / φ,

The above values evidence that the dispersion coefficients are approximately 2 to 4 orders of magnitude greater than the expected diffusion coefficient for uranium. Therefore, the contribution of diffusion will go undetected and is not incorporated in the analysis.

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APPENDIX C

EVALUATION OF APPLICABLE GROUND WATER TRANSPORT MODELS

C.1 CRITERIA FOR MODEL SELECTION

The criteria used for selecting an appropriate ground water transport model for the analysis are:

- The model must be relatively simple. It should preferably be available in the public domain and should have a history of use by more than one entity;
- The model should be capable of simulating the relevant physical processes listed in Section 2.1, particularly in a predictive mode;
- The model should use a conservative approach for simulating the above-mentioned processes; and
- The details of the required model input should be commensurate with available site-specific data, current knowledge of site conditions, and expected time-frame of analysis for the transport of dissolved U-238.

C.2 MODELS CONSIDERED

The relevant processes listed in Subsection 2.1 can be modeled using several different approaches. Steady state and non-steady state models (approaches), which may be relevant in this study with appropriate assumptions, are described in the following paragraphs. A non-steady state model predicts contaminant concentrations at different time periods. A steady state model predicts concentrations with no reference to time (i.e., the simulated transport conditions do not vary with time).

a. A **Rapid Assessment Nomograph** developed by USEPA based upon a simple analytical solution of the advective-dispersion equation for ground water transport (USEPA, 1983). This non-steady state model assumes one-dimensional flow, one-dimensional (i.e., longitudinal) dispersion, and a continuous constant concentration point source. It accounts for retardation and biodegradation during transport through saturated soils but does not account for recharge along the flow path, decreasing source concentrations, and dilution due to lateral and vertical dispersion.

b. **USEPA Analytical model** based on an equation included in USEPA (1985). This non-steady-state model assumes one-dimensional flow, one-dimensional (i.e., longitudinal) dispersion, and a diminishing point source. It accounts for retardation and biodegradation during transport through saturated soils but does not account for recharge along the flow path and dilution due to lateral and vertical dispersion.

c. **Model based on the Domenico equations** (e.g., IPCB, 2004; Domenico, 1987; Domenico and Robbins, 1985; and ASTM, 1995). The steady and non-steady state versions of this model assume one-dimensional flow, three-dimensional dispersion, and a continuous vertical plane source with constant concentration. It can account for retardation and biodegradation during transport through saturated soils but does not account for recharge along the flow path nor for reduction in source concentration due to rainwater infiltration.

d. **Natural Attenuation Decision Support System, BIOCHLOR** (USEPA, 2000). This model is based on modified Domenico equations (Domenico, 1987; Domenico and Robbins, 1985) and simulates one-dimensional advection, three-dimensional dispersion, linear adsorption, and biotransformation. Just like the Domenico equations, this model also assumes a fully penetrating, vertical plane source oriented perpendicular to ground water flow. It can account for source reduction but does not account for recharge along the flow path.

e. **Analytical Transient One-, Two-, and Three-Dimensional Model, AT123D** (Yeh, 1981). This model is a collection of analytical solutions for one-, two-, and three-dimensional contaminant transport with advection, dispersion, and source reduction. A uniform flow field with constant velocity is assumed. It is applicable to the transport of radioactive waste, heat, and chemicals from linear, areal, or volumetric sources with instantaneous, finite-time, or continuous release. The model does not account for recharge along the flow path. According to some reviews, numerical errors may occur during calculation of the series summation which means convergence and accuracy may not be guaranteed (e.g., Maidment, 1993).

f. **Multimedia Exposure Assessment Model, MULTIMED** (USEPA, 1996) for saturated and unsaturated zone fate and transport of dissolved chemicals. This model can simulate both steady and non-steady state transport. It assumes one-dimensional flow, three-dimensional dispersion, and can simulate contaminant transport emanating from a continuous or finite-duration, non-decaying patch type or decaying or non-decaying Gaussian source. It accounts for retardation, biodegradation, and recharge along the flow path during transport through saturated soils.

g. **Coupled and uncoupled two- and three-dimensional finite-difference or finite-element flow and transport models.** There are a number of complex and sophisticated models in this category. A few examples include:
   - The MT3D (USEPA, 1992) model coupled with the MODFLOW model (USGS, 2000);
   - USGS MOC model (Konikow and Bredehoeft, 1978; Goode and Konikow, 1989);
   - SEFTRAN model (Geotrans, Inc., 1988);
   - CFEST model (Gupta, et al., 1987);
   - FTWORK model (Faust, et al, 1989);
   - HST3D model (Kipp, 1987);
   - SUTRA model (Voss, 1984; Souza, 1987);
   - SWIFT II model (Reeves et al., 1986); and
   - TARGET model (Sharma et al., 1981).

These models can simulate two- and three-dimensional flow and transport under steady or non-steady state conditions. The model domain boundaries have to be defined based on existing natural and man-made surface and ground water flow and transport conditions in the site vicinity. To minimize boundary effects, the model domain has to include an area much larger than the site area. Appropriate hydraulic head, flow, and concentration conditions have to be provided at these boundaries and verified during calibration. The model domain is divided into

variable size discrete elements or cells and layers. Site-specific hydrogeologic and chemical data have to be available or estimated for each of the discrete elements or cells. A relatively large amount of field data is required for model calibration. The larger the number of input parameters, the more difficult it is to obtain adequate and reliable information for them. Therefore, several assumptions may have to be made or default values may have to be used based on the judgment of the user.

C.3 COMPARATIVE EVALUATION

Each model has its own assumptions and limitations and may require adaptations and additional simplifying assumptions to simulate specific site situations. The more sophisticated models (coupled or decoupled two- and three-dimensional flow and transport models) require more data on site-specific parameters for calibration and simulation.

U-238 contamination at different concentrations has been detected at different depths in the ground water profiles and monitoring wells drilled and investigated at the Site. There is considerable variation in measured U-238 concentrations. In addition, the concentrations at different locations and depths include different and indeterminate degrees of dilution due to mixing with ambient ground water flow. Thus, reliable data for the calibration or "benchmarking" of the uranium transport model are not available. Without adequate calibration, the results of the sophisticated models may not have a higher degree of accuracy.

Regardless of model used, one of the significant model input parameters is the concentration of U-238 at the source. This parameter has to be estimated outside the above-mentioned models and will not be affected by the sophistication or simplicity of the selected transport model. In addition, the time horizon for the transport of U-238 is fairly large (approximately several decades to several hundred years or so), so a number of simplifying and conservative assumptions have to be made to evaluate the potential for ground water contamination at the point of interest at some time in the distant future regardless of the model selected. However, when a relatively large number of assumed input parameters are required for a model, there is a possibility that more than one combination of input parameters may provide similar results (or that the model over or under predicts transport). In such cases, without the ability to properly calibrate a model, it may be difficult to distinguish between realistic and spurious results.

Of the models listed in Section B2.0, only MULTIMED (USEPA, 1996) has the capability to simulate dilution due to recharge along the path of ground water transport.

The ground water flow component of the afore-mentioned finite-difference and finite-element models may provide ground water flow (advection) in three directions. Because three-dimensional advection may result in more dilution, using a three-dimensional model may predict relatively lower concentrations reaching the point of interest. Consequently, the predicted concentrations may not be conservative when compared to the case in which ground water flow is assumed to have only one dominant flow direction. This is true for each of the more sophisticated models.

References: See Appendix D References.

APPENDIX D

DESCRIPTION OF MULTIMED MODEL

The Multimedia Exposure Assessment Model (MULTIMED) simulates the movement of contaminants leaching from a waste disposal facility or contaminated soils. The model consists of a number of modules which predict concentrations at a receptor due to transport in both unsaturated and saturated soil zones. The output from the unsaturated zone module may be used to couple the unsaturated zone transport module with the steady-state or transient, semi-analytical saturated zone transport module. The saturated zone transport module includes one-dimensional uniform flow, three-dimensional dispersion, linear adsorption, first-order decay, and dilution due to direct infiltration into the ground water plume. The unsaturated zone module of MULTIMED is not relevant in this analysis because the prior excavation activities removed upper levels of soil and left residual soils relevant to this analysis approximately 5 to 10 ft above the water table.

The fate of contaminants in various media depends on the chemical properties of the contaminants as well as a number of media- and environment-specific parameters. The uncertainty in these parameters can be quantified in MULTIMED using the Monte Carlo simulation technique. To enhance the user-friendly nature of MULTIMED, a preprocessor, PREMED, and a postprocessor, POSTMED, have been developed.

The operation of each module requires specific input, which is organized into data groups. The General Data Group, which is required for all simulations, contains flags and data which describe the scenario being modeled. The input parameters needed for the Saturated Zone Transport Model are arranged in three additional data groups: the Chemical Data Group, the Source Data Group, and the Aquifer Data Group.

The simplifying assumptions required to obtain the analytical solutions for the equations used in MULTIMED limit the complexity of the systems that can be modeled. Accordingly, MULTIMED cannot be used to account for site-specific spatial variability or boundary conditions, landfill shape, multiple aquifers and pumping wells, flow in fractures, or chemical reactions between reactants. As a result, MULTIMED should be used only as a screening level tool when applied to complex sites.

MULTIMED was developed primarily for, and has seen extensive application in, predicting leachate movement from a Subtitle D (hazardous waste) landfill. This type of application, however, only utilizes a subset of MULTIMED's full capabilities. When MULTIMED has been used in conjunction with a separate source model, such as HELP (USEPA, 1995), it has been applied to a much larger range of scenarios. Such scenarios may include development and comparison of the effects of different facility designs or conditions on ground water quality to address questions related to appropriate cleanup levels for contaminated soils.

The MULTIMED model has undergone a series of tests to verify the correctness of the model. Discussion of these tests and related model application considerations are included in the model documentation (USEPA, 1996). The model can simulate steady and non-steady state transport of conservative or decaying substances emanating from a rectangular (patch type) or Gaussian

source with specified leach rates. The source may be a constant concentration source or a decaying source.

References - Appendix C and D

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APPENDIX E

U-238 TRANSPORT ASSUMING PAVED CELL SURFACE

E.1 Introduction

It is likely that the area occupied by subcell series V in Cell 1 may be paved or occupied by buildings at some point in future. If the area occupied by subcell series V in Cell 1 is paved, it would significantly reduce infiltration of rainwater through the residual soils containing U-238. Thus the quantity and rate of desorption of U-238 from the residual soils would also be reduced. As a result, the volumetric rate and concentration of U-238 entering the water table would be significantly reduced.

To illustrate the effect of paved surface of subcell series V in Cell 1, an additional scenario is simulated with relatively more conservative values of model parameters. This scenario is designated as Scenario E-1. The result of this postulated case is presented in this Appendix.

E.2 Model Parameters

The model parameters for Scenario E-1 are shown in Table E-1. The K_{du} value is assumed to be the lowest of the six samples mentioned in Subsection 4.1.1 for the unsaturated zone and the K_d value is taken to be the lowest of the seven samples for the saturated zone. In addition, the hydraulic conductivity is assumed to be the highest of the three samples mentioned in Subsection 4.1.3. The infiltration for paved surfaces is taken to be 0.006 m/yr (see Subsection 4.7.3).

Table E-1. Input Model Parameters for Scenario E-1- Paved Surface of Subcells

Effective soil porosity (saturated conditions)	(φ)	0.30
Water-filled soil porosity (unsaturated conditions)	(φ_w)	0.18
Soil bulk density	(ρ_b)	1.60 g/cc
Hydraulic conductivity (Maximum of measured values)	(K)	7,001 m/yr (62.9 ft/day)
Average hydraulic gradient	(i)	0.00056
Average recharge rate (along path of ground water transport)	(q)	0.59 m/yr (23.2 in/yr) (see Table 4-2)
Average infiltration rate (in the paved area occupied by subcells V04 to V07 in Cell 1)	(I)	0.006 m/yr (0.24 in/yr) (see Table 4-3)
Effective aquifer thickness	(B)	9.14 m (30 ft)
Distribution coefficient for unsaturated zone (Minimum of relevant measured values)	(K_{du})	2.98 ml/g
Distribution coefficient for saturated zone (Minimum of relevant measured values)	(K_d)	0.52 ml/g
Retardation factor in saturated zone (Eq. 3, Subsection 2.3.3)	(R)	3.77
Radioactive decay constant for U-238	(λ)	1.55E-10 yr^{-1}
Source depletion coefficient		0.0 yr^{-1}
Distance from downgradient edge of subcell V07 in Cell 1 to downgradient point on southern Site boundary	(x)	175 m (570 ft)
Longitudinal dispersivity	(α_x)	17.5 m (57 ft)
Transverse dispersivity	(α_y)	5.83 m (19 ft)
Vertical dispersivity	(α_z)	0.98 m (3.2 ft)
Length of series V subcells (V04 to V07) in Cell 1	(L)	28.6 m (94 ft)
Width of subcells in series V in Cell 1	(W)	6.1 m (20 ft)
Initial concentration of U-238 in soils	(C_s)	17.88 pCi/g
Concentration of U-238 in leachate entering the saturated zone (Eq. 2, Subsection 2.3.2)	(C_i)	5,782 pCi/L (or 5.8 pCi/mL)

E.3 Result of Simulation with Paved Subcells

The predicted maximum U-238 concentrations at the southern Site boundary for the relatively more conservative model parameters included in Table E-1 is 0.18 pCi/L if the area occupied by subcell series V in Cell 1 is paved. The maximum concentration for Scenario E-1 occurs after 150 years from the initiation of the transport process.

If the area occupied by series V subcells in Cell 1 is occupied by buildings, then rainwater infiltration, desorption of U-238 from soils in the vadose zone, and vertical transport of U-238 to the saturated zone would be reduced to a minimum. In this case predicted concentration of U-238 in ground water reaching the southern Site boundary would be even smaller than the above value of 0.18 pCi/L.

APPENDIX F

BORING LOGS

APPENDIX G

HYDRAULIC GRADIENT AND LENGTH OF FLOW PATH

G.1 Introduction

The MULTIMED model is based on one-dimensional ground water flow and predicts the propagation of concentration along a vertical profile of the aquifer downgradient from the source. This profile follows a straight line along the uni-directional flow path specified as input to the model. The localized hydraulic gradient of ground water along the above-mentioned vertical profile in unconfined situations is the slope of the water table between two selected points or between points closest to these two points on this vertical profile. Thus, the localized hydraulic gradient applicable to the transport of dissolved uranium from subcell series V of Cell 1 to the point of interest has to be estimated by the difference in ground water levels in the monitoring wells closest to the downgradient edge of subcell series V of Cell 1 and the point of interest.

The dominant on-Site localized ground water flow direction and localized hydraulic gradient were identified from available field data. While the regional ground water flow direction in the vicinity of the Site is to the south, discrete small areas may have localized variation. This localized variation is relevant for ground water transport modeling within the short transport distance considered in this study (USEPA, 1985, Page 346).

To estimate the localized hydraulic gradient between Cell 1 and the southern Site boundary, ground water elevations were used from three on-Site monitoring wells (MW-07, MW-11, and MW-09) for two monitoring events (December 2002 and March 2003). The localized hydraulic gradient was taken to be the average of values computed for the above two monitoring events. MW-07 is located downgradient of Cell 1 and MW-09 and MW-11 are located further downgradient near the southern Site boundary (see Figure 3). These three monitoring wells were selected because they define the plane representing the water table in the area between Cell 1 or Cell 6 and the southern Site boundary (USEPA, 1998; IPCB, 2004).

Relevant data for monitoring wells MW-07, MW-11, and MW-09 are included in Table G-1.

Table G-1. Relevant Data for Selected on-Site Monitoring Wells

Monitoring Well	Screen Interval (ft)	Relative Coordinates[a] (ft)		Ground Water Elevation (ft)	
		x	y	March 2003	December 2002
MW-09	72-82	0	0	68.80	67.90
MW-11	71-81	110	0	68.84	67.91
MW-07	69.5-79.5	330.46	317.11	68.98	68.16

[a]Based on distances scaled from Site map (1 inch = 80 ft). (MW-09 to MW-11 = 110 ft; MW-09 to MW-07 = 458 ft; and MW-11 to MW-07 = 390 ft).

G.2 Estimation of Localized Hydraulic Gradient

Three different approaches were used to estimate the localized hydraulic gradient using ground water elevation data for the three monitoring wells included in Table G-1.

G.2.1 Hydraulic Gradient Estimation Using Average Ground Water Elevations

In this approach hydraulic gradient is estimated between monitoring well MW-07 and the point between monitoring wells MW-9 and MW-11 where ground water elevation is equal to the average of ground water elevations in these two wells. The distance of this point from MW-07 is approximately 420 ft.

The estimated hydraulic gradients for the March 2003 and December 2002 ground water elevations are 0.00038 and 0.00061, respectively. This gives an average hydraulic gradient of 0.00049 toward the southern Site boundary.

G.2.2 Hydraulic Gradient based on Potentiometric Contours

In this case ground water contours were sketched for each of the two monitoring events (March 2003 and December 2002). The estimated average ground water gradients from these contours for March 2003 and December 2002 are 0.00054 and 0.00068, respectively. This gives an average hydraulic gradient of 0.00054.

G.2.3 Estimation of Slope of Water Table

This approach uses a matrix solver to develop the equation of a plane through the measured ground water elevations in the three monitoring wells in March 2003 and December 2002, respectively. Each plane represents the plane of water table in the vicinity for that particular monitoring event (March 2003 and December 2002). The slope of this plane with respect to the horizontal plane gives the hydraulic gradient (Devlin, 2002).

According to this method, the estimated hydraulic gradients for the March 2003 and December 2002 ground water elevations are 0.00041 and 0.00071, respectively. This gives an average hydraulic gradient of 0.00056 toward the southern Site boundary.

G.3 Adopted Localized Hydraulic Gradient and Length of Flow Path

So far as the transport of U-238 is concerned, the three estimates of hydraulic gradient included in Subsections G.2.1, G.2.2, and G.2.3 are not significantly different. The highest value of 0.00056 is adopted for ground water transport modeling.

Scaling from a Site map (scale 1 inch = 80 ft), the length of the flow path from the downgradient edge of subcell V07 to the southern Site boundary along the direction of the above hydraulic gradient is approximated to be 574 ft (175 m).

Reference - Appendix G

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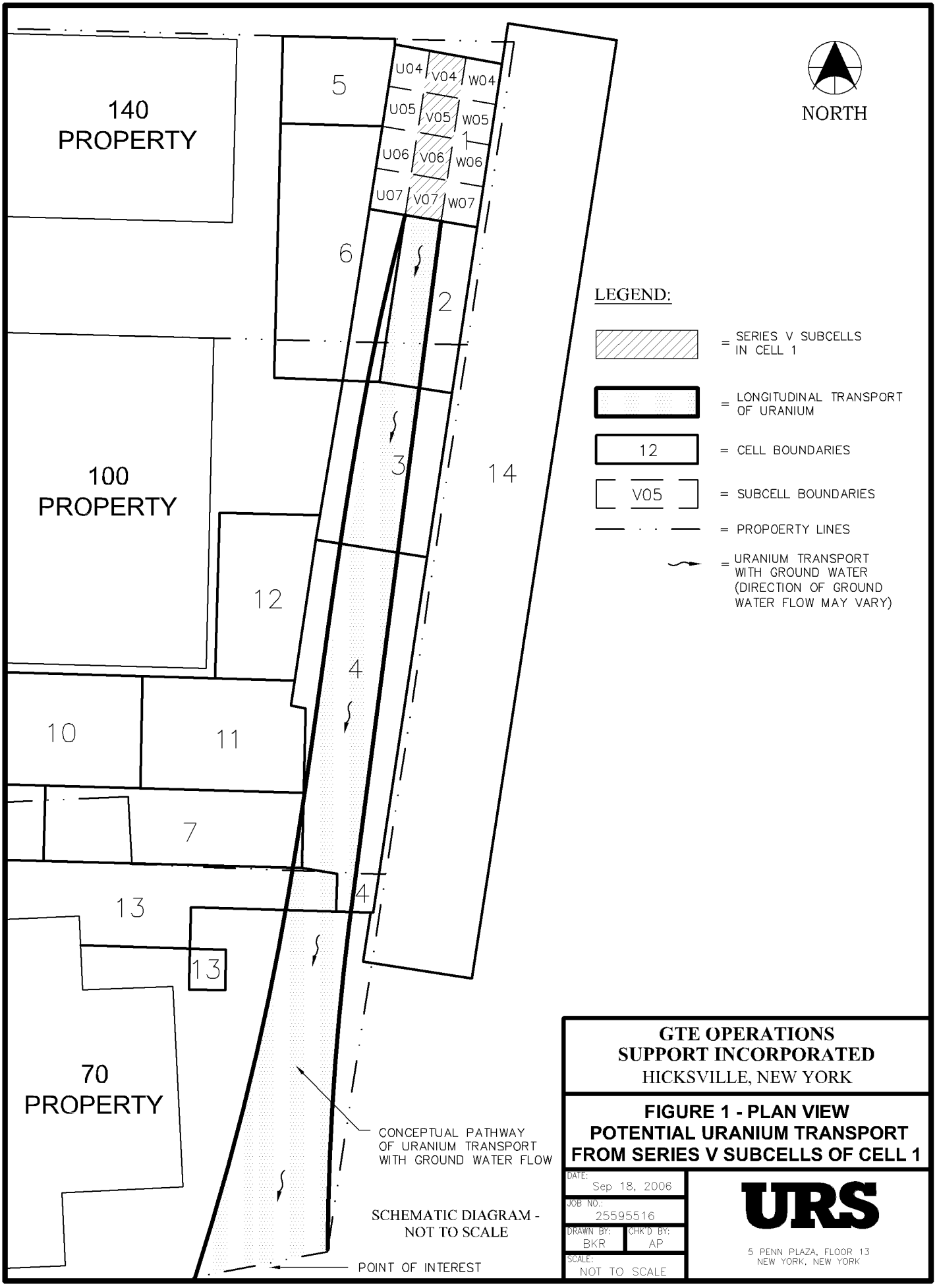
APPENDIX H

VOLUME AND MASS CALCULATIONS FOR RESIDUAL SOILS IN CELL 1

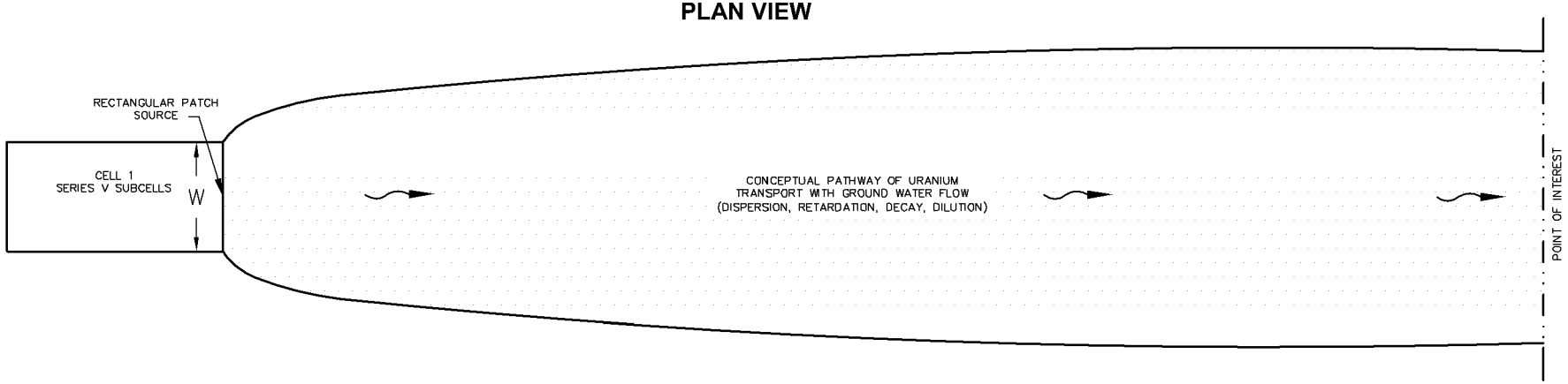
Calculations constrained to the area below the excavation level and above the water table for each subcell
Cell 1 includes subcells U04 - U07, V04 - V07, and W04 - W07
All input sample data is from the on-Site gamma spectroscopy service.
Water table is approximated at 71 ft bgs, and is assumed constant throughout Cell 1
* All values were calculated at the 0 (zero) isolevel for U-238
U-238 mass calculation is based on a specific activity of 3.3601 E-7 Ci/g

Subcell	Excavation Depth (ft)	Surface Elevation (ft)	Excavation Elevation (ft)	Soil Volume* (cubic ft)	Soil Mass* (kilograms)	U-238 Mass* (kilograms)	Average U-238* (pCi/g)	Center of Mass* (Elevation in ft MSL)
U04	13.65	145.63	131.98	25,403	1,162,800	21.63	6.24	101.8
V04	14.88	145.70	130.82	25,710	1,176,800	29.97	8.55	102.1
W04	12.76	145.46	132.70	25,912	1,186,100	28.60	8.09	100.1
U05	23.32	145.17	121.85	20,796	951,900	57.61	20.31	96.4
V05	18.68	145.26	126.58	23,534	1,077,200	75.20	23.43	98.8
W05	14.60	145.76	131.16	25,684	1,175,600	34.40	9.82	104.2
U06	40.13	145.01	104.88	14,174	648,770	33.82	17.49	87.8
V06	17.40	144.71	127.31	24,057	1,101,100	97.18	29.62	96.2
W06	18.03	145.76	127.73	24,125	1,104,300	36.55	11.11	96.5
U07	39.48	145.05	105.57	14,214	650,610	27.29	14.08	89.2
V07	17.27	144.62	127.35	23,619	1,081,100	33.95	10.54	94.9
W07	18.43	145.28	126.85	23,497	1,075,500	19.46	6.07	96.2

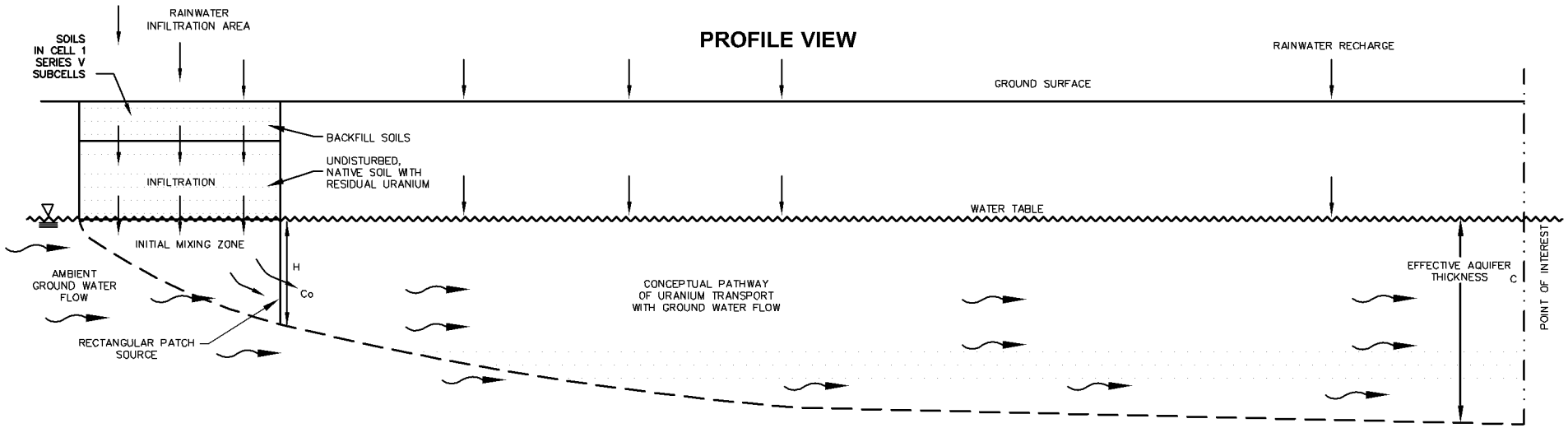


Q:\GTE Hicksville, NY\Figures\Autocad Drawings\25595516 – GTE OPERATIONS NY\Cell 01 – V04-V07 Uranium Transport (3).dwg

PLAN VIEW



PROFILE VIEW



NOTES:

Co = POTENTIAL URANIUM CONCENTRATION IN GROUND WATER AT SOURCE

C = POTENTIAL URANIUM CONCENTRATION AT POINT OF INTEREST

H = MIXING ZONE DEPTH

W = WIDTH OF SOURCE

SCHEMATIC DIAGRAM - NOT TO SCALE

GTE OPERATIONS SUPPORT INCORPORATED

HICKSVILLE, NEW YORK

FIGURE 2 - CROSS-SECTIONAL VIEW POTENTIAL URANIUM TRANSPORT FROM SERIES V SUBCELLS OF CELL 1

DATE: OCT. 6, 2006	
JOB NO.: 25595516	
DRAWN BY: BKR	CHK'D BY: AP
SCALE: NOT TO SCALE	

URS

5 PENN PLAZA, FLOOR 13
NEW YORK, NEW YORK

Q:\GTE Hicksville, NY\Figures\Autocad Drawings\25595516 - GTE OPERATIONS NY\Cell 01 - V04-V07 Uranium Transport (2).dwg

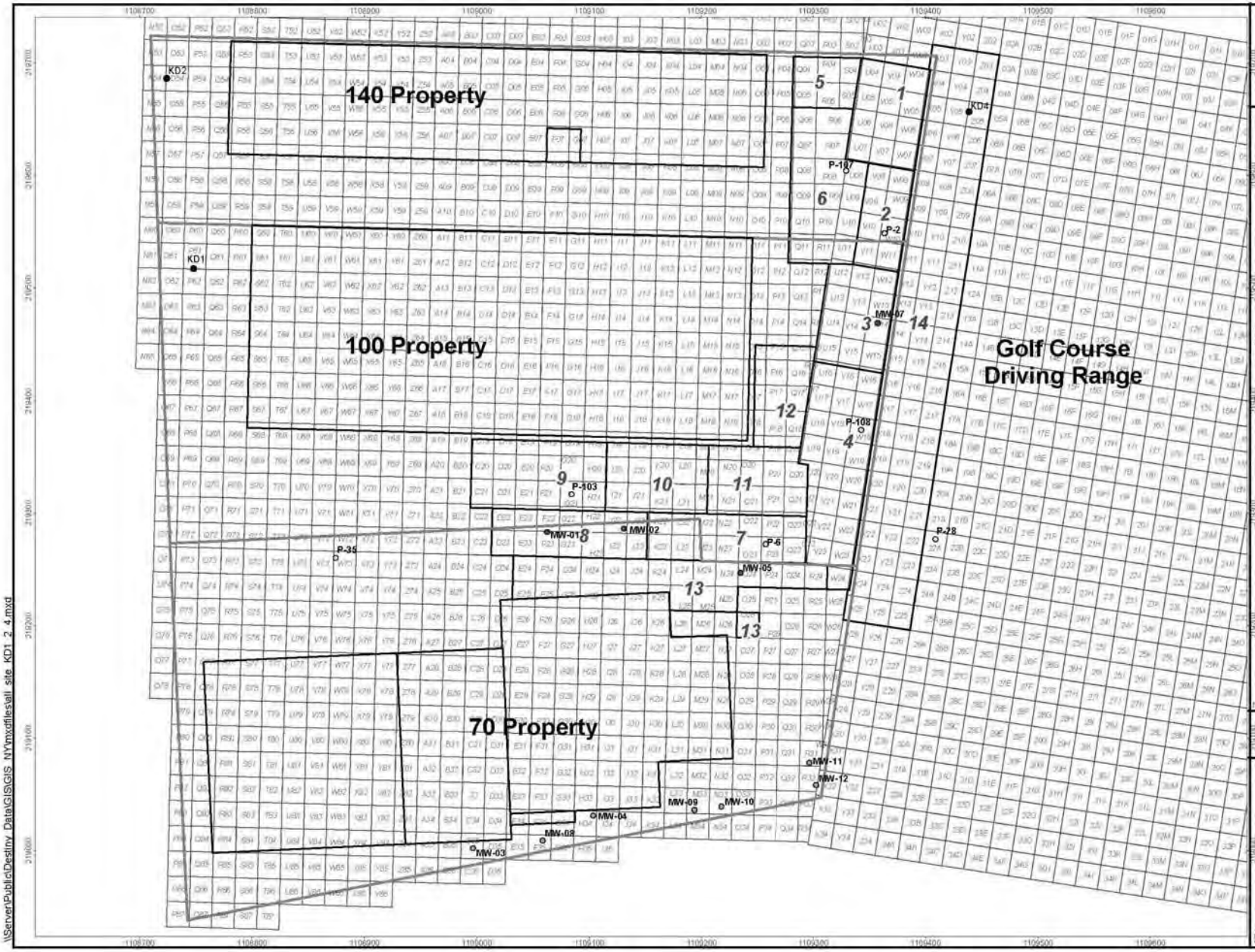


Figure 3
Location of Referenced Monitoring Wells, Profiles, and Borings

Legend

- Monitoring Wells (Existing)
- Monitoring Wells (Abandoned)
- Profile Locations
- KD1, KD2, KD4 Boring Locations
- Building
- Property Line
- Subcell Boundary
- Cell Boundaries

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Appendix F – Boring Logs

This appendix provides the boring log for the Potential Uranium Transport Report. Boring logs are provided in sequential order, KD1 through KD4. Boring KD1 was advanced using hollow-stem auger drilling rig; Boring KD2 and KD4 were advanced using hollow-stem augers to 69 feet below ground surface, then casing was advanced with a 300-pound hammer to the bottom of the boring. The borings were backfilled with clean fill upon completion.

The main lithologic name with the appropriate group symbol is described at the top of each stratum. The main lithologic group is in capital letters and bold font. Minor variations within the soil stratum are called out at the approximate elevation in which they occur, and the main lithologic group is not repeated nor any variations above the one identified.

Fill is defined as non-native material (evidenced by color, texture, structure, or miscellaneous debris), other than the material GTEOSI used to backfill excavations, which is noted as 'backfill' in the logs.

MAJOR DIVISIONS			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL CLASSIFICATION CHART

MATERIAL SIZE	PARTICLE SIZE			
	LOWER LIMIT		UPPER LIMIT	
	MILLIMETERS	SIEVE SIZE*	MILLIMETERS	SIEVE SIZE*
SAND				
FINE	.074	#200*	0.42	#40*
MEDIUM	0.42	#40*	2.00	#10*
COARSE	2.00	#10*	4.76	#4*
GRAVEL				
FINE	4.76	#4*	19.1	3/4"•
COARSE	19.1	3/4"•	76.2	3"•
COBBLES	76.2	3"•	304.8	12•
BOULDERS	304.8	12•	914.4	36"

*U.S. STANDARD •CLEAR SQUARE OPENINGS

GRADATION CHART

Notes:

1. Dual symbols are used to indicate borderline classifications or intermixed strata.

2. Soil descriptions and classification are based on field observations, not on laboratory testing of soil physical properties.

3. When used on the boring logs, the following terms are used to describe the consistency of cohesive soils and the relative compactness of cohesionless soils:

Cohesive Soils	Cohesionless Soils
Very Soft	*Very Loose*
Soft	*Loose*
Medium Stiff	*Medium Dense*
Stiff	*Dense*
Very Stiff	*Very Dense*
Hard	

4. When used on the boring logs, the following terms indicate the volume percentage of the minor soil components estimated in the field based on visual observations:
trace: 1 to 10% *little: 10 to 20%* *some: 20 to 35%* *and: 35 to 50%.*

5. Moisture Content:
Dry: Absence of moisture, dusty, dry to the touch
Moist: Damp but no visible water
Wet: Visible free water, usually soil is below the water table

UNIFIED SOIL CLASSIFICATION SYSTEM AND KEY TO LOG OF BORINGS

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								Asphalt Surface elevation at 144.9', first sample at 20'	
1								**FILL**, dark brown, fine to medium sand, trace fine gravel and cobbles, dry (lithology observed from auger cuttings to 20' bgs)	
2									
3									
4								(Fill depth interpreted from adjacent borings)	
								Brown, fine to medium **SAND**, trace coarse sand, fine to coarse gravel and cobbles	
5									
6	SP								
7									
8									
9									
10								Cobble layer	
11									
12									
13									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
14 15 16 17 18 19	SP							Brown, fine to medium **SAND**, trace coarse sand, fine to coarse gravel and cobbles	
20 21	GW		21	12	0.0	10.3	Kd	Light brown, fine to coarse **SAND** and fine to coarse **GRAVEL**, medium dense, dry	
22 23			30	18	0.0	10.3		Dense	
24 25 26	SP		21	18	0.0	NA		Tan, fine to medium **SAND**, trace fine gravel, dense, dry Medium dense Medium to coarse sand, some fine to coarse gravel	NA = Not available (rad data not recorded)

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
27	SW		41	24	0.0	9.0		Light brown, fine to coarse **SAND**, some gravel, dense, moist	
28	SP							Light brown, fine to medium **SAND**, trace fine gravel, dense, moist	
29	SW		26	20	0.0	8.5		Light brown, fine to coarse **SAND**, trace fine to coarse gravel, medium dense, moist	
30	SP							Brown, fine to medium **SAND**, trace fine gravel, medium dense, moist	
31			26	21	0.0	10.8	Kd	Trace coarse sand	
32									
33			35	24	0.0	10.8		Light brown to tan, fine sand, trace medium to coarse sand and fine gravel to 34', dense, moist	
34								Medium dense	
35			23	24	0.0	9.0			
36	SW							Light brown, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
37	GP		36	22	0.0	9.3		Tan, fine to coarse sandy, **GRAVEL,** moist	
38	SW							Light brown to tan, fine to coarse **SAND**, trace fine gravel, dense, moist	
39	SP		31	24	1.4	9.1		Tan with reddish mottles, fine **SAND**, trace medium sand and fine gravel, dense, moist	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								Tan with reddish mottle, fine **SAND**, dense, moist Tan, trace clay	
40								Tan to light brown, occasional gravel, medium dense	
41			28	24	0.8	9.0	Kd	Dark brown, clay grades out Tan, occasional fine gravel	
42	SP							Trace gravel	
43			26	24	1.7	9.0			
44								Trace clay Light brown, some clay, medium dense	
45			18	24	0.7	9.1		Light brown, fine sandy, **CLAY**, moist, very stiff	
46	CL							Silty, soft, moist to wet	
47			2	24	0.5	10.1			
48	SC							Light brown, clayey, fine **SAND**, moist, very loose	
49			38	24	6.2	8.1		Light brown to tan, fine to medium **SAND**, trace fine gravel, dense, moist Trace coarse sand and fine to coarse gravel	
50	SP							Trace medium sand, dense, moist	
51			43	24	7.3	9.5	Kd		
52									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								Light brown, fine to medium **SAND**, trace fine to coarse gravel, dense, moist	
53			48	24	10.2	9.0		1" orange sandy clay	
54								Tan to light tan, medium sand grades out, medium dense	
55			21	24	2.5	9.0			
56									
57			20	24	1.6	9.0			
58	SP								
59			20	24	0.5	9.0			
60									
61			22	24	1.3	9.4	Kd		
62									
63			23	24	1.2	9.1			
64								Dense	
65			31	24	0.0	10.7			

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								Tan to light tan, fine **SAND**, dense, moist	
66	CL							Trace bright orange, 1/2" clay seam	
67			37	24	0.5	9.1			
68								Medium dense	
69	SP		26	24	0.9	9.0			
70								Dense	
71			33	24	0.0	9.4	Kd		
72									
73			52	24	0.0	9.1			
74	▼							inferred groundwater level	
								No recovery, wet	
75			5	0	-	-			
76									
				0					
77									NA = Not available (rad data not recorded)
78			18	14	0.0	NA			

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
	SP							Tan, fine to medium **SAND**, trace coarse sand and silt, wet	
79				0				No recovery	
80									NA = Not available (PID and rad data not recorded)
81	SP		11	20	0.0	NA	Kd	Tan, fine to medium **SAND**, trace coarse sand and silt, medium dense, wet	
82									
83			23	22	NA	NA			
84									
85			16	10	NA	NA			
86								No samples collected	
87									
88	SP		135	12	NA	NA		Tan, fine to medium **SAND**, trace coarse sand and silt, very dense, wet	
89								No samples collected	
90									
91	SP		79	22	NA	NA		Tan, fine to medium **SAND**, trace coarse sand and silt, very dense, wet	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
	SP							Tan, fine to medium **SAND**, trace coarse sand and silt, very dense, wet	
92								No samples collected	
93								No lithology data recorded	NA = Not available (PID and rad data not recorded)
94			63	10	NA	NA			
95								No samples collected	
96									
97									
98									
99									
100								No recovery	
101			14	0	-	-			
102								No samples collected	
103									
104									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								No samples collected	
105									
106									
107									
108									
109									
110									
111									
112									
113									
114									
115									
116									
117									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD1
Date Drilled: 8/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
118								No samples collected	
119									
120									
121									
122									
123			65	0	-	-		No recovery	
124	EOB								
125								NOTES: 1. Boring completed to a depth of 124' on 8/31/04 2. Groundwater estimated at 74' bgs during drilling 3. Continuous sampling was discontinued from 94.5-120' bgs (flowing sand in auger) 4. Boring backfilled to surface with clean soil on 9/3/04 5. Kd samples included off-Site nickel, off-Site uranium, off-Site thorium, on-Site VOCs, and a sample for the GTE attorneys	
126									
127									
128									
129									
130									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								Asphalt Surface elevation at 145.8', first sample at 20' below reference	
1								**FILL**, brown, fine sand, some medium sand, trace coarse sand, fine to coarse gravel, and asphalt debris, dry (lithology observed from auger cuttings to 20' bgs)	
2									
3									
4									
								(Fill depth interpreted from adjacent borings)	
5								Brown, fine **SAND**, some medium sand, trace coarse sand, fine to coarse gravel, dry	
6									
7									
8	SP								
9									
10									
11									
12									
13									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
14, 15, 16, 17, 18, 19	SP							Brown, fine **SAND**, some medium sand, trace coarse sand, fine to coarse gravel, dry	
20, 21	SW		11	18	0.2	11.1	Kd	Brown, fine to coarse **SAND**, trace fine gravel, medium dense, dry	
22, 23	SW		25	32	-	-			
24	SW		19	18	-	-		Light brown, some to trace gravel	
25	SP						GT	Poorly graded **SAND**	
25, 26	SW						Kd	Light brown, fine to coarse **SAND**, some to trace fine gravel, medium dense, dry	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
27 28 29								No samples collected	
30 31 32	SP		28	18	0.0	10.4	Kd	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, medium dense, dry Gravel and coarse sand grade out from 31.7-32'	
33 34 35 36 37 38 39								No samples collected	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								No samples collected	
40									
41	SP		20	19	0.5	10.3	Kd	Light brown, fine to medium **SAND**, some coarse sand and fine gravel, medium dense, dry Coarse gravel/cobbles at 40.75' Fine sand, some medium sand, trace fine gravel, medium dense, moist	
42									
43								No samples collected	
44									
	SP							Light brown, fine **SAND**, some medium sand, trace fine gravel, medium dense, moist	
45			14	17	-	-	Kd	Light brown, silty, fine **SAND**, medium dense, moist	
46									
	SM								
47			21	19	-	-	GT	Light brown to tan	
48									
49								No samples collected	
50									
51	SP		27	22	0.4	10.5	Kd	Brown, fine to medium **SAND**, trace coarse sand and fine gravel, medium dense, moist Tan, fine sand, coarse sand and gravel grade out, occasional clay balls	
52									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
53								No samples collected	
54									
55									
56									
57									
58									
59									
60									
61	SP		20	13	0.2	10.4		Tan, fine **SAND**, intermittent clay, medium dense, moist	
62								No samples collected	
63									
64									
65									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
66, 67, 68								No samples collected	
69	SP							Tan, fine **SAND**, medium dense, moist	
70			27	24	0.6	NA	Kd		
71								Tan to light brown, fine to medium sand, trace silt, dense, moist	
72			46	24	-	-	GT		
73								No samples collected inferred groundwater level	
74	▼								
75, 76, 77, 78									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
79–80			69	0	-	-		No recovery	
81–82								No samples collected	
83–84			46	0	-	-		No recovery	
85–86–87								No samples collected	
88–89			-	0	-	-		No recovery (piston sample attempt)	
90–91								No samples collected	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
92, 93								No samples collected	
94								No recovery	
95, 96, 97	SM		43 53	<2 12	0.0 0.0	- -	GT	Light brown, silty, fine to medium **SAND**, some coarse sand, wet	
98								No samples collected	
99, 100, 101	SM		76	4	0.0	-		Light brown, silty, fine to medium **SAND**, some coarse sand, wet	
102								No samples collected	
103, 104			93	0	-	-		No recovery	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
Logged By: Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
105, 106								No recovery	
107, 108								No samples collected	
109, 110	SM		51	8	0.0	-		Light brown, silty, fine to medium **SAND**, some coarse sand and fine gravel, wet	
111, 112								No samples collected	
113, 114, 115, 116, 117	SM		47	12	0.0	-	Kd	Light brown, silty, fine to coarse **SAND**, wet	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD2
Date Drilled: 9/20/04
Sampler Type: 3-inch split spoon driven by 300-lb hammer / Shelby tube / piston sampler
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
118	SM		51	11	0.0	-	Kd	Light brown, silty, fine to coarse **SAND**, wet	
119	EOB							NOTES: 1. Boring completed to 118.9' bgs on 9/23/04 2. Groundwater estimated at 74' bgs during drilling 3. Casing and hollow stem auger removed and boring backfilled with clean soil on 09/24/04 4. Kd samples include off-Site nickel, off-Site uranium, off-site thorium, on-Site VOCs, and GTE attorney samples 5. GT, geotechnical samples; samples analyzed for particle size distribution, hydraulic conductivity, total organic carbon, specific gravity, and percent moisture. The sample at 94.5-98.7' bgs was analyzed for particle size distribution and percent moisture.	
120									
121									
122									
123									
124									
125									
126									
127									
128									
129									
130									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
16, 17, 18, 19								**BACKFILL** Soil previously excavated to 20' bgs and backfilled Surface elevation at 142', first sample at 20'	
20, 21	SW		14	14	0.0	-		Dark tan, fine to coarse **SAND**, some fine to coarse gravel, medium dense, moist	
22	SP							Tan, fine to medium **SAND**, medium dense, moist	
23	SW		25	22	0.1	-	Kd	Tan, fine to coarse **SAND**, medium dense, moist	Lithological observations and field readings limited on geotechnical samples due to their being encased almost entirely in sample tubes. USCS classification of geotechnical samples are based on laboratory results.
24, 25	SP		10	20	-	-	GT	Tan, fine to medium **SAND**, medium dense, moist	
26, 27, 28								No samples collected	

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
29								No samples collected	
30	SP							Tan, fine to medium **SAND**, medium dense, moist Brown, some fine gravel, trace silt	
31	SW		12	18	0.1	-	Kd	Tan, fine to coarse **SAND**, trace fine gravel, medium dense, moist	
32								No samples collected	
33									
34									
35									
36									
37									
38									
39									
40	SP							Tan, fine to medium **SAND**, medium dense, moist	
41			18	18	16.9	-	Kd		

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

URS

5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
							Kd	Tan, fine to medium **SAND**, medium dense, moist	
42	SP								
43			23	22	-	-	GT		
44								No samples collected	
45									
46									
47									
48									
49									
50									
	SP							Tan, fine to medium **SAND**, medium dense, moist	
51			19	19	0.0	-	Kd		
52								No samples collected	
53									
54									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
55								No samples collected	
56									
57									
58									
59									
60									NA = Not available (blow counts and/or recovery not recorded)
61			NA	16	0.0	-	Kd	Tan, fine to medium **SAND**, cobbles at 60', moist	
62	SP								
63	SP/SM		NA	NA	-	-	GT		The water table depth was measured inside the auger, and is thus higher than the actual water table depth within the formation. The water table at the time of drilling lay below 71 ft bgs, as the sample collected from 69 to 71 ft was moist, not wet.
64								No samples collected	
65									
66	▼							inferred groundwater level after boring completion	
67									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

URS
5 Penn Plaza
13th Floor
New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
68								No samples collected	
69									Borehole advanced from 69 ft to 113 ft bgs using 4-in diameter casing driven by a 300-lb hammer.
70	SP		25	24	0.0	-	Kd	Tan, fine to medium **SAND**, trace fine gravel	
71								No samples collected	
72									
73									
74									
75									
76									
77									
78									
79								No recovery	
80			88	0	-	-			

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
Logged By: Aimee Clark, Carrie Olsen

URS
5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
								No recovery	
81								No samples collected	
			130						
82									
			203						
83									
								No recovery	
84									
85			*						* Blow counts >100 per ft for casing from 85.25 to 89.25 ft bgs.
86								No samples collected	
87									
88									
89									
90									
91									
92									
93									

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
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URS

5 Penn Plaza
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New York, NY 10001

Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
94 95 96	SP		*63	8	0.0	-	GT	Light brown, fine to medium **SAND**, some silt, wet	The permeability test was not conducted at the 93-96' bgs sample
97 98			*66	12	0.0	-	Kd		*These 3 spoons were each over-driven 1'; the blow counts given are for the 6-18" interva lwithin the larger 3' interval.
99 100 101			75	0	-	-		No recovery	
102 103 104			*54	0	-	-			
105 106	SM		**48	4	0.0	-	GT	Light brown, silty, fine **SAND**, some medium sand, wet	**This spoon was over-driven 9"; the blow counts are for the 6-18" interval within the larger 3' interval.

Project No.: NYSDEC: V-00089-1; URS: 27010-039
Project: Kd Drilling Program/Lithological Drilling Program
Client: GTEOSI, Hicksville, NY
Log of Boring: KD4
Date Drilled: 9/24/04
Sampler Type: 3-inch/2-inch split spoon driven by 300-lb/140-lb hammer
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URS

5 Penn Plaza
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Depth (feet)	USCS Letter Symbol	USCS Lithologic Symbol	Blows/Foot (center ft only)	Recovery (in per 2-ft interval)	PID Sample Screen (ppm)	NaI 3x3 (kcpm)	Sample Type	Description	Remarks
107	SM						GT	Light brown, silty, fine **SAND**, some medium sand, wet	The permeability test was not conducted at the 104.5-107.3 bgs sample
108			NA					No recovery	
109	SW		***	12	0.0	-	Kd	Light brown, fine to coarse **SAND**, trace silt and fine gravel, clay/silt seam at 109.75', wet	***Spoon was rotated into formation in an attempt to increase sample recovery. However, after spoon was rotated down in depth 1 ft, the spoon was sheared off the rods. The sheard spoon was recovered, and the 1-ft interval pf material inside it was used for Kd testing.
110			NA					No recovery	
111	SM		NA	8	0.0	-		Light brown, silty, fine to coarse **SAND**, trace fine gravel, wet	
113			NA					No recovery	
114			NA	0	-	-			
116								NOTES: 1. Boring completed to 115.5' bgs on 9/30/04 2. Groundwater depth estimated at 74' bgs during drilling 3. Boring backfilled with clean soil on 9/30/04 4. Kd samples included off-Site nickel, off-Site uranium, off-Site thorium, on-Site VOCs, and a sample for the GTE attorneys 5. GT, geotechnical samples; samples analyzed for particle size distribution, hydraulic conductivity, total organic content, specific gravity, and percent moisture.	

MALCOLM PIRNIE

Former Sylvania Electric Products Incorporated Facility
Hicksville, NY
Voluntary Cleanup Program
Site No. V00089-1

GROUNDWATER INVESTIGATION REPORT

GTE Operations Support Incorporated
Basking Ridge, New Jersey

Prepared by:

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Fair Lawn, New Jersey 07410

January 2007

4563001

GROUNDWATER INVESTIGATION REPORT
FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

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GROUNDWATER INVESTIGATION REPORT
FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

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ABBREVIATIONS AND ACRONYMS

ADT	Aquifer Drilling & Testing
ASP	Analytical Services Protocol
bgs	Below Ground Surface
cis-1,2-DCE	Cis-1,2-Dichloroethene
CT&E	CT&E Environmental Drilling, Inc.
CVOC	Chlorinated Volatile Organic Compounds
1,2-DCB	1,2-Dichlorobenzene
DQO	Data Quality Objective
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Accreditation Program
GCDR	Golf Course Driving Range
GI	General Instrument
GTEOSI	GTE Operations Support Incorporated
ID	Inside Diameter
IDW	Investigation Derived Waste
IK	Index of Hydraulic Conductivity
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
mg/Kg	Milligram per kilogram
msl	Mean Sea Level
NCDPW	Nassau County Department of Public Works
NTU	Nephelometric Turbidity Units
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	Tetrachloroethene
PRD	PRD Electronics, Inc.
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
SEI	Stone Environmental, Inc.
STL	Severn Trent Laboratory
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Survey

VC	Vinyl chloride
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Under the New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program, GTE Operations Support Incorporated (GTEOSI) conducted a phased groundwater investigation to characterize the nature and extent of chlorinated volatile organic compounds (CVOCs), nickel, and radionuclides in groundwater at the Former Sylvania Electric Products Inc. (Sylvania) facility (Site) located at 70, 100, and 140 Cantiague Rock Road in Hicksville, Nassau County, New York (Figure 1-1).

The GTEOSI groundwater investigation was conducted on-Site and on surrounding properties including Nassau County Department of Public Works (NCDPW) property to the north, the former General Instruments site (GI) to the south, Nassau County Golf Course Driving Range (GCDR) to the east, Crown Lift to the southeast, the King Kullen property to the south inclusive of the New York Blood Bank/formerly PRD Electronics (PRD), and Waste Management. The locations of these properties are shown on Figure 1-2.

As per a verbal agreement between the NYSDEC and GTEOSI, on November 3, 2006, this report:

1. Presents the groundwater quality results in tabular and graphic form;
2. Presents a description of the methods and procedures used to collect the data to allow the reader to understand how the data was collected: and
3. Presents a description of the physical characteristics (i.e., geology and hydrogeology) of the study area to allow the reader to put the groundwater quality data into its proper perspective within the groundwater flow system.

1.1 OBJECTIVES

The objective of the groundwater investigation was to determine the nature and extent of groundwater containing CVOCs, nickel, and radionuclides under and down-

gradient of the Site. To meet this objective, GTEOSI conducted a multi-phase groundwater investigation that included:

- Collecting and analyzing two rounds of groundwater samples from 12 on-Site groundwater monitoring wells;
- Collecting and analyzing depth-discrete groundwater samples at approximate 10-foot intervals from 55 on-Site and off-Site locations using the Waterloo Profiler® (Profiler); and
- Reviewing and summarizing available published literature that describes the geology and hydrogeology of Long Island.

Figure 1-3 shows the locations of the on-Site monitoring wells and Figure 1-4 shows the locations of the profiles.

1.2 SITE DESCRIPTION

As shown on Figure 1-1, the Site is located in Hicksville, Nassau County, New York. The Site is bordered to the north by the NCDPW, to the east by GCDR, to the south by GI (a NYSDEC Class 2 inactive hazardous waste site), and to the west by Cantiague Rock Road where various commercial and industrial properties are located.

The Site includes three lots referred to as the 70 Property, 100 Property, and 140 Property (Figure 1-2). Approximately 95 percent of the 10.5-acre Site has been re-developed and is either paved or occupied by buildings. Asphalt pavement has been temporarily removed from selected portions of all three properties for activities associated with the soil remediation (URS, 2003). These selected areas are expected to be repaved after remedial activities are completed. The property descriptions presented below are based on conditions prior to implementing soil remediation.

Located on the southern portion of the Site, the 70 Property consists of a one-story brick building, approximately 79,210-square feet (ft^2) in size. The portion of the lot not occupied by the building is paved and used for parking and storage. The western

portion of the building contains the only remaining original building from the former Sylvania facility (historically called Building #4).

The 100 Property is centrally located on the Site and consists of a fenced area enclosing a two-story building (80,100 ft^2) and paved parking lots.

The 140 Property is located on the northern-most portion of the Site immediately south of the NCDPW. This property encompasses a one-story building (approximately 54,500 ft^2) formerly used for office and industrial purposes. In addition to the building, the remaining portions of the property are paved with the exception of a small area on the east side, abutting the GCDR.

1.3 GROUNDWATER INVESTIGATION REPORT CONTENT

This report is organized into five sections with supporting tables and figures and a series of appendices which include supporting documentation and Data Usability Summary Reports (DUSRs). Each section of text is briefly described below.

Section 1.0 - INTRODUCTION, presents the objective, Site description, and the organization of the report.

Section 2.0 - METHODS AND PROCEDURES, presents the methods and procedures used to collect and analyze the groundwater data presented in this report.

Section 3.0 - PHYSICAL CHARACTERISTICS, presents a summary of the geology and hydrogeology on both a regional and local scale using published information and data collected during the groundwater investigation.

Section 4.0 - DISTRIBUTION OF GROUNDWATER IMPACTS, presents a description of the nature and extent of groundwater impacts.

Section 5.0 – REFERENCES, presents a list of references used in this report.

2.0 METHODS AND PROCEDURES

This section describes the field investigation and methodology used to collect groundwater samples during the investigation. The groundwater investigation was conducted in accordance with the Groundwater Investigation Work Plan (URS, 2002). The data was collected according to the quality assurance and quality control (QA/QC) objectives outlined in the Quality Assurance Project Plan (QAPP) (URS, 2002). For the purposes of this investigation, two rounds of groundwater samples representing seasonally high and low groundwater conditions were collected from the 12 on-Site monitoring wells. The first round was collected in October 2002 and the second in March 2003. Depth discrete groundwater samples were collected from 55 profiles from October 2002 to February 2004. The methods and procedures used to collect the groundwater samples are summarized in the following sections.

2.1 SAMPLING ON-SITE MONITORING WELLS

Groundwater samples were collected from the on-Site monitoring wells using the USEPA Region II Low-Flow Groundwater Sampling Protocol (Appendix A). A Grundfos® pump and dedicated polyethylene tubing were used to pump groundwater from each monitoring well to a flow-through cell which measured dissolved oxygen, pH, specific conductance, turbidity, salinity, oxidation reduction potential, and temperature. After stabilization of field parameters, groundwater samples were collected. Groundwater sampling logs for both sampling events are provided in Appendix B.

The groundwater samples were labeled and immediately placed on ice for delivery to Severn Trent Laboratory, Inc. (STL) in Earth City, Missouri for analysis using the following list of United States Environmental Protection Agency (USEPA) Methods.

- Volatile organic compounds (VOCs) by Method 5030 and Method 8260B,
- Select metals (nickel, chromium, copper, beryllium, and thallium) by Method 3010A,

- Hexavalent chromium by Method 7196A,
- Gamma Spectroscopy by Method DOE EML (HASL 300) Ga-01-R MOD,
- Isotopic thorium and uranium by Method alpha spectrometry NAS/DOE 3050, and 3004 RP,
- Radium-226, radium-228, and gross alpha - gas flow proportional counting by Methods 9315 MOD, 9320 MOD, 9310 MOD, and
- Technetium-99 - liquid scintillation by Method DOE TC-02-RC MOD).

STL is a full-service New York State Department of Health (NYSDOH) and Environmental Laboratory Approval Program (ELAP) certified laboratory. Samples were transported to the laboratory using standard chain-of-custody procedures. STL reported the results in accordance with NYSDEC Analytical Services protocol (ASP) 2000, Category B deliverables.

2.2 DRILLING AND SAMPLING USING THE WATERLOO PROFILER®

All of the borings were drilled by either CT&E Environmental Drilling Division of West Creek, New Jersey (CT&E) or Aquifer Drilling & Testing, Inc. (ADT) of New Hyde Park, New York. CT&E and ADT are both licensed by the State of New York. The Profiler was operated by Stone Environmental, Inc. (SEI) of Montpelier, Vermont.

The initial 15 profiles (P-1 through P-14 and P-16) were drilled using 4¼-inch inside diameter (ID) hollow stem augers from October to December 2002. The hollow stem augers were initially drilled to approximately 70 feet below ground surface (bgs) or within 10 feet of the water table. Either a conventional auger drill rig specially outfitted with a hydraulic hammer or a 6610 DT GeoProbe® advanced the Profiler ahead of the augers into undisturbed saturated soil to collect the groundwater samples. Sampling was continued until the Profiler could not advance any further in the formation at which time the Profiler equipment was removed from the borehole and the borehole was drilled to

within 10 feet of the next sample depth. This process of alternately drilling and sampling with the Profiler continued until the final depth was reached.

The remaining profiles (P-15, P-17, P-18, P-20, P-23 to P-38, P-42 to P-47, P-49 to P-56, P-58, P-C to P-F, and P-H) were drilled from April 2003 to February 2004 using a mud rotary drilling rig so groundwater samples could be collected at greater depths. The boreholes were initially drilled with 3-inch ID steel casing to approximately 70 feet bgs or within 10 feet of the water table. The drill rig was outfitted with a hydraulic Geoprobe® hammer to advance the Profiler ahead of the casing into undisturbed soil to collect the groundwater samples. Sampling was continued until the Profiler could not advance in the formation at which time the Profiler equipment was removed from the borehole and the borehole was drilled to within 10 feet of the next sample depth. The process of alternately drilling and sampling with the Profiler continued until the final depth was reached. Geologists logged each hole based on drill cuttings to document stratigraphy. The geologic logs for these profiles are included in Appendix C.

The index of hydraulic conductivity (IK) and drive penetration rates were recorded as the Profiler was advanced into the unconsolidated sediments. The IK is a relative hydraulic conductivity value produced by measuring the flow rate of distilled water injected through the Profiler into the formation using a compressed nitrogen pressure source. A mobile profiling truck equipped with appropriate software was used to calculate and record corrected head (measured pressure minus head loss due to friction) values, drive penetration, and IK data. The index was plotted versus depth in real time using a computer interface. The depth was measured electronically using a string potentiometer mounted on the rig and connected to the data acquisition system. The flow and pressure were measured using an electronic pressure transducer and flow meter at the ground surface as distilled water was pumped into the formation during Profiler advancement. The IK provided an indication of the zones of relatively high and low hydraulic conductivity. IK and drive rates are included as plots on the geologic logs (Appendix C).

Groundwater samples were collected for on-Site laboratory analysis at approximately 10-foot intervals following the equilibration of field parameters. The

samples were collected using a nitrogen gas-drive pump. Compressed nitrogen was used to lift the groundwater through stainless steel tubing from the Profiler tip up into the in-line sample containers. The in-line sample containers can hold up to four 40 milliliter (ml) vials connected in series using stainless steel tubing and specifically designed stainless steel VOC vial holders. This system was designed to mitigate losses of VOCs by ensuring that no exposure to the atmosphere occurred while the samples were collected. A description of the Profiler is located in Appendix D.

The groundwater samples were analyzed on-Site by SEI using an on-Site laboratory for VOCs and inorganics including chloride, iron (total and Fe^{2+}), ammonia, and chlorine. Groundwater samples collected while conducting the first 15 profiles were analyzed for tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene, vinyl chloride (VC), and the inorganic parameters described above by the on-Site laboratory. Groundwater samples collected while conducting the remaining 40 profiles were analyzed for the following list of parameters by the on-Site laboratory:

- PCE
- TCE,
- Cis-1,2-dichloroethene
- Trans-1,2-dichloroethene
- VC
- 1,1-dichloroethane
- 1,1,1-trichloroethane
- Coeluting 1,1-dichloroethene/freon 113
- Coeluting 1,2-dichloroethane/benzene
- Freon 123/123A
- 1,2-dichlorobenzene,
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- Chlorobenzene
- Toluene
- Ethylbenzene
- m,p-xylene
- o-xylene
- Inorganic parameters

Groundwater samples were labeled and immediately placed on ice for delivery to STL in Earth City, Missouri for analysis using the following list of USEPA Methods.

- Select metals (nickel, chromium, copper, beryllium, and thallium) by Method 3010A,
- Hexavalent chromium by Method 7196A,
- Gamma Spectroscopy by Method DOE EML (HASL 300) Ga-01-R MOD,
- Isotopic thorium and uranium by Method alpha spectrometry NAS/DOE 3050, and 3004 RP,
- Radium-226, radium-228, and gross alpha - gas flow proportional counting by Methods 9315 MOD, 9320 MOD, 9310 MOD, and
- Technetium-99 - liquid scintillation by Method DOE TC-02-RC MOD).

In addition, to achieve compliance with QA/QC protocols, greater than 10 percent of the samples analyzed for VOCs by the on-Site laboratory were split and immediately placed on ice for delivery to STL for VOC by Method 5030 and Method 8260B. Samples were transported to the laboratory using standard chain-of-custody procedures. STL reported the results in accordance with NYSDEC ASP 2000, Category B deliverables.

2.3 GROUTING

Profile locations were decommissioned by filling the borehole with a bentonite/cement grout mixture using the tremie method. In addition, five monitoring wells (designated MW-01, MW-02, MW-05, MW-06, and MW-07) were decommissioned (April 5, 2003) prior to implementing soil remediation activities. ADT decommissioned each monitoring well by filling the well screen with clean silica sand filter material and filling the well casing with bentonite/cement grout (96% cement/4% bentonite by weight) using the tremie method. The top of each well and protective casing

was not removed during decommissioning, as is traditionally done, but was removed during the soil excavation activities.

2.4 DECONTAMINATION

The equipment used to sample the monitoring wells was decontaminated between sample locations by running a detergent and water solution through the pump followed by a deionized water rinse. Decontamination water was collected in 55-gallon steel drums and later pumped into an on-Site storage tank for future testing and appropriate disposal.

The back of the drilling rig, rods, tooling, profile sampling equipment, and any other equipment coming in contact with the boring was decontaminated between each hole by steam cleaning. A decontamination pad was constructed and used to collect the decontamination water. All of the decontamination water was transferred into drums and disposed of as investigation derived waste (IDW).

2.5 INVESTIGATION DERIVED WASTE

Drill cuttings generated during drilling and profiling activities were placed in labeled 55-gallon drums and transported to a drum storage area. Cuttings generated from profiles drilled on-Site were scanned for the presence of radiation. Drill cuttings that exceeded background radiation concentrations remained on-Site and were later disposed of with the soil generated during the soil remediation program. Drill cuttings that did not exceed background concentrations were characterized and disposed of in accordance with federal, state, and local regulations.

Decontamination fluids, well development water, and groundwater sampling purge water were stored in 55-gallon drums or an on-Site Baker Tank. Drums were labeled and transported to a drum storage area. The contents of the drums and Baker

Tank were characterized and disposed of in accordance with federal, state, and local regulations.

2.6 SURVEYING

Rybinski Land Surveying, a New York State licensed land surveyor, surveyed the location and elevation of the first 15 profiles using a nearby United States Geological Survey (USGS) benchmark. The remaining profile locations were surveyed by Destiny Resources Inc. of Boulder, Colorado, using a Trimble Global Positioning System and each profile elevation was measured by Jeffery S. Bausch, a New York State licensed surveyor, using the USGS benchmark.

2.7 QUALITY ASSURANCE/QUALITY CONTROL

Prior to use, the STL data was evaluated according to the QA/QC objectives outlined in the QAPP (URS, 2002). This evaluation focused on determining if the data met the quality assurance objectives for each Data Quality Objective (DQO). The results of the evaluation were summarized in DUSRs that describe whether the data met Site-specific criteria for data quality and use (Appendix E). In general, the DUSR reports show that the data is usable and individual data is appropriately qualified where needed. As a separate quality control measure, the concentration of PCE, TCE and cis-1,2-DCE from the SEI on-Site lab (Table 2-1) was plotted against the concentration of PCE, TCE and cis-1,2-DCE from the STL off-Site lab (Table 2-2) to determine the strength of the correlation between the two data sets (Figure 2-1). The results show a strong (r^2>90%) correlation between the field and laboratory data. Therefore, the on-Site laboratory data was determined to be usable.

3.0 PHYSICAL CHARACTERISTICS

This Section presents the geology and hydrogeology in the area to put the local geology into perspective within the larger regional geologic and hydrogeologic framework. The data in this Section is based on the published data from Cartwright (2002), Misut and Feldman (1996), Smolensky and Feldman (1995), Isbister (1966), Perlmutter and Geraghty (1963), Fuller (1914), Fenneman (1938), various USGS reports and Site-specific data collected during the groundwater investigation.

3.1 GEOLOGY

The Site is located in the Atlantic Coastal Plain physiographic province. This region is bordered to the south and east by the Atlantic Ocean and to the north and west by the Piedmont and New England physiographic provinces (Fenneman, 1938). Four distinct geologic units lie beneath the Site, including glacial deposits composed of the Ronkonkoma and/or Harbor Hill glacial outwash (Upper Glacial), the Magothy Formation and Matawan Group (Magothy), a clay member of the Raritan Formation (Raritan Clay), and the Lloyd Sand Member of the Raritan Formation (Lloyd). Only two of these units (Upper Glacial and Magothy) were encountered during this investigation and are described below. A stratigraphic column of the geology of Nassau County is shown on Figure 3-1. A generalized hydrogeologic cross-section is shown on Figure 3-2.

3.1.1 Upper Glacial Deposits

The Ronkonkoma ice sheet deposited a mantle of glacial drift on the Cretaceous, Pliocene, and early Pleistocene deposits. The drift ranges from unstratified till to stratified outwash and mainly occurs in three forms; basal drift, terminal moraine, and an outwash plain. South of the Ronkonkoma moraine is a relatively flat outwash plain that

generally extends from the center of Long Island to the south shore. It is composed of well-rounded coarse-grained sand and gravel.

The Harbor Hill drift covers most of northern Nassau County and consists of outwash and till. Outwash deposits of the Harbor Hill ice sheet thinly cover the Ronkonkoma basal drift. The outwash deposits extend from the moraine to the south shore of Long Island. Its surface is irregular and includes numerous kettles, depressions, and small hills.

Glacial outwash from the Ronkonkoma and Harbor Hill glacial advances were encountered at the Site. The material is predominantly brown, medium to coarse-grained sand with minor amounts of fine sand and silt. The glacial outwash extends from ground surface to approximately 75 feet bgs. A surficial geologic map of the area showing the geologic units at land surface is presented as Figure 3-3.

3.1.2 Magothy Formation

The Magothy Formation and Matawan Group (Magothy) are undifferentiated and lie unconformably on the Raritan Clay. The Magothy, like the Lloyd Sands and Raritan Clay, are early Cretaceous deposits of continental origin and are mostly deltaic quartzose very fine to coarse-grained sand and silty sand with interbedded silt and clay. The Magothy ranges in thickness from zero at its northern limit to more than 800 feet in southeastern Nassau County. The Magothy's upper surface slopes to the southeast and ranges from 200 feet above mean sea level (msl) to more than 350 feet below msl. The Magothy commonly has a 25 to 50 foot thick coarse sand and gravel layer at its base (Isbister, 1963).

During the groundwater investigation, the Magothy was encountered from approximately 75 feet bgs to as deep as 532 feet bgs. A review of the IK data and geologic logs show that the Magothy is predominantly composed of brown, fine to medium-grained sand with some silty sand, silt, and clay lenses. No significant silt and clay lenses were encountered in the profiles upgradient of the Site. Silt and clay lenses were encountered beneath and down-gradient of the Site.

A significant silt and clay lens was encountered in P-27 and P-C (-100 to -150 feet msl), and P-D (-150 to -200 msl) at the down-gradient boundary of the Site. However, there is insufficient information available to determine if this silt and clay unit extends further to the east from these borings. A second significant silt and clay lens was detected along West John Street. This silt and clay lens extends from P-38 to P-58 between -70 and -120 msl. There is insufficient information to determine if this silt and clay lens is connected to the silt and clay lens encountered at the down-gradient Site boundary (P-27, P-C, and P-D) between -100 and -150 msl.

Numerous discontinuous silt and clay lens were encountered in deeper portions of these borings along West John Street. Numerous discontinuous thin silt and clay lenses were also encountered at the P-55, P-44, P-43, and P-42 transect, which is located just north of the railroad tracks. The silt and clay lenses were detected from +40 feet msl to the bottom of the borings.

3.2 HYDROGEOLOGY

This Section describes the occurrence of groundwater as it occurs in the geologic framework described above. The water table was observed between 72 to 74 feet bgs, which is near the contact between the Magothy and the Upper Glacial aquifers.

3.2.1 Magothy Aquifer

Groundwater in the shallow portions of this formation occurs as an unconfined aquifer. However, lenses of silt and clay, whose overlapping arrangement produces anisotropy ranging from approximately 36:1 to 120:1, cause a confining effect with depth (Isbister, 1966 and Reilly et al., 1983). The storativity of the Magothy ranges from water table conditions (0.25) to confined conditions (0.0006) depending on the location and depth (Reilly et al. 1983). Hydraulic conductivity estimates for the Magothy Formation based on aquifer tests of permeable portions of the aquifer range from approximately 200

gallons per day per square foot (gpd/ft^2) to as much as 1,100 gpd/ft^2 with an average of approximately 500 gpd/ft^2, or approximately 27 feet per day (ft/d) to 150 ft/d with an average of approximately 67 ft/d (Isbister, 1966). Variations in the horizontal and vertical hydraulic conductivity can occur locally due to the presence of lower or higher permeability materials such as silts, clays, or gravels. More recent studies have generally assumed average values of hydraulic conductivity for the Magothy Formation to be in the range of 35 to 90 ft/d (Cartwright, 2002; Misut and Feldman, 1996; Smolensky and Feldman, 1995). The horizontal hydraulic gradient in shallow portions of the Magothy can range from 0.0001 to 0.001 feet per foot; however, the hydraulic gradient can be affected by hydraulic stresses such as local pumping, recharge basins, and remediation systems (Busciolano, 1998).

3.2.2 Groundwater Flow Direction

The regional groundwater flow in the Magothy is shown on Figure 3-4. Based on the 1997 potentiometric surface map of the Magothy aquifer provided by the USGS (WRIR 98-4019) groundwater flow is south at the Site.

Locally, the groundwater flow direction can be inferred from the chloride data collected during this investigation (Figure 3-5). Since the source of the chloride is the salt pile located north of the Site on the south side of the NCDPW property and chloride behaves as a conservative tracer in groundwater, the distribution of chloride in groundwater can be used to determine the direction of groundwater flow.

Groundwater in this area of Long Island migrates vertically downward due to recharge from precipitation. As shown in Figure 3-2, the amount of vertical movement will be greatest near the groundwater divide, located a short distance north of the Site. Further away from the divide, the vertical movement will decrease as the groundwater flow converges on the discharge zone at the coast.

Recharge from precipitation can result in vertical migration of groundwater and dissolved contaminants. As recharge continues to add water to the water table over a plume, the plume will move vertically downward away from the water table along the

same flow path as the ground water. This concept has been observed in other areas of Nassau County (Weaver, et al., 1999).

4.0 DISTRIBUTION OF GROUNDWATER IMPACTS

This Section identifies potential CVOC, nickel, and radionuclide source areas and presents the distribution of potential CVOC, nickel, and radionuclide impacts in groundwater. The groundwater quality data was initially evaluated and confirmed that they meet QA/QC objectives. The data was then tabulated (Tables 2-1, 2-2, and 4-1 through 4-5) and displayed on plan view maps (Figures 4-1 through 4-4).

4.1 POTENTIAL SOURCE AREAS

Potential sources areas containing PCE, nickel, and radionuclides have been identified on-Site. A potential PCE source was detected in the unsaturated soil east of the 100 Building at concentrations that exceed the Site-specific NYSDEC Soil Cleanup Objective of 1.82 mg/Kg (PCE) as per the Soil Remediation Program Work Plan (URS, et al, 2003). Nickel was detected in unsaturated soil south of the 100 Building at concentrations that exceed the Site-specific NYSDEC Soil Cleanup Objective of 560 mg/Kg as per the Soil Remediation Program Work Plan (URS, et al, 2003). Numerous soil samples were collected at the Site and analyzed for thorium and uranium during the soil remediation and soil boring programs. The results show that there were areas above background radiation. These areas were the focus of the recently completed comprehensive soil remediation program.

Potential source areas have also been identified south (down-gradient) of the Site at the GI. PCE, TCE, and 1,2-DCB impacts have been identified (associated with the former 2,000-gallon solvent storage tank) on the north side of GI including the former discharge basin/waste lagoon. PCE, TCE, and 1,2-DCB impacts have also been identified on the southwest side of GI (associated with the former 1,000-gallon solvent storage tank) and on the east side of GI (associated with the tunnel sump). The NYSDEC is investigating other potential off-site sources in the area.

4.2 DISTRIBUTION CHLORINATED VOLATILE ORGANIC COMPOUNDS

Over 1,375 groundwater samples collected from 12 on-Site monitoring wells and from 55 profiles were analyzed for CVOCs (Tables 2-1, 2-2, and 4-1). The results, on Figures 4-1 and 4-2, show that CVOCs were detected 400 feet upgradient of the Site to as far south as the southern end of the King Kullen property.

4.3 DISTRIBUTION OF NICKEL

Groundwater samples collected from 12 on-Site monitoring wells and from 55 profiles were analyzed for nickel (Tables 4-2 and 4-3). The distribution of nickel is shown on Figure 4-3. The information on this figure was assembled according to NYSDEC Technical and Administrative Guidance Memorandum #4015 using total nickel concentrations for groundwater samples that had a turbidity less than or equal to 50 nephelometric turbidity units (NTUs) and dissolved nickel for groundwater samples that had a turbidity greater than 50 NTUs. If turbidity measurements were not available both total and dissolved measurements are presented on the figure.

4.4 DISTRIBUTION OF RADIONUCLIDES

Groundwater samples collected from 12 on-Site monitoring wells and from the first 15 profiles (P-1 to P-14 and P-16) were analyzed by gamma spectrometry in 2002 (Tables 4-4 and 4-5). Selected groundwater samples collected from P-2, P-6, P-7, and P-11 were also analyzed for isotopic uranium and thorium. There is no MCL established for thorium with which to compare data. The isotopic uranium analyses shows the uranium concentrations were in compliance with the uranium MCL.

Groundwater samples collected from 12 on-Site monitoring wells and from 40 profiles (P-15, P-17, P-19, P-20, P-23 to P-38, P-42 to P-47, P-49 to P-56, P-58, P-C to P-F, and P-H) were analyzed for isotopic uranium, isotopic thorium, radon, gross alpha, and technetium-99 (Tables 4-4 and 4-5). The results (Tables 4-4 and 4-5 and Figure 4-4) show that only one groundwater sample (MW-2) contained a radionuclide (uranium) above the USEPA MCL.

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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) / COMPOUND NAME	UNITS	P-1 (78.7)	P-1 (98.7)	P-1 (299.14)	P-1(301.16)	P-2 (78.5)	P-2 (98.8)	P-2 (258.14)	P-2 (302.05)	P-3 (87.40)	P-3 (107.40)	P-3 (167.40)	P-3(227.40)
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	0.64 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	0.50 J	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 UJ	200 UJ	200 UJ	5.0 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 UJ	200 UJ	200 UJ	5.0 UJ	5.0 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	200 UJ	200 UJ	5.0 UJ	5.0 UJ
Acetone	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	200 UJ	46 J	2.0 UJ	2.0 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	0.55 J	1.0 U	1.0 U	1.0 U	0.58 J	50 UJ	50 UJ	1.0 U	1.0 U
Bromomethane	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	50 UJ	50 UJ	2.0 UJ	2.0 UJ
Carbon disulfide	ug/L	0.55 J	0.67 J	0.32 J	1.0 U	0.88 J	0.35 J	1.0 U	1.0 U	7.4 J	7.6 J	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Chloroethane	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	50 UJ	50 UJ	2.0 U	2.0 U
Chloroform	ug/L	1.2	18	1.1	1.0 U	1.0 U	21	0.78 J	1.0 U	50 UJ	50 UJ	1.0 U	2.3
Chloromethane	ug/L	2.0 U	0.22 J	0.20 J	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 U	50 UJ	50 UJ	2.0 UJ	2.0 UJ
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	24 UJ	24 UJ	1.0 UJ	1.0 UJ
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0	1.0 U	1.0 U	1.0 U	54 J	1.0 U	1.0 U	1.0 U	24 J	11 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U	50 UJ	50 UJ	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	1.0 U	0.30 J	1.0 U	1.0 U	0.53 J	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 UJ	100 UJ	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L												
TIC-Ethane, 1,1-difluoro-	ug/L												
TIC-Isobutane	ug/L												
TIC-Methane, chlorodifluoro-	ug/L												
TIC-Pentane, 2-methyl-	ug/L												
TIC-Propane,2-methoxy-2-methyl-	ug/L												
TIC-Sulfur dioxide	ug/L												

U = The chemical was not detected. Value shown is the reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
UJ = The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.
B = The compound is present in the laboratory method blank and may be an indication of contamination from laboratory operations.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) / COMPOUND NAME	UNITS	P-3 (304.40)	P-4 (77.5)	P-4 (97.2)	P-4 (106.8)	P-4 (197.65)	P-5 (77.5)	P-5 (97.5)	P-5 (107.5)	P-5 (207.4)	P-5 (292.4)	P-5 (299.02)	P-6 (82.8)
1,1,1-Trichloroethane	ug/L	1.0 U	0.66 J	1.4	1.0	1.0 U	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	50 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
2-Butanone	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	250 U
2-Hexanone	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 U	250 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 U	250 U
Acetone	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	7.1 UJ	1.8 J	4.9 UJ	2.0 UJ	2.0 UJ	2.0 UJ	100 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	50 U
Bromomethane	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	100 UJ
Carbon disulfide	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 J	1.0 U	0.49 J	1.0 U	1.0 U	1.0 U	50 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Chloroethane	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	100 U
Chloroform	ug/L	5.5	1.0 U	1.0 U	1.0 U	0.73 J	1.0 U	1.0 U	1.0 U	7.1	3.3	2.9	50 U
Chloromethane	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	0.21 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 UJ	2.0 U	100 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9	1.2	1.0 U	1.0 U	1.0 U	1.0 U	50 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Methylene chloride	ug/L	1.0 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.0 UJ	1.0 U	1.5 UJ	1.0 U	1.0 UJ	1.0 UJ	0.30 UJ	50 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Tetrachloroethene	ug/L	1.0 U	31	19	0.99 J	0.41 J	760	31	110	2.0	9.9	8.6	2000
Toluene	ug/L	1.0 U	0.29 J	1.0 U	0.33 J	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	50 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Trichloroethene	ug/L	1.0 U	6.5	2.2	1.5	1.0 U	20	6.9	3.7	1.0 U	2.4	0.75 J	15 J
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	50 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
TIC-Benzene, 1,2,3 trichloro-	ug/L												
TIC-Ethane, 1,1-difluoro-	ug/L												
TIC-Isobutane	ug/L												
TIC-Methane, chlorodifluoro-	ug/L											0.89 J	
TIC-Pentane, 2-methyl-	ug/L								1.9 J				
TIC-Propane,2-methoxy-2-methyl-	ug/L												
TIC-Sulfur dioxide	ug/L					1.1 J				2.4 J			

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Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) / COMPOUND NAME	UNITS	P-6 (102.8)	P-6 (122.8)	P-6 (252.4)	P-6 (291.5)	P-7(82.4)	P-7 (102.4)	P-7 (242.4)	P-7 (301)	P-8 (77.55)	P-8 (97.55)	P-8 (167.55')	P-8 (247.55')
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.1	2.7	1.0 U	0.59 J	0.77 J	1.0	0.61 J	5.7
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	2.1	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	0.35 J	1.0 U	1.0 U	0.43 J	5.2
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	0.82 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.6
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	ug/L	5.0 UJ	5.0 UJ	200 UJ	200 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 UJ	5.0 UJ	200 UJ	200 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	5.0 U	200 UJ	200 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Acetone	ug/L	2.0 UJ	2.0 UJ	200 UJ	37 J	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	3.1 UJ	1.2 UJ	2.0 UJ	2.0 UJ
Benzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.8	1.0 U
Bromomethane	ug/L	2.0 U	2.0 U	50 UJ	50 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Carbon disulfide	ug/L	1.0 U	1.0 U	7.5 J	7.1 J	1.0 U	1.0 U	1.0 U	1.0 U	0.55 J	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	0.46 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	2.0 U	2.0 U	50 UJ	50 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	ug/L	1.0 U	6.5	15 J	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.33 J
Chloromethane	ug/L	2.0 U	2.0 U	50 UJ	50 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	ug/L	0.49 J	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	23 UJ	23 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.8 B	1.0 UJ	1.6 UJ	1.0 UJ	1.0 UJ
Styrene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	710	4.4	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	0.86 J	1.0 U	1.0 U	1.0 U	2.2
Toluene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	9.3	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0	0.40 J	0.39 J	0.89 J	5.4
Vinyl chloride	ug/L	1.0 U	1.0 U	100 UJ	100 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	50 UJ	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L									0.39 J			
TIC-Ethane, 1,1-difluoro-	ug/L												
TIC-Isobutane	ug/L												
TIC-Methane, chlorodifluoro-	ug/L												
TIC-Pentane, 2-methyl-	ug/L												
TIC-Propane,2-methoxy-2-methyl-	ug/L												
TIC-Sulfur dioxide	ug/L												

U = The chemical was not detected. Value shown is the reporting limit.
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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) COMPOUND NAME	UNITS	P-8(297.5 5)	P-8 (302.55)	P-9 (82.61)	P-9 (102.61)	P-9 (162.61)	P-9 (232.61)	P-10 (77.6)	P-10 (97.9)	P-10 (107.95)	P-10 (198.15)	P-10 (264.5)
1,1,1-Trichloroethane	ug/L	0.82 J	0.75 J	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	0.83 J	0.70 J	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	ug/L	5.0 UJ	5.0 UJ	5.0 U	500 UJ	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	500 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 UJ	5.0 UJ	5.0 U	500 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Acetone	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	200 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J
Bromomethane	ug/L	2.0 U	2.0 U	2.0 UJ	200 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Carbon disulfide	ug/L	6.8	2.9	0.54 J	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.3 J	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	2.0 U	2.0 U	2.0 U	200 U	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	ug/L	1.0 U	1.0 U	1.0 U	100 U	22	7.6	1.0 U	1.0 U	1.0 U	11	9.2
Chloromethane	ug/L	2.0 U	2.0 U	2.0 U	200 U	2.0 U	2.0 UJ	2.0 U	2.0 UJ	2.0 U	2.0 UJ	2.0 UJ
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0	0.54 J	0.96 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	220 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Styrene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	13	4300	6.1	2.4 J	360 J	250	310	1.5	7.7
Toluene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.95 J	0.80 J	1.0 U	100 U	1.0 U	1.0 U	29 J	19	23	1.0 U	0.34 J
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	100 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L											
TIC-Ethane, 1,1-difluoro-	ug/L											
TIC-Isobutane	ug/L											
TIC-Methane, chlorodifluoro-	ug/L											
TIC-Pentane, 2-methyl-	ug/L											
TIC-Propane,2-methoxy-2-methyl-	ug/L											
TIC-Sulfur dioxide	ug/L											

U = The chemical was not detected. Value shown is the reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
UJ = The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.
B = The compound is present in the laboratory method blank and may be an indication of contamination from laboratory operations.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) COMPOUND NAME	UNITS	P-11 (87)	P-11 (107.4)	P-11 (167.4)	P-11 (247.4)	P-11 (281.13)	P-12 (78.85)	P-12 (87.89)	P-12 (97.92)	P-12 (108)	P-12 (207.43)	P-12 (287.42)
1,1,1-Trichloroethane	ug/L	1.0 U	0.84 J	20 U	1.0 U	0.42 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	20 U	0.31 J	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	ug/L	5.0 UJ	5.0 UJ	100 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 U	5.0 UJ	100 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	5.0 U	100 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Acetone	ug/L	2.0 UJ	2.0 UJ	57 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Benzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.34 J
Bromomethane	ug/L	2.0 UJ	2.0 UJ	40 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 UJ	2.0 U	2.0 UJ	2.0 UJ
Carbon disulfide	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	2.0 U	2.0 U	40 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	ug/L	1.0 U	1.0 U	20 U	1.0 U	2.2	1.0 U	1.0 U	24	36	12	1.0 U
Chloromethane	ug/L	2.0 U	2.0 UJ	40 U	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	38	1.0 U	1.0 U	28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 UJ	1.0 UJ	32 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Styrene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	7.9	5.0	17 J	0.56 J	3.8	9900	100	19	7.9	1.0 U	0.54 J
Toluene	ug/L	0.44 J	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	0.75 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	0.37 J	1.0 U	350	0.40 J	0.89 J	90 J	1.1	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L											
TIC-Ethane, 1,1-difluoro-	ug/L											
TIC-Isobutane	ug/L											
TIC-Methane, chlorodifluoro-	ug/L	0.48 J										
TIC-Pentane, 2-methyl-	ug/L											
TIC-Propane,2-methoxy-2-methyl-	ug/L											
TIC-Sulfur dioxide	ug/L											

U = The chemical was not detected. Value shown is the reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
UJ = The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.
B = The compound is present in the laboratory method blank and may be an indication of contamination from laboratory operations.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) COMPOUND NAME	UNITS	P-12 (297.41)	P-13 (76.6)	P-13 (86.6)	P-13 (96.6)	P-13 (116.6)	P-13 (176.6)	P-13 (237.30)	P-14 (77.82)	P-14 (85.82)	P-14 (95.17)	P-14 (115.14)
1,1,1-Trichloroethane	ug/L	1.0 U	20 U	5.0 U	50 U	0.61 J	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	20 U	5.0 U	50 U	0.32 J	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0
1,1-Dichloroethene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	0.33 J	1.0 U	2.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6 J	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
2-Butanone	ug/L	5.0 UJ	100 UJ	25 UJ	250 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 UJ	100 UJ	25 UJ	250 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	10 UJ	5.0 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 UJ	100 UJ	25 UJ	250 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	10 UJ	5.0 UJ
Acetone	ug/L	2.0 UJ	40 UJ	10 UJ	100 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	4.0 UJ	2.0 UJ
Benzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Bromoform	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Bromomethane	ug/L	2.0 UJ	40 UJ	10 UJ	100 UJ	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	4.0 UJ	2.0 U
Carbon disulfide	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	8.5	4.9	5.0	2.9
Carbon tetrachloride	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	2.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Chloroethane	ug/L	2.0 U	40 U	10 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U
Chloroform	ug/L	6.1	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Chloromethane	ug/L	2.0 UJ	40 U	10 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	20 U	5.0 U	50 U	0.40 J	0.69 J	8.6	5.7	12	2.2	17
cis-1,3-Dichloropropene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Methylene chloride	ug/L	1.0 UJ	20 UJ	5.0 UJ	50 UJ	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	1.0 U
Styrene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Tetrachloroethene	ug/L	3.7	440	140	890	150	2.5	7.9	71	130	34	8.0
Toluene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J	2.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	11	130	31	17	8.3	16
Vinyl chloride	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	20 U	5.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L											
TIC-Ethane, 1,1-difluoro-	ug/L											
TIC-Isobutane	ug/L											
TIC-Methane, chlorodifluoro-	ug/L											
TIC-Pentane, 2-methyl-	ug/L											
TIC-Propane,2-methoxy-2-methyl-	ug/L											
TIC-Sulfur dioxide	ug/L											

U = The chemical was not detected. Value shown is the reporting limit.
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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) / COMPOUND NAME	UNITS	P-14 (204.7)	P-16 (81)	P-16 (91)	P-16 (101)	P-16 (121)	P-16 (181.00)	P-16 (231.00)	P-16 (251.00)
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	0.33 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	2.3	0.88 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	0.98 J	0.68 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
2-Hexanone	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U
Acetone	ug/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.3 UJ	2.0 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ
Carbon disulfide	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 J	1.0 UJ	1.0 UJ
Chlorobenzene	ug/L	1.0 U	0.53 J	0.32 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	10	26 J	4.5	4.4
Chloromethane	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.28 J	2.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1000 U	250 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	20000	6500	78	26	9.9	7.7	11
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.2 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.3	0.99 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1000 U	250 U	0.61 J	1.0 U	0.57 J	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TIC-Benzene, 1,2,3 trichloro-	ug/L								
TIC-Ethane, 1,1-difluoro-	ug/L								
TIC-Isobutane	ug/L								
TIC-Methane, chlorodifluoro-	ug/L								
TIC-Pentane, 2-methyl-	ug/L								
TIC-Propane,2-methoxy-2-methyl-	ug/L								
TIC-Sulfur dioxide	ug/L								

U = The chemical was not detected. Value shown is the reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
UJ = The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.
B = The compound is present in the laboratory method blank and may be an indication of contamination from laboratory operations.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-15 (79.65)	P-15 (89.65)	P-15 (99.65)	P-15 (109.65)	P-15 (119.65)	P-15 (179.65)	P-17 (73.25)	P-17 (92.25)	P-17 (223.1)	P-18 (156.65)	P-18 (156.65) DUP	P-18 (217.65)	P-18 (247.65)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	0.17 J	1.1	0.93 J
1,1,2,2-Tetrachloroethane	ug/L	10 UJ	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
1,1,2-Trichloroethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	0.42 J	1.1
1,1-Dichloroethene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	0.2 J	0.33 J
1,2-Dichlorobenzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
1,2-Dichloroethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
1,4-Dichlorobenzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	50 U	250 U	2500 U	5000 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	50 U	250 U	2500 U	5000 U	500 U	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 U	5 U
Acetone	ug/L	340 UJ	R	R	R	R	R	2.7 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Benzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Bromodichloromethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	10 U	50 U	500 U	1000 U	100 U	0.19 J	1 U	1 U	1 U	1 U	1 U	0.17 J	1 U
Chlorobenzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Chloroethane	ug/L	20 U	100 U	1000 U	2000 U	200 U	2 U	0.51 J	2 U	2 U	2 U	2 U	2 UJ	2 UJ
Chloroform	ug/L	10 U	50 U	500 U	1000 U	100 U	20	1 U	1 U	38	1 U	1 U	1 U	0.18 J
Chloromethane	ug/L	20 U	100 U	1000 U	2000 U	200 U	2 U	0.4 J	2 UJ	2 UJ	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	10 U	50 U	110 J	1000 U	15 J	1 U	1 U	1 U	1 U	1 U	1 U	0.42 J	1.9
cis-1,3-Dichloropropene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Dibromochloromethane	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Methylene chloride	ug/L	10 UJ	50 UJ	500 UJ	1000 UJ	100 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Tetrachloroethene	ug/L	220	1600	12000	11000	2700	11	1 U	1 U	1 U	0.67 J	0.67 J	1 U	1.4
Toluene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
trans-1,2-Dichloroethene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	10 U	11 J	220 J	170 J	76 J	0.33 J	1 U	1 U	0.23 J	1 U	1 U	7.4	15
Vinyl chloride	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	10 U	50 U	500 U	1000 U	100 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-18 (257.65)	P-18 (267.65)	P-18 (277.65)	P-18 (287.65)	P-18 (302.66)	P-18 (335.80)	P-20 (149.60)	P-20 (159.60)	P-20 (220.76)	P-20 (229.70)	P-20 (309.60)	P-20 (319.60)	P-20 (427.99)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	0.8 J	0.83 J	1.5	1	0.44 J	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,1-Dichloroethane	ug/L	0.87 J	1.1	1.9	1.3	0.59 J	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,1-Dichloroethene	ug/L	0.17 J	0.22 J	0.2 J	0.19 J	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	250 UJ	100 UJ	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	250 UJ	100 UJ	5 UJ
Acetone	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	R	R	R	63 UJ	2.9 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	0.087 J	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Carbon tetrachloride	ug/L	0.22 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	100 U	40 U	2 U
Chloroform	ug/L	0.15 J	0.13 J	0.12 J	0.11 J	1 U	1 U	0.86 J	21	2.3	6.8	50 U	20 U	0.44 J
Chloromethane	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	100 U	40 U	2 U
cis-1,2-Dichloroethene	ug/L	2.1	0.82 J	0.63 J	0.48 J	1 U	0.4 J	1 U	1 U	0.064 J	1 U	4.1 J	2.8 J	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	110 UJ	44 UJ	1.3 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Tetrachloroethene	ug/L	0.79 J	1.2	0.86 J	0.6 J	0.26 J	1	1 U	1 U	14	1.5 U	700	360	6
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Trichloroethene	ug/L	19	5.5 U	4.5 U	4.3 U	1.1 U	10	1 U	0.25 J	0.68 J	1 U	50 U	15 J	1.2
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U	20 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-20 (476.68)	P-23 (150.1)	P-23 (160.1)	P-23 (180.1)	P-23 (239.8)	P-23 (252.0)	P-23 (262.0)	P-23 (286.96)	P-23 (293.50)	P-23 (347.6)	P-24 (77.35)	P-24 (87.35)	P-24 (127.3)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	R	0.54 J	0.56 J	2.5 U	1 U	1 U	0.22 J	1 U	0.19 J	1 U	1 U	1 U	4.6
1,1,2,2-Tetrachloroethane	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	R	1.2	0.86 J	2.5 U	1 U	1 U	0.41 J	1 U	1 U	1 U	1 U	1 U	0.21 J
1,1-Dichloroethene	ug/L	R	1 U	0.31 J	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5
1,2-Dichlorobenzene	ug/L	0.072 J	0.081 J	1 U	2.5 U	1 U	1.6	0.73 J	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 UJ	1 U	1 U	2.5 U	0.16 J	0.18 J	0.44 J	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	R	5 UJ	5 UJ	12 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	R	5 UJ	5 UJ	12 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U
Acetone	ug/L	2.5 UJ	4.5 UJ	R	R	3.6 UJ	3 UJ	R	R	R	R	R	3.2 UJ	R
Benzene	ug/L	0.12 J	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	R	1 U	1 U	2.5 U	1.8 U	1.2 U	1.4 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ
Carbon tetrachloride	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	R	2 U	2 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	0.13 J	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	ug/L	R	2 U	0.36 J	5 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	R	0.3 J	0.15 J	8.5	0.07 J	0.39 J	0.52 J	0.1 J	1 U	1 U	1 U	1 U	0.25 J
cis-1,3-Dichloropropene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	R	1 UJ	1 UJ	2.5 UJ	2 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1.2 UJ	1.2 UJ	1 UJ
Styrene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	9.3 J	2.6	11	7.4	1 U	12	5.2	5.9	5.3	2.2 J	1 U	1 U	1 U
Toluene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	0.63 J	0.22 J	18	86 J	1.4	9.9	9.8	4.6	1.6	0.98 J	1 U	1 U	0.74 J
Vinyl chloride	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U
Xylenes (total)	ug/L	R	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													0.57 J
TIC-1,1,2-Trichlorofluoroethane	ug/L		0.26 J											
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-24 (137.3)	P-24 (147.3)	P-24 (157.3)	P-24 (167.3)	P-24 (177.3)	P-24 (187.3)	P-24 (197.3)	P-24 (207.3)	P-24 (217.3)	P-24 (227.3)	P-24 (237.3)	P-24 (247.3)	P-24 (257.3)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	6.4	7.9	10	0.43 J	5.1	14	13	76	140	61	5.9	64	39
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	0.22 J	1 U	1 U	0.3 J	0.28 J	1.8	3.6 J	1.8 J	1 U	1.7 J	0.82 J
1,1-Dichloroethane	ug/L	0.26 J	0.24 J	0.41 J	1 U	1 U	0.42 J	0.44 J	2	3.7 J	1.8 J	0.34 J	1.6 J	1 J
1,1-Dichloroethene	ug/L	2.1	2.5	2.8	1 U	1.6	4	4.2	26	44	17	1.9	17	12
1,2-Dichlorobenzene	ug/L	0.12 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	0.28 J	1 U	2.5 U	2 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 J	1 U	1 U	2.5 U	2 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	12 U	5 U	12 U	10 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	12 U	5 U	12 U	10 U
Acetone	ug/L	5.6 UJ	R	3.4 UJ	3.3 UJ	R	R	R	R	R	R	R	R	R
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	5 UJ	2.5 UJ	1 UJ	2.5 UJ	2 UJ
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Chloroethane	ug/L	2 U	2 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	5 U	2 UJ	5 UJ	4 UJ
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Chloromethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	5 U	2 U	5 U	4 U
cis-1,2-Dichloroethene	ug/L	0.38 J	0.51 J	0.35 J	1 U	0.15 J	0.45 J	0.5 J	2.3	3.5 J	1.7 J	0.14 J	1.4 J	0.85 J
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	5 UJ	2.5 UJ	1 UJ	2.5 UJ	2 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	0.57 J	1 U	2.5 U	2 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Trichloroethene	ug/L	1.2	2	1.2	1 U	0.63 J	1.9	1.9	6.9	17	5.4	1.1	6.2	4
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2.5 U	1 U	2.5 U	2 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
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ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-24 (267.3)	P-24 (277.3)	P-24 (287.3)	P-24 (297.3)	P-25 (169.7)	P-25 (179.7)	P-25 (179.7) DUP	P-25-275.8)	P-25 (349.4)	P-26 (231.25)	P-26 (241.25)	P-26 (257.2)	P-26 (267.2)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	3.1	0.8 J	0.69 J	1.1 U	0.27 J	0.46 J	0.43 J	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	0.36 J	0.82 J	1 U	0.27 J	0.27 J	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	0.85 J	0.21 J	0.19 J	0.49 J	1 U	1 U	0.16 J	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	ug/L	R	R	R	R	R	R	R	R	R	2.4 UJ	R	R	4.2 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	2 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	0.22 J	0.2 J	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	1 U	1 U	1 U	1 U	0.084 J	0.12 J	0.11 J	1 U	0.25 J	1 U	1 U	1 U	1 U
Chloromethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.29 J	0.26 J	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	0.6 J	1.8	1.8	1 U	0.19 J	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	4.6 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	0.64 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	0.57 J	0.34 J	0.69 J	1.4 J	8	22	21	1 U	2.6	1 U	1 U	0.18 J	1 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-26 (276.53)	P-26 (286.5)	P-26 (295.85)	P-27 (89.75)	P-27 (99.75)	P-27 (99.75) DUP	P-27 (139.75)	P-27 (199.75)	P-28 (87.02)	P-28 (97.02)	P-28 (147.02)	P-28 (207.02)	P-29 (109.5)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	1 U	1.7	0.5 J	1 U	1 U	1.1	0.5 J	1.1	10 U	5 U	1 U	1 U	0.23 J
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1.2	0.37 J	0.2 J	1 U	1 U	1 U	0.3 J	10 U	5 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	1 U	0.79 J	0.22 J	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	25 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	25 U	5 U	5 U	5 U
Acetone	ug/L	R	R	R	2.0 UJ	2 UJ	2 UJ	2 UJ	2 UJ	20 UJ	R	2 UJ	R	2.2 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	0.16 J	1 U	1 U	10 U	5 U	0.27 J	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	10 U	2 U	2 U	2 U
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	23	8.9	1 U
Chloromethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U	10 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	0.32 J	0.14 J	0.12 J	0.12 J	0.35 J	10 U	5 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	12 UJ	7.1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1.2	0.78 J	16	27	24	1.6	1.5	96	72	0.42 J	0.2 J	0.22 J
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Trichloroethene	ug/L	0.26 J	4.3	1.3	1 U	1 U	0.82 J	3.2	5.9	10 U	5 U	1 U	1 U	0.29 J
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L					1.1 JN	1.1 JN	1.0 JN						
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-29 (109.5) DUP	P-29 (310.2)	P-29 (329.85)	P-29 (329.85) DUP	P-29 (360.0)	P-29 (390.0	P-30 (89.55)	P-30 (99.55)	P-30 (204.55)	P-30 (204.55) DUP	P-30 (298.6)	P-30 (298.6) DUP
COMPOUND NAME	Units												
1,1,1-Trichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1.7	50	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
1,1,2-Trichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1	27	1 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	0.2 J	4.1	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
1,2-Dichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	0.091 J	2.5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
1,4-Dichlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	10 U	5 U	5 U	5 U	5 U	5 UJ	12 UJ	5 UJ	5 UJ	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	10 U	5 U	5 U	5 U	5 U	5 UJ	12 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Acetone	ug/L	2.3 UJ	R	R	R	R	R	2 UJ	R	R	R	2 UJ	R
Benzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
Bromodichloromethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
Chloroethane	ug/L	2 U	4 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	5 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	1 U	2.9	1 U	1 U	1 U	1 U	1 U	2.5 U	0.48 J	0.55 J	0.084 J	0.083 J
Chloromethane	ug/L	2 U	4 U	2 U	2 U	2 U	2 U	2 U	5 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	2 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	2.5 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
Dibromochloromethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
Methylene chloride	ug/L	1 UJ	2 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.5 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
Tetrachloroethene	ug/L	1 U	42 J	8.2 J	12 J	2.1 J	0.43 J	2.7	2.5 U	1.5	1.6	1 U	1 U
Toluene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
trans-1,2-Dichloroethene	ug/L	1 U	2 U	1 U	1 U	1 UJ	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	2 UJ	1 UJ	1 UJ	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	0.17 J	0.78 J	1 UJ	1 UJ	1 UJ	1 UJ	1 U	2.5 U	1 U	1 U	1 U	1 U
Vinyl chloride	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2.5 U	1 U	1 U	1 UJ	1 UJ
TIC- Isobutane	ug/L												
TIC- Isopropylbenzene	ug/L												
TIC- Chlorodifluoromethane	ug/L												
TIC- MTBE	ug/L												
TIC-1,1,2-Trichlorofluoroethane	ug/L												
TIC- 1,2,4-Trichlorobenzene	ug/L												
TIC- Substituted naphthalene	ug/L												
TIC- 1,2,3-Trimethylbenzene	ug/L												
TIC- Unknown benzene	ug/L												
TIC- Ethyldimethylbenzene	ug/L												
TIC- Unknown trichlorobenzene	ug/L												
TIC- Ethylmethylbenzene	ug/L												

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
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Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet) / COMPOUND NAME	Units	P-30 (406.55)	P-30 (406.55) DUP	P-31 (190.40)	P-31 (190.40) DUP	P-31 (344.25)	P-31 (351.55)	P-31 (351.55) DUP	P-32 (174.35)	P-32 (174.35) DUP	P-32 (224.35)	P-32 (234.35)	P-32 (241.01)
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1.6 J	2 J	1.7 J
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	2.2	2.3
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.45 J	0.37 J	0.34 J
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 UJ	1 UJ	1 U	0.1 J	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	0.17 J	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	R	R	R	R	R	R	R	R	R	R
Acetone	ug/L	2 UJ	R	13 UJ	R	R	R	2.1 UJ	2.5 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	2 UJ	2 UJ	2 UJ	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	0.16 J	1 UJ
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Chloroform	ug/L	1 U	1 U	4.3 U	4.7 U	1 U	1 U	1 U	22	20	1 U	1 U	1 U
Chloromethane	ug/L	2 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	1.9	0.84 J
Toluene	ug/L	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7.6	12	3.1 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
TIC- Isobutane	ug/L												
TIC- Isopropylbenzene	ug/L												
TIC- Chlorodifluoromethane	ug/L												
TIC- MTBE	ug/L												
TIC-1,1,2-Trichlorofluoroethane	ug/L												
TIC- 1,2,4-Trichlorobenzene	ug/L												
TIC- Substituted naphthalene	ug/L					1.2 JN							
TIC- 1,2,3-Trimethylbenzene	ug/L												
TIC- Unknown benzene	ug/L												
TIC- Ethyldimethylbenzene	ug/L												
TIC- Unknown trichlorobenzene	ug/L												
TIC- Ethylmethylbenzene	ug/L												

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Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-32 (251.77)	P-32 (259.35)	P-32 (269.35)	P-32 (279.35)	P-32 (488.9)	P-32 (488.9) DUP	P-33 (159.6)	P-33 (169.6)	P-33 (169.6) DUP	P-33 (179.6)	P-33 (189.60)	P-33 (198.10)	P-33 (214.60)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	2.1 J	2.2 J	1 U	1 UJ	1 U	1 UJ	1.1	3.3	2.9	1.9	1.5	1.6	0.23 J
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	2.6	3	2	1.2	1 U	1 U	0.94 J	3.3	2.9	1.9	1.6	1.6	0.21 J
1,1-Dichloroethene	ug/L	0.34 J	0.58 J	0.2 J	1 U	1 U	1 UJ	0.43 J	0.95 J	1.5	1 U	0.39 J	0.6 J	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.26 J	1 U	0.12 J	0.099 J	0.1 J	0.11 J
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 UJ	5 UJ	5 U	5 UJ	5 U	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	R	R	5 U	R	5 U	R	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	R	2.1 UJ	R	2.5 UJ	R	3 UJ	R
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	ug/L	R	R	R	R	R	2 UJ	1 J	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 UJ	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	R	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	1 U	1 U	1 UJ	1 U	1 U	1 U	0.083 J	0.3 J	0.24 J	0.17 J	0.14 J	0.12 J	1 U
Chloromethane	ug/L	2 UJ	2 UJ	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	0.9 J	0.58 J	0.18 J	0.22 J	1 U	1 UJ	0.22 J	0.56 J	0.51 J	0.33 J	0.28 J	0.25 J	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	3.9 U	2.5 U	3.4 U	2.2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 UJ	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
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TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-33 (224.60)	P-34 (139.55)	P-34 (224.55)	P-34 (234.55)	P-34 (244.55)	P-34 (244.55) DUP	P-34 (254.55)	P-34 (264.55)	P-34 (284.55)	P-34 (294.55)	P-34 (304.50)	P-34 (324.50)	P-34 (334.50)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	1 U	0.33 J	1.8 J	2 J	1.8 J	2.5 J	3.1 J	3.9 J	3.5 J	5.2 J	4.5 J	4.5	3.1
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1.1	1.3	1.4	1.8	2.5	3	3	4.5	4.6	3.9	3.5
1,1-Dichloroethene	ug/L	1 U	1 U	0.33 J	0.24 J	0.54 J	0.63 J	0.79 J	0.52 J	1.1	0.81 J	0.2 J	1.5	0.69 J
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	0.1 J	1 U	1 U	1 U	1 U	1 U	0.15 J	0.13 J	0.29 J	0.46 J	0.28 J	0.27 J	0.25 J
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.13 J	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U
Acetone	ug/L	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2.4 UJ	2 UJ	2.2 UJ	2 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	0.093 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.15 J	0.13 J
Chloromethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	0.33 J	1.3	1.7	1.2	1.6	1.4	1.5	1.3	1.9	1.6	1.5	0.28 J
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	1 U	1 U	3.2 U	1.9 U	1.7 U	2.2 U	5.4 U	3.5 U	11	15	9.3	12	6 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-35 (117.2)	P-35 (177.2)	P-35 (177.2) DUP	P-35 (332.2)	P-36 (136.7)	P-36 (156.7)	P-36 (282.0)	P-37 (119.95)	P-37 (284.4)	P-37 (304.8)	P-38 (116.7)	P-38 (146.7)	P-38 (186.3)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	0.35 J	5 U	0.36 J	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	0.83 J
1,1,2,2-Tetrachloroethane	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	R	5 U	2 U	1 U	7.2	10 U	10 U	1 U	50 U	5 U	1 U	1 U	0.49 J
1,1-Dichloroethene	ug/L	R	5 U	2 U	1 U	0.66 J	10 U	10 U	1 U	50 U	5 U	1 U	1 U	0.61 J
1,2-Dichlorobenzene	ug/L	R	5 U	2 U	1 U	8	1.9 J	10 U	1 U	45 J	5 U	1 U	1 U	0.17 J
1,2-Dichloroethane	ug/L	R	5 U	2 U	1 U	0.15 J	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	R	25 U	10 U	5 U	5 UJ	50 UJ	50 UJ	5 UJ	250 UJ	25 UJ	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	R	25 U	10 U	5 U	5 UJ	50 UJ	50 UJ	5 U	250 UJ	25 UJ	5 U	5 U	5 U
Acetone	ug/L	R	R	R	2.4 J	R	R	24 UJ	R	R	12 UJ	R	2 UJ	R
Benzene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Bromoform	ug/L	R	5 UJ	2 UJ	1 U	1 U	10 UJ	10 U	1 UJ	50 U	5 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	R	5 U	2 U	1 U	1.2 U	10 U	10 U	1.6 U	50 U	5 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Chlorobenzene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Chloroethane	ug/L	R	10 U	4 U	2 U	2 UJ	20 UJ	20 UJ	2 UJ	100 UJ	10 UJ	2 U	2 U	2 UJ
Chloroform	ug/L	R	5 U	2 U	2.9	1 UJ	10 U	1.9 J	1 U	50 U	5 U	1 U	1 U	0.13 J
Chloromethane	ug/L	R	10 U	4 U	2 U	2 U	20 U	20 U	2 U	100 U	10 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	0.19 J	5.5	5.8	1 U	33	10 U	3.1 J	0.47 J	13 J	1.2 J	1 U	0.13 J	0.23 J
cis-1,3-Dichloropropene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Ethylbenzene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Methylene chloride	ug/L	5.8 UJ	6.8 UJ	3.1 UJ	1 UJ	1 UJ	14 UJ	18 UJ	1 UJ	99 UJ	8.5 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 UJ	1 U	2 U	1.2 U	20 J	240	10 UJ	16 J	1100	70	8.5	16	28 J
Toluene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	R	5 U	2 U	1 U	0.26 J	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	R	5 U	2 U	1 U	1 U	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Trichloroethene	ug/L	3.1 J	66	64	1 U	27 J	58	160 J	14 J	540	100	0.25 J	1.5	0.67 J
Vinyl chloride	ug/L	R	5 U	2 U	1 U	2.6	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
Xylenes (total)	ug/L	R	5 U	2 U	1 U	0.51 J	10 U	10 U	1 U	50 U	5 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-38 (207.5)	P-38 (216.3)	P-38 (260.7)	P-38 (381.3)	P-42 (202.7)	P-42 (217.2)	P-42 (276.4)	P-42 (329.8)	P-42 (354.6)	P-43 (119.88)	P-43 (129.88)	P-43 (246.68)	P-43 (294.85)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	0.32 J	0.95 J	0.32 J	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	0.92 J	5 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
1,1-Dichloroethane	ug/L	0.68 J	2.4	0.56 J	1 U	5 U	100 UJ	20 UJ	10 UJ	10 UJ	1 U	50 U	2.1 J	5 U
1,1-Dichloroethene	ug/L	0.17 J	0.76 J	0.19 J	1 U	5 U	100 U	20 U	10 U	10 U	0.47 J	25 J	0.94 J	5 U
1,2-Dichlorobenzene	ug/L	0.68 J	1.7	1 U	1 U	5 U	17 J	20 U	10 U	10 U	1 U	50 U	4.3 J	1.9 J
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	25 UJ	500 UJ	100 UJ	50 UJ	50 UJ	5 U	250 U	25 U	25 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 U	5 U	25 U	500 UJ	100 UJ	50 UJ	50 UJ	5 U	250 U	25 U	25 U
Acetone	ug/L	R	2 UJ	R	2.5 UJ	R	R	R	R	R	2 UJ	R	R	R
Benzene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 UJ	50 UJ	5 U	5 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Chloroethane	ug/L	2 UJ	2 UJ	2 UJ	2 U	10 U	200 U	40 U	20 U	20 U	2 U	100 UJ	10 UJ	10 UJ
Chloroform	ug/L	0.074 J	0.22 J	0.088 J	1 U	4.4 J	100 U	8.3 J	4 J	10 U	1 U	50 U	0.47 J	0.73 J
Chloromethane	ug/L	2 U	2 U	2 U	2 U	10 U	200 U	40 U	20 U	20 U	2 U	100 U	10 U	10 U
cis-1,2-Dichloroethene	ug/L	0.64 J	1.8 J	1 UJ	1 U	5 U	100 U	20 U	0.93 J	1.1 J	7.8	780	41 J	6.4 J
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	2.4 UJ	5 UJ	160 UJ	94 UJ	42 UJ	41 UJ	1 UJ	50 UJ	6.3 U	6.1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Tetrachloroethene	ug/L	4.8 J	23 J	1.5 J	1.9	79 J	2000	250	130	180	14	540	100 J	84 J
Toluene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1 U	50 U	5 U	5 U
Trichloroethene	ug/L	9.2 J	30 J	1.3 J	10	0.96 J	24 J	5.2 J	17 J	8.2 J	27	1100	72 J	18 J
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	10 U	10 U	1.3	140	2.7 J	5 U
Xylenes (total)	ug/L	1 U	1 U	1 U	1 U	5 U	100 U	20 U	1.3 J	10 U	1 U	50 U	1.5 J	5 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
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Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-44 (99.3)	P-44 (149.8)	P-44 (215.5)	P-44 (229.2)	P-44 (239.85)	P-44 (249.85)	P-44 (257.1)	P-44 (339.8)	P-45 (81.25)	P-45 (131.25)	P-45 (151.25)	P-45 (207.25)	P-45 (281.65)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	20 U	2 J	13	55	43	6.2	2.9	25 U	1 U	2 U	1 U	1 U	20 U
1,1,2,2-Tetrachloroethane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
1,1,2-Trichloroethane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
1,1-Dichloroethane	ug/L	20 U	2.1 J	1.9 J	2.4 J	3.1 J	0.59 J	1 U	25 U	1 U	3.9	1 U	1 U	20 U
1,1-Dichloroethene	ug/L	20 U	3.6 J	8.9	32	24	3.2	1.5	25 U	1 U	2 U	1 U	1 U	20 U
1,2-Dichlorobenzene	ug/L	20 U	330	150	28	54	7.3	2.1	25 U	1 U	2 U	1 U	1 U	20 U
1,2-Dichloroethane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	2.3	1 U	20 U
1,2-Dichloropropane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
1,3-Dichlorobenzene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
1,4-Dichlorobenzene	ug/L	20 U	2.9 J	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	100 U	25 U	25 U	50 U	50 U	5 U	5 U	120 U	5 UJ	10 UJ	5 UJ	5 UJ	100 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	100 UJ	25 UJ	25 U	50 U	50 U	5 U	5 U	120 U	5 U	10 U	5 U	5 U	100 UJ
Acetone	ug/L	71 UJ	10 UJ	R	R	R	2.4 UJ	2 UJ	R	R	R	R	R	64 UJ
Benzene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Bromodichloromethane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Bromoform	ug/L	20 UJ	5 UJ	5 UJ	10 UJ	10 UJ	1 UJ	1 UJ	25 UJ	1 U	2 U	1 U	1 U	20 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	20 U	5 U	5 U	10 U	10 U	1.2 U	1.6 U	25 U	3.9 U	2 U	1.3 U	1 U	20 U
Carbon tetrachloride	ug/L	20 U	5 U	5 U	9.1 J	7.4 J	1	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Chlorobenzene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Chloroethane	ug/L	40 UJ	10 UJ	10 U	20 U	20 U	2 U	2 U	50 U	2 U	4 U	2 U	2 U	40 U
Chloroform	ug/L	20 U	5 U	0.42 J	10 U	0.75 J	0.28 J	0.11 J	25 U	1 U	2 U	1 U	2.6	20 U
Chloromethane	ug/L	40 U	10 U	10 U	20 U	20 U	2 U	2 U	50 U	2 UJ	4 U	2 UJ	2 UJ	40 U
cis-1,2-Dichloroethene	ug/L	14 J	500	210	450	470	31 J	3	5.6 J	1 U	12	0.12 J	0.14 J	3.7 J
cis-1,3-Dichloropropene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Dibromochloromethane	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Ethylbenzene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Methylene chloride	ug/L	24 UJ	5.3 UJ	5 UJ	10 UJ	10 UJ	1 UJ	1 UJ	25 UJ	1 UJ	2 UJ	1 UJ	1 UJ	46 UJ
Styrene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Tetrachloroethene	ug/L	69 J	280	47 J	57 J	84 J	25 J	12 J	230	1 U	5.9	2.4	14	25
Toluene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
trans-1,2-Dichloroethene	ug/L	20 U	3.5 J	5 U	10 U	10 U	0.23 J	1 U	25 U	1 U	0.36 J	1 U	1 U	20 U
trans-1,3-Dichloropropene	ug/L	20 U	5 U	5 U	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
Trichloroethene	ug/L	490 J	450	110	180	190	30	10	340	0.76 J	52	1.9	1.7	330
Vinyl chloride	ug/L	20 U	37	5 U	10 U	7.7 J	3.7	1 U	25 U	1 U	3	1 U	1 U	20 U
Xylenes (total)	ug/L	20 U	5 U	3.6 J	10 U	10 U	1 U	1 U	25 U	1 U	2 U	1 U	1 U	20 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L		0.91 J											
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-45 (366.39)	P-46 (139.60)	P-46 (275.42)	P-47 (147.1)	P-47 (177.0)	P-47 (197.0)	P-47 (205.7)	P-49 (114.3)	P-49 (124.3)	P-49 (167.3)	P-49 (269.3)	P-49 (284.3)	P-49 (340.8)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	R	1 U	2 U	5 U	0.49 J	5 U	0.65 J	0.22 J	5 U	1 U	2 U	1 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 UJ
1,1,2-Trichloroethane	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 UJ	0.33 J	0.06 J	2 UJ	1 UJ	5 UJ
1,1-Dichloroethane	ug/L	R	1 U	2 U	5 U	1.1	1.2 J	2.3	1 U	5 U	1 U	2 UJ	1 UJ	5 U
1,1-Dichloroethene	ug/L	R	1 U	2 U	5 U	0.37 J	5 U	0.43 J	1 U	5 U	1 U	2 U	1 U	5 U
1,2-Dichlorobenzene	ug/L	R	0.17 J	2 U	5 U	1 U	9.4	1 U	1 U	5 U	1 U	1.9 J	1.1	5 U
1,2-Dichloroethane	ug/L	R	0.13 J	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
1,2-Dichloropropane	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
1,3-Dichlorobenzene	ug/L	R	0.13 J	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
1,4-Dichlorobenzene	ug/L	R	0.15 J	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	R	5 U	10 UJ	25 U	5 U	25 U	5 U	5 U	25 U	5 U	10 U	5 U	25 U
4-Methyl-2-pentanone (MIBK)	ug/L	R	5 U	10 UJ	25 U	5 U	25 U	5 U	5 UJ	25 UJ	5 UJ	10 UJ	5 UJ	25 UJ
Acetone	ug/L	2.7 UJ	2.9 UJ	R	R	2.6 UJ	10 UJ	2.5 UJ	2 UJ	10 UJ	2 UJ	5.2 UJ	2.1 UJ	R
Benzene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Bromodichloromethane	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Bromoform	ug/L	R	1 UJ	2 U	5 UJ	1 UJ	5 UJ	1 UJ	1 U	5 U	1 U	2 U	1 U	5 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Carbon tetrachloride	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Chlorobenzene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Chloroethane	ug/L	R	2 UJ	4 UJ	10 U	2 U	10 UJ	2 U	2 U	10 U	2 U	4 U	2 U	10 U
Chloroform	ug/L	R	0.1 J	3.6 J	5 U	1 U	5 U	0.12 J	1 UJ	0.41 J	12 J	2.7	0.7 J	1.2 J
Chloromethane	ug/L	R	2 U	4 U	10 U	2 U	10 U	2 U	2 UJ	10 UJ	2 UJ	4 U	2 U	10 U
cis-1,2-Dichloroethene	ug/L	R	1 U	0.7 J	5 U	1 U	2.4 J	1 U	1 U	5.5	1 U	2 U	0.73 J	2.3 J
cis-1,3-Dichloropropene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Dibromochloromethane	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	0.45 J	1 U	2 U	1 U	5 U
Ethylbenzene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Methylene chloride	ug/L	R	1 UJ	2.3 UJ	5 UJ	1 UJ	5 UJ	1 UJ	1 UJ	5 UJ	1 UJ	2 UJ	1 UJ	5 UJ
Styrene	ug/L	R	1 U	2 U	5 U	1 U	5 U	0.086 J	1 U	5 U	1 U	2 U	1 U	5 U
Tetrachloroethene	ug/L	14 J	0.9 J	33 J	110 J	9.1 J	91	9.2 J	8.6	150	0.38 J	54 J	17 J	150 J
Toluene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
trans-1,2-Dichloroethene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
trans-1,3-Dichloropropene	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 UJ	5 UJ	1 UJ	2 UJ	1 UJ	5 UJ
Trichloroethene	ug/L	1.5 J	1 U	43 J	5 U	1.3 U	120	11	1 U	5 U	1 U	18 J	30 J	91 J
Vinyl chloride	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	1 U	5 U
Xylenes (total)	ug/L	R	1 U	2 U	5 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U	0.1 J	5 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L												0.37 J	1.88 J
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

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R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-49 (340.8) DUP	P-50 (109.90)	P-50 (119.90)	P-50 (129.90)	P-50 (139.90)	P-50 (149.90)	P-50 (249.90)	P-50 (267.44)	P-50 (309.90)	P-50 (342.60)	P-51 (117.78)	P-51 (127.78)	P-51 (187.78)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	0.9 J	0.45 J	1.4 J	10 U	1.9 J	1.7 J	0.36 J
1,1,2,2-Tetrachloroethane	ug/L	2 UJ	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 UJ	5 U	2.5 U	1 UJ
1,1,2-Trichloroethane	ug/L	2 UJ	10 UJ	100 UJ	100 UJ	100 UJ	100 UJ	1 U	1 U	2.5 U	10 UJ	5 UJ	2.5 UJ	1 UJ
1,1-Dichloroethane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	0.24 J	0.52 J	2.5 U	10 U	8.2	5.9	0.65 J
1,1-Dichloroethene	ug/L	2 U	3.6 J	34 J	26 J	100 U	100 U	0.48 J	0.3 J	0.42 J	10 U	1.1 J	0.82 J	0.43 J
1,2-Dichlorobenzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	2.1	3.6	14	10 U	5 U	2.5 U	7.9
1,2-Dichloroethane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	2.4	1 U	2.5 U	10 U	5 U	2.5 U	1 U
1,2-Dichloropropane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
1,3-Dichlorobenzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	0.55 J	10 U	5 U	2.5 U	1 U
1,4-Dichlorobenzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	0.12 J	0.9 J	10 U	5 U	2.5 U	0.19 J
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	10 U	50 U	500 U	500 U	500 U	500 U	5 U	5 U	12 U	50 U	25 U	12 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	10 UJ	50 UJ	500 UJ	500 UJ	500 UJ	500 UJ	5 U	5 U	12 U	50 UJ	25 UJ	12 UJ	5 UJ
Acetone	ug/L	4 UJ	R	R	R	R	R	2 UJ	R	R	R	R	5 UJ	2 UJ
Benzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Bromodichloromethane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Bromoform	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Carbon tetrachloride	ug/L	0.49 J	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Chlorobenzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Chloroethane	ug/L	4 U	20 U	200 U	200 U	200 U	200 U	2 U	2 U	5 U	20 U	10 U	5 U	2 U
Chloroform	ug/L	1 J	0.71 J	7.4 J	7.6 J	100 UJ	7.2 J	0.46 J	0.6 J	2.4 J	1.1 J	0.41 J	0.18 J	0.14 J
Chloromethane	ug/L	4 U	20 UJ	200 UJ	200 UJ	200 UJ	200 UJ	2 U	2 U	5 U	20 U	10 UJ	5 UJ	2 U
cis-1,2-Dichloroethene	ug/L	2.3	14	1500	1700	1200	1500	7.2	18	2.5 U	10 U	5.2	5.2	30
cis-1,3-Dichloropropene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Dibromochloromethane	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Ethylbenzene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Methylene chloride	ug/L	2 UJ	10 UJ	100 UJ	100 UJ	100 UJ	100 UJ	1 UJ	1 UJ	3.1 UJ	10 UJ	5 UJ	2.5 UJ	1 UJ
Styrene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
Tetrachloroethene	ug/L	62 J	25	320	990	300	470	20 J	34 J	59 J	110	94	62	27 J
Toluene	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	2.5 U	10 U	5 U	2.5 U	1 U
trans-1,2-Dichloroethene	ug/L	2 U	2.3 J	100 U	100 U	100 U	100 U	1 U	0.21 J	2.5 U	10 U	5 U	2.5 U	1 U
trans-1,3-Dichloropropene	ug/L	2 UJ	10 UJ	100 UJ	100 UJ	100 UJ	100 UJ	1 U	1 U	2.5 U	10 UJ	5 UJ	2.5 UJ	1 UJ
Trichloroethene	ug/L	38 J	10 U	240 U	600 U	260 U	160 U	15 J	29 J	26 J	34 UJ	35 U	34	28 J
Vinyl chloride	ug/L	2 U	110	150	38 J	54 J	52 J	1 U	1 U	2.5 U	10 U	5 U	2.5 U	0.38 J
Xylenes (total)	ug/L	2 U	10 U	100 U	100 U	100 U	100 U	1 U	1 U	0.88 J	10 U	5 U	2.5 U	0.2 J
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L	1.6 J												0.51 J
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
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JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
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Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-51 (246.75)	P-51 (301.12)	P-51 (321.00)	P-51 (327.85)	P-52 (170.0)	P-53 (146.40)	P-53 (266.35)	P-53 (331.10)	P-53 (340.05)	P-53 (426.75)	P-53 (480.90)	P-54 (107.55)	P-54 (267.95)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	10 U	1 U	10 U	50 U	1 U	100 UJ	1 UJ	2 UJ	10 UJ	1 U	2 U	50 U	R
1,1,2,2-Tetrachloroethane	ug/L	10 UJ	1 U	10 U	50 U	1 UJ	100 U	1 U	2 U	10 U	1 U	2 U	50 UJ	R
1,1,2-Trichloroethane	ug/L	10 UJ	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
1,1-Dichloroethane	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
1,1-Dichloroethene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
1,2-Dichlorobenzene	ug/L	9.2 J	4.3	10 U	50 U	1.6 U	100 U	1 U	0.46 J	10 U	1 U	0.32 J	2700 J	6.3 UJ
1,2-Dichloroethane	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	0.091 J	0.2 J	50 U	1.2 J
1,2-Dichloropropane	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
1,3-Dichlorobenzene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
1,4-Dichlorobenzene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	33 J	R
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	50 U	5 U	50 U	250 U	5 UJ	500 U	5 U	10 UJ	50 UJ	5 U	10 U	250 UJ	R
4-Methyl-2-pentanone (MIBK)	ug/L	50 UJ	5 U	50 U	250 U	5 UJ	500 U	5 U	10 U	50 U	5 U	10 U	250 UJ	R
Acetone	ug/L	R	3.2 UJ	20 UJ	100 UJ	R	R	R	R	R	2.7 UJ	5.2 UJ	160 UJ	10 UJ
Benzene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Bromodichloromethane	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Bromoform	ug/L	10 U	1 UJ	10 UJ	50 UJ	1 UJ	100 UJ	1 UJ	2 UJ	10 UJ	1 UJ	2 UJ	50 UJ	R
Bromomethane	ug/L	R	2 U	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Carbon tetrachloride	ug/L	10 U	1 U	10 U	50 U	1 UJ	100 U	1 U	2 U	10 U	1 U	2 U	50 UJ	R
Chlorobenzene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Chloroethane	ug/L	20 U	2 UJ	20 UJ	100 UJ	2 UJ	200 U	2 U	4 U	20 U	2 U	4 U	100 UJ	R
Chloroform	ug/L	10 U	0.32 J	0.99 J	50 U	2	100 U	15	5.7	10 U	1 U	2 U	50 UJ	R
Chloromethane	ug/L	20 U	R	20 U	100 U	2 U	200 U	2 U	0.84 J	20 U	2 U	4 U	100 U	R
cis-1,2-Dichloroethene	ug/L	19	1.4	10 U	50 U	1 U	88 J	1 U	2 U	10 U	1 U	0.54 J	1100	85 J
cis-1,3-Dichloropropene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Dibromochloromethane	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Ethylbenzene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Methylene chloride	ug/L	10 UJ	1 UJ	15 UJ	68 UJ	1 UJ	100 UJ	1 UJ	2 UJ	10 UJ	1 UJ	2 UJ	100 UJ	5 UJ
Styrene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Tetrachloroethene	ug/L	100	18	120	340	0.24 J	1500	5.1	53	170	1.1	82 J	290 J	97 J
Toluene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
trans-1,2-Dichloroethene	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
trans-1,3-Dichloropropene	ug/L	10 UJ	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Trichloroethene	ug/L	100	17	160	590	1 UJ	100 U	1 U	17	10 U	1 U	2 U	470 J	97 J
Vinyl chloride	ug/L	3.5 J	1 U	10 U	50 U	1 U	100 U	1 U	2 U	10 U	1 U	2 U	50 U	R
Xylenes (total)	ug/L	10 U	1 U	10 U	50 U	1 U	100 U	1 U	0.31 J	10 U	1 U	2 U	50 U	R
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L				20.54 J									
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-54 (276.4)	P-54 (351.25)	P-55 (154.55)	P-55 (164.55)	P-55 (174.55)	P-55 (186.15)	P-55 (264.40)	P-55 (271.00)	P-55 (311.95)	P-56 (126.55)	P-58 (159.65)	P-58 (274.65)
COMPOUND NAME	Units												
1,1,1-Trichloroethane	ug/L	4.8	0.17 J	1 U	1 UJ	1 UJ	0.25 J	6.1 J	8.4 J	10 U	1 U	1 U	2.5 U
1,1,2,2-Tetrachloroethane	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 UJ	2.5 UJ
1,1,2-Trichloroethane	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
1,1-Dichloroethane	ug/L	2.5 U	1 U	1 U	1.2	1.3	3.1	5.2 J	5.5 J	10 U	1 U	1 U	2.5 U
1,1-Dichloroethene	ug/L	2.3 J	1 U	1 U	13	20	28	23	24	10 U	1 U	1 U	2.5 U
1,2-Dichlorobenzene	ug/L	5.6 U	0.071 J	1 U	200 J	56 J	96 J	19	22	10 U	1 U	1 U	2.5 U
1,2-Dichloroethane	ug/L	0.68 J	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
1,2-Dichloropropane	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
1,3-Dichlorobenzene	ug/L	2.5 U	1 U	1 U	1.6	1.5	1.7	10 U	10 U	10 U	1 U	1 U	0.54 J
1,4-Dichlorobenzene	ug/L	2.5 U	1 U	1 U	9.8	6.9	6.9	10 U	10 U	10 U	1 U	1 U	0.58 J
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	12 U	5 U	5 U	5 U	5 U	5 U	50 UJ	50 UJ	50 U	5 U	5 UJ	12 U
4-Methyl-2-pentanone (MIBK)	ug/L	12 U	5 U	R	R	R	R	R	R	50 U	5 U	5 UJ	12 UJ
Acetone	ug/L	5.3 UJ	R	R	12 UJ	340 UJ	130 UJ	R	700 UJ	21 UJ	2.1 UJ	R	R
Benzene	ug/L	2.5 U	1 U	1 U	2.2	2.4	1.8	10 U	10 U	10 U	1 U	1 U	2.5 U
Bromodichloromethane	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
Bromoform	ug/L	2.5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	10 UJ	10 UJ	10 U	1 U	1 UJ	2.5 UJ
Bromomethane	ug/L	R	R	R	200 UJ	100 UJ	100 UJ	20 UJ	20 UJ	R	R	R	R
Carbon disulfide	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 UJ	10 UJ	10 U	1 U	1 U	2.5 U
Carbon tetrachloride	ug/L	2.5 U	1 U	1 U	1 UJ	1 UJ	1 UJ	10 U	10 U	10 U	1 U	1 UJ	2.5 UJ
Chlorobenzene	ug/L	2.5 U	1 U	1 U	150 J	230 J	150 J	10 U	10 U	10 U	1 U	1 U	2.5 U
Chloroethane	ug/L	5 UJ	2 U	2 UJ	2 UJ	2 UJ	2 UJ	20 UJ	20 UJ	20 UJ	2 UJ	2 UJ	5 UJ
Chloroform	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1.1 U	3.4 J	3.9 J
Chloromethane	ug/L	5 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	20 UJ	20 UJ	20 UJ	2 UJ	2 U	5 U
cis-1,2-Dichloroethene	ug/L	25	1.1	17	1200 J	130 J	570 J	46	31	10 U	1 U	1 U	2.5 U
cis-1,3-Dichloropropene	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
Dibromochloromethane	ug/L	2.5 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	10 UJ	10 UJ	10 U	1 U	1 U	2.5 U
Ethylbenzene	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
Methylene chloride	ug/L	16 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	12 UJ	10 UJ	15 UJ	1 UJ	1 UJ	2.5 UJ
Styrene	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
Tetrachloroethene	ug/L	70 J	190	1 U	8.1	23	42 J	1300 J	1200 J	81	0.17 J	1 UJ	43 J
Toluene	ug/L	2.5 U	1 U	1 U	1 U	1 UJ	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
trans-1,2-Dichloroethene	ug/L	2.5 U	0.19 J	1 U	5.3	3.7	7.6	10 U	10 U	10 U	1 U	1 U	2.5 U
trans-1,3-Dichloropropene	ug/L	2.5 U	1 U	1 U	1 U	1 U	1 U	10 U	10 U	10 U	1 U	1 U	2.5 U
Trichloroethene	ug/L	51	36	7.2	90 J	56 J	230 J	590 J	630 J	200	1 U	1 UJ	2.5 UJ
Vinyl chloride	ug/L	2.5 U	1 U	3.2	530 J	630 J	370 J	10 UJ	10 UJ	10 U	1 U	1 U	2.5 U
Xylenes (total)	ug/L	2.5 U	1 U	1 U	18	3.6	9.3	10 U	10 U	10 U	1 U	1 U	2.5 U
TIC- Isobutane	ug/L												
TIC- Isopropylbenzene	ug/L												
TIC- Chlorodifluoromethane	ug/L												
TIC- MTBE	ug/L												
TIC-1,1,2-Trichlorofluoroethane	ug/L												
TIC- 1,2,4-Trichlorobenzene	ug/L												
TIC- Substituted naphthalene	ug/L												
TIC- 1,2,3-Trimethylbenzene	ug/L				2.9 JN								
TIC- Unknown benzene	ug/L				2.4 JN	2.7 JN	1.9 JN						
TIC- Ethyldimethylbenzene	ug/L				3.5 JN		1.0 JN						
TIC- Unknown trichlorobenzene	ug/L				1.0 JN								
TIC- Ethylmethylbenzene	ug/L						3.4 JN						

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
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R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-C (89.60)	P-C (99.60)	P-C (159.6)	P-C (169.6)	P-C (320.3)	P-C (330.3)	P-C (337.5)	P-C (34.7)	P-C (364.5)	P-C (374.5)	P-C (384.5)	P-C (394.5)	P-D (77.05)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	50 U	5 U	0.31 J	0.26 J	1 U	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1,2,2-Tetrachloroethane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1,2-Trichloroethane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1-Dichloroethane	ug/L	50 U	5 U	0.31 J	0.37 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1-Dichloroethene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,2-Dichlorobenzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,2-Dichloroethane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,2-Dichloropropane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,3-Dichlorobenzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,4-Dichlorobenzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	250 U	25 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 U	50 U
4-Methyl-2-pentanone (MIBK)	ug/L	250 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U
Acetone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Benzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Bromodichloromethane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Bromoform	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	50 U	5 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	10 U
Carbon tetrachloride	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Chlorobenzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Chloroethane	ug/L	100 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U
Chloroform	ug/L	50 U	5 U	1 U	1 U	2.1	1.4	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Chloromethane	ug/L	100 UJ	10 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	20 U
cis-1,2-Dichloroethene	ug/L	50 U	5 U	0.67 J	0.15 J	0.09 J	0.3 J	3	0.16 J	0.46 J	1 U	1 U	1 U	10 U
cis-1,3-Dichloropropene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Dibromochloromethane	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Ethylbenzene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Methylene chloride	ug/L	50 UJ	5 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.4 UJ	1.4 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	10 UJ
Styrene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Tetrachloroethene	ug/L	780	79	3.5	2.5	9.4	1.7	3.5	1.1 U	2.3	1 U	1 U	1 U	240
Toluene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
trans-1,2-Dichloroethene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
trans-1,3-Dichloropropene	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Trichloroethene	ug/L	50 U	5 U	21	4.6	1.1	4	43	3.6	11	1.8	0.3 J	1 U	4.2 J
Vinyl chloride	ug/L	50 U	5 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	10 U
Xylenes (total)	ug/L	50 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

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ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-D (87.05)	P-D (97.05)	P-D (107.05)	P-D (117.05)	P-D (127.05)	P-D (137.05)	P-D (147.05)	P-D (257.)	P-D (290.1)	P-E (78.57)	P-E (88.57)	P-E (98.57)	P-E-128.57)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	1 U	0.44 J	0.61 J	2.1	0.4 J	1 U	0.37 J	0.35 J	1 U	1 U	1 U	2.5 U	100 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,1,2-Trichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,1-Dichloroethane	ug/L	1 U	2 U	1 U	0.25 J	0.49 J	0.94 J	0.5 J	0.31 J	1 U	1 U	1 U	2.5 U	100 U
1,1-Dichloroethene	ug/L	1 U	2 U	1 U	0.36 J	0.17 J	0.25 J	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,2-Dichlorobenzene	ug/L	0.18 J	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,2-Dichloroethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,2-Dichloropropane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,3-Dichlorobenzene	ug/L	0.13 J	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
1,4-Dichlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	12 U	500 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	12 U	500 U
Acetone	ug/L	R	R	R	R	R	3.1 UJ	R	2.2 UJ	2.1 UJ	R	R	R	R
Benzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Bromodichloromethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Bromoform	ug/L	1.6 U	2 U	1 U	1 U	1.2 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	2 U	1 U	1.3 U	1.2 U	4.1 U	1 U	1 U	1 U	0.86 J	1.5	2.5 U	100 U
Carbon tetrachloride	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Chlorobenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Chloroethane	ug/L	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U	200 U
Chloroform	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1.6 U	1 U	1 U	2.5 U	100 U
Chloromethane	ug/L	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U	200 UJ
cis-1,2-Dichloroethene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	0.27 J	1 U	0.18 J	1 U	1.6	2.5 U	100 U
cis-1,3-Dichloropropene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Dibromochloromethane	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Ethylbenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Methylene chloride	ug/L	1 UJ	2 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.5 UJ	110 UJ
Styrene	ug/L	0.086 J	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Tetrachloroethene	ug/L	25	40	8.8 J	1.6	0.77 J	3.4	1.4	5.6	31	1.3	4.1	58	1700
Toluene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
trans-1,2-Dichloroethene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
trans-1,3-Dichloropropene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Trichloroethene	ug/L	0.28 J	0.35 J	0.49 J	1 U	1 U	0.22 J	3.6	2.4	6.6	1 U	1.4	0.51 J	100 U
Vinyl chloride	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Xylenes (total)	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
JN = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-E (138.57)	P-E (148.57)	P-E (158.57)	P-E (292.28)	P-E (301.23)	P-E (327.15)	P-E (332.85)	P-F (76.46)	P-F (86.48)	P-H (106.8)	P-H (116.8)	P-H (136.8)	P-H (146.8)
COMPOUND NAME	Units													
1,1,1-Trichloroethane	ug/L	100 U	1 U	1 U	0.17 J	0.19 J	1 U	1 U	100 U	20 U	10 U	0.4 J	0.32 J	0.55 J
1,1,2,2-Tetrachloroethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	0.8 J	1.3
1,1-Dichloroethene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	0.17 J
1,2-Dichlorobenzene	ug/L	100 U	1 U	1 U	0.12 J	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	ug/L	500 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	100 U	50 UJ	5 U	5 UJ	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	500 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	100 U	50 U	5 U	5 U	5 U
Acetone	ug/L	R	R	R	12 UJ	14 UJ	R	R	200 UJ	R	R	R	R	R
Benzene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Bromoform	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 UJ	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	100 U	1 U	1 U	0.56 J	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Chlorobenzene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Chloroethane	ug/L	200 U	2 U	2 U	2 U	2 U	2 U	2 U	200 U	40 U	20 U	2 U	2 U	2 U
Chloroform	ug/L	100 U	14	14	3.3 U	2.3 U	1.1 U	1.6 U	100 U	20 U	10 U	1 U	0.15 J	0.2 J
Chloromethane	ug/L	200 UJ	2 UJ	2 UJ	2 U	2 U	2 U	2 U	200 UJ	40 UJ	20 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	100 U	1 U	1 U	0.36 J	1.1	1 U	1 U	39 J	5.6 J	0.73 J	1 U	0.26 J	0.34 J
cis-1,3-Dichloropropene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Ethylbenzene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Methylene chloride	ug/L	120 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	200 UJ	20 UJ	10 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1800	8.2	1.4	54	150	31	10	2700	400	190 J	2.8	2.2 J	1.8 J
Toluene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	100 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	100 U	20 U	10 U	1 U	1 U	1 U
Trichloroethene	ug/L	100 U	0.32 J	1 U	1.1	6	3.6	1.6	47 J	6.7 J	3.3 J	1 U	0.33 J	0.25 J
Vinyl chloride	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
Xylenes (total)	ug/L	100 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	20 U	10 U	1 U	1 U	1 U
TIC- Isobutane	ug/L													
TIC- Isopropylbenzene	ug/L													
TIC- Chlorodifluoromethane	ug/L													
TIC- MTBE	ug/L													
TIC-1,1,2-Trichlorofluoroethane	ug/L													
TIC- 1,2,4-Trichlorobenzene	ug/L													
TIC- Substituted naphthalene	ug/L													
TIC- 1,2,3-Trimethylbenzene	ug/L													
TIC- Unknown benzene	ug/L													
TIC- Ethyldimethylbenzene	ug/L													
TIC- Unknown trichlorobenzene	ug/L													
TIC- Ethylmethylbenzene	ug/L													

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ug/L = micrograms per liter.

Table 2-1
VOC Data - Groundwater Profile Confirmation Samples
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (Depth in feet)		P-H (156.8)	P-H (206.55)	P-H (351.65)
COMPOUND NAME	Units			
1,1,1-Trichloroethane	ug/L	0.81 J	0.25 J	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1.4	0.32 J	1 U
1,1-Dichloroethene	ug/L	0.3 J	1 U	1 UJ
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U
2-Butanone	ug/L	R	R	R
2-Hexanone	ug/L	5 UJ	5 UJ	5 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 UJ
Acetone	ug/L	2.3 UJ	R	R
Benzene	ug/L	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R
Carbon disulfide	ug/L	1 U	2 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U
Chloroform	ug/L	0.16 J	0.089 J	0.58 J
Chloromethane	ug/L	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	0.14 J	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U
Tetrachloroethene	ug/L	5.1 J	1 UJ	1 U
Toluene	ug/L	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U
Trichloroethene	ug/L	7.9	0.28 J	1 UJ
Vinyl chloride	ug/L	1 U	1 U	1 U
Xylenes (total)	ug/L	1 U	1 U	1 U
TIC- Isobutane	ug/L			
TIC- Isopropylbenzene	ug/L			
TIC- Chlorodifluoromethane	ug/L			
TIC- MTBE	ug/L			
TIC-1,1,2-Trichlorofluoroethane	ug/L			
TIC- 1,2,4-Trichlorobenzene	ug/L			
TIC- Substituted naphthalene	ug/L			
TIC- 1,2,3-Trimethylbenzene	ug/L			
TIC- Unknown benzene	ug/L			
TIC- Ethyldimethylbenzene	ug/L			
TIC- Unknown trichlorobenzene	ug/L			
TIC- Ethylmethylbenzene	ug/L			

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
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R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
Sample depths represent feet below ground surface.
ug/L = micrograms per liter.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/15 - 10/22/2002
Date Analyzed: 10/15 - 10/23/2002

PROFILE ID = P-01

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
78.7	65.79	1	U	1	U	1	U	7		1	U	88	0.84	1.18	0.05	183	0.26
88.7	55.80	1	U	1	U	1	U	1	U	1	U	94	0.55	0.56	0.05	321	0.03
98.7	45.78	1	U	1	U	1	U	1	U	1	U	89	0.20	0.22	0.04	275	0.02
108.2	36.31	1	U	1	U	1	U	1	U	1	U	92	NS	NS	NS	NS	NS
117.6	26.93	1	U	1	U	1	U	1	U	1	U	92	0.24	0.80	0.07	221	0.02
127.6	16.90	1	U	1	U	1	U	1	U	1	U	82	0.33	0.27	0.11	40	ND
137.6	6.88	1	U	1	U	1	U	1	U	1	U	93	0.24	0.43	0.09	89	ND
147.1	-2.62	1	U	1	U	1	U	1	U	1	U	101	0.08	0.19	0.05	48	ND
157.3	-12.76	1	U	1	U	1	U	1	U	1	U	99	0.27	0.87	0.22	97	0.15
167.2	-22.73	1	U	1	U	1	U	1	U	1	U	104	0.09	0.23	0.18	363	0.09
177.2	-32.71	1	U	1	U	1	U	1	U	1	U	87	0.02	0.09	0.05	227	0.04
187.2	-42.71	1	U	1	U	1	U	1	U	1	U	88	0.04	0.03	0.06	27	ND
197.6	-53.11	1	U	1	U	1	U	1	U	1	U	82	0.47	1.99	0.40	42	ND
207.3	-62.78	1	U	1	U	1	U	1	U	1	U	84	0.12	1.16	0.16	38	ND
217.1	-72.62	1	U	1	U	1	U	1	U	1	U	82	0.02	0.22	0.06	35	ND
229.1	-84.65	1	U	1	U	1	U	1	U	1	U	79	0.14	0.50	0.21	42	ND
237.5	-93.01	1	U	1	U	1	U	1	U	1	U	79	0.23	0.56	0.31	43	ND
245.0	-100.54	1	U	1	U	1	U	1	U	1	U	82	0.21	0.90	0.42	50	0.43
257.6	-113.08	NS		NS		NS		NS		NS			NS	NS	NS	NS	NS
266.5	-122.01	1	U	1	U	1	U	1	U	1	U	79	0.39	14	14*	24	ND
276.5	-132.00	1	U	1	U	1	U	1	U	1	U	76	0.36	2.68	5.0*	26	ND
286.5	-142.01	1	U	1	U	1	U	1	U	1	U	81	0.23	0.95	0.33*	30	1.31
301.2	-156.67	1	U	1	U	1	U	1	U	1	U	92	0.41	1.53	0.53*	34	0.12

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
** Ammonia test results elevated by high degree of sample turbitity.*
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/15-10/20/02, 11/21-12/05/02
Date Analyzed: 10/15-10/20/02, 11/21-12/05/02

PROFILE ID = P-02

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
78.2	66.08	1		1	U	1	U	1	U	**43**		99	0.28	0.73	ND	ND	ND
89.3	55.00	1	U	1	U	1	U	1	U	**89**		102	0.43	0.29	0.12	ND	0.29
98.8	45.46	1	U	1	U	1	U	1	U	1	U	92	0.10	0.23	0.12	145	0.05
109.4	34.88	1	U	1	U	1	U	1	U	1	U	85	NS	NS	NS	NS	NS
118.6	25.67	1	U	1	U	1	U	1	U	1	U	91	0.02	0.14	0.06	84	0.02
129.0	15.23	1	U	1	U	1	U	1	U	1	U	94	0.04	0.07	0.06	163	0.22
139.9	4.40	1	U	1	U	1	U	1	U	1	U	89	0.03	ND	0.06	66	ND
149.5	-5.25	1	U	1	U	1	U	1	U	1	U	107	0.04	0.20	0.10	148	0.03
159.9	-15.64	1	U	1	U	1	U	1	U	1	U	96	0.06	0.12	0.12	126	ND
170.3	-26.07	1	U	1	U	1	U	1	U	1	U	96	0.04	0.14	0.10	48	0.01
181.5	-37.20	1	U	1	U	1	U	1	U	1	U	113	0.13	0.20	0.35	162	0.03
190.0	-45.75	1	U	1	U	1	U	1	U	1	U	90	0.10	0.31	0.31	48	ND
200.0	-55.74	1	U	1	U	1	U	1	U	1	U	92	0.12	0.43	0.44	48	ND
207.9	-63.62	1	U	1	U	1	U	1	U	1	U	98	0.39	0.71	0.12	47	ND
217.8	-73.59	1	U	1	U	1	U	1	U	1	U	98	0.60	0.95	0.30	63	0.12
228.0	-83.78	1	U	1	U	1	U	1	U	1	U	99	0.40	0.55	0.07	132	0.01
238.0	-93.79	1	U	1	U	1	U	1	U	1	U	101	0.73	2.75	0.44	261	0.22
248.1	-103.80	1	U	1	U	1	U	1	U	1	U	102	0.56	0.85	0.24	280	0.13
258.2	-113.97	1	U	1	U	1	U	1	U	1	U	95	0.13	0.26	0.22	325	0.03
266.6	-122.30	1	U	1	U	1	U	1	U	1	U	92	0.30	0.39	0.49	38	0.06
277.1	-132.85	1	U	1	U	1	U	1	U	1	U	92	0.07	0.25	0.20	24	0.04
287.1	-142.85	1	U	1	U	1	U	1	U	1	U	94	0.10	0.23	0.27	21	0.07
297.1	-152.85	1	U	1	U	1	U	1	U	1	U	95	0.32	0.71	0.71	23	0.13
302.1	-157.80	1	U	1	U	1	U	1	U	1	U	97	ND	0.39	1.05	27	ND

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/18-11/21/02
Date Analyzed: 11/18-11/21/02

PROFILE ID = P-03

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
87.4	55.8	1	U	1	U	1	U	**1**		**31**		105	1.13	1.5	0.26	14	0.06
97.4	45.8	1	U	1	U	1	U	**2**		**21**		103	0.38	0.62	0.30	13	0.02
107.4	35.8	1	U	1	U	**1**		**3**		**11**		100	0.81	1.86	1.44	45	0.15
117.4	25.8	1	U	1	U	1	U	**1**	U	**5**		104	0.95	2.14	0.66	58	0.15
127.4	15.8	1	U	1	U	1	U	**1**	U	1	U	103	0.31	2.24	0.07	452	0.18
137.4	5.8	1	U	1	U	1	U	**1**	U	1	U	103	0.52	2.54	0.58	461	0.33
147.4	-4.2	1	U	1	U	1	U	**1**	U	1	U	98	0.78	0.87	0.12	359	0.01
157.4	-14.2	1	U	1	U	1	U	**1**	U	1	U	92	0.66	0.79	0.07	354	ND
167.4	-24.2	1	U	1	U	1	U	**1**	U	1	U	96	0.46	0.71	0.09	390	0.02
177.4	-34.2	1	U	1	U	1	U	**1**	U	1	U	100	0.52	0.59	0.05	499	ND
187.4	-44.2	1	U	1	U	1	U	**1**	U	1	U	89	0.14	0.23	0.07	393	ND
197.4	-54.2	1	U	1	U	1	U	**1**	U	1	U	103	0.28	0.36	0.03	494	ND
207.4	-64.2	1	U	1	U	1	U	**1**	U	1	U	94	0.38	0.48	0.05	384	ND
217.4	-74.2	1	U	1	U	1	U	**1**	U	1	U	98	0.64	1.09	0.35	287	0.13
227.4	-84.2	1	U	1	U	1	U	**1**	U	1	U	101	0.59	1.28	0.29	275	0.09
237.4	-94.2	1	U	1	U	1	U	**1**	U	1	U	102	0.50	0.66	0.06	328	0.01
247.4	-104.2	1	U	1	U	1	U	**1**	U	1	U	95	0.21	0.74	0.21	480	0.09
257.4	-114.2	1	U	1	U	1	U	**1**	U	1	U	93	0.40	0.92	0.30	710	0.14
267.4	-124.2	1	U	1	U	1	U	**1**	U	1	U	98	0.51	0.66	0.07	810	ND
277.4	-134.2	1	U	1	U	1	U	**1**	U	1	U	97	0.40	0.62	0.07	1002	ND
287.4	-144.2	1	U	1	U	1	U	**1**	U	1	U	107	0.10	0.28	0.06	650	ND
297.4	-154.2	1	U	1	U	1	U	**1**	U	1	U	110	0.34	0.50	0.23	692	ND
302.4	-159.2	1	U	1	U	1	U	**1**	U	1	U	104	0.90	1.29	0.60	608	0.15

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/28-11/02/02
Date Analyzed: 10/28-11/02/02

PROFILE ID = P-04

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
77.5	64.79	1	U	1	U	1	U	**7**		**32**		97	0.14	0.31	0.02	10	ND
87.4	54.84	1	U	1	U	1	U	**4**		**39**		82	0.15	0.27	0.16	15	ND
97.2	45.07	1	U	1	U	1	U	**2**		**67**		81	0.19	0.37	0.04	31	ND
106.74 [1]	35.50	20	U	20	U	20	U	20	U	20	U	80	0.61	1.26	0.55	41	ND
117.3	24.99	1	U	1	U	**3**		**46**		**2**		87	0.58	0.71	0.01	46	ND
127.4	14.83	20	U	20	U	**22**		**270**		20	U	84	0.44	0.75	0.11	76	0.02
137.5	4.77	20	U	20	U	**21**		**150**		20	U	86	0.53	0.65	0.07	79	0.01
147.6 [1]	-5.36	20	U	20	U	20	U	20	U	20	U	86	1.03	1.12	0.05	71	ND
157.6	-15.39	1	U	1	U	**1**		**12**		**1**		91	0.36	0.65	0.12	102	0.02
167.6	-25.31	1	U	1	U	**2**		**18**		**1**		78	0.39	0.66	0.22	99	0.06
177.5	-35.26	1	U	1	U	1	U	1	U	1	U	97	0.15	0.26	0.07	108	ND
187.5	-45.26	1	U	1	U	1	U	1	U	1	U	92	0.19	0.33	0.08	70	0.03
197.7	-55.41	1	U	1	U	1	U	1	U	1	U	95	0.37	0.45	0.05	136	0.01
207.7	-65.49	1	U	1	U	1	U	1	U	1	U	95	0.30	0.42	0.05	97	0.01
217.7	-75.41	1	U	1	U	1	U	1	U	1	U	105	0.34	0.43	0.09	192	0.05
227.8	-85.51	1	U	1	U	1	U	1	U	1	U	97	0.60	0.79	0.11	222	0.06
237.8	-95.51	1	U	1	U	1	U	1	U	1	U	98	0.59	0.66	0.02	315	0.02
247.8	-105.51	1	U	1	U	1	U	1	U	1	U	90	0.37	0.70	0.30	369	0.09
257.9	-115.61	1	U	1	U	1	U	1	U	1	U	93	0.29	0.97	0.33	333	0.23
267.9	-125.61	1	U	1	U	1	U	1	U	1	U	94	0.48	0.60	0.09	468	0.02
277.9	-135.61	1	U	1	U	1	U	1	U	1	U	95	0.46	0.66	0.20	453	0.04

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
[1] Sample did not have enough volume to run at 1 ppb detection limit
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/28-11/02/02
Date Analyzed: 10/28-11/02/02

PROFILE ID = P-05

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
77.5	66.79	20	U	20	U	20	U	**21**		**1,400**		87	0.18	0.25	0.04	ND	ND
87.5	56.79	20	U	20	U	20	U	20	U	**340**		86	0.41	0.80	0.29	12	ND
97.5	46.79	1	U	1	U	**1**		**7**		**49**		82	0.13	0.27	0.09	ND	0.03
107.5	36.79	20	U	20	U	20	U	20	U	**140**		83	0.33	0.54	0.14	ND	0.03
117.3	27.04	1	U	1	U	1	U	**1**	U	**55**		78	0.27	0.48	0.11	129	0.03
127.5	16.79	1	U	1	U	1	U	**1**	U	**11**		85	0.27	0.48	0.04	173	0.01
137.5	6.79	1	U	1	U	1	U	**1**		**22**		84	0.17	0.27	0.05	185	0.01
147.5	-3.21	1	U	1	U	1	U	**3**		**17**		85	0.57	0.72	0.12	214	0.03
157.5	-13.21	1	U	1	U	1	U	**1**	U	**3**		88	0.54	0.71	0.12	230	0.03
167.5	-23.21	1	U	1	U	1	U	**1**		**9**		85	0.84	0.97	0.11	314	0.05
177.5	-33.21	1	U	1	U	**2**		**7**		**26**		71	0.65	0.77	0.06	332	0.03
187.5	-43.21	1	U	1	U	1	U	**2**		**13**		88	0.59	0.73	0.08	350	0.04
197.4	-53.11	1	U	1	U	1	U	**1**	U	**7**		74	0.61	0.69	0.09	422	0.01
207.4	-63.11	1	U	1	U	1	U	**1**	U	**2**		75	0.31	0.39	0.04	431	0.02
217.4	-73.11	1	U	1	U	1	U	**1**	U	1	U	82	0.01	0.12	0.05	445	0.01
227.4	-83.11	1	U	1	U	1	U	**1**	U	1	U	96	0.31	0.41	0.03	485	0.02
237.4	-93.11	1	U	1	U	1	U	**1**	U	1	U	96	0.59	0.79	0.08	541	0.07
247.4	-103.11	1	U	1	U	1	U	**1**	U	1	U	92	0.69	1.13	0.13	360	0.09
262.5	-118.21	1	U	1	U	1	U	**1**	U	1	U	96	1.05	4.25	1.56	715	0.37
272.4	-128.11	1	U	1	U	1	U	**1**		**10**		94	0.55	3.14	0.70	850	0.18
282.4	-138.11	1	U	1	U	1	U	**1**	U	**110**		99	0.47	1.20	0.50	650	0.13
292.4	-148.11	1	U	1	U	1	U	**3**		**15**		99	1.22	1.55	0.26	1040	0.08
299.0	-154.73	1	U	1	U	1	U	**1**	U	**8**		93	1.14	2.70	0.78	810	0.28

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/13-11/18/02
Date Analyzed: 11/13-11/18/02

PROFILE ID = P-06

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
82.8	60.39	20	U	20	U	20	U	**28**		**5,600**		103	1.89	1.96	0.07	9.00	0.15
92.8	50.39	20	U	20	U	20	U	20	U	**1,800**		106	1.09	1.24	0.09	7.75	0.27
102.8	40.39	20	U	20	U	20	U	20	U	**1,100**		95	0.50	0.6	0.06	33.12	0.12
112.8	30.39	1	U	1	U	1	U	1	U	**14**		108	0.10	0.28	0.07	99	0.07
122.8	20.39	1	U	1	U	1	U	1	U	**4**		104	0.31	0.66	0.12	137	0.01
132.8	10.39	1	U	1	U	1	U	1	U	**4**		99	0.13	0.35	0.09	231	0.00
142.8	0.39	1	U	1	U	1	U	1	U	**4**		97	0.34	0.58	0.07	300	0.12
152.8	-9.61	1	U	1	U	1	U	1	U	**6**		106	0.01	0.35	0.10	143	0.02
162.8	-19.61	1	U	1	U	1	U	1	U	**6**		102	0.06	0.07	0.06	67	ND
172.8	-29.61	1	U	1	U	1	U	1	U	**12**		106	0.07	0.17	0.13	119	0.04
182.8	-39.61	1	U	1	U	1	U	1	U	**4**		103	0.03	0.05	0.08	362	0.01
192.8	-49.61	1	U	1	U	1	U	1	U	**3**		105	0.1	0.21	0.11	301	0.02
202.8	-59.61	1	U	1	U	1	U	1	U	**2**		103	0.2	0.30	0.04	348	0.02
212.8	-69.61	1	U	1	U	1	U	1	U	**1**		90	0.28	0.35	0.05	410	0.13
222.8	-79.61	1	U	1	U	1	U	1	U	**2**		93	0.24	0.27	0.05	498	ND
232.8	-89.61	1	U	1	U	1	U	1	U	**3**		105	0.4	0.52	0.06	582	0.01
242.4	-99.21	1	U	1	U	1	U	1	U	1	U	90	1.33	1.46	0.04	458	0.01
252.4	-109.21	1	U	1	U	1	U	1	U	1	U	97	0.46	0.46	0.02	705	ND
262.4	-119.21	1	U	1	U	1	U	1	U	1	U	98	0.03	0.16	0.07	746	0.02
272.4	-129.21	1	U	1	U	1	U	1	U	**5**		103	0.01	0.18	0.09	851	ND
282.4	-139.21	1	U	1	U	1	U	1	U	**10**		103	0.90	0.98	0.15	836	0.01
291.5	-148.31	1	U	1	U	1	U	**1**		**5**		102	0.07	0.24	0.17	871	0.03

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/19-12/04/02
Date Analyzed: 11/19-12/04/02

PROFILE ID = P-07

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
82.4	62.13	1	U	1	U	1	U	1	U	1	U	95	2.11	2.61	0.34	144	0.09
92.4	52.13	1	U	1	U	1	U	1	U	1	U	99	1.57	2.11	0.27	132	0.11
102.4	42.13	1	U	1	U	1	U	**1**	U	1	U	90	0.66	1.17	0.29	160	0.07
112.4	32.13	1	U	1	U	1	U	**1**	U	1	U	96	2.36	3.08	0.52	234	0.10
122.1	22.43	1	U	1	U	1	U	**1**	U	1	U	108	0.92	1.53	0.61	338	0.11
132.4	12.13	1	U	1	U	1	U	**1**	U	1	U	99	0.95	2.23	0.74	119	0.24
142.4	2.13	1	U	1	U	1	U	**2**		1	U	105	1.47	2.05	0.42	109	0.15
152.4	-7.87	1	U	1	U	1	U	**1**		1	U	100	0.99	1.15	0.17	148	0.02
162.4	-17.87	1	U	1	U	1	U	**1**	U	1	U	102	2.1	2.70	0.43	163	0.2
172.4	-27.87	1	U	1	U	1	U	**1**	U	1	U	94	1.24	1.66	0.35	128	0.06
182.4	-37.87	1	U	1	U	1	U	**1**	U	1	U	100	0.40	0.99	0.35	167	0.13
192.4	-47.87	1	U	1	U	1	U	**1**	U	1	U	104	1.13	1.71	0.42	199	0.15
202.4	-57.87	1	U	1	U	1	U	**1**	U	1	U	103	1.78	2.46	0.51	204	0.16
212.4	-67.87	1	U	1	U	1	U	**1**	U	1	U	100	1.03	1.22	1.34	133	0.55
222.4	-77.87	1	U	1	U	1	U	**1**	U	1	U	91	0.26	0.41	0.12	96	ND
232.4	-87.87	1	U	1	U	1	U	**1**	U	1	U	97	1.27	1.46	0.11	73	0.03
242.4	-97.87	1	U	1	U	1	U	**1**	U	1	U	98	1.06	1.10	0.06	90	ND
252.8	-108.27	1	U	1	U	1	U	**1**	U	1	U	92	0.81	1.06	0.16	75	0.04
262.8	-118.27	1	U	1	U	1	U	**1**	U	1	U	105	0.76	1.01	0.22	57	0.08
272.8	-128.27	1	U	1	U	1	U	**2**		1	U	103	1.18	1.31	0.11	48	0.02
282.8	-138.27	1	U	1	U	1	U	**1**	U	1	U	104	1.20	1.29	0.09	62	0.04
292.8	-148.27	1	U	1	U	1	U	**5**		**1**		101	1.27	1.77	0.21	32	0.12
301.0	-156.47	1	U	1	U	1	U	**1**	U	1	U	101	0.58	0.71	0.13	89	0.04

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 12/03-12/07/02
Date Analyzed: 12/03-12/07/02

PROFILE ID = P-08

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
77.6	66.54	1	U	1	U	1	U	1	U	1	U	103	0.65	0.96	0.09	4	0.01
87.6	56.54	1	U	1	U	1	U	1	U	1	U	101	0.73	1.65	0.27	12	0.20
97.6	46.54	1	U	1	U	1	U	**1**	U	1	U	101	3.27	3.38	0.26	167	0.07
107.6	36.54	1	U	1	U	1	U	**3**		1	U	103	1.58	1.80	0.12	95	0.04
117.6	26.54	1	U	1	U	1	U	**1**	U	1	U	100	1.00	1.28	0.13	87	0.07
127.6	16.54	1	U	1	U	1	U	**5**		**1**		109	1.19	1.46	0.19	65	0.06
137.6	6.54	1	U	1	U	1	U	**3**		1	U	102	1.53	1.64	0.11	74	0.03
147.6	-3.46	1	U	1	U	1	U	**1**		1	U	101	2.03	2.18	0.04	101	ND
157.6	-13.46	1	U	1	U	1	U	**1**		1	U	99	1.71	1.74	0.04	159	0.01
167.6	-23.46	1	U	1	U	1	U	**1**		1	U	98	0.54	0.76	0.07	202	0.01
177.6	-33.46	1	U	1	U	1	U	**1**	U	1	U	106	1.60	1.70	0.15	268	0.01
187.6	-43.46	1	U	1	U	1	U	**1**	U	1	U	102	1.97	2.34	0.25	148	0.06
197.6	-53.51	1	U	1	U	1	U	**5**		**1**		102	0.06	2.05	0.77	41	0.28
207.6	-63.46	1	U	1	U	1	U	**5**		**2**		103	1.10	1.37	0.15	62	0.06
217.6	-73.46	1	U	1	U	1	U	**3**		1	U	98	1.80	2.66	0.37	87	0.23
227.6	-83.46	1	U	1	U	1	U	**9**		**2**		111	0.79	0.95	0.05	43	ND
237.6	-93.46	1	U	1	U	1	U	**8**		**2**		111	1.06	1.30	0.07	31	0.01
247.6	-103.51	1	U	1	U	1	U	**5**		**2**		110	0.82	1.06	0.05	32	0.01
257.6	-113.46	1	U	1	U	1	U	**4**		**1**		98	0.65	0.72	0.03	59	ND
267.6	-123.46	1	U	1	U	1	U	**2**		1	U	107	0.81	0.96	0.02	101	0.01
277.6	-133.46	1	U	1	U	1	U	**2**		1	U	101	2.02	2.27	0.14	103	0.08
287.6	-143.46	1	U	1	U	1	U	**1**	U	1	U	91	0.46	0.50	0.04	27	0.02
297.6	-153.46	**3**		1	U	1	U	1	U	1	U	108	2.9	3.22	0.12	220	ND
302.6	-158.51	1	U	1	U	1	U	**1**	U	1	U	94	3.08	3.40	0.10	280	0.03

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/13-11/17/02
Date Analyzed: 11/13-11/17/02

PROFILE ID = P-09

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
82.6	58.96	1	U	1	U	1	U	**1**	U	**12**		109	0.12	0.24	0.05	9.13	0
92.6	48.96	20	U	20	U	20	U	20	U	**380**		98	1.15	1.37	0.15	11.63	0.36
102.6	38.96	20	U	20	U	20	U	**30**		**4,400**		106	0.93	0.98	0.06	27.25	0.12
112.6	28.96	20	U	20	U	20	U	**24**		**3,800**		95	0.98	1.11	0.12	13	0.16
122.6	18.96	20	U	20	U	20	U	20	U	**3,200**		99	0.69	1.14	0.38	13	0.02
132.6	8.96	20	U	20	U	20	U	20	U	**290**		99	0.11	3.22	0.76	59	0.03
142.6	-1.04	1	U	1	U	1	U	**1**	U	**6**		103	0.00	0.21	0.09	87	ND
152.6	-11.04	1	U	1	U	1	U	**1**	U	**4**		95	0.02	0.11	0.09	87	0.00
162.6	-21.04	1	U	1	U	1	U	**1**	U	**4**		101	0.31	1.71	0.12	97	0.17
172.6	-31.04	1	U	1	U	1	U	**1**	U	**5**		103	0.11	0.44	0.33	83	0.04
182.6	-41.03	1	U	1	U	1	U	**1**	U	**11**		102	0.02	0.32	0.08	110	0.02
192.6	-51.04	1	U	1	U	1	U	**1**	U	**12**		107	0.06	0.35	0.14	123	0.06
202.6	-61.04	1	U	1	U	1	U	**1**	U	**2**		109	0.12	0.56	0.38	121	0.02
212.6	-71.04	1	U	1	U	1	U	**1**	U	**2**		103	0.09	0.41	0.55	141	0.12
222.6	-81.03	1	U	1	U	1	U	**1**	U	**2**		109	ND	0.05	0.04	214	ND
232.6	-91.03	1	U	1	U	1	U	**1**	U	**2**		98	0.08	0.28	0.13	300	0.04
242.6	-101.04	1	U	1	U	1	U	**1**	U	**1**		101	0.13	0.72	0.22	410	0.13
252.6	-111.03	1	U	1	U	1	U	**1**	U	**8**		89	0.30	0.42	0.06	502	ND
263.0	-121.38	1	U	1	U	1	U	**1**	U	**4**		97	0.03	0.15	0.05	337	ND
272.6	-131.03	1	U	1	U	1	U	**1**	U	**3**		98	NS	NS	NS	NS	NS

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/03-11/05/02
Date Analyzed: 11/03-11/05/02

PROFILE ID = P-10

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
77.7	63.27	20	U	20	U	20	U	**38**		**460**		93	0.14	0.25	0.04	11	0.02
87.8	53.12	20	U	20	U	20	U	20	U	**300**		94	1.23	1.33	0.05	26	ND
97.9	43.02	20	U	20	U	20	U	**21**		**360**		94	0.40	0.73	0.12	65	0.06
108.0	32.97	20	U	20	U	20	U	**24**		**380**		93	0.16	0.39	0.18	17	0.05
118.1	22.87	20	U	20	U	20	U	**23**		**660**		93	0.46	0.58	0.13	66	0.03
128.0	12.97	20	U	20	U	20	U	**20**		**620**		122	1.96	2.07	0.06	78	0.01
138.0	2.97	1	U	1	U	1	U	**2**		**91**		98	0.86	2.16	1.80	10	0.11
148.0	-7.03	20	U	20	U	20	U	20	U	**270**		94	0.22	8.75	0.30	10	0.23
158.0	-17.03	20	U	20	U	20	U	20	U	**220**		98	4.00	9.00	5.00	57	0.04
168.1	-27.13	1	U	1	U	1	U	**1**	U	**2**		104	1.18	1.89	0.55	149	0.08
178.1	-37.13	1	U	1	U	1	U	**1**	U	**2**		106	1	2.58	1.50	182	0.52
188.2	-47.23	1	U	1	U	1	U	**1**	U	**4**		98	0.34	0.60	0.28	209	0.06
198.2	-57.23	1	U	1	U	1	U	**1**	U	**2**		100	0.55	4.75	3.50	215	0.18
208.1	-67.18	1	U	1	U	1	U	**1**	U	**1**		104	0.42	1.49	0.36	253	0.28
218.1	-77.19	1	U	1	U	1	U	**1**	U	**2**		103	0.81	1.36	0.31	269	0.19
226.7	-85.73	1	U	1	U	1	U	**1**	U	**1**		108	0.23	0.33	0.06	347	ND
238.0	-97.08	1	U	1	U	1	U	**1**	U	**1**		112	0.54	0.87	0.11	430	0.01
247.8	-106.88	1	U	1	U	1	U	**1**	U	**1**		101	0.87	7.87	0.37	470	0.05
257.9	-116.98	1	U	1	U	1	U	**1**	U	**3**		100	3.18	20.25	2.50	653	ND
264.5	-123.58	1	U	1	U	1	U	**1**	U	**8**		114	1.28	1.81	0.37	535	ND

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/03-11/05/02
Date Analyzed: 11/03-11/05/02

PROFILE ID = P-11

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
87.0	53.92	1	U	1	U	1	U	**1**	U	**7**		104	0.53	11.00	0.65	21	0.09
97.4	43.52	1	U	1	U	1	U	**1**	U	**140**		92	1.09	1.38	0.15	25	0.06
107.4	33.52	1	U	1	U	1	U	**1**	U	**6**		95	0.88	1.36	0.31	20	0.09
117.4	23.52	1	U	1	U	1	U	**1**	U	**2**		94	0.26	5.75	3.75	13	0.23
127.4	13.52	1	U	1	U	1	U	**1**	U	**1**		97	0.69	0.91	0.24	27	0.01
137.4	3.52	1	U	1	U	1	U	**1**	U	**2**		95	0.74	1.19	0.47	56	0.03
147.4	-6.48	1	U	1	U	1	U	**1**	U	**2**		105	0.09	0.38	0.07	62	0.02
157.4	-16.48	1	U	1	U	**1**		**28**		**4**		97	0.02	0.22	0.07	63	0.01
167.4	-26.48	20	U	20	U	**36**		**380**		20	U	100	0.58	1.14	0.40	67	0.07
177.4	-36.48	20	U	20	U	**50**		**720**		20	U	103	0.92	1.47	0.36	68	0.11
187.4	-46.48	20	U	20	U	20	U	**210**		20	U	102	0.69	3.03	0.75	73	0.18
197.4	-56.48	1	U	1	U	**6**		**73**		**5**		101	0.46	2.01	0.96	75	0.18
207.4	-66.48	1	U	1	U	**3**		**31**		**2**		102	0.11	0.21	0.05	75	0.01
217.4	-76.51	1	U	1	U	1	U	**2**		1	U	105	0.31	0.82	0.19	89	0.06
227.4	-86.48	1	U	1	U	1	U	**1**	U	1	U	100	0.46	0.82	0.12	106	0.05
237.4	-96.48	1	U	1	U	1	U	**1**	U	1	U	107	0.57	1.50	0.35	88	0.06
247.2	-106.28	1	U	1	U	1	U	**1**	U	1	U	99	0.26	0.56	0.15	87	0.05
257.4	-116.51	1	U	1	U	1	U	**1**	U	1	U	100	0.17	0.30	0.08	115	ND
267.4	-126.48	1	U	1	U	1	U	**1**	U	**1**		102	0.039	2.75	0.08	159	ND
277.4	-136.48	1	U	1	U	1	U	**1**	U	**4**		108	0.47	0.82	0.21	369	0.06
281.1	-140.21	1	U	1	U	1	U	**1**	U	**3**		97	0.47	0.72	0.19	367	0.03

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/13-11/20/02
Date Analyzed: 11/13-11/20/02

PROFILE ID = P-12

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
78.9	64.10	20	U	20	U	**42**		**100**		**13,000**		99	0.23	0.41	0.13	12	0.02
87.9	55.06	20	U	20	U	20	U	20	U	**210**		103	0.11	0.56	0.09	11	0.08
97.9	45.03	1	U	1	U	1	U	1	U	**19**		110	0.52	0.61	0.09	124	0.21
108.0	34.95	1	U	1	U	1	U	1	U	**11**		108	0.48	0.57	0.08	157	0.18
118.1	24.89	1	U	1	U	1	U	1	U	**7**		106	0.48	1.28	0.46	145	0.72
128.0	14.94	1	U	1	U	1	U	1	U	**5**		106	0.25	0.33	0.05	262	0.02
137.6	5.32	1	U	1	U	1	U	1	U	**5**		106	0.23	0.31	0.08	245	0.02
146.4	-3.41	1	U	1	U	1	U	1	U	**5**		105	0.17	1.01	0.41	145	0.04
157.8	-14.85	1	U	1	U	1	U	1	U	**5**		108	ND	0.07	ND	81	1.05
167.6	-24.63	1	U	1	U	1	U	1	U	**4**		108	0.06	0.55	0.63	133	0.02
180.3	-37.33	**11**		1	U	1	U	1	U	**52**		96	0.13	0.41	0.43	90	0.06
187.6	-44.68	**9**		1	U	1	U	1	U	**100**		101	1.76	2.60	0.75	154	0.03
197.8	-54.83	**8**		1	U	1	U	1	U	**49**		99	1.72	1.95	0.75	209	0.04
207.4	-64.45	1	U	1	U	1	U	1	U	1	U	109	0.21	0.43	0.07	212	ND
217.7	-74.75	1	U	1	U	1	U	1	U	1	U	98	0.32	0.74	0.14	304	ND
227.5	-84.50	1	U	1	U	1	U	1	U	1	U	94	0.46	0.63	0.012	227	0.03
237.5	-94.50	1	U	1	U	1	U	1	U	1	U	90	0.31	1.06	0.46	600	0.16
247.4	-104.43	1	U	1	U	1	U	1	U	1	U	92	0.03	0.15	0.07	180	ND
257.4	-114.43	1	U	1	U	1	U	1	U	1	U	104	2.01	3.88	0.63	466	1.74
267.5	-124.55	1	U	1	U	1	U	1	U	1	U	92	0.61	0.76	0.38	430	0.47
278.3	-135.35	1	U	1	U	1	U	1	U	**19**		109	0.14	0.38	0.47	669	0.02
287.4	-144.45	1	U	1	U	1	U	1	U	1	U	90	0.21	0.48	0.36	33	0.01
297.1	-154.15	1	U	1	U	1	U	1	U	**5**		102	0.13	0.55	0.31	707	0.02

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Mobile Laboratory Results Sheet

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 12/06-12/11/02
Date Analyzed: 12/06-12/11/02

PROFILE ID = P-13

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
76.6	63.67	20	U	20	U	20	U	20	U	**650**		101	0.86	1.13	0.16	32	0.02
86.6	53.67	20	U	20	U	20	U	20	U	**250**		105	1.23	2.08	0.48	43	0.08
96.6	43.67	20	U	20	U	20	U	20	U	**1,200**		101	1.96	2.83	0.72	63	0.15
106.6	33.67	20	U	20	U	20	U	20	U	**580**		101	0.69	1.42	0.48	82	0.08
116.6	23.67	20	U	20	U	20	U	20	U	**270**		99	2.28	3.55	NS	106	0.10
126.6	13.67	1	U	1	U	1	U	**1**	U	**12**		97	1.56	2.41	0.77	46	0.17
136.6	3.67	1	U	1	U	1	U	**1**	U	**2**		104	0.68	0.90	0.18	51	0.05
146.6	-6.33	1	U	1	U	1	U	**1**	U	**3**		102	0.49	0.71	0.24	111	0.05
156.6	-16.33	1	U	1	U	1	U	**5**		**5**		102	1.0	1.71	0.4	105	0.08
166.6	-26.33	1	U	1	U	1	U	**14**		**6**		102	0.04	0.20	0.12	93	ND
176.6	-36.33	1	U	1	U	1	U	**15**		**3**		107	0.26	0.51	0.23	90	0.04
186.6	-46.33	1	U	1	U	1	U	**16**		**2**		110	0.78	1.41	0.38	70	0.07
196.6	-56.33	1	U	1	U	1	U	**13**		**4**		105	0.49	0.95	0.42	14	0.1
206.6	-66.33	1	U	1	U	**1**		**21**		**10**		107	0.09	0.16	0.07	88	0.01
217.3	-77.03	1	U	1	U	**3**		**74**		**5**		97	0.02	0.10	0.00	82	ND
227.3	-87.03	6	U	6	U	**20**		**290**		**19**		99	0.14	0.26	0.04	110	0.01
237.3	-97.03	2	U	2	U	**6**		**130**		**9**		101	1.07	1.41	0.48	51	0.27
247.3	-107.03	1	U	1	U	1	U	**3**		**2**		94	0.63	0.63	5.25	120	0.03
260.7	-120.43	1	U	1	U	**18**		**330**		**17**		99	0.01	0.02	0.05	58	0.07
267.3	-127.03	1	U	1	U	1	U	**8**	U	1	U	95	0.48	0.80	0.29	87	0.09

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Mobile Laboratory Results Sheet

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 12/06-12/10/02
Date Analyzed: 12/06-12/10/02

PROFILE ID = P-14

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft amsl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
77.8	62.64	2	U	2	U	**9**		**57**		**77**		98	18	22	NS	21	0.11
85.8	54.64	2	U	2	U	**16**		**19**		**150**		99	21	21	0.50	24	0.15
95.2	45.29	1	U	1	U	**2**		**8**		**31**		100	18	22	1.20	13	0.20
105.3	35.21	1	U	1	U	1	U	**2**		**10**		109	14	15	1.80	6	0.1
115.1	25.32	1	U	1	U	**25**		**23**		**12**		100	11	13	0.80	10	ND
125.2	15.24	1	U	1	U	1	U	**5**		**13**		104	7.3	7.6	0.30	63	0.02
135.1	5.39	1	U	1	U	1	U	**2**		**18**		100	1.00	1.30	0.75	23	0.13
145.0	-4.58	1	U	1	U	1	U	**1**		**6**		103	0.92	1.04	0.13	55	0.02
155.1	-14.61	1	U	1	U	1	U	**3**		**3**		103	0.78	1.41	0.38	70	0.07
165.3	-24.88	1	U	1	U	1	U	**3**		**2**		111	1.00	1.35	0.30	95	0.12
175.4	-34.89	1	U	1	U	1	U	**3**		**1**		108	0.88	1.31	0.27	106	0.05
185.5	-45.04	1	U	1	U	1	U	**1**		**2**		103	0.48	0.62	0.07	102	0.02
195.4	-54.96	1	U	1	U	1	U	1	U	1	U	95	0.83	1.42	0.43	85	0.14
204.7	-64.24	1	U	1	U	1	U	1	U	1	U	105	0.66	1.62	0.20	86	0.27
214.8	-74.34	1	U	1	U	1	U	1	U	1	U	98	0.69	1.30	0.19	86	0.14
224.9	-84.41	1	U	1	U	1	U	1	U	1	U	97	0.05	0.10	0.01	74	0.03
234.9	-94.48	1	U	1	U	1	U	**2**		**9**		106	0.50	0.89	0.11	230	0.08
244.8	-104.36	1	U	1	U	1	U	**3**		**20**		96	0.84	1.50	0.16	470	0.14

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Mobile Laboratory Results Sheet

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 12/08-12/11/02
Date Analyzed: 11/08-12/11/02

PROFILE ID = P-16

		VOC DATA, ug/L											INORGANIC DATA, mg/L				
Depth	Elevation (ft msl)	Vinyl Chloride		trans-Dichloroethene		cis-Dichloroethene		Trichloroethene		Tetrachloroethene		% SS	Fe^{+2}	Total Fe	Ammonia	Chloride	Total Chlorine
81.0	57.67	40	U	60	U	**150**		**200**		**22,000**		97	0.49	0.95	0.42	14	0.1
91.0	47.67	40	U		U	**70**		**100**		**19,000**		97	1.30	1.42	0.11	9	0.04
101.0	37.67	2	U	2	U	2	U	2	U	**110**		100	0.22	0.86	0.14	15	0.01
111.0	27.67	1	U	1	U	1	U	1	U	**30**		104	0.31	0.41	0.16	7	0.02
121.0	17.67	1	U	1	U	1	U	1	U	**26**		104	0.39	0.46	0.08	77	0.04
131.0	7.67	1	U	1	U	1	U	1	U	**20**		106	0.30	0.42	0.06	76	0.02
141.0	-2.33	1	U	1	U	1	U	1	U	**17**		104	0.37	0.53	0.06	87	0.06
151.0	-12.33	1	U	1	U	1	U	1	U	**16**		102	0.11	0.24	0.11	69	0.01
161.0	-22.33	1	U	1	U	1	U	1		**13**		100	0.33	0.76	0.40	61	0.16
171.0	-32.33	1	U	1	U	1	U	2		**10**		101	0.27	0.35	0.11	54	0.01
181.0	-42.33	1	U	1	U	1	U	1	U	**11**		96	0.19	0.41	0.16	65	0.04
191.0	-52.33	1	U	1	U	1	U	1		**8**		95	0.29	0.35	0.05	60	ND
201.0	-62.33	1	U	1	U	1	U	1	U	**7**		90	0.28	0.40	0.08	39	0.02
211.0	-72.33	1	U	1	U	1	U	1	U	**8**		101	0.13	0.21	0.08	53	0.02
221.0	-82.33	1	U	1	U	1	U	1	U	**7**		106	0.34	2.04	0.41	60	0.11
231.0	-92.33	1	U	1	U	1	U	1	U	**8**		100	0.05	0.23	0.08	78	0.01
241.0	-102.33	1	U	1	U	1	U	1	U	**5**	U	97	0.10	0.86	0.32	493	0.05
251.0	-112.33	1	U	1	U	1	U	1	U	**12**	U	89	ND	0.05	0.03	135	ND

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.
elevations are based on surveyed ground surface elevations and are referenced to feet above mean sea level (amsl).

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/27 - 6/2/03
Date Analyzed: 5/27 - 6/2/03
Report Date: 6/2/03

HOLE ID = P15

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.7	20	U	3	U	3	U	3	U	**280**	J	102	0.12	0.23	0.14	34	ND	3 U	**Detect**
89.7	4	U	4	U	**34**	J	**26**		**1800**	J	115	0.07	0.11	0.03	33	ND	4 U	4 U
99.7	20	U	20	U	**120**	J	**230**		**18000**	J	109	0.09	0.17	0.08	31	ND	20 U	20 U
109.7	20	U	20	U	**180**	J	**280**		**15000**	J	104	0.15	0.21	0.03	23	ND	20 U	20 U
119.7	20	U	20	U	20	U	**67**		**2500**		100	0.11	0.17	0.07	38	ND	20 U	20 U
129.7	2	U	2	U	2	U	2	U	**120**		98	ND	0.05	0.05	99	ND	2 U	2 U
139.7	1	U	1	U	1	U	1	U	**14**		86	ND	0.08	0.07	129	0.03	1 U	1 U
149.7	1	U	1	U	1	U	1	U	**22**		107	ND	ND	0.03	119	0.03	1 U	1 U
159.7	1	U	1	U	1	U	1	U	**11**		100	ND	0.03	0.06	75	0.02	1 U	1 U
169.7	1	U	1	U	1	U	1	U	**14**		88	ND	ND	0.07	89	ND	1 U	1 U
179.7	1	U	1	U	1	U	1	U	**10**		87	ND	0.04	0.07	102	0.02	1 U	1 U
189.7	1	U	1	U	1	U	1	U	**10**		89	ND	0.08	0.07	49	0.02	1 U	1 U
199.7	1	U	1	U	1	U	1	U	**9**		93	ND	0.04	0.08	48	0.03	1 U	1 U
208.0	1	U	1	U	1	U	1	U	**13**		90	0.24	1.03	0.95	54	0.15	1 U	1 U
218.0	1	U	1	U	1	U	1	U	1	U	85	ND	0.08	0.05	59	0.02	1 U	1 U
228.0	1	U	1	U	1	U	1	U	1	U	90	0.03	0.42	0.13	170	0.03	1 U	1 U
240.0	1	U	1	U	1	U	1	U	**5**		92	0.05	0.40	0.17	248	0.06	1 U	1 U
290.1	20	U	20	U	20	U	20	U	**190**		103	0.24	0.53	0.34	376	0.13	20 U	20 U
300.1	1	U	1	U	1	U	1	U	**19**		104	0.36	0.88	0.60	293	0.27	1 U	1 U
310.1	1	U	1	U	1	U	1	U	**2**		90	0.33	1.09	0.35	128	0.29	1 U	1 U
329.1	1	U	1	U	1	U	1	U	1	U	96	ND	0.05	0.04	210	ND	1 U	1 U
339.1	1	U	1	U	1	U	1	U	1	U	88	ND	ND	0.02	135	ND	1 U	1 U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.7	1	U	**7**	J	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
89.7	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	115
99.7	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	109
109.7	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	104
119.7	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	100
129.7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	98
139.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
149.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
159.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
169.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
179.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
189.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
199.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	93
208.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	90
218.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	85
228.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	90
240.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	92
290.1	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	103
300.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	104
310.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	90
329.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	96
339.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	88

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 4/24 - 4/27/03
Date Analyzed: 4/24 - 5/9/03
Report Date: 5/9/03

HOLE ID = P17

	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
73.3	1	U	1	U	1	U	1	U	1	U	82	0.09	0.50	0.29	12	0.04	NS	NS
82.3	1	U	1	U	1	U	1	U	1	U	99	0.11	0.19	0.07	18	ND	NS	NS
92.3	1	U	1	U	1	U	1	U	1	U	83	0.06	0.18	0.08	26	0.03	NS	NS
102.3	1	U	1	U	1	U	1	U	1	U	109	ND	0.38	0.09	83	0.02	1 U	1 U
112.3	1	U	1	U	1	U	1	U	1	U	84	ND	0.12	0.03	62	ND	NS	NS
122.3	1	U	1	U	1	U	1	U	1	U	84	0.02	0.10	0.07	73	ND	NS	NS
132.2	1	U	1	U	1	U	1	U	1	U	76	ND	0.07	0.03	72	ND	NS	NS
142.2	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	93	0.43	1.95	0.48	73	0.33	NS	NS
152.3	1	U	1	U	1	U	1	U	1	U	101	0.04	0.22	0.16	81	0.02	1 U	1 U
162.3	1	U	1	U	1	U	1	U	1	U	90	0.23	1.86	0.44	69	0.20	1 U	1 U
172.2	1	U	1	U	1	U	1	U	1	U	103	0.04	0.15	0.20	68	ND	1 U	1 U
183.1	1	U	1	U	1	U	1	U	1	U	92	0.05	0.09	0.05	66	ND	1 U	1 U
193.1	1	U	1	U	1	U	1	U	1	U	105	0.14	0.43	0.38	67	0.06	1 U	1 U
203.1	1	U	1	U	1	U	1	U	1	U	96	0.26	1.01	0.58	70	0.12	1 U	1 U
213.1	1	U	1	U	1	U	1	U	1	U	97	0.68	3.04	1.64	47	0.52	1 U	1 U
223.1	1	U	1	U	1	U	1	U	1	U	110	0.16	0.73	0.40	56	0.10	1 U	1 U

	VOC DATA, ug/L																													
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
73.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		82
82.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		99
92.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		83
102.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
112.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		84
122.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		84
132.2	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		76
142.2	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		93
152.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
162.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
172.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
183.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
193.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
203.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
213.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
223.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/4-10/10/2003
Date Analyzed: 10/4-10/10/2003
Report Date: 10/10/2003

HOLE ID =P18

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene
76.7	1	U	1	U	1	U	1	U	**2**		102	0.06	0.08	0.06	23	ND	1U		1U
86.7	1	U	1	U	1	U	1	U	1	U	95	ND	ND	ND	83	0.04	1U		1U
96.7	1	U	1	U	1	U	1	U	1	U	98	0.05	0.19	0.14	114	0.03	1U		1U
106.7	1	U	1	U	1	U	1	U	1	U	96	ND	0.06	0.05	122	0.02	1U		1U
116.7	1	U	1	U	1	U	1	U	1	U	94	0.08	0.33	0.34	185	0.07	1U		1U
126.7	1	U	1	U	1	U	1	U	**2**		97	ND	0.03	0.04	190	0.02	1U		1U
136.7	1	U	1	U	1	U	1	U	**4**		101	ND	0.03	0.04	64	0.03	1U		1U
146.7	1	U	1	U	1	U	1	U	**6**		100	0.68	1.03	0.23	97	0.03	1U		1U
156.7	1	U	1	U	1	U	1	U	1	U	92	ND	0.05	0.03	47	0.04	1U		1U
166.7	1	U	1	U	1	U	**1**		1	U	105	0.37	0.96	0.54	37	0.07	1U		1U
176.7	1	U	1	U	1	U	**4**		1	U	97	0.12	0.63	0.23	35	0.04	1U		1U
186.7	1	U	1	U	1	U	**1**		1	U	109	ND	0.03	0.03	54	ND	1U		1U
207.7	1	U	1	U	1	U	**14**		1	U	100	0.06	0.08	0.01	57	ND	1U		1U
217.7	1	U	1	U	1	U	**10**		1	U	99	0.07	0.07	0.01	67	ND	**Detect**		1U
227.7	1	U	1	U	**8**		**51**		1	U	100	0.08	0.11	0.03	47	ND	1U		1U
237.7	1	U	1	U	**5**		**35**		1	U	108	ND	0.16	ND	52	ND	1U		1U
247.7	1	U	1	U	**2**		**15**		**1**		92	0.05	0.10	0.03	50	0.03	**Detect**		1U
257.7	1	U	1	U	**2**		**20**		1	U	93	0.17	0.40	0.32	76	0.11	**Detect**		1U
267.7	1	U	1	U	1	U	**6**		**1**		103	0.24	2.70	0.28	45	0.18	**Detect**		1U
277.7	1	U	1	U	1	U	**4**		1	U	103	0.03	0.06	0.04	53	0.02	**Detect**		1U
287.7	1	U	1	U	1	U	**4**		1	U	99	0.04	0.15	0.06	40	0.04	**Detect**		1U
302.7	1	U	1	U	1	U	**2**		1	U	103	0.19	0.35	0.1	42	0.08	**Detect**		1U
328.3	1	U	1	U	1	U	**6**		1	U	106	0.21	1.09	0.15	29	0.08	1U		1U
335.8	1	U	1	U	1	U	**10**		**1**		106	0.03	0.26	0.06	33	0.03	1U		1U
344.0	1	U	1	U	1	U	1	U	1	U	98	0.12	1.01	0.11	7	0.52	1U		1U
350.3	1	U	1	U	1	U	**8**		1	U	105	0.05	0.12	0.21	31	0.04	1U		1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
86.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
96.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
106.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
116.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
126.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
136.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
146.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
156.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
166.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
176.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
186.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
207.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
217.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
227.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
237.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
247.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
257.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
267.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	UJ	1	UJ	1	UJ	103
277.7	1	U	1	U	**1**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
287.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
302.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
328.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
335.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
344.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
350.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 8/4 - 8/13/03
Date Analyzed: 8/4 - 8/13/03
Report Date: 8/14/2003

HOLE ID = P20	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	90	ND	0.12	0.14	26	0.02	1U	1U
89.6	1	U	1	U	1	U	1	U	1	U	92	ND	0.06	0.04	167	0.02	1U	1U
99.6	1	U	1	U	1	U	1	U	1	U	82	0.05	0.17	0.17	33	0.03	1U	1U
109.6	1	U	1	U	1	U	1	U	1	U	83	0.14	0.18	0.03	25	ND	1U	1U
119.6	1	U	1	U	1	U	1	U	1	U	85	0.11	0.14	0.03	18	ND	1U	1U
129.6	1	U	1	U	1	U	1	U	1	U	84	0.07	0.15	0.13	19	ND	1U	1U
139.6	1	U	1	U	1	U	1	U	1	U	100	0.15	0.29	0.29	30	0.05	1U	1U
149.6	1	U	1	U	1	U	1	U	1	U	91	ND	0.06	0.03	53	0.02	1U	1U
159.6	1	U	1	U	1	U	1	U	1	U	91	0.05	0.09	0.02	83	ND	1U	1U
169.6	1	U	1	U	1	U	1	U	1	U	83	0.04	0.06	0.03	69	ND	1U	1U
179.6	1	U	1	U	1	U	1	U	1	U	90	0.06	0.13	0.04	32	0.02	1U	1U
189.6	1	U	1	U	1	U	1	U	1	U	91	0.08	0.17	0.08	70	ND	1U	1U
209.7	1	U	1	U	1	U	1	U	**1**		96	0.09	0.44	0.22	64	0.04	1U	1U
220.7	1	U	1	U	1	U	1	U	**18**		95	0.08	0.27	0.06	246	ND	1U	1U
229.7	1	U	1	U	1	U	1	U	**2**		103	0.07	0.28	0.14	56	0.07	1U	1U
269.6	1	U	1	U	1	U	1	U	**20**		94	0.06	0.15	0.17	186	0.04	1U	1U
281.9	1	U	1	U	1	U	1	U	**8**		87	0.07	0.89	0.42	65	0.12	1U	1U
289.6	1	U	1	U	1	U	1	U	**10**		87	0.03	0.07	0.05	51	0.02	1U	1U
298.7	1	U	1	U	1	U	**2**		**41**		95	0.09	0.27	0.11	34	0.02	1U	1U
309.6	8	U	8	U	8	U	8	U	**595**		98	0.07	0.12	0.08	92	ND	8U	8U
319.6	4	UJ	4	UJ	4	UJ	**14**	J	**281**	J	102	0.04	0.06	0.05	143	ND	4U	4U
328.2	1	UJ	1	UJ	1	UJ	1	UJ	**5**	J	75	ND	0.03	0.03	74	ND	1U	1U
339.6	1	U	1	U	1	U	1	U	1	U	96	ND	ND	0.05	49	ND	1U	1U
349.6	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	89	ND	ND	0.02	59	0.02	1U	1U
359.6	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	98	0.12	0.22	0.30	27	0.02	1U	1U
369.6	1	U	1	U	1	U	1	U	**2**		104	1.60	2.50	8.80	140	ND	1U	1U
379.6	1	U	1	U	1	U	1	U	**5**		91	0.11	0.17	0.28	412	0.05	1U	1U
392.0	1	U	1	U	1	U	1	U	**4**		108	0.04	0.73	0.12	320	0.02	1U	1U
428.0	1	U	1	U	1	U	**1**		**6**		104	ND	0.04	0.10	650	0.02	1U	1U
462.9	1	U	1	U	1	U	**3**		**12**		118	0.08	0.25	0.07	835	0.06	1U	1U
469.2	1	U	1	U	1	U	**10**		**25**		117	0.04	0.15	0.13	1140	0.06	1U	1U
476.7	1	U	1	U	1	U	1	U	**17**		122	ND	0.12	0.06	463	0.03	1U	1U

	VOC DATA, ug/L																											
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
89.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
119.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
129.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
149.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
159.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
169.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
179.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
189.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
209.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
220.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
229.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
269.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
281.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
289.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
298.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
309.6	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	8	U	98
319.6	4	UJ	4	UJ	4	UJ	4	UJ	4	UJ	4	UJ	4	UJ	8	UJ	4	UJ	4	UJ	4	UJ	4	UJ	102
328.2	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	2	UJ	1	UJ	1	UJ	1	UJ	1	UJ	75
339.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
349.6	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	2	UJ	1	UJ	1	UJ	**1**	J	1	UJ	89
359.6	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	2	UJ	1	UJ	1	UJ	1	UJ	1	UJ	98
369.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
379.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
392.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
428.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
462.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
469.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	117
476.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	122

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 6/24 - 7/1/03
Date Analyzed: 6/24 - 7/2/03
Report Date: 7/2/03

HOLE ID = P23

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
80.1	1	U	1	U	1	U	1	U	**13**		109	ND	0.06	0.06	35	ND	1 U	1 U
90.1	8	U	8	U	8	U	8	U	**510**		104	0.05	0.16	0.10	34	ND	8 U	8 U
100.1	20	U	20	U	20	U	20	U	**3100**		108	0.06	0.12	0.10	61	ND	20 U	20 U
110.1	3	U	3	U	3	U	3	U	**240**		113	0.07	0.17	0.13	43	0.02	3 U	3 U
120.1	1	U	1	U	1	U	1	U	**26**		115	0.03	0.07	0.06	50	ND	1 U	1 U
130.1	1	U	1	U	1	U	1	U	**7**		82	0.09	0.25	0.21	45	0.02	1 U	1 U
140.1	1	U	1	U	1	U	1	U	**6**		77	0.03	0.35	0.22	51	0.02	1 U	1 U
150.1	1	U	1	U	1	U	1	U	**4**		107	0.09	2.75	2.30	68	0.35	**Detect**	1 U
160.1	1	U	1	U	1	U	**23**		**13**		82	1.80	2.94	2.25	66	0.03	**Detect**	1 U
170.1	1	U	1	U	1	U	**7**		**6**		80	ND	0.19	0.14	67	0.03	1 U	1 U
180.1	1	U	1	U	**10**		**110**		**11**		84	0.03	0.05	0.18	65	0.05	1 U	1 U
190.1	3	U	3	U	**13**		**150**		**12**		114	0.85	3.10	1.40	81	0.63	3 U	3 U
200.1	1	U	1	U	**3**		**48**		**5**		112	ND	0.18	0.12	135	0.04	1 U	1 U
210.1	1	U	1	U	1	U	1	U	**2**		80	0.19	0.58	0.42	85	0.12	1 U	1 U
220.1	1	U	1	U	**2**		**31**		**3**		111	ND	0.04	0.06	108	ND	1 U	1 U
227.7	1	U	1	U	**2**		**44**		**4**		111	0.09	0.61	0.33	87	0.10	1 U	1 U
239.8	1	U	1	U	1	U	**2**		1	U	103	0.05	0.10	0.11	82	0.02	1 U	1 U
252.0	1	U	1	U	1	U	**19**		**27**		111	0.03	0.15	0.13	75	0.02	1 U	1 U
262.0	1	U	1	U	1	U	**14**		**7**		99	0.03	0.09	1.60	108	ND	1 U	1 U
287.0	1	U	1	U	1	U	**6**		**9**		111	0.15	2.41	0.45	247	0.09	1 U	1 U
293.5	1	U	1	U	1	U	**2**		**9**		111	0.45	1.25	0.75	403	0.30	1 U	1 U
334.1	1	U	1	U	1	U	**11**		**1**		107	0.04	0.06	0.09	163	0.04	1 U	1 U
343.4	1	U	1	U	1	U	**4**		**10**		99	ND	ND	0.07	499	0.02	1 U	1 U
347.4	1	U	1	U	1	U	**1**		**3**		99	ND	0.05	0.03	208	0.02	1 U	1 U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
80.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
90.1	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	8	U	104
100.1	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	108
110.1	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	113
120.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
130.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
140.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	77
150.1	1	U	1	U	**1**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
160.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
170.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
180.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
190.1	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	114
200.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
210.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
220.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
227.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
239.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
252.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		111
262.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
287.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
293.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
334.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
343.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
347.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 6/16 - 6/19/03
Date Analyzed: 6/16 - 6/19/03
Report Date: 6/19/03

HOLE ID = P-24

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
77.4	1	U	1	U	1	U	1	U	1	U	102	ND	0.15	0.08	23	0.03	1 U	1 U
87.4	1	U	1	U	1	U	1	U	1	U	98	0.06	0.20	0.05	73	0.04	1 U	1 U
97.4	1	U	1	U	1	U	1	U	1	U	98	0.68	1.33	0.68	87	0.57	1 U	1 U
107.4	1	U	1	U	1	U	1	U	1	U	98	0.13	0.40	0.27	92	0.12	1 U	1 U
115.4	1	U	1	U	1	U	1	U	1	U	98	0.10	0.20	0.16	92	0.06	1 U	1 U
127.3	1	U	1	U	1	U	1	U	1	U	102	ND	0.10	0.06	135	ND	**Detect**	1 U
137.3	1	U	1	U	1	U	**1**		1	U	104	0.06	0.25	0.1	173	0.03	**Detect**	1 U
147.3	1	U	1	U	1	U	**2**		1	U	98	0.10	0.12	0.04	185	ND	**Detect**	1 U
157.3	1	U	1	U	1	U	1	U	1	U	97	0.07	0.11	0.03	208	ND	**Detect**	1 U
167.3	1	U	1	U	1	U	1	U	1	U	96	ND	0.05	ND	221	ND	1 U	1 U
177.3	1	U	1	U	1	U	1	U	1	U	95	0.12	0.30	0.09	295	0.04	**Detect**	1 U
187.3	1	U	1	U	1	U	**2**		1	U	95	ND	0.06	0.03	280	0.02	**Detect**	1 U
197.3	1	U	1	U	1	U	**2**		1	U	104	ND	0.07	0.02	250	0.02	**Detect**	1 U
207.3	1	U	1	U	**2**		**8**		1	U	105	ND	0.03	0.02	122	0.02	**Detect**	1 U
217.3	1	U	1	U	**3**		**25**	Z	**2**		110	ND	0.05	0.05	87	0.03	**Detect**	1 U
227.3	1	U	1	U	**1**		**9**		1	U	110	0.08	0.25	0.13	95	0.03	**Detect**	1 U
237.3	1	U	1	U	1	U	1	U	1	U	104	ND	0.08	0.03	77	0.02	**Detect**	1 U
247.3	2	U	2	U	2	U	**6**		2	U	107	ND	0.10	0.06	72	0.04	**Detect**	2 U
257.3	1	U	1	U	1	U	**5**		1	U	105	ND	ND	ND	74	0.02	**Detect**	1 U
267.3	1	U	1	U	1	U	1	U	1	U	100	0.09	0.13	0.11	113	0.04	**Detect**	1 U
277.3	1	U	1	U	1	U	1	U	1	U	102	0.05	0.16	0.09	131	0.03	**Detect**	1 U
287.3	1	U	1	U	1	U	1	U	1	U	104	ND	0.06	0.02	81	0.03	**Detect**	1 U
297.3	1	U	1	U	1	U	1	U	1	U	101	0.18	0.46	0.24	64	0.04	**Detect**	1 U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
77.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
87.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
97.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
107.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
115.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
127.3	1	U	1	U	1	U	**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
137.3	1	U	1	U	1	U	**11**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
147.3	1	U	1	U	1	U	**12**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
157.3	1	U	1	U	1	U	**18**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
167.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
177.3	1	U	1	U	1	U	**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
187.3	1	U	1	U	1	U	**25**	Z	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
197.3	1	U	1	U	1	U	**20**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
207.3	1	U	1	U	**1**		**94**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
217.3	1	U	1	U	**3**		**130**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
227.3	1	U	1	U	**1**		**92**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
237.3	1	U	1	U	1	U	**11**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
247.3	2	U	2	U	2	U	**71**		2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	107
257.3	1	U	1	U	1	U	**33**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
267.3	1	U	1	U	1	U	**6**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
277.3	1	U	1	U	1	U	**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
287.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
297.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
Z = Estimated value that is marginally above the calibration range.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 7/8 - 7/14/03
Date Analyzed: 7/8 - 7/14/03
Report Date: 7/14/03

HOLE ID = P25	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene
79.7	1	U	1	U	1	U	1	U	**1**		109	0.04	0.15	0.06	29	0.02	1 U		1 U
89.7	1	U	1	U	1	U	1	U	1	U	108	ND	0.12	0.06	37	0.02	1 U		1 U
99.7	1	U	1	U	1	U	1	U	1	U	110	ND	0.10	0.05	92	ND	1 U		1 U
109.7	1	U	1	U	1	U	1	U	**3**		94	ND	0.06	0.06	90	0.02	1 U		1 U
119.7	1	U	1	U	1	U	1	U	**8**		107	ND	0.07	0.05	77	0.02	1 U		1 U
129.7	1	U	1	U	1	U	1	U	**6**		96	ND	0.04	0.04	21	0.02	1 U		1 U
139.7	1	U	1	U	**1**		**30**		**1**		109	ND	0.04	0.02	34	ND	1 U		1 U
149.7	1	U	1	U	1	U	**3**		**2**		97	ND	0.08	0.06	69	0.02	1 U		1 U
159.7	1	U	1	U	**3**		**47**		**7**		105	0.11	1.53	1.55	68	0.09	1 U		1 U
169.7	1	U	1	U	1	U	**12**		1	U	111	0.09	0.27	0.3	48	0.05	1 U		1 U
179.7	1	U	1	U	**2**		**27**		1	U	113	ND	0.08	0.04	73	0.02	1 U		1 U
189.7	1	U	1	U	**7**		**56**		1	U	100	0.05	0.13	0.09	78	0.05	1 U		1 U
199.7	1	U	1	U	**20**		**160**		**1**		120	0.16	0.34	0.22	61	0.11	1 U		1 U
209.7	1	U	1	U	**20**		**140**		**2**		120	0.12	0.52	0.19	42	0.07	1 U		1 U
219.7	1	U	1	U	**20**		**140**		**2**		118	0.10	0.55	0.26	41	0.06	1 U		1 U
229.5	3	U	3	U	**23**		**310**		**3**		118	0.08	0.38	0.13	46	0.06	3 U		3 U
239.5	1	U	1	U	**9**		**100**		**2**		108	0.06	0.12	0.22	41	0.04	1 U		1 U
249.5	1	U	1	U	**5**		**61**		**2**		96	ND	ND	ND	50	ND	1 U		1 U
259.5	1	U	1	U	**4**		**52**		1	U	118	0.02	0.09	0.12	57	ND	1 U		1 U
269.5	1	U	1	U	1	U	**2**		1	U	112	0.09	0.39	0.25	57	0.09	1 U		1 U
275.8	1	U	1	U	1	U	1	U	1	U	103	ND	0.05	0.07	49	0.03	1 U		1 U
290.0	1	U	1	U	1	U	**15**		1	U	116	ND	0.07	0.05	83	0.02	1 U		1 U
300.0	1	U	1	U	1	U	**4**		1	U	113	ND	0.42	0.18	105	0.03	1 U		1 U
310.0	1	U	1	U	1	U	**4**		1	U	109	ND	0.08	0.09	88	0.02	1 U		1 U
320.0	1	U	1	U	1	U	1	U	1	U	100	ND	0.19	0.14	58	ND	1 U		1 U
330.0	1	U	1	U	1	U	1	U	1	U	96	0.12	0.65	0.29	55	0.03	1 U		1 U
340.0	1	U	1	U	1	U	1	U	1	U	96	ND	0.05	0.06	64	0.02	1 U		1 U
349.4	1	U	1	U	1	U	**10**		**1**		103	ND	ND	ND	193	ND	1 U		1 U
370.0	1	U	1	U	1	U	1	U	1	U	109	0.11	0.36	0.4	62	0.04	1 U		1 U
379.2	1	U	1	U	1	U	1	U	1	U	109	0.07	0.12	0.16	30	ND	1 U		1 U

	VOC DATA, ug/L																											
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
89.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
99.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
109.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
119.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
129.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
139.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
149.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
159.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
169.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
179.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
189.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
199.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	120
209.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	120
219.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
229.5	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	118
239.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
249.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
259.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
269.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
275.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
290.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
300.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
310.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
320.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
330.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
340.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
349.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
370.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
379.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/12 - 5/20/03
Date Analyzed: 5/12 - 5/20/03
Report Date: 5/20/03

HOLE ID =P26

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
76.9	1	U	1	U	1	U	1	U	1	U	110	ND	0.27	0.14	263	ND	1 U	1 U
86.8	1	U	1	U	1	U	1	U	1	U	113	0.08	0.89	0.40	310	0.16	1 U	1 U
96.8	1	U	1	U	1	U	1	U	1	U	103	0.03	0.95	0.35	478	0.18	1 U	1 U
106.8	1	UJ	1	U	1	U	1	U	1	U	102	0.12	0.64	0.23	107	0.07	1 U	1 U
116.8	1	UJ	1	U	1	U	1	U	1	U	100	0.23	1.58	0.47	128	0.23	1 U	1 U
126.8	1	UJ	1	U	1	U	1	U	1	U	103	0.05	0.24	0.15	132	0.05	1 U	1 U
136.8	1	UJ	1	U	1	U	1	U	1	U	97	0.29	1.55	1.5	124	0.26	1 U	1 U
146.8	1	U	1	U	1	U	1	U	1	U	100	0.04	0.11	0.08	243	ND	1 U	1 U
152.3	1	U	1	U	1	U	1	U	1	U	101	0.25	7.60	3.2	122	0.12	1 U	1 U
162.3	1	U	1	U	1	U	1	U	1	U	100	0.31	1.21	0.53	143	0.27	1 U	1 U
172.3	1	U	1	U	1	U	1	U	1	U	102	0.23	1.01	0.7	207	0.3	1 U	1 U
182.3	1	U	1	U	1	U	1	U	1	U	105	0.04	0.13	0.12	97	0.04	1 U	1 U
192.3	1	U	1	U	1	U	1	U	1	U	98	0.15	1.76	1.45	137	0.29	1 U	1 U
202.3	1	U	1	U	1	U	1	U	1	U	105	0.08	0.48	0.26	132	0.05	1 U	1 U
211.3	1	U	1	U	1	U	1	U	1	U	93	0.23	1.88	0.53	108	0.17	1 U	1 U
221.3	1	U	1	U	1	U	1	U	1	U	111	0.17	0.56	0.55	81	0.22	1 U	1 U
231.3	1	U	1	U	1	U	1	U	1	U	108	0.03	0.32	0.14	94	0.03	1 U	1 U
241.3	1	U	1	U	1	U	1	U	1	U	109	0.21	0.38	0.39	89	0.16	1 U	1 U
257.3	1	UJ	1	U	1	U	1	U	1	U	93	0.10	0.42	0.28	79	0.15	1 U	1 U
267.1	1	UJ	1	U	1	U	1	U	1	U	89	0.44	0.97	0.63	95	0.39	1 U	1 U
276.5	1	U	1	U	1	U	1	U	1	U	112	0.04	0.28	0.63	114	0.05	1 U	1 U
286.5	1	U	1	U	1	U	**5**		**1**		114	ND	0.95	0.9	61	0.15	**Detect**	1 U
295.9	1	U	1	U	1	U	**2**		1	U	117	ND	0.49	0.22	34	0.03	**Detect**	1 U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
86.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
96.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
106.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
116.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
126.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
136.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
146.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
152.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
162.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
172.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
182.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
192.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
202.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
211.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
221.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
231.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
241.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
257.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	**2**		1	U	1	U	93
267.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
276.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
286.5	1	U	1	U	**1**		**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
295.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	117

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/3 - 5/8/03
Date Analyzed: 5/3 - 5/8/03
Report Date: 5/8/03

HOLE ID = P27

	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.8	1	U	1	U	1	U	1	U	**19**		99	0.28	0.38	0.11	36	ND	1 U	1 U
89.8	1	U	1	U	1	U	1	U	**22**		92	0.28	0.36	0.02	99	ND	1 U	1 U
99.8	1	U	1	U	1	U	1	U	**28**		101	0.09	0.14	ND	60	ND	1 U	1 U
109.8	1	U	1	U	1	U	1	U	1	U	95	0.10	0.25	0.18	22	ND	1 U	1 U
119.8	1	U	1	U	1	U	1	U	**21**		103	0.11	0.23	0.06	32	ND	1 U	1 U
129.8	1	U	1	U	1	U	1	U	1	U	108	0.12	0.36	0.22	31	0.05	1 U	1 U
139.8	1	U	1	U	1	U	**3**		**1**		103	0.11	0.16	0.04	50	ND	1 U	1 U
149.8	1	U	1	U	1	U	1	U	**4**		99	0.09	0.16	0.03	63	ND	1 U	1 U
159.8	1	U	1	U	1	U	**5**		**2**		82	0.15	0.43	0.14	92	0.02	1 U	1 U
169.8	1	U	1	U	1	U	**2**		**4**		87	0.47	1.62	0.53	86	0.32	1 U	1 U
179.8	1	U	1	U	1	U	1	U	**6**		93	0.70	2.56	0.60	111	0.55	1 U	1 U
189.8	1	U	1	U	1	U	**2**		**2**		89	0.17	0.71	0.36	67	0.07	1 U	1 U
199.8	1	U	1	U	1	U	**7**		**2**		90	ND	0.26	0.15	82	0.05	1 U	1 U
209.8	1	U	1	U	**2**		**30**		**1**		99	ND	0.06	0.05	66	0.04	1 U	1 U
219.8	1	U	1	U	**5**		**75**		**3**		95	0.10	0.38	0.23	79	0.11	1 U	1 U
229.5	20	U	20	U	**21**		**360**		20	U	101	ND	0.10	0.04	62	0.04	20 U	20 U
239.5	20	U	20	U	**25**		**450**		20	U	101	0.04	0.09	ND	61	0.03	20 U	20 U
267.0	1	U	1	U	**6**		**76**		**6**		100	0.04	0.11	0.13	74	0.03	1 U	1 U
277.0	1	U	1	U	1	U	**2**		**3**		81	0.10	0.39	0.20	159	0.07	1 U	1 U

	VOC DATA, ug/L																									
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
89.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
99.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
109.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
119.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
129.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
139.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
149.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
159.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
169.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
179.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
189.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
199.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
209.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
219.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
229.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	101
239.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	101
267.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
277.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	81

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/2 - 5/6/03
Date Analyzed: 5/2 - 5/6/03
Report Date: 5/6/03

HOLE ID = P28

	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
77.9	20	U	20	U	20	U	20	U	**1500**		100	ND	0.06	0.10	22.5	ND	20 U	20 U
87.0	1	U	1	U	1	U	**1**		**97**		98	0.07	0.84	0.63	35	0.05	1 U	1 U
97.0	2	U	2	U	2	U	2	U	**160**		103	0.03	0.08	0.07	22	ND	2 U	2 U
107.0	2	U	2	U	2	U	2	U	2	U	93	0.16	0.60	0.31	79	0.07	2 U	2 U
117.0	1	U	1	U	1	U	1	U	1	U	95	0.00	0.06	0.05	140	ND	1 U	1 U
127.0	1	U	1	U	1	U	1	U	1	U	104	0.16	0.45	0.29	195	0.05	1 U	1 U
137.0	1	U	1	U	1	U	1	U	1	U	108	0.09	0.94	0.75	75	0.09	1 U	1 U
147.0	1	U	1	U	1	U	1	U	1	U	103	0.06	0.26	0.16	125	ND	1 U	1 U
160.8	1	U	1	U	1	U	1	U	1	U	104	0.04	0.12	0.14	84	ND	1 U	1 U
167.0	1	U	1	U	1	U	1	U	1	U	89	0.15	0.61	0.37	79	0.08	1 U	1 U
177.0	1	U	1	U	1	U	1	U	1	U	88	0.09	0.43	0.19	93	0.03	1 U	1 U
187.0	1	U	1	U	1	U	1	U	1	U	94	0.01	0.12	0.06	140	0.03	1 U	1 U
197.0	1	U	1	U	1	U	1	U	1	U	90	0.03	0.17	0.11	156	0.03	1 U	1 U
207.0	1	U	1	U	1	U	1	U	1	U	95	ND	0.05	0.05	182	0.02	1 U	1 U
217.0	1	U	1	U	1	U	1	U	1	U	96	ND	0.30	0.23	87	0.06	1 U	1 U
227.0	1	U	1	U	1	U	1	U	1	U	96	0.05	0.28	0.11	140	0.06	1 U	1 U
237.0	1	U	1	U	1	U	1	U	1	U	92	0.10	0.41	0.19	110	0.12	1 U	1 U
247.0	1	U	1	U	1	U	1	U	1	U	95	0.08	1.29	0.21	147	0.12	1 U	1 U

	VOC DATA, ug/L																									
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
77.9	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	100
87.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
97.0	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	103
107.0	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	93
117.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
127.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
137.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
147.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
160.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
167.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
177.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
187.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
197.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
207.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
217.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
227.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
237.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
247.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 9/16-9/23/2003
Date Analyzed: 9/16-9/23/2003
Report Date: 9/23/2003

HOLE ID =P29

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.5	1	U	1	U	1	U	1	U	1	U	94	ND	ND	0.03	21	ND	1U	1U
89.5	1	U	1	U	1	U	1	U	1	U	97	0.07	0.34	0.33	46	0.08	1U	1U
99.5	1	U	1	U	1	U	1	U	1	U	91	0.03	0.18	0.14	51	0.05	1U	1U
109.5	1	U	1	U	1	U	1	U	1	U	83	0.22	1.07	0.56	46	0.16	1U	1U
119.5	1	U	1	U	1	U	**2**		1	U	100	ND	0.06	0.04	22	ND	1U	1U
129.5	1	U	1	U	1	U	1	U	1	U	93	ND	0.06	0.03	11	ND	1U	1U
139.5	1	U	1	U	1	U	1	U	1	U	119	ND	0.06	0.03	15	ND	1U	1U
149.5	1	U	1	U	1	U	1	U	1	U	96	ND	0.09	0.04	28	0.03	1U	1U
159.5	1	U	1	U	1	U	1	U	1	U	96	ND	0.12	0.03	38	ND	1U	1U
169.4	1	U	1	U	1	U	1	U	1	U	97	ND	ND	0.03	45	ND	1U	1U
176.7	1	U	1	U	1	U	1	U	1	U	92	0.09	0.36	0.32	32	0.06	1U	1U
191.3	1	U	1	U	1	U	1	U	1	U	101	0.06	0.23	0.25	37	0.06	1U	1U
200.8	1	U	1	U	1	U	1	U	**16**		106	ND	0.04	0.05	42	0.02	1U	1U
231.0	1	U	1	U	1	U	1	U	**106**		118	ND	0.10	0.06	68	ND	1U	1U
239.5	1	U	1	U	1	U	1	U	**22**		116	0.67	1.77	0.23	81	ND	1U	1U
249.9	1	U	1	U	1	U	1	U	**2**		110	0.06	0.23	0.11	96	ND	1U	1U
259.5	1	U	1	U	1	U	1	U	**19**		102	ND	0.10	0.03	282	ND	1U	1U
268.4	1	U	1	U	1	U	1	U	**14**		104	ND	0.03	0.05	108	ND	1U	1U
278.4	1	U	1	U	1	U	1	U	**10**		100	ND	0.06	0.04	62	0.03	1U	1U
289.9	1	U	1	U	1	U	1	U	1	U	101	ND	ND	0.04	39	0.02	1U	1U
299.6	1	U	1	U	1	U	1	U	1	U	98	0.04	0.17	0.05	44	0.03	1U	1U
310.2	1	U	1	U	1	U	1	U	**48**		106	ND	0.08	0.05	45	0.02	1U	1U
318.9	1	U	1	U	1	U	1	U	**14**		106	ND	0.08	0.05	46	0.02	1U	1U
329.9	1	U	1	U	1	U	1	U	**10**		103	0.06	0.09	0.09	20	0.02	1U	1U
339.5	1	U	1	U	1	U	1	U	**10**		102	0.09	0.85	0.20	29	0.06	1U	1U
360.0	1	U	1	U	1	U	1	U	**1**		102	ND	0.07	0.05	93	0.04	1U	1U
369.2	1	U	1	U	1	U	1	U	**2**		102	0.03	0.11	0.10	130	0.02	1U	1U
390.0	1	U	1	U	1	U	1	U	1	U	83	ND	0.07	0.04	53	ND	1U	1U
410.7	1	U	1	U	1	U	1	U	**3**		89	0.03	0.12	0.09	251	0.05	1U	1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
89.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
99.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
109.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
119.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
129.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
139.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	119
149.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
159.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
169.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
176.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
191.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
200.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
231.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
239.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		116
249.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
259.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
268.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
278.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
289.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
299.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
310.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
318.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
329.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
339.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
360.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
369.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
390.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
410.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 9/30 -10/8/2003
Date Analyzed: 9/30 -10/8/2003
Report Date: 10/7/2003

HOLE ID =P30

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	87	0.06	0.31	0.23	59	0.06	1U	1U
89.6	1	U	1	U	1	U	1	U	**2**		91	0.22	0.55	0.37	53	0.13	**Detect**	1U
99.6	1	U	1	U	1	U	1	U	1	U	98	0.48	1.45	1.70	49	0.31	**Detect**	1U
119.6	1	U	1	U	1	U	1	U	1	U	101	ND	0.10	0.14	55	0.03	1U	1U
128.8	1	U	1	U	1	U	1	U	1	U	90	0.03	0.23	0.27	55	0.05	1U	1U
139.6	1	U	1	U	1	U	1	U	1	U	83	0.77	6.61	1.40	47	0.20	1U	1U
149.6	1	U	1	U	1	U	1	U	1	U	97	0.30	0.90	0.64	38	0.24	1U	1U
186.3	1	U	1	U	1	U	1	U	1	U	104	ND	0.30	0.14	23	ND	1U	1U
194.4	1	U	1	U	1	U	1	U	1	U	89	ND	0.73	0.07	27	0.02	1U	1U
204.6	1	U	1	U	1	U	1	U	**1**		82	ND	0.03	0.02	29	0.02	1U	1U
214.6	1	U	1	U	1	U	1	U	**3**		82	ND	0.03	0.03	45	ND	1U	1U
224.6	1	U	1	U	1	U	1	U	**7**		82	0.04	0.14	0.16	53	0.02	1U	1U
232.9	1	U	1	U	1	U	1	U	**5**		80	0.17	0.39	0.39	49	0.09	1U	1U
244.6	1	U	1	U	1	U	1	U	**66**		97	0.17	0.49	0.29	55	0.09	1U	1U
260.9	1	U	1	U	1	U	1	U	1	U	103	ND	0.04	0.03	48	0.02	1U	1U
269.0	1	U	1	U	1	U	1	U	1	U	95	0.15	0.45	0.44	39	0.11	1U	1U
279.0	1	U	1	U	1	U	1	U	1	U	95	ND	0.07	0.04	124	0.03	1U	1U
289.0	1	U	1	U	1	U	1	U	1	U	97	ND	0.04	0.02	44	0.02	1U	1U
298.6	1	U	1	U	1	U	1	U	1	U	101	0.04	0.07	0.03	34	0.04	1U	1U
307.5	1	U	1	U	1	U	1	U	1	U	96	0.03	0.14	0.06	21	0.04	1U	1U
331.0	1	U	1	U	1	U	1	U	1	U	97	ND	0.07	0.09	18	ND	1U	1U
340.0	1	U	1	U	1	U	1	U	**8**		100	0.12	0.23	0.25	20	0.06	1U	1U
345.3	1	U	1	U	1	U	1	U	**6**		102	ND	ND	0.04	21	ND	1U	1U
390.8	1	U	1	U	1	U	1	U	1	U	99	0.22	1.72	0.58	21	0.13	1U	1U
399.2	1	U	1	U	1	U	1	U	1	U	102	0.10	0.54	0.27	12	0.09	1U	1U
406.6	1	U	1	U	1	U	1	U	1	U	97	ND	0.13	0.05	14	ND	1U	1U

Depth	VOC DATA, ug/L																											
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
89.6	1	U	1	U	1	U	**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
99.6	1	U	1	U	**27**		**57**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
119.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
128.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
149.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
186.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
194.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
204.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
214.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
224.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
232.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
244.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
260.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
269.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
279.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
289.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
298.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
307.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
331.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
340.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
345.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
390.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
399.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
406.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 1/5-1/24/2004
Date Analyzed: 1/5-1/24/2004
Report Date: 1/24/2004

HOLE ID =P31

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.3	1	U	1	U	1	U	1	U	1	U	93	0.08	0.21	0.22	86	0.06	1U	1U
89.3	1	U	1	U	1	U	1	U	1	U	99	0.12	0.20	0.33	163	0.07	1U	1U
99.3	1	U	1	U	1	U	1	U	1	U	93	0.18	0.60	0.58	160	0.13	1U	1U
111.7	1	U	1	U	1	U	1	U	1	U	93	0.16	0.89	0.44	116	0.07	1U	1U
124.3	1	U	1	U	1	U	1	U	1	U	92	0.20	0.32	0.21	87	0.11	1U	1U
134.3	1	U	1	U	1	U	1	U	1	U	93	0.09	0.27	0.33	80	0.08	1U	1U
143.3	1	U	1	U	1	U	1	U	1	U	88	0.08	0.29	0.35	85	0.05	1U	1U
184.3	1	U	1	U	1	U	1	U	1	U	104	ND	0.09	0.05	44	0.03	1U	1U
190.4	1	U	1	U	1	U	1	U	1	U	94	0.03	0.17	0.16	48	0.03	1U	1U
199.3	1	U	1	U	1	U	1	U	1	U	103	0.11	0.53	0.36	48	0.03	1U	1U
223.8	1	U	1	U	1	U	1	U	1	U	88	0.07	0.20	0.27	61	0.06	1U	1U
233.1	1	U	1	U	1	U	1	U	1	U	82	ND	0.03	0.06	55	ND	1U	1U
244.3	1	U	1	U	1	U	1	U	1	U	88	0.10	0.22	0.23	65	0.07	1U	1U
254.3	1	U	1	U	1	U	1	U	1	U	89	0.11	0.20	0.26	43	0.06	1U	1U
263.7	1	U	1	U	1	U	1	U	1	U	92	0.11	0.63	0.41	30	0.05	1U	1U
284.3	1	U	1	U	1	U	1	U	1	U	98	ND	0.05	0.08	18	0.02	1U	1U
294.3	1	U	1	U	1	U	1	U	1	U	103	ND	ND	0.04	41	0.02	1U	1U
304.3	1	U	1	U	1	U	1	U	1	U	92	0.13	0.97	0.69	40	0.07	1U	1U
344.3	1	U	1	U	1	U	1	U	1	U	103	0.24	0.54	0.28	30	0.08	1U	1U
351.6	1	U	1	U	1	U	1	U	1	U	105	0.07	0.86	0.11	21	0.14	1U	1U
363.2	**3**	J	1	U	1	U	1	U	1	U	90	0.12	0.33	0.29	25	0.08	1U	1U
374.3	1	U	1	U	1	U	1	U	1	U	91	0.07	0.20	0.21	21	0.04	1U	1U
404.3	1	U	1	U	1	U	1	U	1	U	91	0.03	0.07	0.06	14	ND	1U	1U
414.3	1	U	1	U	1	U	1	U	1	U	85	0.11	0.39	0.71	17	ND	1U	1U
444.3	1	U	1	U	1	U	1	U	1	U	104	ND	0.05	0.08	10	0.03	1U	1U
451.4	1	U	1	U	1	U	1	U	1	U	107	0.06	0.24	0.16	35	ND	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
89.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
99.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
111.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
124.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**	U	92
134.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
143.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
184.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
190.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
199.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
223.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
233.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
244.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
254.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
263.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
284.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
294.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
304.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
344.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**54**		103
351.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
363.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
374.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
404.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
414.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
444.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
451.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Preliminary Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 2/9-2/19/2004
Date Analyzed: 2/9-2/19/2004
Report Date: 2/19/2004

HOLE ID =P32	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
80.0	1	U	1	U	1	U	1	U	1	U	76	0.04	0.15	0.12	132	0.04	1U	1U
89.4	1	U	1	U	1	U	1	U	1	U	76	0.03	0.08	0.09	194	0.06	1U	1U
99.4	1	U	1	U	1	U	1	U	1	U	114	0.14	0.42	0.34	276	0.10	1U	1U
109.4	1	U	1	U	1	U	1	U	1	U	86	0.16	0.45	0.34	66	0.12	1U	1U
119.4	1	U	1	U	1	U	1	U	1	U	110	0.23	0.49	0.51	67	0.12	1U	1U
128.8	1	U	1	U	1	U	1	U	1	U	108	0.09	0.32	0.38	61	0.11	1U	1U
139.4	1	U	1	U	1	U	1	U	1	U	93	0.20	0.83	0.58	72	0.13	1U	1U
174.4	1	U	1	U	1	U	1	U	1	U	110	0.36	1.99	0.68	57	0.11	1U	1U
184.4	1	U	1	U	1	U	1	U	1	U	109	0.11	0.33	0.24	83	0.09	1U	1U
194.4	1	U	1	U	1	U	1	U	1	U	92	0.10	0.44	0.27	80	0.10	1U	1U
224.4	1	U	1	U	1	U	**9**		1	U	94	0.04	0.07	0.02	35	0.03	**Detect**	1U
234.4	1	U	1	U	1	U	**13**		**2**		89	0.05	0.11	0.07	24	0.04	**Detect**	1U
241.0	1	U	1	U	1	U	**3**		1	U	96	0.03	0.07	0.04	33	0.03	**Detect**	1U
251.8	1	U	1	U	1	U	**5**		1	U	101	0.06	0.19	0.13	30	0.05	**Detect**	1U
259.4	1	U	1	U	1	U	**3**		1	U	85	0.04	0.05	0.03	33	0.03	**Detect**	1U
269.4	1	U	1	U	1	U	**3**		1	U	97	0.03	0.12	0.12	25	0.03	**Detect**	1U
279.4	1	U	1	U	1	U	**2**		1	U	98	0.16	0.51	0.36	25	0.06	**Detect**	1U
289.4	1	U	1	U	1	U	1	U	1	U	110	ND	0.04	0.03	22	0.03	1U	1U
299.4	1	U	1	U	1	U	1	U	1	U	106	0.19	0.86	0.69	23	0.08	1U	1U
309.4	1	U	1	U	1	U	1	U	1	U	114	0.05	0.08	0.06	27	0.02	1U	1U
352.0	1	U	1	U	1	U	1	U	1	U	106	0.04	0.09	0.06	20	0.03	1U	1U
359.2	1	U	1	U	1	U	1	U	1	U	94	0.05	0.10	0.09	25	0.04	1U	1U
369.2	1	U	1	U	1	U	1	U	1	U	93	0.08	0.18	0.14	25	0.05	1U	1U
379.3	1	U	1	U	1	U	1	U	1	U	97	0.10	0.36	0.26	20	0.10	1U	1U
387.8	1	U	1	U	1	U	1	U	1	U	89	0.05	0.13	0.11	20	0.04	1U	1U
411.3	1	U	1	U	1	U	1	U	1	U	85	0.05	0.09	0.16	19	0.03	1U	1U
419.3	1	U	1	U	1	U	1	U	1	U	89	0.03	0.05	0.02	19	0.04	1U	1U
426.7	1	U	1	U	1	U	1	U	1	U	90	ND	0.07	0.02	17	0.02	1U	1U
460.9	1	U	1	U	1	U	1	U	1	U	88	0.07	0.16	0.06	15	0.04	1U	1U
481.0	1	U	1	U	1	U	1	U	1	U	87	0.09	0.13	0.07	12	0.04	1U	1U
488.9	1	U	1	U	1	U	1	U	1	U	84	0.03	0.03	0.08	11	0.03	1U	1U

	VOC DATA, ug/L																											
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
80.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	76
89.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	76
99.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
109.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
119.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
128.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
139.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
174.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
184.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
194.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
224.4	1	U	1	U	**3**		**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
234.4	1	U	1	U	**3**		**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
241.0	1	U	1	U	**3**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
251.8	1	U	1	U	**4**		**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
259.4	1	U	1	U	**5**		**3**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
269.4	1	U	1	U	**2**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
279.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
289.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
299.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
309.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
352.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
359.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
369.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
379.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
387.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
411.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
419.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
426.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
460.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
481.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
488.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 12/05-12/15/2003
Date Analyzed: 12/05-12/15/2003
Report Date: 12/15/2003

HOLE ID =P33

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	82	0.04	0.17	0.11	825	0.05	1U	1U
89.6	1	U	1	U	1	U	1	U	1	U	84	0.05	0.39	0.25	1320	0.07	1U	1U
99.6	1	U	1	U	1	U	1	U	1	U	94	0.09	0.53	0.39	233	0.16	1U	1U
109.6	1	U	1	U	1	U	1	U	1	U	93	0.04	0.22	0.14	365	0.08	1U	1U
119.6	1	U	1	U	1	U	1	U	1	U	89	0.16	0.57	0.51	302	0.15	1U	1U
129.6	1	U	1	U	1	U	1	U	1	U	97	0.05	0.19	0.09	438	0.05	1U	1U
139.6	1	U	1	U	1	U	1	U	1	U	95	0.03	0.19	0.15	570	0.06	1U	1U
149.6	1	U	1	U	1	U	1	U	1	U	93	0.07	0.23	0.16	568	0.05	1U	1U
159.6	1	U	1	U	1	U	1	U	1	U	89	0.04	0.19	0.11	450	0.06	**Detect**	1U
169.6	1	U	1	U	1	U	**1**		1	U	91	0.04	0.08	0.05	84	0.06	**Detect**	1U
179.6	1	U	1	U	1	U	1	U	1	U	91	ND	0.08	0.05	221	0.05	**Detect**	1U
189.6	1	U	1	U	1	U	1	U	1	U	92	0.03	0.13	0.11	233	0.05	**Detect**	1U
198.1	1	U	1	U	1	U	1	U	1	U	89	ND	0.07	0.04	302	0.04	**Detect**	1U
214.6	1	U	1	U	1	U	1	U	1	U	86	0.73	1.63	0.30	490	0.33	1U	1U
224.6	1	U	1	U	1	U	1	U	1	U	104	0.08	0.19	0.05	795	0.03	1U	1U
234.6	**2**	UJ	1	U	1	U	1	U	1	U	101	ND	0.09	0.02	1170	0.03	1U	1U
244.6	**5**	J	1	U	1	U	1	U	1	U	104	0.24	0.37	0.03	1650	0.19	1U	1U
254.6	**5**	J	1	U	1	U	1	U	1	U	100	ND	0.12	0.04	1775	0.03	1U	1U
264.6	1	U	1	U	1	U	1	U	1	U	99	0.16	0.63	0.54	980	0.05	1U	1U
274.6	1	U	1	U	1	U	1	U	1	U	101	ND	ND	0.05	990	ND	1U	1U
284.6	1	U	1	U	1	U	1	U	1	U	104	0.14	0.18	0.37	22	0.05	1U	1U
294.6	1	U	1	U	1	U	1	U	1	U	102	ND	ND	0.04	16	0.02	1U	1U
304.6	1	U	1	U	1	U	1	U	1	U	98	0.07	0.16	0.17	31	0.09	1U	1U
344.3	1	U	1	U	1	U	1	U	1	U	91	0.93	1.20	0.22	18	0.03	1U	1U
374.3	1	U	1	U	1	U	1	U	1	U	97	0.06	0.21	0.08	21	0.05	1U	1U
412.4	1	U	1	U	1	U	1	U	1	U	99	0.05	0.13	0.05	13	0.02	1U	1U
423.8	**2**		1	U	1	U	1	U	1	U	94	0.09	0.14	0.15	13	0.07	1U	1U
432.6	**2**		1	U	1	U	1	U	1	U	93	ND	0.10	ND	10	0.02	1U	1U
454.3	1	U	1	U	1	U	1	U	1	U	103	0.51	1.45	0.24	11	0.24	1U	1U
481.1	1	U	1	U	1	U	1	U	1	U	113	0.08	0.26	0.09	11	0.04	1U	1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
89.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
119.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
129.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
149.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
159.6	1	U	1	U	1	U	**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
169.6	1	U	1	U	**5**		**5**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
179.6	1	U	1	U	**2**		**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
189.6	1	U	1	U	**1**		**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
198.1	1	U	1	U	**2**		**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
214.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
224.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
234.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
244.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
254.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
264.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
274.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
284.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
294.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
304.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
344.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
374.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
412.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
423.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
432.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
454.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		103
481.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 7/9 - 7/14/03
Date Analyzed: 7/9 - 7/14/03
Report Date: 7/14/03

HOLE ID = P35

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene
77.2	1	U	1	U	1	U	1	U	**10**		95	0.04	0.09	0.02	21	ND	1 U		1 U
87.2	1	U	1	U	1	U	1	U	**7**		101	ND	0.07	0.04	14	0.04	1 U		1 U
97.2	1	U	1	U	1	U	1	U	**11**		89	ND	0.11	0.11	16	0.03	1 U		1 U
107.2	1	U	1	U	1	U	1	U	1	U	106	NS	NS	NS	NA	NS	1 U		1 U
117.2	1	U	1	U	1	U	1	U	**4**		110	ND	0.54	0.10	43	0.03	1 U		1 U
127.2	1	U	1	U	1	U	**20**		1	U	107	ND	0.05	0.05	75	0.02	1 U		1 U
137.2	1	U	1	U	**9**		**97**		**5**		118	0.03	0.08	0.07	51	0.03	1 U		1 U
147.2	1	U	1	U	**12**		**110**		**1**		101	0.03	0.12	0.06	65	ND	1 U		1 U
157.2	1	U	1	U	**18**		**100**		**20**		113	ND	0.19	0.05	100	ND	1 U		1 U
167.2	**4**	U	4	U	**27**		**400**		**6**		107	0.06	0.12	0.11	62	0.02	4 U		4 U
177.2	1	U	1	U	**12**		**110**		**2**		102	ND	0.05	0.09	169	0.02	1 U		1 U
187.2	1	U	1	U	**5**		**37**		1	U	115	0.16	0.38	0.30	197	0.1	1 U		1 U
197.2	1	U	1	U	**4**		**51**		**1**		108	ND	0.04	0.10	255	ND	1 U		1 U
207.2	1	U	1	U	**2**		**36**		1	U	118	ND	0.06	0.07	94	0.02	1 U		1 U
217.2	1	U	1	U	**5**		**62**		**1**		94	0.16	0.39	0.25	57	0.09	1 U		1 U
227.2	1	U	1	U	1	U	**2**		1	U	110	0.04	0.10	0.10	43	0.02	1 U		1 U
237.2	1	U	1	U	1	U	**1**		1	U	110	ND	0.10	0.04	107	ND	1 U		1 U
247.2	1	U	1	U	1	U	1	U	1	U	113	0.04	0.08	0.10	96	0.02	1 U		1 U
257.2	1	U	1	U	1	U	1	U	1	U	92	ND	ND	0.04	94	ND	1 U		1 U
267.2	1	U	1	U	1	U	1	U	1	U	110	0.03	0.08	0.08	93	ND	1 U		1 U
277.2	1	U	1	U	1	U	1	U	1	U	104	ND	0.06	0.09	72	0.03	1 U		1 U
292.2	1	U	1	U	1	U	1	U	1	U	93	0.40	2.40	0.50	370	0.3	1 U		1 U
322.2	1	U	1	U	1	U	1	U	1	U	104	0.03	0.09	0.11	447	0.04	1 U		1 U
332.2	1	U	1	U	1	U	1	U	**1**		109	0.14	0.26	0.40	402	0.05	1 U		1 U
342.2	1	U	1	U	1	U	1	U	**2**		107	ND	0.22	0.11	443	0.05	1 U		1 U
347.2	1	U	1	U	1	U	1	U	1	U	103	1.60	50.80	7.00	59	0.4	1 U		1 U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
77.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
87.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
97.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
107.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
117.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
127.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
137.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
147.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
157.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
167.2	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	107
177.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
187.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
197.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
207.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
217.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
227.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
237.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
247.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
257.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
267.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
277.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
292.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
322.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
332.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
342.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
347.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/21-12/03/3003
Date Analyzed: 11/21-12/03/3003
Report Date: 12/3/2003

HOLE ID =P34

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	91	0.08	0.26	0.11	111	0.02	1U	1U
89.6	1	U	1	U	1	U	1	U	1	U	94	0.19	0.39	0.10	146	0.04	1U	1U
99.6	1	U	1	U	1	U	1	U	1	U	88	0.16	0.40	0.05	32	ND	1U	1U
109.6	1	U	1	U	1	U	1	U	1	U	83	0.22	0.51	0.54	72	0.09	1U	1U
119.6	1	U	1	U	1	U	1	U	1	U	89	0.15	0.67	0.42	146	0.04	1U	1U
129.6	1	U	1	U	1	U	1	U	1	U	91	0.05	0.27	0.12	42	0.03	1U	1U
139.6	1	U	1	U	1	U	1	U	1	U	84	0.04	0.16	0.07	67	0.02	1U	1U
154.6	1	U	1	U	1	U	1	U	1	U	88	0.03	0.10	0.03	59	0.03	1U	1U
164.6	1	U	1	U	1	U	1	U	1	U	89	0.05	0.07	0.04	65	0.02	1U	1U
174.6	1	U	1	U	1	U	1	U	1	U	100	0.04	0.12	0.10	75	0.03	1U	1U
184.6	1	U	1	U	1	U	1	U	1	U	102	0.04	0.14	0.10	72	0.03	1U	1U
194.6	1	U	1	U	1	U	1	U	1	U	94	0.03	0.07	0.04	76	0.02	1U	1U
204.6	1	U	1	U	1	U	**2**		1	U	89	ND	0.11	0.09	74	0.03	1U	1U
214.6	1	U	1	U	1	U	**1**		1	U	84	0.05	0.11	0.09	75	0.04	1U	1U
224.6	1	U	1	U	1	U	**3**		**1**		94	0.03	0.05	0.03	57	0.02	**Detect**	1U
234.6	1	U	1	U	1	U	**2**		**2**		99	0.04	0.10	0.06	31	ND	**Detect**	1U
244.6	1	U	1	U	1	U	**2**		**2**		92	0.05	0.09	0.08	27	ND	**Detect**	1U
254.6	1	U	1	U	1	U	**5**		**1**		102	0.04	0.07	0.05	31	0.02	**Detect**	1U
264.6	1	U	1	U	1	U	**3**		**1**		106	0.05	0.22	0.12	30	0.05	**Detect**	1U
284.6	1	U	1	U	1	U	**13**		**1**		92	0.24	1.45	0.27	34	0.11	**Detect**	1U
294.6	1	U	1	U	1	U	**15**		**2**		101	0.26	0.58	0.15	36	0.11	**Detect**	1U
304.5	1	U	1	U	1	U	**10**		**1**		96	0.05	0.10	0.04	35	0.02	**Detect**	1U
324.5	1	U	1	U	1	U	**12**		**1**		85	ND	0.08	0.02	40	0.02	**Detect**	1U
334.5	1	U	1	U	1	U	**6**		1	U	87	ND	ND	ND	33	0.02	**Detect**	1U
352.7	1	U	1	U	1	U	1	U	1	U	114	0.05	0.11	0.08	23	0.02	1U	1U
384.4	1	U	1	U	1	U	1	U	1	U	76	ND	0.06	0.02	14	ND	1U	1U
394.6	1	U	1	U	1	U	1	U	1	U	77	ND	0.04	0.13	22	0.03	1U	1U
401.6	1	U	1	U	1	U	1	U	1	U	80	0.05	0.08	0.13	25	0.04	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
89.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
119.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
129.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
154.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
164.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
174.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
184.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
194.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
204.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
214.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
224.6	1	U	1	U	1	U	**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
234.6	1	U	1	U	1	U	**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
244.6	1	U	1	U	**2**		**3**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
254.6	1	U	1	U	**3**		**4**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
264.6	1	U	1	U	**3**		**4**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
284.6	1	U	1	U	**7**		**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
294.6	1	U	1	U	**6**		**8**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
304.5	1	U	1	U	**7**		**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
324.5	1	U	1	U	**5**		**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
334.5	1	U	1	U	**6**		**4**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
352.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
384.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	76
394.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	77
401.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 8/18 - 8/26/03
Date Analyzed: 8/19 - 8/26/03
Report Date: 8/26/2003

HOLE ID =P36

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
Equip. Blank	1	U	1	U	1	U	1	U	1	U	118						1U	1U
76.7	1	U	1	U	1	U	**3**		**4**		121	0.16	0.53	0.23	106	0.10	1U	1U
86.7	1	U	1	U	1	U	**20**		**20**		119	ND	0.52	0.15	40	0.02	1U	1U
96.7	20	U	20	U	**45**		**240**		**210**		119	0.64	1.91	0.60	50	0.04	20U	20U
106.7	20	U	20	U	**120**		**740**		**580**		119	3.70	4.5	0.32	53	0.06	20U	20U
116.7	2	U	2	U	**37**		**120**		**64**		122	7.00	7.2	0.22	66	0.07	2U	2U
126.7	2	U	2	U	**46**		**85**		**64**		117	23.90	25.1	0.24	66	ND	2U	2U
136.7	1	U	1	U	**33**		**32**		**23**		114	3.70	5.2	0.06	36	ND	**Detect**	1U
146.7	2	U	2	U	2	U	**18**		**120**		119	13.80	16.6	0.58	45	0.02	2U	2U
156.7	5	U	5	U	5	U	**69**		**410**		101	14.70	16.7	0.70	8	ND	5U	5U
166.7	5	U	5	U	5	U	**52**		**430**		101	3.50	6.4	0.58	23	0.05	5U	5U
176.7	5	U	5	U	5	U	**240**		**310**		106	0.25	3.8	1.1	44	0.11	5U	5U
186.7	5	U	5	U	5	U	**9**		**530**		107	0.34	1.56	0.30	120	0.03	5U	5U
196.7	2	U	2	U	2	U	2	U	**180**		92	0.33	1.23	0.70	122	0.08	2U	2U
206.7	1	U	1	U	1	U	1	U	**43**		100	0.08	0.11	0.22	146	0.03	1U	1U
216.7	1	U	1	U	1	U	1	U	**2**		107	0.10	0.79	0.25	182	0.05	1U	1U
226.7	1	U	1	U	1	U	1	U	**11**		111	0.13	1.06	0.20	268	0.07	1U	1U
236.7	1	U	1	U	1	U	1	U	1	U	92	0.04	0.23	0.11	316	0.03	1U	1U
266.8	1	U	1	U	1	U	**12**		**11**		102	ND	0.04	0.04	428	ND	1U	1U
282.0	2	U	2	U	**3**		**190**		2	U	98	0.05	0.11	0.05	121	ND	**Detect**	2U
292.4	3	U	3	U	3	U	**51**		**290**		99	ND	0.03	0.07	613	0.06	3U	3U
328.4	1	U	1	U	1	U	**16**		**65**		97	0.10	0.22	0.25	710	0.06	1U	1U
371.3	1	U	1	U	1	U	1	U	**5**		100	0.32	0.66	0.14	159	0.03	1U	1U
475.2	1	U	1	U	1	U	1	U	1	U	104	0.07	0.67	0.17	53	0.03	1U	1U

Depth	VOC DATA, ug/L																											
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
Equip. Blank	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
76.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	121
86.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	119
96.7	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	**1400**		119
106.7	20	U	20	U	20	U	20	U	20	U	20	U	**150**		**220**		**330**		**45**		**40**		**5000**		119
116.7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	**24**		122
126.7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	**15**		117
136.7	1	U	1	U	**10**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**9**		114
146.7	2	U	2	U	**4**		2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	**6**		119
156.7	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	101
166.7	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	101
176.7	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	106
186.7	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	107
196.7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	92
206.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		100
216.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		107
226.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		111
236.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		92
266.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
282.0	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	98
292.4	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	99
328.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
371.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
475.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 8/19 - 8/27/03
Date Analyzed: 8/19 - 8/27/03
Report Date: 8/27/2003

HOLE ID =P37

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.3	1	U	1	U	1	U	1	U	1	U	118	ND	0.15	0.04	16	ND	1U	1U
90.0	1	U	1	U	1	U	1	U	**15**		120	4.40	11.0	0.42	24	ND	1U	1U
100.0	2	U	2	U	2	U	2	U	**220**		116	0.16	0.59	0.19	18	ND	2U	2U
110.0	2	U	2	U	2	U	2	U	**220**		105	1.28	1.50	0.20	34	ND	2U	2U
120.0	1	U	1	U	1	U	**24**		**30**		115	0.41	0.64	0.15	40	0.02	1U	1U
130.0	1	U	1	U	1	U	**37**		**13**		109	0.18	0.27	1.0	40	ND	1U	1U
140.0	1	U	1	U	1	U	**29**		**5**		110	10.90	12.1	1.4	46	ND	1U	1U
150.0	1	U	1	U	1	U	**11**		**27**		111	33.20	41.2	1.8	65	ND	1U	1U
160.0	1	U	1	U	1	U	**8**		**110**		116	0.24	0.27	2.8	45	ND	1U	1U
170.0	1	U	1	U	1	U	**6**		**5**		101	0.22	1.45	0.40	106	0.03	1U	1U
180.0	1	U	1	U	1	U	**4**		**2**		108	4.10	5.8	0.80	111	0.05	1U	1U
190.0	1	U	1	U	1	U	**1**		**1**		108	2.60	4.0	4.5	130	0.02	1U	1U
224.6	1	U	1	U	1	U	**6**		**9**		107	0.21	1.30	2.6	218	0.18	1U	1U
264.9	1	U	1	U	1	U	**2**		**3**		102	0.10	1.31	0.13	182	0.07	1U	1U
274.9	1	U	1	U	1	U	**4**		**7**		103	ND	0.24	0.09	210	0.04	1U	1U
284.4	12	U	12	U	12	U	**520**		**1100**		104	0.05	0.20	0.08	250	ND	12U	12U
304.8	2	U	2	U	2	U	**120**		**83**		102	0.44	1.82	0.70	193	0.24	2U	2U
314.8	1	U	1	U	1	U	**49**		**36**		96	ND	0.10	0.06	128	ND	1U	1U
324.8	1	U	1	U	1	U	**1**		**3**		105	0.07	0.17	0.21	55	0.05	1U	1U
333.2	1	U	1	U	1	U	1	U	**2**		101	ND	0.24	0.13	103	ND	1U	1U
356.2	1	U	1	U	1	U	**2**		**14**		105	0.12	0.47	0.32	224	0.08	1U	1U
385.0	1	U	1	U	1	U	1	U	1	U	108	ND	0.04	0.03	30	0.05	1U	1U
394.5	1	U	1	U	1	U	1	U	1	U	101	0.15	0.80	0.20	24	0.07	1U	1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	118
90.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	120
100.0	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	116
110.0	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	**3**		2	U	2	U	105
120.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
130.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
140.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
150.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
160.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
170.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
180.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
190.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
224.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
264.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
274.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
284.4	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**38**		104
304.8	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	102
314.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
324.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
333.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
356.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
385.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
394.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 9/16-9/24/2003
Date Analyzed: 9/16-9/24/2003
Report Date: 9/24/2003

HOLE ID =P38

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
76.7	1	U	1	U	1	U	1	U	1	U	93	ND	0.15	0.04	114	ND	1U	1U
86.7	1	U	1	U	1	U	1	U	**1**		88	0.03	0.09	0.07	39	0.04	1U	1U
96.8	1	U	1	U	1	U	1	U	**3**		93	ND	0.17	0.11	41	0.04	1U	1U
106.7	1	U	1	U	1	U	1	U	**4**		99	ND	0.20	0.12	38	0.02	1U	1U
116.7	1	U	1	U	1	U	1	U	**5**		94	0.31	0.33	0.18	24	0.05	1U	1U
126.7	1	U	1	U	1	U	1	U	**34**		90	0.03	0.19	0.08	20	ND	1U	1U
136.7	1	U	1	U	1	U	1	U	**45**		106	0.09	0.16	0.05	19	ND	1U	1U
146.7	1	U	1	U	1	U	**3**		**54**		102	0.10	0.63	0.18	22	0.03	**Detect**	1U
152.5	4	U	4	U	**10**		**220**		**310**		110	0.23	0.30	1.0	47	ND	**Detect**	4U
166.3	1	U	1	U	1	U	1	U	**100**		110	0.20	0.27	3.9	213	ND	1U	1U
176.3	1	U	1	U	1	U	**1**		**48**		112	0.18	0.25	1.7	215	ND	1U	1U
186.3	1	U	1	U	1	U	1	U	**38**		108	0.28	0.32	8.8	193	ND	**Detect**	1U
207.5	1	U	1	U	1	U	**16**		**9**		113	0.18	0.47	5.2	145	ND	**Detect**	1U
216.3	1	U	1	U	**1**		**31**		**26**		93	0.19	0.62	2.7	135	0.04	**Detect**	1U
226.3	4	U	4	U	**15**		**360**		**50**		104	0.11	0.46	0.48	50	0.07	4U	4U
260.7	1	U	1	U	1	U	1	U	**2**		99	0.15	0.44	0.13	26	0.05	**Detect**	1U
312.9	1	U	1	U	**1**		**43**		**11**		101	ND	0.07	0.04	41	0.02	1U	1U
322.9	2	U	2	U	2	U	**100**		**54**		98	0.12	0.34	0.08	37	0.05	2U	2U
332.3	3	U	3	U	**14**		**310**		**32**		103	0.16	0.55	0.12	54	0.03	3U	3U
341.1	5	U	5	U	**28**		**470**		**7**		97	ND	ND	0.06	45	0.04	5U	5U
370.1	2	U	2	U	**3**		**160**		**31**		104	0.04	0.10	0.06	61	0.04	2U	2U
381.3	1	U	1	U	1	U	**34**		**7**		98	ND	0.04	0.03	39	ND	1U	1U
391.3	1	U	1	U	1	U	**23**	E	**3**		89	ND	ND	ND	34	ND	1U	1U
400.2	1	U	1	U	1	U	1	U	1	U	89	NS	NS	NS	NS	NS	1U	1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
86.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
96.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
106.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
116.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
126.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
136.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
146.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
152.5	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	**7**		110
166.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
176.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
186.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
207.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		113
216.3	1	U	1	U	**2**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		93
226.3	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	104
260.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
312.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
322.9	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	98
332.3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	103
341.1	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	97
370.1	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	104
381.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
391.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
400.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
E = Compound quantitation is above the instrument calibration range for this analysis.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 7/23 - 7/30/03
Date Analyzed: 7/23 - 7/30/03
Report Date: 7/30/03

HOLE ID = P42

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	91	0.03	0.07	0.02	15	0.02	1 U	1 U
89.6	1	U	1	U	1	U	1	U	1	U	91	ND	0.06	0.03	26	0.03	1 U	1 U
99.6	1	U	1	U	1	U	1	U	1	U	99	0.03	0.08	0.06	65	0.02	1 U	1 U
109.6	1	U	1	U	1	U	1	U	1	U	102	ND	0.07	0.07	79	0.02	1 U	1 U
119.6	20	U	20	U	**180**		**80**		**1600**		110	0.16	0.27	2.90	37	0.02	20 U	20 U
129.6	20	U	20	U	**95**		**34**		**1900**		112	0.15	0.24	1.40	39	0.02	20 U	20 U
139.6	20	U	20	U	**130**		**45**		**4600**		113	9.80	10.05	0.55	40	ND	20 U	20 U
149.6	20	U	20	U	**75**		**29**		**2200**		112	0.26	0.54	0.14	49	0.02	20 U	20 U
159.6	20	U	20	U	**36**		20	U	**1300**		119	26.70	31.90	0.67	76	0.03	20 U	20 U
169.4	1	U	1	U	**2**		**20**		**8**		107	0.11	0.14	2.45	172	ND	1 U	1 U
179.6	20	U	20	U	**87**		**160**		**760**		118	0.06	0.12	0.07	88	ND	20 U	20 U
189.6	20	U	20	U	20	U	20	U	**750**		113	0.03	0.07	0.05	51	ND	20 U	20 U
197.7	1	U	1	U	1	U	**5**	U	**48**		112	ND	0.03	0.26	62	0.02	1 U	1 U
202.8	1	U	1	U	1	U	1	U	**87**		111	ND	0.05	0.20	76	ND	1 U	1 U
217.2	20	U	20	U	20	U	**31**		**2400**		112	ND	0.04	0.05	49	ND	20 U	20 U
224.6	20	U	20	U	20	U	**44**		**2300**		115	0.08	0.12	0.05	51	ND	20 U	20 U
234.6	20	U	20	U	**22**		**310**		**1200**		109	0.10	0.33	0.35	73	ND	20 U	20 U
276.4	3	U	3	U	3	U	**7**		**290**		114	ND	0.05	ND	78	ND	3 U	3 U
287.9	1	U	1	U	1	U	1	U	**80**		117	ND	0.10	0.03	78	ND	1 U	1 U
298.0	1	U	1	U	1	U	**17**		**110**		116	ND	0.06	ND	164	ND	1 U	1 U
308.6	2	U	2	U	2	U	**35**		**150**		116	0.05	0.12	0.02	348	ND	2 U	2 U
319.8	1	U	1	U	1	U	**25**		**130**		117	0.16	0.20	2.05	486	ND	1 U	1 U
329.8	3	U	3	U	3	U	**20**		**150**		121	0.14	0.19	1.85	496	ND	3 U	3 U
336.8	3	U	3	U	3	U	**17**		**190**		117	0.16	0.24	0.10	395	ND	3 U	3 U
354.6	3	U	3	U	3	U	**13**		**240**		117	0.20	0.22	0.05	241	ND	3 U	3 U
389.5	1	U	1	U	1	U	**2**		**73**		82	0.20	0.84	0.07	394	0.04	1 U	1 U
410.1	1	U	1	U	1	U	**2**	U	**26**		83	0.03	0.20	0.10	678	ND	1 U	1 U
424.5	1	U	1	U	1	U	1	U	**2**		82	0.03	0.17	0.10	252	0.03	1 U	1 U
434.5	1	U	1	U	1	U	1	U	1	U	80	0.06	0.41	0.35	615	ND	1 U	1 U

Depth	VOC DATA, ug/L																											
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
89.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
119.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	110
129.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	112
139.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	113
149.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	112
159.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	119
169.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
179.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	118
189.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**21**		113
197.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
202.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
217.2	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	112
224.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	115
234.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	109
276.4	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	114
287.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	117
298.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
308.6	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	116
319.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**9**		117
329.8	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	121
336.8	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	117
354.6	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	117
389.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
410.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	83
424.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
434.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 9/9-9/24/2003
Date Analyzed: 9/9-9/24/2003
Report Date: 9/24/2003

HOLE ID =P43

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.9	1	U	1	U	1	U	**9**		**2**		90	ND	0.03	ND	20	0.02	1U	1U
89.9	1	U	1	U	1	U	**5**		**2**		100	ND	0.08	1.1	25	ND	1U	1U
99.9	1	U	1	U	1	U	**2**		**2**		99	0.46	1.30	2.5	31	0.23	1U	1U
109.9	1	U	1	U	1	U	**11**		**7**		105	0.03	0.07	2.0	45	ND	1U	1U
119.9	1	U	1	U	**10**		**38**		**20**		104	0.08	0.19	2.4	45	ND	**Detect**	1U
129.9	**140**		20	U	**710**		**1100**		**590**		108	0.13	0.63	1.6	26	0.09	**Detect**	20U
139.9	**97**		20	U	**720**		**710**		**600**		110	0.06	0.46	1.4	28	0.03	20U	20U
150.1	**180**		20	U	**1300**		**730**		**1800**		110	0.12	0.46	5.3	48	0.08	20U	20U
161.7	**210**		20	U	**1400**		**320**		**1400**		111	0.04	0.16	3.3	48	ND	20U	20U
169.9	**150**		20	U	**1100**		**810**		**1000**		112	0.21	1.39	3.0	55	0.13	20U	20U
179.9	**23**		4	U	**78**		**35**		**370**		111	16.6	18.3	1.4	88	0.17	4U	4U
189.9	**1**		1	U	**5**		**5**		**24**		96	0.25	2.36	2.1	173	ND	1U	1U
199.9	**44**		20	U	**320**		**200**		**1500**		115	0.03	0.10	4.3	124	ND	20U	20U
233.9	**48**		10	U	**170**		**170**		**720**		112	0.03	0.29	9.2	132	0.02	10U	10U
246.7	**5**		1	U	**54**		**85**		**150**		112	0.16	0.24	0.24	84	0.02	1U	1U
254.9	6	U	6	U	**74**		**38**		**500**		101	0.25	0.79	2.6	200	0.06	6U	6U
264.9	3	U	3	U	**58**		**29**		**290**		104	0.05	0.08	7.8	235	ND	3U	3U
274.9	2	U	2	U	**18**		**18**		**160**		101	0.22	1.49	9.0	278	ND	2U	2U
284.9	3	U	3	U	**12**		**24**		**220**		103	0.05	0.13	7.8	254	0.02	3U	3U
294.9	1	U	1	U	**7**		**19**		**110**		101	ND	0.04	8.0	256	ND	**Detect**	1U
304.9	2	U	2	U	**3**		**57**		**143**		104	0.26	0.44	7.8	262	0.11	2U	2U
324.5	2	U	2	U	2	U	**21**		**130**		101	NS	NS	NS	NS	NS	2U	2U
334.2	1	U	1	U	1	U	1	U	1	U	104	NS	NS	NS	NS	NS	1U	1U

Depth	VOC DATA, ug/L																							
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	1	U	90
89.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	1	U	100
99.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	1	U	99
109.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	1	U	105
119.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	1	U	104
129.9	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	20	U	108
139.9	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	20	U	110
150.1	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	20	U	110
161.7	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	**270**		111
169.9	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	20	U	112
179.9	4	U	4	U	4	U	4	U	4	U	4	4	U	8	U	4	U	4	U	4	U	4	U	111
189.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	**5**		96
199.9	20	U	20	U	20	U	20	U	20	U	20	20	U	40	U	20	U	20	U	20	U	20	U	115
233.9	10	U	10	U	10	U	10	U	10	U	10	10	U	20	U	10	U	10	U	10	U	**12**		112
246.7	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	**7**		112
254.9	6	U	6	U	6	U	6	U	6	U	6	6	U	12	U	6	U	6	U	6	U	6	U	101
264.9	3	U	3	U	3	U	3	U	3	U	3	3	U	6	U	3	U	3	U	3	U	3		104
274.9	2	U	2	U	2	U	2	U	2	U	2	2	U	4	U	2	U	2	U	2	U	**3**		101
284.9	3	U	3	U	3	U	3	U	3	U	3	3	U	6	U	3	U	3	U	3	U	**8**		103
294.9	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	U	1	U	**2**		101
304.9	2	U	2	U	2	U	2	U	2	U	2	2	U	4	U	2	U	2	U	2	U	**13**		104
324.5	2	U	2	U	2	U	2	U	2	U	2	2	U	4	U	2	U	2	U	2	U	**4**		101
334.2	1	U	1	U	1	U	1	U	1	U	1	1	U	2	U	1	U	1	1	1	U	1	U	104

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 9/2 -9/10/2003
Date Analyzed: 9/2 -9/10/2003
Report Date: 9/10/2003

HOLE ID =P44

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.8	1	U	1	U	1	U	**5**		**3**		92	0.08	0.18	0.17	36	0.02	1U	1U
89.8	1	U	1	U	**66**		**200**		**67**		109	0.36	0.72	0.57	58	0.16	1U	1U
99.3	5	U	5	U	**9**		**510**		**81**		95	0.15	0.30	0.50	43	0.00	5U	5U
109.8	20	U	20	U	**2100**		**700**		**130**		107	0.04	0.13	0.08	58	ND	20U	20U
121.6	20	U	20	U	**2100**		**580**		**180**		102	ND	0.08	0.45	49	ND	20U	20U
131.1	20	U	20	U	**1100**		**680**		**360**		106	0.34	1.88	2.30	42	0.15	20U	20U
139.8	**24**		10	U	**400**		**300**		**220**		111	0.05	0.51	2.10	33	0.04	10U	10U
149.8	**31**		12	U	**510**		**500**		**330**		103	0.20	0.98	2.70	42	0.06	12U	12U
159.8	20	U	20	U	**990**		**620**		**600**		102	0.13	0.37	2.40	46	ND	20U	20U
169.8	20	U	20	U	**1000**		**470**		**570**		104	0.21	1.09	0.71	40	0.07	20U	20U
179.8	20	U	20	U	**440**		**480**		**1800**		106	0.18	0.95	3.70	34	0.05	20U	20U
189.8	10	U	10	U	**660**		**280**		**470**		109	ND	0.10	2.90	74	ND	10U	10U
199.8	**19**		10	U	**260**		**360**		**740**		110	0.10	0.52	3.50	77	0.32	10U	10U
215.8	6	U	6	U	**240**		**130**		**63**		94	0.04	0.11	0.28	54	ND	**Detect**	6U
229.2	10	U	10	U	**820**	E	**380**		**140**		95	0.06	0.18	5.20	61	ND	**Detect**	10U
239.9	8	U	8	U	**460**		**210**		**110**		97	0.05	0.11	2.90	86	ND	**Detect**	8U
249.9	**2**		1	U	**57**		**34**		**30**		100	0.03	0.12	3.50	135	ND	**Detect**	1U
257.1	1	U	1	U	**4**		**15**		**17**		98	0.04	0.07	2.10	204	ND	**Detect**	1U
284.9	1	U	1	U	**28**		**31**		**53**		105	0.30	0.64	6.80	208	0.02	1U	1U
299.9	8	U	8	U	**210**		**260**		**320**		105	0.04	0.16	3.70	79	ND	8U	8U
307.9	6	U	6	U	**120**		**220**		**200**		101	0.17	1.23	4.10	79	0.06	6U	6U
339.8	6	U	6	U	6	U	**280**		**220**		100	0.17	0.33	0.24	251	0.04	**Detect**	6U
349.8	4	U	4	U	4	U	**130**		**170**		100	0.06	0.27	0.12	270	ND	4U	4U
356.1	6	U	6	U	6	U	**310**		**260**		105	0.13	0.18	0.10	182	ND	6U	6U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
89.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
99.3	5	U	5	U	5	U	5	U	5	U	5	U	5	U	10	U	5	U	5	U	5	U	5	U	95
109.8	20	U	20	U	20	U	**46**		20	U	20	U	20	U	40	U	20	U	20	U	20	U	**490**		107
121.6	20	U	20	U	20	U	**84**		20	U	20	U	20	U	40	U	20	U	20	U	20	U	**600**		102
131.1	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**650**		106
139.8	10	U	10	U	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	**460**		111
149.8	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**350**		103
159.8	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**180**		102
169.8	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**210**		104
179.8	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**90**		106
189.8	10	U	10	U	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	**140**		109
199.8	10	U	10	U	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	**63**		110
215.8	6	U	6	U	6	U	**12**		6	U	6	U	6	U	12	U	6	U	6	U	6	U	**180**		94
229.2	10	U	10	U	10	U	**150**		10	U	10	U	10	U	20	U	10	U	10	U	10	U	**55**		95
239.9	8	U	8	U	8	U	**52**		8	U	8	U	8	U	16	U	8	U	8	U	8	U	**51**		97
249.9	1	U	1	U	1	U	**7**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	**8**		100
257.1	1	U	1	U	1	U	**4**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		98
284.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**7**		105
299.9	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	**31**		105
307.9	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	**19**		101
339.8	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	100
349.8	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	100
356.1	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	105

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
E = Compound quantitation is above the instrument calibration range for this analysis.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 8/4 - 8/13/03
Date Analyzed: 8/4 - 8/13/03
Report Date: 8/14/2003

HOLE ID = P45

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
71.3	1	U	1	U	1	U	1	U	1	U	84	ND	0.04	0.02	212	0.02	1U	1U
81.3	1	U	1	U	1	U	1	U	1	U	88	ND	0.04	ND	12	0.02	1U	1U
91.3	1	U	1	U	1	U	1	U	**1**		82	ND	0.08	0.05	28	0.02	1U	1U
101.3	1	U	1	U	**10**		**29**		**38**		95	0.09	0.27	0.09	28	ND	1U	1U
111.3	1	U	1	U	**21**		**56**		**59**		98	0.49	0.15	0.08	27	ND	1U	1U
121.3	4	U	4	U	**37**		**171**		**141**		99	0.13	0.27	0.09	34	ND	4U	4U
131.3	2	U	2	U	**11**		**69**		**7**		104	0.40	0.74	0.65	27	0.11	2U	2U
151.3	1	U	1	U	1	U	**3**		**3**		91	ND	0.24	1.80	96	ND	1U	**Detect**
167.3	1	U	1	U	1	U	1	U	1	U	91	0.10	0.23	0.15	117	0.02	1U	1U
177.3	1	U	1	U	1	U	**2**		**15**		85	ND	0.14	0.08	214	0.05	1U	1U
187.3	1	U	1	U	1	U	**2**		**14**		97	ND	0.09	0.09	328	0.03	1U	1U
197.3	1	U	1	U	1	U	**2**		**8**		97	0.05	0.22	0.42	326	ND	1U	1U
207.3	1	U	1	U	1	U	**2**		**19**		96	0.09	0.39	0.19	349	0.06	1U	1U
217.3	1	U	1	U	1	U	**2**		**10**		90	0.15	0.27	0.58	343	ND	1U	1U
227.3	1	U	1	U	1	U	**1**		**14**		93	ND	ND	0.06	413	0.03	1U	1U
237.3	1	U	1	U	1	U	**3**		**5**		92	ND	0.06	0.06	503	0.02	1U	1U
270.8	2	U	2	U	2	U	**68**		**61**		97	ND	0.14	0.06	273	ND	2U	2U
281.7	4	U	4	U	4	U	**276**		**20**		98	0.32	0.49	0.10	76	0.03	**Detect**	4U
291.7	4	U	4	U	4	U	**63**		**270**		100	ND	0.06	0.05	553	0.03	4U	4U
301.7	1	U	1	U	1	U	**15**		**33**		105	ND	ND	0.06	663	0.02	1U	1U
311.7	1	U	1	U	1	U	**24**		**42**		100	0.04	0.11	0.05	658	ND	1U	1U
321.7	1	U	1	U	1	U	**29**		**52**		95	ND	0.05	0.03	820	0.03	1U	1U
340.1	1	U	1	U	1	U	**3**		**22**		97	0.06	0.32	0.06	295	0.04	1U	1U
351.8	1	U	1	U	1	U	1	U	**3**		104	ND	0.04	0.03	286	0.02	1U	1U
366.4	1	U	1	U	1	U	**2**		**21**		116	0.11	0.18	0.11	173	0.04	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
71.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
81.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
91.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
101.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
111.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
121.3	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	99
131.3	2	U	2	U	**3**		2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	104
151.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
167.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
177.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85
187.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
197.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
207.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
217.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
227.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
237.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
270.8	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	97
281.7	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	98
291.7	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	100
301.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
311.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
321.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
340.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
351.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
366.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 8/19 -9/8/03
Date Analyzed: 8/19 -9/8/03
Report Date: 9/8/2003

HOLE ID =P46

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	1	U	1	U	1	U	1	U	1	U	119	ND	0.20	0.11	27	0.05	1U	1U
89.6	1	U	1	U	1	U	1	U	1	U	108	ND	ND	0.03	10	0.02	1U	1U
99.6	1	U	1	U	1	U	1	U	1	U	109	0.37	1.24	0.54	11	0.24	1U	1U
109.6	1	U	1	U	1	U	1	U	1	U	101	0.05	0.14	0.13	5	ND	1U	1U
119.6	6	U	6	U	6	U	6	U	**550**		104	ND	0.05	0.03	32	0.02	6U	6U
129.6	1	U	1	U	1	U	1	U	**9**		99	0.06	0.27	0.15	15	0.07	1U	1U
139.6	1	U	1	U	1	U	1	U	1	U	108	ND	0.12	0.08	12	0.02	1U	1U
149.6	1	U	1	U	1	U	1	U	1	U	116	0.17	0.69	0.34	69	0.10	1U	1U
159.6	1	U	1	U	1	U	1	U	1	U	108	0.19	0.67	0.19	137	0.11	1U	1U
169.6	1	U	1	U	1	U	1	U	1	U	106	0.24	0.35	0.09	108	ND	1U	1U
179.6	1	U	1	U	1	U	1	U	1	U	106	0.37	0.75	0.31	125	0.16	1U	1U
189.6	1	U	1	U	1	U	1	U	1	U	115	ND	0.04	0.04	72	0.02	1U	1U
199.6	1	U	1	U	1	U	1	U	1	U	86	0.08	0.16	0.10	59	0.06	1U	1U
209.6	1	U	1	U	1	U	1	U	1	U	109	0.05	0.13	0.05	41	0.02	1U	1U
215.2	1	U	1	U	1	U	1	U	1	U	100	ND	0.04	0.02	48	ND	1U	1U
275.4	1	U	1	U	1	U	**62**		**49**		104	0.07	0.20	0.13	712	0.05	1U	1U
284.3	1	U	1	U	1	U	**4**		**50**		101	ND	0.03	0.07	683	ND	1U	1U
291.7	2	U	2	U	2	U	**3**		**150**		100	0.31	0.55	0.46	471	0.13	2U	2U
298.4	2	U	2	U	2	U	**4**		**220**		100	ND	0.07	0.07	99	ND	2U	2U
307.7	3	U	3	U	3	U	**13**		**260**		101	0.20	0.21	0.34	527	0.03	3U	3U
318.4	2	U	2	U	2	U	**4**		**240**		106	ND	0.10	0.06	361	ND	2U	2U
330.2	1	U	1	U	1	U	**5**		**120**		107	ND	0.04	0.07	271	0.02	1U	1U
340.2	1	U	1	U	1	U	1	U	**50**		104	ND	ND	0.03	261	0.02	1U	1U
348.3	1	U	1	U	1	U	1	U	**4**		104	0.13	0.19	0.26	362	0.06	1U	1U
360.2	1	U	1	U	1	U	1	U	**7**		105	ND	0.03	0.10	685	0.03	1U	1U
389.3	1	U	1	U	1	U	**3**		**22**		102	ND	ND	0.04	703	0.02	1U	1U
399.3	1	U	1	U	1	U	**2**		**14**		97	0.08	0.20	0.23	620	0.05	1U	1U
409.3	1	U	1	U	1	U	**1**		**11**		109	ND	ND	0.02	595	0.02	1U	1U
419.3	1	U	1	U	1	U	**2**		**13**		99	0.17	0.45	0.35	758	0.12	1U	1U
430.0	1	U	1	U	1	U	**4**		**17**		101	0.36	2.5	0.52	1148	0.33	1U	1U
438.5	**2**		1	U	1	U	**5**		**20**		94	0.07	0.49	0.19	908	0.07	1U	1U
470.3	1	U	1	U	1	U	**7**		**15**		101	ND	0.13	0.02	778	0.03	1U	1U
480.3	1	U	1	U	1	U	1	U	**7**		97	0.03	0.18	0.15	343	0.07	1U	1U
490.3	1	U	1	U	1	U	1	U	**4**		88	0.15	0.56	0.27	190	0.13	1U	1U
498.1	1	U	1	U	1	U	1	U	**8**		95	NS	NS	NS	NS	NS	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	119
89.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
119.6	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	104
129.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
149.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
159.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
169.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
179.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
189.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
199.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
209.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
215.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
275.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
284.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
291.7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	100
298.4	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	100
307.7	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	101
318.4	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	106
330.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
340.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
348.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
360.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
389.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
399.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
409.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
419.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
430.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
438.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
470.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
480.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
490.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
498.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Location: GTEOSI
Project ID: Hicksville, NY
SEI #: Groundwater Profiling
Date Sampled: 03-1402
Date Analyzed: 9/2 - 9/11/2003
Report Date: 9/2 - 9/11/2003
9/11/2003

Matrix: Water

HOLE ID =P47

Depth	DF Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
77.1	1	U	1	U	1	U	1	U	1	U	92	ND	0.12	0.10	190	0.03	1U	1U
87.1	1	U	1	U	1	U	1	U	**2**		101	ND	0.10	0.05	117	0.02	1U	1U
97.1	1	U	1	U	1	U	1	U	**2**		92	ND	0.07	0.10	104	ND	1U	1U
107.1	1	U	1	U	1	U	1	U	**4**		98	0.34	0.81	0.51	81	0.20	1U	1U
117.1	1	U	1	U	1	U	**1**		**410**		111	ND	0.03	0.04	204	ND	1U	1U
127.1	1	U	1	U	1	U	1	U	**66**		104	0.06	0.15	0.11	259	0.04	1U	1U
137.1	1	U	1	U	1	U	1	U	**3**		96	0.15	0.57	0.34	167	0.13	1U	1U
147.0	1	U	1	U	1	U	1	U	**240**		115	0.07	0.13	0.20	310	0.04	1U	1U
157.0	3	U	3	U	3	U	3	U	**290**		110	0.47	2.55	10.60	286	0.33	3U	3U
164.0	1	U	1	U	1	U	1	U	1	U	103	0.03	0.34	0.17	61	0.05	1U	1U
177.0	1	U	1	U	1	U	**2**		**12**		103	0.05	0.17	8.60	107	ND	**Detect**	1U
187.0	1	U	1	U	1	U	**6**		**3**		100	0.12	0.60	2.20	59	0.03	1U	1U
197.0	3	U	3	U	3	U	**170**		**180**		100	0.06	0.43	0.80	94	ND	3U	3U
205.7	1	U	1	U	1	U	**11**		**8**		105	0.08	1.16	5.80	76	0.11	**Detect**	1U
217.0	1	U	1	U	1	U	**46**		**11**		102	0.10	0.32	2.50	62	0.03	1U	1U
227.0	1	U	1	U	1	U	**77**		**14**		101	0.06	0.09	2.90	43	ND	1U	1U
247.0	10	U	10	U	**10**		**450**		**130**		103	ND	0.06	0.09	54	0.04	10U	10U
272.0	1	U	1	U	1	U	**18**		**64**		104	ND	0.08	ND	249	ND	1U	1U
282.0	1	U	1	U	1	U	**37**		**21**		105	0.29	0.55	ND	97	0.03	1U	1U
308.5	1	U	1	U	1	U	**41**		**17**		104	ND	0.04	ND	59	ND	1U	1U
317.0	6	U	6	U	6	U	**310**		**150**		100	0.03	0.13	0.03	64	ND	6U	6U
327.7	1	U	1	U	1	U	**16**		**10**		98	0.03	0.21	0.21	50	0.10	1U	1U
337.0	3	U	3	U	**6**		**200**		**35**		101	0.05	0.12	0.07	57	0.05	3U	3U
344.1	3	U	3	U	**13**		**280**		**21**		103	0.10	0.22	0.20	81	0.06	3U	3U
368.4	4	U	4	U	**11**		**310**		**28**		109	0.16	0.34	0.48	83	0.08	4U	4U
377.0	3	U	3	U	**9**		**280**		**21**		99	0.03	0.10	0.05	77	ND	3U	3U
387.0	**2**		1	U	1	U	**46**		**9**		97	0.15	0.92	0.41	58	0.11	1U	1U
397.0	1	U	1	U	1	U	**3**		**1**		100	0.18	0.22		37	ND	1U	1U

Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
	VOC DATA, ug/L																								
77.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
87.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
97.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
107.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
117.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
127.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
137.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
147.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
157.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	110
164.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
177.0	1	U	1	U	**2**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
187.0	1	U	1	U	**2**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
197.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**11**		100
205.7	1	U	1	U	**4**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
217.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
227.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
247.0	10	U	10	U	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	**21**		103
272.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
282.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
308.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
317.0	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	100
327.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
337.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	101
344.1	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	103
368.4	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	109
377.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	99
387.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
397.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/21-10/30/2003
Date Analyzed: 10/21-10/30/2003
Report Date: 10/29/2003

HOLE ID =P49

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
74.3	1	U	1	U	1	U	1	U	1	U	94	0.07	0.17	0.06	6.75	ND	1U	1U
84.3	1	U	1	U	1	U	1	U	1	U	93	0.10	0.25	0.2	6.4	ND	1U	1U
94.3	1	U	1	U	1	U	1	U	**5**		96	0.35	0.61	0.46	49.5	ND	1U	1U
104.3	1	U	1	U	1	U	1	U	**2**		95	0.08	0.14	0.11	78.0	ND	1U	1U
114.3	1	U	1	U	1	U	1	U	**12**		111	0.28	0.36	0.45	90.5	0.13	1U	1U
124.3	1	U	1	U	**4**		**1**		**210**		106	0.18	0.27	0.24	16.5	0.05	1U	1U
134.3	12	U	12	U	**40**		12	U	**1900**		107	0.12	0.20	0.15	20.5	0.03	12U	12U
144.3	1	U	1	U	**5**		**1**		**180**		107	0.36	0.52	0.58	24.25	0.11	1U	1U
167.3	1	U	1	U	1	U	1	U	1	U	94	0.09	0.16	0.07	67.5	0.09	1U	1U
177.3	1	U	1	U	1	U	1	U	1	U	96	0.02	0.03	ND	89.5	0.02	1U	1U
222.3	1	U	1	U	**4**		**1**		**20**		93	0.38	0.88	1.7	375	0.23	1U	1U
232.3	1	U	1	U	**3**		1	U	**3**		92	0.61	1.39	1.2	102	0.41	1U	1U
239.3	1	U	1	U	1	U	1	U	1	U	97	0.42	0.49	0.63	70	0.27	1U	1U
249.3	1	U	1	U	1	U	1	U	**6**		108	0.01	0.03	0.03	310	0.06	1U	1U
261.0	1	U	1	U	1	U	1	U	**8**		101	0.07	0.14	0.09	468	0.02	1U	1U
269.3	1	U	1	U	20	U	**21**		**91**		108	0.20	0.78	NS	314	0.1	1U	1U
284.3	1	U	1	U	**1**		**69**		**47**		108	0.21	0.58	1.6	376	ND	**Detect**	1U
314.0	1	UJ	1	U	1	U	**29**		**37**		105	0.26	0.36	3.8	575	0.12	1U	1U
324.0	1	UJ	1	U	1	U	**31**		**87**		112	0.07	0.15	0.21	590	0.04	1U	1U
333.0	3	U	3	U	3	U	**100**		**180**		99	0.18	0.38	0.33	487	0.12	3U	3U
340.8	3	U	3	U	3	U	**110**		**200**		106	0.05	0.09	0.16	510	0.08	3U	3U
394.1	1	U	1	U	1	U	**3**		**26**		112	0.44	1.07	0.21	552	0.17	1U	1U
423.0	1	U	1	U	1	U	**2**		**45**		111	0.07	0.16	0.08	667.5	0.05	1U	1U
444.1	1	U	1	U	1	U	1	U	**66**		90	0.30	0.45	0.22	850	0.15	1U	1U
463.2	1	UJ	1	U	1	U	**12**		**33**		84	0.33	0.58	0.54	840	ND	1U	1U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
74.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
84.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
94.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
104.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
114.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
124.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
134.3	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	107
144.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
167.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
177.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
222.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
232.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
239.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
249.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
261.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
269.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		108
284.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
314.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
324.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
333.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	99
340.8	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	106
394.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
423.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
444.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
463.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/21-10/29/2003
Date Analyzed: 10/21-10/29/2003
Report Date: 10/29/2003

HOLE ID =P50

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
82.9	1	U	1	U	1	U	**3**		**2**		96	2.79	14	0.59	193	ND	1U	1U
89.9	1	U	1	U	1	U	1	U	1	U	100	11.00	12	0.35	8	ND	1U	1U
99.9	1	U	1	U	1	U	**5**		**14**		102	17.7	20	0.47	13.25	0.02	1U	1U
109.9	**190**		**1**		**13**		**8**		**33**		102	23.7	27.4	0.6	11.8	0.07	**Detect**	1U
119.9	**200**		12	U	**1200**		**220**		**360**		102	36.80	41.2	0.6	16.5	0.09	**Detect**	12U
129.9	**41**		20	U	**1500**		**550**		**1100**		107	29.30	32.4	0.41	22.6	ND	**Detect**	20U
139.9	**65**		12	U	**1000**		**230**		**300**		96	26.00	26.6	0.33	25.7	ND	**Detect**	12U
149.9	**57**		12	U	**1300**		**140**		**470**		108	31.70	32.6	0.37	34.5	ND	**Detect**	12U
159.9	1	U	1	U	**4**		**24**		**160**		108	0.38	0.68	0.26	113.25	0.26	1U	1U
169.9	1	U	1	U	1	U	**1**		**43**		98	0.12	0.70	0.18	257	0.06	1U	1U
179.9	1	U	1	U	1	U	**9**		**99**		107	0.18	0.64	0.52	260	0.11	1U	1U
189.9	1	U	1	U	1	U	1	U	**8**		103	1.00	2.90	1.4	290	0.58	1U	1U
198.5	1	U	1	U	1	U	1	U	**25**		107	0.52	1.52	3.9	314	0.16	1U	1U
206.6	1	U	1	U	1	U	1	U	**15**		109	0.34	0.56	1.6	272	0.04	1U	1U
242.6	1	U	1	U	1	U	**1**		**35**		97	0.21	0.40	2.7	317	0.04	1U	1U
249.9	1	U	1	U	**7**		**17**		**27**		103	0.03	0.17	4.3	168.25	0.07	**Detect**	1U
259.9	1	U	1	U	1	U	**5**		**30**		107	0.13	0.28	2.8	308	ND	1U	1U
267.4	1	U	1	U	**19**		**37**		**48**		107	0.14	0.24	3.8	252	0.04	**Detect**	1U
279.9	1	U	1	U	**4**		**12**		**38**		108	0.23	0.36	3.4	344	0.06	1U	1U
289.9	1	U	1	U	**7**		**17**		**38**		113	0.10	0.17	6.8	332	0.03	1U	1U
299.2	1	U	1	U	1	U	**25**		**55**		110	0.34	0.56	7.0	475	0.07	1U	1U
309.9	1	U	1	U	1	U	**28**		**76**		107	0.16	0.22	7.4	590	ND	**Detect**	1U
319.9	6	U	6	U	6	U	**360**		**310**		106	0.29	0.37	3.4	420	0.04	6U	6U
327.1	6	U	6	U	6	U	**260**		**390**		113	0.14	0.20	0.03	380	ND	6U	6U
342.6	3	UJ	3	U	3	U	**44**		**140**		112	ND	ND	0.11	605	ND	3U	3U
349.9	1	U	1	U	1	U	**21**		**66**		98	0.02	0.03	0.02	502.5	ND	1U	1U
359.9	1	U	1	U	1	U	**1**		**5**		89	0.01	0.05	ND	424	0.03	1U	1U
370.5	1	U	1	U	1	U	**3**		**28**		91	0.04	0.06	0.08	422	0.02	1U	1U
376.7	1	U	1	U	1	U	**3**		**33**		96	0.01	0.01	0.03	494	ND	1U	1U
385.9	1	U	1	U	1	U	1	U	**2**		111	0.03	0.05	0.02	94.75	0.03	1U	1U
413.4	1	U	1	U	1	U	1	U	**36**		91	0.01	0.41	ND	645.8	ND	1U	1U
424.1	1	U	1	U	1	U	**2**		**14**		106	0.04	0.14	0.06	603	0.03	1U	1U
439.9	1	U	1	U	1	U	**5**		**15**		92	0.02	0.14	0.05	730	0.02	1U	1U

Depth	VOC DATA, ug/L																											
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
82.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
89.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		100
99.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
109.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
119.9	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	102
129.9	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	107
139.9	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	96
149.9	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	108
159.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
169.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
179.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
189.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
198.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
206.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
242.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
249.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		103
259.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	2	U	1
267.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		107
279.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		108
289.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		113
299.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		110
309.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**13**		107
319.9	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	**11**		106
327.1	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	113
342.6	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	112
349.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
359.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
370.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
376.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
385.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
413.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
424.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
439.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 10/21-10/30/2003
Date Analyzed: 10/21-10/30/2003
Report Date: 10/29/2003

HOLE ID =P51	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
78.0	1	U	1	U	1	U	1	U	1	U	93	0.25	0.63	0.57	24	0.24	1U	1U
88.0	1	U	1	U	1	U	1	U	**1**		102	0.19	0.64	0.34	12	0.10	1U	1U
97.8	1	U	1	U	1	U	**3**		**15**		106	0.18	0.45	0.27	30	0.22	1U	1U
107.8	1	U	1	U	1	U	**5**		**59**		106	0.04	0.09	0.05	35	ND	1U	1U
117.8	3	U	3	U	**4**		**41**		**150**		105	8.50	9.5	0.8	31.3	0.05	**Detect**	3U
127.8	3	U	3	U	**4**		**49**		**140**		96	13.10	15.7	3.6	28	0.24	**Detect**	3U
137.8	8	U	8	U	**33**		**140**		**770**		109	NS	20	NS	23.25	NS	8U	8U
147.8	4	U	4	U	**18**		**81**		**380**		114	14.40	15.50	0.30	13.6	0.03	4U	4U
158.0	3	U	3	U	3	U	**63**		**280**		107	2.77	2.89	0.28	44.25	0.04	3U	3U
167.8	1	U	1	U	1	U	**1**		**5**		99	0.11	0.24	0.10	154	ND	1U	1U
177.8	1	U	1	U	1	U	**2**		**6**		92	0.17	0.42	0.24	189	0.06	1U	1U
187.8	1	U	1	U	**27**		**26**		**28**		104	NS	NS	NS	NS	NS	**Detect**	1U
201.2	1	U	1	U	**63**		**58**		**61**		112	0.08	0.08	8.00	142	0.02	1U	1U
226.8	1	U	1	U	**4**		**9**		**20**		101	0.25	0.43	4.2	244	0.06	1U	1U
236.8	1	U	1	U	**4**		**10**		**25**		102	0.39	0.54	3.6	148	0.05	1U	1U
246.8	1	U	1	U	**18**		**130**		**150**		107	0.04	0.11	3.8	137.5	ND	**Detect**	1U
256.8	1	U	1	U	**19**		**47**		**53**		104	0.49	1.13	5.6	116	0.09	1U	1U
266.7	1	U	1	U	**4**		**24**		**32**		100	0.17	0.79	5.4	136	0.06	1U	1U
276.8	1	U	1	U	**41**		**54**		**65**		116	0.26	0.36	5.0	114.7	0.03	1U	1U
286.8	1	U	1	U	1	U	**11**		**9**		108	0.10	0.13	5.2	119.8	ND	1U	1U
295.3	1	U	1	U	1	U	**13**		**24**		109	ND	0.07	4.0	176	ND	1U	1U
301.1	1	U	1	U	1	U	**18**		**21**		90	0.28	0.31	8.0	338	0.08	1U	1U
321.0	1	U	1	U	**2**		**180**		**140**		108	0.26	0.30	2.6	365	0.05	**Detect**	1U
327.9	6	U	6	U	6	U	**600**		**350**		110	0.10	0.13	0.03	222	ND	**Detect**	6U
336.9	6	U	6	U	6	U	**530**		**350**		97	0.24	0.28	0.2	300	0.03	6U	6U
346.9	3	U	3	U	3	U	**72**		**270**		96	0.09	0.09	0.08	388	ND	3U	3U
363.3	1	UJ	1	U	1	U	**3**		**26**		116	0.02	0.08	0.07	359	0.05	1U	1U
371.8	1	UJ	1	U	1	U	**3**		**44**		115	ND	0.07	0.05	685	ND	1U	1U
381.8	1	UJ	1	U	1	U	**7**		**98**		116	0.05	0.09	0.15	239	0.07	1U	1U

	VOC DATA, ug/L																									
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
78.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
88.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
97.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
107.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
117.8	3	U	3	U	**9**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	105
127.8	3	U	3	U	**6**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	96
137.8	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	8	U	109
147.8	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	114
158.0	3	U	3	U	**4**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	107
167.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
177.8	1	U	1	U	**1**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
187.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**8**		104
201.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		112
226.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		101
236.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
246.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**9**		107
256.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**4**		104
266.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		100
276.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
286.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		108
295.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**7**		109
301.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**4**		90
321.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		108
327.9	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	110
336.9	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	**9**		97
346.9	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	96
363.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
371.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
381.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/04-11/20/2003
Date Analyzed: 11/04-11/20/2003
Report Date: 11/20/2003

HOLE ID =P52	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
80.0	1	U	1	U	1	U	1	U	1	U	91	0.03	0.12	ND	ND	ND	1U	1U
90.0	1	U	1	U	1	U	1	U	1	U	107	0.06	0.11	0.04	ND	ND	1U	1U
100.0	1	U	1	U	1	U	1	U	1	U	90	0.03	0.18	0.07	58	ND	1U	1U
110.0	1	U	1	U	1	U	1	U	1	U	92	0.27	1.57	0.47	22	ND	1U	1U
120.0	1	U	1	U	1	U	1	U	1	U	102	0.11	0.35	0.27	22	0.06	1U	1U
130.0	1	U	1	U	1	U	1	U	1	U	89	0.11	0.28	0.08	32	ND	1U	1U
140.0	1	U	1	U	1	U	1	U	**2**		90	0.14	0.18	0.05	35	ND	1U	1U
150.0	1	U	1	U	1	U	1	U	**11**		86	ND	0.10	0.04	24	ND	1U	1U
160.0	1	U	1	U	1	U	1	U	1	U	100	ND	0.13	0.11	42	ND	1U	1U
170.0	1	U	1	U	1	U	1	U	1	U	109	ND	0.09	0.06	40	ND	1U	1U
180.0	1	U	1	U	1	U	1	U	1	U	90	0.31	0.66	0.20	119	0.04	1U	1U
224.5	1	U	1	U	1	U	1	U	1	U	107	ND	0.16	0.05	86	0.02	1U	1U
232.3	1	U	1	U	1	U	1	U	**2**		89	ND	0.03	ND	94	0.04	1U	1U
243.7	1	U	1	U	1	U	**4**		**21**		102	0.17	0.34	0.39	93	0.05	1U	1U
254.5	1	U	1	U	1	U	**18**		**60**		96	0.06	0.18	0.18	370	0.05	1U	1U
264.5	1	U	1	U	1	U	**11**		**68**		102	0.06	0.27	0.29	281	0.07	1U	1U
274.5	1	U	1	U	1	U	**15**		**46**		94	0.13	0.27	0.20	478	0.05	1U	1U
283.5	1	U	1	U	1	U	**1**		**9**		86	ND	ND	0.03	440	0.04	1U	1U
291.7	1	U	1	U	1	U	**2**		**12**		87	0.08	0.17	0.22	470	0.07	1U	1U
299.5	1	U	1	U	1	U	1	U	**4**		92	0.06	0.14	0.13	450	0.03	1U	1U
319.2	1	U	1	U	1	U	**10**		**140**		101	0.18	0.39	0.20	283	0.11	1U	1U
327.2	**4**	U	**4**	U	**4**	U	**4**	U	**350**		108	0.04	0.22	0.28	325	0.05	4U	4U
339.2	3	U	3	U	3	U	**5**		**130**		106	0.14	0.22	0.44	133	0.08	3U	3U
364.2	1	U	1	U	1	U	1	U	**33**		93	ND	0.04	0.05	242	0.04	1U	1U
374.4	1	U	1	U	1	U	1	U	**3**		93	ND	0.06	0.06	425	0.03	1U	1U
395.4	1	U	1	U	1	U	1	U	**28**		101	0.06	0.20	0.17	665	0.05	1U	1U
404.5	1	U	1	U	1	U	**2**		**17**		98	0.08	0.34	0.15	608	0.05	1U	1U
414.2	1	U	1	U	1	U	**7**		**18**		93	ND	0.03	0.03	835	0.04	1U	1U
444.4	1	U	1	U	1	U	**3**		**68**		93	0.12	0.68	0.26	865	0.05	1U	1U
474.7	1	U	1	U	1	U	1	U	**4**		106	0.40	2.06	1.1	793	0.4	1U	1U
483.4	1	U	1	U	1	U	1	U	**5**		84	0.11	0.49	0.21	485	0.05	1U	1U

	VOC DATA, ug/L																											
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
80.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
90.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
100.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
110.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
120.0	1	U	1	U	1	U	**1**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
130.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
140.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
150.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
160.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
170.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
180.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
224.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
232.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
243.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
254.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
264.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
274.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
283.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
291.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
299.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
319.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
327.2	**4**	U	**4**	U	**4**	U	**4**	U	**4**	U	**4**	U	**4**	U	8	U	**4**	U	**4**	U	**4**	U	**4**	U	108
339.2	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	106
364.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
374.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
395.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
404.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
414.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
444.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
474.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
483.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/20-12/12/2003
Date Analyzed: 11/20-12/12/2003
Report Date: 12/12/2003

HOLE ID =P53

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
76.4	1	U	1	U	1	U	1	U	1	U	84	0.06	0.15	0.07	5	ND	1U	1U
86.4	1	U	1	U	1	U	1	U	1	U	81	ND	0.07	0.05	56	ND	1U	1U
96.4	1	U	1	U	1	U	1	U	1	U	82	ND	0.09	0.04	69	0.04	1U	1U
106.4	1	U	1	U	1	U	1	U	1	U	100	ND	0.05	0.05	109	0.04	1U	1U
116.4	1	U	1	U	1	U	1	U	**2**		107	0.05	0.14	0.09	62	0.04	1U	1U
126.4	1	U	1	U	1	U	**1**		**30**		111	0.10	0.22	0.18	52	0.03	1U	1U
136.4	20	U	20	U	**390**		**140**		**9400**		110	0.15	0.25	0.22	20	ND	20U	20U
146.4	12	U	12	U	**87**		**29**		**1600**		106	0.04	0.13	0.06	35	ND	12U	12U
156.4	1	U	1	U	1	U	1	U	**9**		110	0.06	0.26	0.27	84	0.04	1U	1U
165.7	1	U	1	U	1	U	1	U	**4**		101	0.03	0.11	0.07	89	0.03	1U	1U
176.4	1	U	1	U	1	U	1	U	**15**		96	0.05	0.21	0.24	85	0.06	1U	1U
188.9	10	U	10	U	**63**		**150**		**550**		104	0.06	0.11	0.22	110	ND	10U	10U
212.6	1	U	1	U	1	U	1	U	**2**		115	0.06	0.11	1.6	92	ND	1U	1U
221.4	1	U	1	U	**27**		**20**		**88**		107	0.18	0.44	2.4	107	0.07	1U	1U
231.4	6		6	U	**170**		**91**		**220**		98	0.20	0.22	6.4	182	ND	6U	6U
238.6	1	U	1	U	**24**		**10**		**24**		97	0.05	0.10	7.4	215	ND	1U	1U
248.4	1	U	1	U	**2**		1	U	**3**		94	0.06	0.14	5.8	239	0.03	1U	1U
256.4	1	U	1	U	**20**		**5**		**21**		102	0.15	1.01	4.2	218	0.04	1U	1U
266.4	1	U	1	U	1	U	1	U	**5**		108	0.14	0.23	0.28	80	0.08	1U	1U
276.4	1	U	1	U	1	U	**12**		**96**		96	0.09	0.13	0.15	252	0.05	1U	1U
286.4	3	U	3	U	3	U	**23**		**140**		99	0.17	0.32	0.36	262	0.10	3U	3U
295.5	3	U	3	U	3	U	**61**		**110**		100	0.43	0.90	2.4	357	0.20	3U	3U
306.0	1	U	1	U	1	U	**10**		**42**		101	0.09	0.16	1.6	430	ND	1U	1U
313.3	1	U	1	U	1	U	**16**		**96**		107	0.24	0.43	0.7	500	0.12	1U	1U
331.1	1	U	1	U	1	U	**25**		**79**		102	0.19	0.27	0.9	543	0.07	1U	1U
340.1	3	U	3	U	3	U	3	U	**190**		112	ND	0.04	ND	237	0.03	3U	3U
366.7	4	U	4	U	4	U	**7**		**250**		108	0.09	0.27	0.15	333	0.10	4U	4U
391.6	1	U	1	U	1	U	**4**		**23**		115	0.05	0.13	0.04	473	0.06	1U	1U
401.1	1	U	1	U	1	U	**3**		**15**		79	0.16	0.28	0.36	548	0.09	1U	1U
410.2	1	U	1	U	1	U	**3**		**25**		106	0.06	0.35	0.13	705	0.03	1U	1U
426.8	1	U	1	U	1	U	1	U	1	U	107	ND	0.04	0.07	184	0.02	1U	1U
480.9	1	U	1	U	1	U	1	U	**120**		96	0.39	1.14	0.15	795	0.30	1U	1U
487.4	1	U	1	U	1	U	1	U	**80**		110	0.06	0.10	0.08	776	0.06	1U	1U
497.0	1	U	1	U	1	U	1	U	**25**		110	0.18	1.00	0.12	480	0.09	1U	1U
504.8	1	U	1	U	1	U	1	U	**31**		96	0.05	0.08	0.05	573	0.06	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
86.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	81
96.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
106.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
116.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
126.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
136.4	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	110
146.4	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	106
156.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
165.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
176.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
188.9	10	U	10	U	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	**19**		104
212.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
221.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		107
231.4	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	**8**		98
238.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
248.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
256.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
266.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
276.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
286.4	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	99
295.5	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**10**		100
306.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		101
313.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		107
331.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		102
340.1	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	20	U	112
366.7	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	108
391.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
401.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	79
410.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**3**		106
426.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
480.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		96
487.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
497.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
504.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/04-11/18/2003
Date Analyzed: 11/04-11/18/2003
Report Date: 11/18/2003

HOLE ID =P54	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene
74.2	1	UJ	1	U	1	U	**7**		**4**		77	0.17	0.27	0.11	42	ND	1U		1U
87.6	1	UJ	1	U	**8**		**56**		**25**		111	0.35	0.43	0.42	63	0.05	1U		1U
97.6	8	U	8	U	**200**		**240**		**130**		109	0.33	0.38	0.11	48	ND	8U		8U
107.6	20	U	20	U	**1000**		**350**		**250**		111	0.24	0.37	0.3	41	ND	20U		20U
117.6	**4**		3	U	**24**		**64**		**110**		104	0.27	0.39	1.2	39	0.03	3U		3U
127.6	**7**		4	U	**11**		**66**		**250**		103	0.17	0.21	0.8	44	ND	4U		4U
137.6	**4**		3	U	3	U	**27**		**100**		110	0.16	0.28	0.7	61	ND	3U		3U
147.7	6	U	6	U	**31**		**120**		**460**		119	1.01	1.04	1.2	37	ND	6U		6U
155.8	3	U	3	U	**5**		**43**		**150**		112	0.31	0.43	2.2	94	ND	3U		3U
165.9	12	U	12	U	**52**		**190**		**1000**		105	0.45	0.53	0.59	39	ND	12U		12U
177.6	6	U	6	U	6	U	**63**		**240**		99	0.31	0.43	0.69	76	ND	6U		6U
187.6	1	U	1	U	**3**		**13**		**13**		93	0.20	0.30	1.3	178	ND	1U		1U
226.6	1	U	1	U	1	U	**5**		**20**		109	0.07	0.37	8.8	240	0.04	1U		1U
236.6	1	U	1	U	1	U	**5**		**21**		91	0.18	0.90	4.0	255	0.04	1U		1U
246.6	1	U	1	U	1	U	**2**		**12**		90	0.29	0.58	1.3	264	0.03	1U		1U
256.6	1	U	1	U	**3**		**11**		**32**		104	0.33	0.37	4.8	286	ND	1U		1U
268.0	3	U	3	U	**89**		**91**		**109**		103	0.34	2.59	10.4	154	ND	3U		3U
276.4	2	U	2	U	**29**		**48**		**70**		97	0.21	0.25	12.2	194	0.04	**Detect**		2U
285.4	1	U	1	U	**9**		**32**		**46**		106	0.09	0.12	8.2	122	ND	1U		1U
296.3	4	U	4	U	**24**		**83**		**190**		99	0.13	0.16	1.4	185	0.02	4U		4U
303.6	3	U	3	U	**4**		**71**		**111**		98	0.43	0.46	1.6	229	ND	3U		3U
326.3	3	U	3	U	3	U	**53**		**110**		103	0.11	0.14	3.25	456	ND	3U		3U
334.4	3	U	3	U	3	U	**54**		**100**		111	0.27	0.28	2.3	403	ND	3U		3U
343.0	6	U	6	U	6	U	**390**		**260**		103	0.24	0.25	0.07	254	ND	6U		6U
351.3	3	U	3	U	3	U	**49**		**170**		103	0.09	0.10	0.19	395	0.05	3U		3U
360.8	3	U	3	U	3	U	**39**		**130**		108	0.08	0.16	0.22	335	0.05	3U		3U
400.1	1	U	1	U	1	U	1	U	1	U	98	ND	0.08	0.05	30	0.04	1U		1U
411.1	1	U	1	U	1	U	1	U	**5**		106	ND	ND	0.02	52	0.02	1U		1U
421.0	1	U	1	U	1	U	1	U	**5**		86	0.04	0.08	0.06	52	0.03	1U		1U
431.0	1	U	1	U	1	U	1	U	**3**		80	0.12	0.24	0.24	68	0.09	1U		1U
437.1	1	U	1	U	1	U	1	U	**3**		80	0.25	0.41	0.56	82	0.20	1U		1U

	VOC DATA, ug/L																									
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
74.2	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	77
87.6	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
97.6	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	**240**		109
107.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	**2700**		111
117.6	3	U	3	U	**5**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**37**		104
127.6	4	U	4	U	**7**		4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	**4**		103
137.6	3	U	3	U	**6**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**3**		110
147.7	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	**22**		119
155.8	3	U	3	U	**3**		3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**5**		112
165.9	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**20**		105
177.6	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	99
187.6	1	U	1	U	**1**		1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**5**		93
226.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
236.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
246.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
256.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		104
268.0	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**7**		103
276.4	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	**5**		97
285.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**5**		106
296.3	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	**37**		99
303.6	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**11**		98
326.3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**10**		103
334.4	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	**8**		111
343.0	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	103
351.3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	103
360.8	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	108
400.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
411.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
421.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86
431.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
437.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 1/11/04 - 2/06/04
Date Analyzed: 1/11/04 - 2/06/04
Report Date: 2/6/2004

HOLE ID =P55

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
74.6	1	U	1	U	1	U	1	U	1	U	93	0.04	0.23	0.09	40	0.03	1U	1U
84.1	1	U	1	U	1	U	1	U	1	U	90	ND	0.06	0.05	14	0.02	1U	1U
94.6	1	U	1	U	1	U	1	U	1	U	96	ND	0.04	0.06	13	0.02	1U	1U
104.6	1	U	1	U	1	U	1	U	1	U	95	ND	0.12	0.08	11	0.03	1U	1U
114.6	1	U	1	U	1	U	1	U	1	U	99	0.04	0.22	0.14	9	0.05	1U	1U
124.6	1	U	1	U	1	U	**2**		1	U	95	0.10	0.54	0.25	14	0.06	1U	1U
134.6	1	U	1	U	1	U	1	U	1	U	87	0.12	0.26	0.27	10	0.05	1U	1U
144.6	1	U	1	U	1	U	1	U	1	U	95	ND	0.07	0.06	10	0.04	1U	1U
154.6	**2**		1	U	**18**		**8**		1	U	88	0.11	0.24	0.17	14	0.03	1U	1U
164.6	**610**		12	U	**1200**		**98**		12	U	114	0.19	0.75	1.6	54	0.06	**Detect**	**Detect**
174.6	**580**		12	U	**140**		**54**		**22**		109	0.14	0.23	3.6	66	ND	**Detect**	**Detect**
186.2	**450**		12	U	**570**		**250**		**42**		108	0.23	0.75	2.4	75	0.07	**Detect**	**Detect**
244.4	**8**	U	8	U	**120**		**470**		**320**		111	0.11	1.02	6.9	44	0.06	8U	8U
254.4	20	U	20	U	**310**		**560**		**4600**		111	0.16	0.72	7	46	0.04	20U	20U
264.4	**13**		12	U	**53**		**580**		**1400**		107	0.12	0.20	6.6	82	0.02	**Detect**	12U
271.0	12	U	12	U	**37**		**660**		**1300**		107	0.15	0.34	5.4	80	ND	**Detect**	12U
294.3	12	U	12	U	**14**		**1000**		**510**		107	0.22	0.36	1.2	38	0.09	12U	12U
304.5	8	U	8	U	8	U	**740**		**250**		114	0.04	0.06	ND	72	0.04	8U	8U
312.0	4	U	4	U	4	U	**240**		**120**		114	ND	0.05	ND	49	0.06	**Detect**	4U
334.6	12	U	12	U	12	U	**1300**		**650**		117	0.24	0.30	0.07	96	ND	12U	12U
340.4	6	U	6	U	6	U	**390**		**180**		109	0.03	0.09	0.02	80	0.03	9U	9U
364.4	1	U	1	U	1	U	**1**		1	U	103	NS	NS	NS	NS	NS	1U	1U
374.4	1	U	1	U	1	U	**69**		**43**		102	0.06	2.37	0.21	71	0.03	1U	1U
381.6	1	U	1	U	1	U	1	U	1	U	93	NS	NS	NS	NS	NS	1U	1U
404.4	1	U	1	U	1	U	**5**		1	U	86	0.28	0.55	0.18	37	0.08	1U	1U
425.4	1	U	1	U	1	U	**2**		**1**		87	0.26	0.54	0.10	27	0.04	1U	1U
434.4	1	U	1	U	1	U	1	U	1	U	90	ND	0.05	ND	25	ND	1U	1U
442.3	1	U	1	U	1	U	**1**		1	U	89	ND	0.03	ND	28	0.02	1U	1U
474.4	1	U	1	U	1	U	1	U	1	U	86	NS	NS	NS	NS	NS	1U	1U

Depth	VOC DATA, ug/L																											
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
74.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
84.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
94.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
104.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
114.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
124.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
134.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
144.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
154.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	**88**
164.6	12	U	12	U	12	U	12	U	12	U	**130**		12	U	24	U	**17**		12	U	12	U	**200**		114
174.6	12	U	12	U	12	U	12	U	12	U	**220**		12	U	24	U	12	U	12	U	12	U	**54**		109
186.2	12	U	12	U	12	U	12	U	12	U	**140**		12	U	24	U	12	U	12	U	12	U	**95**		108
244.4	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	**13**		111
254.4	20	U	20	U	20	U	**25**		20	U	20	U	20	U	40	U	20	U	20	U	20	U	**140**		111
264.4	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**22**		107
271.0	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**28**		107
294.3	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	**25**		107
304.5	8	U	8	U	8	U	8	U	8	U	8	U	8	U	16	U	8	U	8	U	8	U	8	U	114
312.0	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	114
334.6	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	117
340.4	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	109
364.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
374.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
381.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93
404.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**2**		86
425.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		87
434.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
442.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
474.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	86

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 1/21-1/29/2004
Date Analyzed: 1/21-1/29/2004
Report Date: 1/29/2004

HOLE ID =P56

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
76.6	1	U	1	U	1	U	1	U	**180**		111	0.20	0.42	0.05	16	0.06	1U	1U
86.6	1	U	1	U	1	U	1	U	1	U	99	0.07	0.16	0.05	15	ND	1U	1U
96.6	1	U	1	U	1	U	1	U	1	U	91	0.04	0.11	0.05	14	ND	1U	1U
106.6	**35**	J	1	U	1	U	1	U	1	U	102	0.04	0.15	0.06	90	0.03	1U	1U
116.6	**22**	J	1	U	1	U	1	U	1	U	95	0.04	0.07	0.06	125	0.05	1U	1U
126.6	**10**	J	1	U	1	U	1	U	1	U	91	0.21	0.44	0.27	106	0.14	1U	1U
136.6	**7**	J	1	U	1	U	1	U	1	U	88	ND	0.11	0.07	165	0.04	1U	1U
146.6	**3**	J	1	U	1	U	1	U	1	U	100	ND	0.11	0.05	180	0.06	1U	1U
156.6	**1**	J	1	U	1	U	1	U	1	U	94	ND	0.19	0.17	70	0.03	1U	1U
166.6	1	U	1	U	1	U	1	U	1	U	99	0.07	0.12	0.07	287	0.06	1U	1U
176.6	1	U	1	U	1	U	1	U	1	U	94	0.06	0.22	0.10	290	0.05	1U	1U
186.6	1	U	1	U	1	U	1	U	1	U	99	0.09	0.69	0.24	108	0.03	1U	1U
194.0	1	U	1	U	1	U	1	U	1	U	104	0.16	0.58	0.42	244	0.07	1U	1U
211.5	1	U	1	U	1	U	1	U	1	U	101	ND	0.16	0.05	179	0.04	1U	1U
221.5	1	U	1	U	1	U	1	U	1	U	103	ND	0.06	0.02	212	0.05	1U	1U
231.5	1	U	1	U	1	U	1	U	1	U	99	0.04	0.61	0.18	181	0.05	1U	1U
241.5	1	U	1	U	1	U	1	U	1	U	113	0.11	0.68	0.29	156	0.13	1U	1U
251.5	1	U	1	U	1	U	1	U	1	U	103	0.03	0.05	0.04	82	0.06	1U	1U
261.5	1	U	1	U	1	U	1	U	1	U	110	0.08	0.32	0.20	52	0.09	1U	1U
305.9	1	U	1	U	1	U	1	U	1	U	96	0.04	0.20	0.11	148	0.05	1U	1U
316.5	1	U	1	U	1	U	1	U	1	U	89	ND	0.11	0.03	24	0.05	1U	1U
324.2	1	U	1	U	1	U	1	U	1	U	94	0.04	0.06	0.08	62	0.05	1U	1U
346.6	1	U	1	U	1	U	1	U	1	U	97	0.11	0.78	0.23	32	0.12	1U	1U
354.0	1	U	1	U	1	U	1	U	1	U	104	0.07	0.17	0.14	33	0.06	1U	1U
388.6	1	U	1	U	1	U	1	U	1	U	85	0.03	0.14	0.03	16	0.03	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	**1**		111
86.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
96.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
106.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
116.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
126.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
136.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
146.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
156.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
166.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
176.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
186.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
194.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
211.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
221.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
231.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
241.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
251.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
261.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	110
305.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
316.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
324.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
346.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
354.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
388.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	85

Samples with > 100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 11/04-11/12/2003
Date Analyzed: 11/04-11/12/2003
Report Date: 11/12/2003

HOLE ID =P58

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.7	1	UJ	1	U	1	U	1	U	1	U	84	ND	ND	ND	23	0.06	1U	1U
89.7	1	UJ	1	U	1	U	1	U	1	U	84	0.09	0.22	0.2	21	0.03	1U	1U
99.7	1	UJ	1	U	1	U	1	U	1	U	84	0.22	0.38	0.4	33	0.12	1U	1U
109.7	1	U	1	U	1	U	1	U	1	U	96	0.33	0.67	0.46	28	0.21	1U	1U
119.7	1	U	1	U	1	U	1	U	**2**		92	0.06	0.13	0.14	ND	0.04	1U	1U
129.7	1	U	1	U	1	U	1	U	1	U	95	0.26	0.67	0.53	ND	0.12	1U	1U
139.7	1	U	1	U	1	U	1	U	1	U	109	0.11	0.21	0.21	102	0.06	1U	1U
149.7	1	U	1	U	1	U	1	U	1	U	109	0.09	0.31	0.26	13	0.05	1U	1U
159.7	1	U	1	U	1	U	1	U	1	U	108	0.19	0.31	0.29	76	0.07	1U	1U
169.7	1	U	1	U	1	U	1	U	1	U	94	0.19	0.20	0.05	93	0.1	1U	1U
179.7	1	U	1	U	1	U	1	U	1	U	107	0.23	0.49	0.41	67	0.09	1U	1U
189.7	1	U	1	U	1	U	1	U	1	U	90	0.05	0.10	0.07	76	0.03	1U	1U
196.0	1	U	1	U	1	U	1	U	1	U	91	0.21	0.44	0.56	98	0.16	1U	1U
213.2	1	U	1	U	1	U	1	U	**3**		91	ND	0.31	0.09	62	ND	1U	1U
274.7	1	U	1	U	1	U	**1**		**50**		101	ND	0.04	0.05	638	0.02	1U	1U
284.7	1	U	1	U	1	U	1	U	**43**		100	0.04	0.14	0.14	591	0.03	1U	1U
294.7	1	U	1	U	1	U	**1**		**46**		101	0.12	0.16	0.22	315	0.03	1U	1U
304.7	1	U	1	U	**2**		**2**		**49**		106	0.27	0.33	0.40	81	0.06	1U	1U
314.7	3	U	3	U	3	U	3	U	**120**		110	0.06	0.07	0.03	111	0.02	3U	3U
323.2	1	U	1	U	1	U	1	U	**1**		102	0.03	0.05	0.07	51	ND	1U	1U
342.3	1	U	1	U	1	U	1	U	1	U	90	0.05	0.22	0.08	88	0.03	1U	1U
402.4	1	U	1	U	1	U	**1**		**15**		98	0.30	0.42	0.07	552	0.17	1U	1U
432.1	1	U	1	U	1	U	**2**		**15**		99	0.05	0.15	0.10	900	0.04	1U	1U
471.4	1	U	1	U	1	U	**13**		**19**		94	0.04	0.11	0.06	953	0.04	1U	1U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.7	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
89.7	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
99.7	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
109.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
119.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
129.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
139.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
149.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
159.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
169.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
179.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
189.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
196.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
213.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
274.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
284.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
294.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
304.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
314.7	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	110
323.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
342.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
402.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
432.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
471.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 6/9 - 6/18/03
Date Analyzed: 6/9 - 6/18/03
Report Date: 6/18/03

HOLE ID = PC

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
79.6	4	U	4	U	4	U	4	U	**340**		89	0.05	0.08	0.03	48	ND	4 U	4 U
89.6	20	U	20	U	20	U	20	U	**1200**		91	0.05	0.10	0.05	64	0.03	20 U	20 U
99.6	1	U	1	U	1	U	1	U	**85**		92	0.31	1.28	0.55	49	0.26	1 U	1 U
109.6	1	U	1	U	1	U	1	U	**8**		112	0.12	0.27	0.15	78	0.03	1 U	1 U
119.6	1	U	1	U	1	U	1	U	1	U	107	0.05	0.09	0.04	41	ND	1 U	1 U
129.6	1	U	1	U	1	U	1	U	**1**		90	0.17	1.92	1.05	67	0.39	1 U	1 U
139.6	1	U	1	U	1	U	1	U	**2**		109	0.05	0.30	0.12	95	0.04	1 U	1 U
149.6	1	U	1	U	1	U	**2**		**3**		106	0.10	8.9	7.1	103	0.66	1 U	1 U
159.6	1	U	1	U	1	U	**23**		**4**		92	ND	0.13	0.08	77	0.03	**Detect**	1 U
169.6	1	U	1	U	1	U	**8**		**4**		102	0.09	0.59	0.34	111	0.06	**Detect**	1 U
179.6	1	U	1	U	1	U	**30**		**2**		100	ND	0.05	0.08	68	0.04	1 U	1 U
185.3	1	U	1	U	**3**		**41**		1	U	91	0.04	0.15	0.16	63	0.05	1 U	1 U
195.3	1	U	1	U	**7**		**94**		**3**		95	ND	0.04	0.04	53	ND	1 U	1 U
205.3	2	U	2	U	**12**		**160**		**9**		98	0.03	0.17	0.14	46	0.04	2 U	2 U
215.3	6	U	6	U	**39**		**390**		**23**		89	0.07	0.41	0.38	60	0.04	6 U	6 U
225.3	2	U	2	U	**9**		**130**		**9**		88	ND	0.05	0.07	75	0.02	2 U	2 U
235.3	3	U	3	U	**18**		**210**		**13**		90	0.03	0.03	0.03	70	0.02	3 U	3 U
245.3	1	U	1	U	1	U	**1**		1	U	89	ND	ND	0.02	110	0.02	1 U	1 U
265.3	1	U	1	U	1	U	1	U	**2**		90	ND	0.12	0.06	320	ND	1 U	1 U
275.3	1	U	1	U	1	U	1	U	**1**		104	0.09	0.24	0.29	188	0.07	1 U	1 U
320.3	1	U	1	U	1	U	1	U	**9**		104	0.05	0.13	0.16	607	0.05	1 U	1 U
330.3	1	U	1	U	1	U	**6**		**2**		96	ND	0.11	0.17	350	0.02	1 U	1 U
337.6	1	U	1	U	**3**		**48**		**4**		104	0.30	1.34	0.34	79	0.24	1 U	1 U
347.7	1	U	1	U	1	U	**3**		1	U	98	0.08	0.25	0.14	178	0.03	1 U	1 U
364.6	1	U	1	U	1	U	**17**		**3**		100	0.42	0.78	0.31	163	0.30	1 U	1 U
374.5	1	U	1	U	1	U	**2**		1	U	98	ND	0.03	0.04	41	0.03	1 U	1 U
384.5	1	U	1	U	1	U	1	U	1	U	100	0.12	0.21	0.20	43	0.07	1 U	1 U
394.5	1	U	1	U	1	U	1	U	1	U	95	ND	0.04	ND	29	ND	1 U	1 U

Depth	VOC DATA, ug/L																								
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
79.6	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	89
89.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	91
99.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
109.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
119.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
129.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
139.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
149.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
159.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
169.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
179.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
185.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	91
195.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
205.3	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	98
215.3	6	U	6	U	6	U	6	U	6	U	6	U	6	U	12	U	6	U	6	U	6	U	6	U	89
225.3	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	88
235.3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	6	U	3	U	3	U	3	U	3	U	90
245.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	89
265.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
275.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
320.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
330.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
337.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
347.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
364.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
374.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
384.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
394.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/27 - 6/4/03
Date Analyzed: 5/27 - 6/4/03
Report Date: 6/4/2003

HOLE ID = PD

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene
77.1	1	U	1	U	1	U	**9**	J	**250**		94	0.03	0.26	0.14	124	ND	1 U		1 U
87.1	1	U	1	U	1	U	1	U	**41**	J	100	ND	0.12	0.15	49	0.04	1 U		1 U
97.1	1	U	1	U	1	U	1	U	**74**	J	115	0.03	0.10	0.12	40	0.03	1 U		**Detect**
107.1	1	U	1	U	1	U	1	U	**12**		87	0.08	0.22	0.22	38	0.05	1 U		1 U
117.1	1	U	1	U	1	U	1	U	**3**		90	0.04	0.05	0.08	25	0.02	**Detect**		1 U
127.1	1	U	1	U	1	U	1	U	**1**		81	0.06	0.10	0.08	12	ND	**Detect**		1 U
137.1	1	U	1	U	1	U	1	U	**4**		97	10.80	10.10	0.38	50	0.04	1 U		1 U
147.1	1	U	1	U	1	U	**4**		**2**		82	0.11	0.17	0.10	81	0.03	1 U		1 U
157.1	1	U	1	U	1	U	**5**		**1**		88	ND	0.11	0.13	85	0.04	1 U		1 U
167.1	1	U	1	U	**20**		**200**		**14**		107	0.41	1.05	0.19	68	0.16	1 U		1 U
177.1	1	U	1	U	1	U	**2**		**2**		80	ND	0.07	0.40	125	ND	1 U		1 U
187.1	1	U	1	U	**4**		**40**		**3**		111	0.06	0.23	0.22	111	0.06	1 U		1 U
197.1	1	U	1	U	1	U	**8**		1	U	76	0.17	1.55	1.15	87	0.37	1 U		1 U
207.1	1	U	1	U	1	U	**6**		1	U	79	0.21	2.13	1.00	83	0.27	1 U		1 U
217.1	1	U	1	U	1	U	1	U	1	U	80	ND	0.13	0.12	84	0.03	1 U		1 U
227.1	1	U	1	U	1	U	1	U	1	U	84	0.11	0.63	0.47	76	0.11	1 U		1 U
237.1	1	U	1	U	1	U	1	U	1	U	77	ND	0.17	0.20	70	0.03	1 U		1 U
247.1	1	U	1	U	1	U	1	U	1	U	88	ND	0.16	0.13	96	0.03	1 U		1 U
257.1	1	U	1	U	1	U	**3**		**8**		109	0.31	0.52	4.00	187	0.14	1 U		1 U
290.1	1	U	1	U	1	U	**8**		**31**		109	0.40	0.09	0.09	702	0.03	1 U		1 U
317.0	1	U	1	U	1	U	**3**		**17**		96	0.25	0.40	0.45	667	0.07	1 U		1 U
322.0	1	U	1	U	1	U	**3**		**16**		92	0.20	0.44	0.21	777	0.03	1 U		1 U
332.0	1	U	1	U	1	U	1	U	**4**		94	0.02	0.09	0.09	350	ND	1 U		1 U
342.0	1	U	1	U	1	U	1	U	1	U	96	ND	ND	ND	91	ND	1 U		1 U
352.0	1	U	1	U	1	U	1	U	1	U	93	0.05	0.29	0.16	28.5	ND	1 U		1 U

Depth	VOC DATA, ug/L																										
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
77.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	94
87.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	100
97.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	115
107.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
117.1	1	U	1	U	1	U	**2**		1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
127.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	81
137.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
147.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	82
157.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
167.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	107
177.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
187.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	111
197.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	76
207.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	79
217.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	80
227.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	84
237.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	77
247.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	88
257.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
290.1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
317.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
322.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	92
332.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
342.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	96
352.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	93

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 5/15 - 5/23/03
Date Analyzed: 5/15 - 5/23/03
Report Date: 5/23/03

HOLE ID = PE

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS			
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113		1,2-DCA / Benzene	
78.6	1	U	1	U	1	U	1	U	**1**		106	ND	0.06	0.15	23	ND	1 U		1 U	
88.6	1	U	1	U	**2**		**1**		**5**		112	7.7	9.3	0.10	15	ND	1 U		1 U	
98.6	1	U	1	U	1	U	1	U	**55**		105	13.9	14.3	0.24	14	0.03	1 U		1 U	
108.6	1	UJ	1	U	1	U	1	U	**70**		102	11.60	12.20	0.12	13	0.12	1 U		1 U	
118.6	1	UJ	1	U	1	U	1	U	**58**		99	ND	0.08	0.62	18	ND	1 U		1 U	
128.6	20	U	20	U	20	U	20	U	**1800**		108	0.10	0.27	0.14	33	ND	20 U		20 U	
138.6	20	U	20	U	20	U	20	U	**1700**	J	111	0.36	0.43	0.24	23	ND	20 U		20 U	
148.6	1	U	1	U	1	U	1	U	**13**		123	0.06	0.21	0.27	104	ND	1 U		**Detect**	
158.6	1	U	1	U	1	U	1	U	**2**		116	ND	0.30	0.22	142	ND	1 U		**Detect**	
168.6	1	U	1	U	1	U	1	U	**1**		121	0.03	0.67	0.10	121	ND	1 U		1 U	
178.6	1	U	1	U	1	U	1	U	**16**		119	ND	ND	ND	230	ND	1 U		1 U	
198.6	1	U	1	U	1	U	1	U	**1**		117	ND	0.11	0.14	308	ND	1 U		1 U	
208.6	1	U	1	U	1	U	1	U	1	U	109	0.06	0.32	0.21	395	ND	1 U		1 U	
218.6	1	U	1	U	1	U	1	U	1	U	113	0.14	0.48	0.52	385	0.07	1 U		1 U	
228.6	1	U	1	U	1	U	1	U	1	U	113	0.35	1.48	0.53	438	0.21	1 U		1 U	
238.6	1	U	1	U	1	U	1	U	**2**		114	0.36	5.0	1.1	518	0.37	1 U		1 U	
268.6	1	U	1	U	1	U	1	U	**45**		112	0.34	1.29	0.47	608	0.11	1 U		1 U	
292.3	1	U	1	U	1	U	**1**		**42**		114	ND	0.07	0.09	895	ND	1 U		1 U	
301.3	2	UJ	2	U	2	U	**7**		**170**		113	0.09	0.09	0.12	820	0.03	2 U		2 U	
317.2	4	UJ	4	U	4	U	**6**		**310**		121	0.16	0.35	0.18	193	0.04	4 U		4 U	
327.2	1	UJ	1	U	1	U	**4**		**30**		120	0.16	0.20	0.34	843	0.11	1 U		1 U	
332.9	1	UJ	1	U	1	U	**2**		**16**		116	0.14	0.32	0.25	718	0.10	1 U		1 U	

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
78.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
88.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
98.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
108.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	102
118.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
128.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	108
138.6	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	111
148.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	123
158.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116
168.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	121
178.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	119
198.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	117
208.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	109
218.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
228.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	113
238.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
268.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
292.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	114
301.3	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	113
317.2	4	U	4	U	4	U	4	U	4	U	4	U	4	U	8	U	4	U	4	U	4	U	4	U	121
327.2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	120
332.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	116

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
J = Indicates an estimated quantitation value.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 4/28 - 5/2/03
Date Analyzed: 4/28 - 5/9/03
Report Date: 5/9/03

HOLE ID = PF

	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS		
Depth	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	113		1,2-DCA / Benzene
76.5	20	U	20	U	**120**		**120**		**8200**		104	0.45	1.16	0.49	40	0.11	20 U		20 U
86.5	20	U	20	U	20	U	20	U	**450**		97	0.03	0.29	0.18	17	ND	20 U		20 U
96.5	1	U	1	U	1	U	1	U	**4**		90	0.08	0.26	0.20	76	ND	NS		NS
106.5	1	U	1	U	1	U	1	U	**3**		105	0.02	0.27	0.32	88	ND	1 U		1 U
116.5	1	U	1	U	1	U	1	U	**2**		99	0.00	0.00	0.05	72	ND	1 U		1 U
126.4	1	U	1	U	1	U	1	U	**2**		103	0.07	0.61	0.57	80	0.08	1 U		1 U
136.5	1	U	1	U	1	U	1	U	**2**		95	0.04	0.22	0.30	116	0.05	1 U		1 U
146.3	1	U	1	U	1	U	1	U	**2**		101	0.03	0.12	0.22	108	0.02	1 U		1 U
156.5	1	U	1	U	1	U	1	U	**4**		99	0.07	0.51	0.57	75	0.07	1 U		1 U
166.5	1	U	1	U	1	U	1	U	**2**		97	0.03	0.69	0.92	72	ND	1 U		1 U

	VOC DATA, ug/L																										
Depth	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	104
86.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	40	U	20	U	20	U	20	U	20	U	97
96.5	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		90
106.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
116.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
126.4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	103
136.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
146.3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	101
156.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
166.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
NS = Not Sampled
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

STONE ENVIRONMENTAL INC

Mobile Laboratory Results Sheet

Table 2-2
Groundwater Profile Data - VOCs
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville , NY

Client: GTEOSI
Location: Hicksville, NY
Project ID: Groundwater Profiling
SEI #: 03-1402
Date Sampled: 7/21 - 7/27/03
Date Analyzed: 7/21 - 7/27/03
Report Date: 7/27/03

HOLE ID = PH

Depth	VOC DATA, ug/L											INORGANIC DATA, mg/L					COELUTING COMPOUNDS	
	Vinyl Chloride	Q	t-Dichloroethene	Q	c-Dichloroethene	Q	Trichloroethene	Q	Tetrachloroethene	Q	% SS	Fe^{+2}	Fe, Total	Ammonia	Chloride	Chlorine, Total	1,1-DCE / Freon 113	1,2-DCA / Benzene
76.8	1	U	1	U	1	U	1	U	**8**		87	0.09	0.33	0.19	33	0.06	1 U	1 U
86.8	1	U	1	U	1	U	1	U	**11**		95	0.08	0.18	0.11	21	0.02	1 U	1 U
96.8	12	U	12	U	12	U	12	U	**1500**		115	0.06	0.13	0.04	44	ND	12 U	12 U
106.8	2	U	2	U	2	U	**4**		**240**		110	0.06	0.16	0.07	48	0.02	**Detect**	2 U
116.8	1	U	1	U	1	U	1	U	**10**		95	0.10	0.23	0.20	28	0.05	**Detect**	1 U
126.8	1	U	1	U	1	U	1	U	**10**		99	0.09	0.20	0.19	50	0.05	1 U	1 U
136.8	1	U	1	U	1	U	1	U	**4**		104	0.11	0.29	0.28	60	0.08	**Detect**	1U
146.8	1	U	1	U	1	U	1	U	**3**		98	0.22	0.87	0.72	71	0.16	**Detect**	1 U
156.8	1	U	1	U	1	U	**12**		**7**		106	0.11	1.26	0.85	68	0.05	**Detect**	1 U
166.8	1	U	1	U	1	U	**24**		**6**		104	0.12	0.32	0.28	64	0.08	1 U	1 U
176.8	1	U	1	U	**3**		**42**		**22**		108	0.15	0.34	0.36	92	0.06	1 U	1 U
186.8	1	U	1	U	1	U	**2**		**2**		97	0.03	0.09	0.11	107	0.03	1 U	1 U
196.8	1	U	1	U	1	U	**7**		**2**		105	0.43	0.86	0.50	109	0.28	1 U	1 U
206.6	1	U	1	U	1	U	1	U	**3**		105	ND	0.05	0.05	140	ND	1 U	1 U
216.6	1	U	1	U	1	U	1	U	1	U	105	0.03	0.06	0.08	78	ND	1 U	1 U
226.6	1	U	1	U	1	U	1	U	1	U	108	ND	0.03	0.02	75	0.03	1 U	1 U
236.6	1	U	1	U	1	U	1	U	1	U	90	0.15	0.23	0.20	80	ND	1 U	1 U
328.5	1	U	1	U	1	U	**3**		**12**		108	0.03	0.07	0.10	447	0.02	1 U	1 U
335.0	1	U	1	U	1	U	**10**		**6**		117	ND	0.10	0.09	288	0.02	1 U	1 U
351.7	1	U	1	U	1	U	1	U	**2**		123	0.11	0.18	0.11	231	0.02	1 U	1 U
376.9	1	U	1	U	1	U	**5**		1	U	99	0.11	0.32	0.04	96	0.05	1 U	1 U
386.5	1	U	1	U	1	U	1	U	1	U	112	0.15	0.29	0.21	40	0.09	1 U	1 U
396.5	1	U	1	U	1	U	1	U	1	U	122	0.04	0.43	0.13	28	0.03	1 U	1 U

Depth	VOC DATA, ug/L																									
	Freon 123A	Q	Freon 123	Q	1,1-Dichloroethane	Q	1,1,1-Trichloroethane	Q	Toluene	Q	Chlorobenzene	Q	Ethylbenzene	Q	m,p-Xylene	Q	o-Xylene	Q	1,3-Dichlorobenzene	Q	1,4-Dichlorobenzene	Q	1,2-Dichlorobenzene	Q	%SS
76.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	87
86.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
96.8	12	U	12	U	12	U	12	U	12	U	12	U	12	U	24	U	12	U	12	U	12	U	12	U	115
106.8	2	U	2	U	2	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	110
116.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	95
126.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
136.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
146.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	98
156.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	106
166.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	104
176.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
186.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	97
196.8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
206.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
216.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	105
226.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
236.6	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	90
328.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	108
335.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	117
351.7	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	123
376.9	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	99
386.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	112
396.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	1	U	122

Samples with >100 ppb total VOC's cannot be run on a carboxen fiber and will have detection limits of 20 ppb
%SS = Surrogate Recovery
ND = Value below detection limit.
U = Compound was analyzed for but not detected. Value reported is the method reporting limit.
ug/L = micrograms per liter.
mg/L = milligrams per liter.
depths are presented as feet below ground surface.

Table 4-1
VOC Data - On-Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

COMPOUND NAME	Sample ID --> Units	MW-1 10/13/02	MW-2 10/13/02	MW-3 10/13/02	MW-4 10/13/02	MW-5 10/13/02	MW-6 10/13/02	MW-7 10/13/02	MW-8 10/13/02	MW-9 10/13/02	MW-10 10/13/02	MW-11 10/13/02	MW-12 10/13/02
1,1,1-Trichloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	ug/L	5 U	50 U	2.4	2.6	100 U	1 U	4.1	1 U	1 U	0.31 J	2.5 U	100 U
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ug/L	110	800	88	180	1500	3.5	1300	19	61	650	66	1300
Toluene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	ug/L	5 U	50 U	1 U	1 U	100 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/L	25	26 J	4.8	24	100 U	1 U	11	2.4	0.59 J	5.9	2.5 U	33 J
Vinyl chloride	ug/L	5 U	50 U	1 U	1 U	100 U	1 U	1 U	1 U	1 U	1 U	2.5 U	100 U
Xylenes (total)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TIC- Isobutane	ug/L												
TIC- Chlorodifluoromethane	ug/L												

NA = not analyzed.
U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
ug/L = micrograms per liter.

Table 4-1
VOC Data - On-Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

COMPOUND NAME	Sample ID --> Units	MW-1 3/15/03	MW-2 3/15/03	MW-3 3/16/03	MW-4 03/16/03	MW-5 3/15/03	MW-6 03/16/03	MW-7 3/15/03	MW-8 03/16/03	MW-9 03/15/03	MW-10 03/15/03	MW-11 3/15/03	MW-12 3/15/03
1,1,1-Trichloroethane	ug/L	1 U	1 U	0.19 J	1 U	1 U	1 U	1 U	8.4	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.051 J	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	0.22 J	6.5	1 U	0.41 J	1 U	0.46 J
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	R	5 UJ	R	R	5 UJ	R	R	R	R	R	5 UJ	R
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	ug/L	5 UJ	20 UJ	6.5 UJ	2 UJ	50 UJ	2 UJ	2 UJ	2 UJ	2.2 U	40 UJ	R	40 UJ
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.076 J	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	R	R	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	ug/L	1 U	0.07 J	1 U	1 U	1 U	21 J	1 U	1 U	1 U	1 U	1 U	0.16 J
Chloromethane	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	ug/L	1 U	1.3	1.6	1.9	0.82 J	1 U	6.5	1 U	1 U	1.6	1 U	1.4
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	64	270	78	130	960	7.8	1300	15	24	740	14	700
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Trichloroethene	ug/L	13	13	3.7	13	8.5	0.6 J	11	2.8	0.63 J	9.3 J	0.68 J	12
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
TIC- Isobutane	ug/L												
TIC- Chlorodifluoromethane	ug/L												

U = the analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ug/L = micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth)	**Metal Data ug/L** *Regulatory Limit (ug/L)*				
			NA	*50*	*200*	*100*	*NA*
			Beryllium	Chromium	Copper	Nickel	Thallium
10/15/2002	10/28/2002	P-1 (78.7)	5 U	50.2	88.6	151 J	10 U
10/15/2002	10/28/2002	P-1 (78.7) *	5 U	10 U	19.1 J	215 J	10 U
10/16/2002	10/28/2002	P-1 (98.7)	5 U	37.3	25 U	71.5	10 U
10/15/2002	10/28/2002	P-2 (78.5)	5 U	10.7 J	25 UJ	32.7 J	10 U
10/15/2002	10/28/2002	P-2 (78.5) *	5 U	17.6 J	53.1 J	245 J	10 U
10/16/2002	10/28/2002	P-2 (98.8)	5 U	68.6	25 U	72.0	10 U
10/16/2002	10/28/2002	P-2 (98.8) *	5 U	10 U	25 U	46.9	10 U
11/18/2002	12/3/2002	P-3 (87.40)	5 U	19.3	16.7 J	57.1 J	10 UJ
11/18/2002	12/3/2002	P-3 (87.40) *	5	3 J	8.9 J	61.2 J	10 UJ
11/18/2002	12/3/2002	P-3 (107.40)	5 U	61.2	27.3	76.8	10 UJ
11/18/2002	12/3/2002	P-3 (107.40) *	5	5.2J	25	30 J	10 UJ
10/28/2002	1/4/2002	P-4 (77.5)	5 U	53.1	25 U	1,560	10 U
10/28/2002	1/4/2002	P-4 (97.2)	5 U	10 U	25 U	2,580	10 U
10/28/2002	1/4/2002	P-5 (77.5)	5 U	21.3	8.2 J	106	10 U
10/28/2002	1/4/2002	P-5 (97.5)	5 U	14.7	25 U	85.5	10 U
11/14/2002	11/20/2002	P-6 (102.8)	5 U	6.0 J	25 U	13.8 J	10 U
11/13/2002	11/20/2002	P-6 (82.8)	5 U	24.1	15.2 J	25.3 J	10 U
11/19/2002	12/3/2002	P-7 (82.4)	5 U	69.3	17.0 J	87.7	10 UJ
11/19/2002	12/3/2002	P-7 (102.4)	5 U	106	22.0	79.9	10 UJ
11/19/2002	12/3/2002	P-7 (102.4) *	5 U	4 J	17.0 J	32.2 J	10 UJ
12/3/2002	12/10/2002	P-8 (77.55)	5 U	76.3	17.8 J	101	10 U
12/4/2002	12/10/2002	P-8 (97.55)	5 U	13.4 J	25 UJ	41.8	10 U
11/13/2002	11/20/2002	P-9 (82.61)	5 U	8.5 J	25 U	21.1 J	10 U
11/13/2002	11/20/2002	P-9 (102.61)	5 U	4.0 J	25 U	19.6 J	10 U
11/2/2002	11/11/2002	P-10 (77.6)	5 U	12.8	7.7	24.4 J	10 U
11/2/2002	11/11/2002	P-10 (97.9)	5 U	10 U	25 U	20.8 J	10 U
11/3/2002	11/11/2002	P-11 (87)	5 U	10.6 U	11.2 J	40.0	10 U
11/3/2002	11/11/2002	P-11 (107.4)	5 U	10 U	25 U	50.0	10 U
11/13/2002	11/20/2002	P-12 (78.85)	5 U	28.3 J	10.8 J	45.3 J	10 U
11/13/2002	11/20/2002	P-12 (97.92)	5 U	83.5	603	64.8	10 U
12/6/2002	12/10/2002	P-13 (76.6)	5 U	18.3	14.5 J	35.5 J	10 U
12/6/2002	12/10/2002	P-13 (96.6)	5 U	19.1	11.4 J	51.4	10 U
12/6/2002	12/10/2002	P-13 (96.6) *	5 U	10 U	25 U	42.2	10 U
12/6/2002	12/10/2002	P-14 (77.82)	5 U	281	188	91.9	10 U
12/6/2002	12/10/2002	P-14 (77.82) *	5 U	3 J	25 U	20.0 J	10 U
12/7/2002	12/16/2002	P-14 (95.17)	5 U	176	217	68.6	10 U
12/7/2002	12/16/2002	P-14 (95.17) *	5 U	10 U	25 U	40 U	10 U
12/8/2002	12/16/2002	P-16 (81)	5 U	38.3	9.9	49.7	10 U
12/8/2002	12/16/2002	P-16 (81)	5 U	10 U	25 U	25.4 J	10 U
12/9/2002	12/16/2002	P-16 (101)	5 U	5 U	25 U	24.4 J	10 U

* Indicates Filtered Sample

U = The chemical was not detected. Value shown is the reporting limit.

J = The result is an estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.

ug/L = micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
05/27/2003	06/03/2003	P-15 (79.65)	Dissolved	69.9
05/28/2003	06/03/2003	P-15 (89.65)	Total	37.9 J
05/28/2003	06/03/2003	P-15 (99.65)	Total	18.7 J
05/28/2003	06/03/2003	P-15 (109.65)	Total	24.8 J
05/28/2003	06/03/2003	P-15 (119.65)	Total	18.3 J
05/29/2003	06/05/2003	P-15 (129.65)	Total	34.6 J
05/29/2003	06/05/2003	P-15 (139.65)	Total	29.3 J
05/29/2003	06/05/2003	P-15 (149.65)	Total	21.7 J
05/29/2003	06/05/2003	P-15 (159.65)	Total	12.9 J
05/29/2003	06/05/2003	P-15 (169.65)	Total	17.6 J
05/29/2003	06/05/2003	P-15 (179.65)	Total	30.2 J
05/29/2003	06/05/2003	P-15 (189.65)	Total	28.5 J
05/29/2003	06/05/2003	P-15 (199.65)	Total	18.7 J
05/29/2003	06/05/2003	P-15 (208.00)	Dissolved	15.2 J
05/30/2003	06/05/2003	P-15 (218.00)	Total	28.4 J
05/30/2003	06/05/2003	P-15 (218.00) DUP	Total	32.1 J
05/30/2003	06/05/2003	P-15 (228.00)	Total	26.1 J
05/31/2003	06/05/2003	P-15 (240.00)	Dissolved	29.1 J
06/01/2003	06/05/2003	P-15 (290.05)	Dissolved	78
06/01/2003	06/05/2003	P-15 (300.05)	Dissolved	203
06/01/2003	06/05/2003	P-15 (310.05)	Dissolved	29.2 J
06/02/2003	06/05/2003	P-15 (329.10)	Total	57.7
06/02/2003	06/05/2003	P-15 (339.10)	Dissolved	24.8 J
04/24/2003	04/30/2003	P-17 (82.25)	Total	52
04/25/2003	04/30/2003	P-17 (102.27)	N/A	61.4
10/04/2003	10/10/2003	P-18 (76.65)	Total	40 U
10/04/2003	10/10/2003	P-18 (76.65)	Dissolved	40 U
10/04/2003	10/10/2003	P-18 (86.65)	Total	43
10/04/2003	10/10/2003	P-18 (86.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (96.65)	Total	40 U
10/05/2003	10/10/2003	P-18 (96.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (106.65)	Total	40 U
10/05/2003	10/10/2003	P-18 (106.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (116.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (126.65)	Total	40 U
10/05/2003	10/10/2003	P-18 (126.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (136.65)	Total	40 U
10/05/2003	10/10/2003	P-18 (136.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (146.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (156.65)	Total	40 U
10/05/2003	10/10/2003	P-18 (156.65) DUP	Total	40 U
10/05/2003	10/10/2003	P-18 (156.65)	Dissolved	40 U

U - The analyte was not detected above reported sample quantitation limits.
J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
DUP - Duplicate sample.
ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
10/05/2003	10/10/2003	P-18 (156.65) DUP	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (166.65)	Dissolved	40 U
10/05/2003	10/10/2003	P-18 (176.65)	Dissolved	40 U
10/06/2003	10/10/2003	P-18 (186.65)	Total	40 U
10/06/2003	10/10/2003	P-18 (186.65)	Dissolved	40 U
10/06/2003	10/14/2003	P-18 (207.65)	Total	40 U
10/06/2003	10/14/2003	P-18 (207.65)	Dissolved	14 J
10/06/2003	10/14/2003	P-18 (217.65)	Total	23.4 J
10/06/2003	10/14/2003	P-18 (217.65)	Dissolved	40 U
10/07/2003	10/14/2003	P-18 (227.65)	Total	40 U
10/07/2003	10/14/2003	P-18 (227.65)	Dissolved	20.1 J
10/07/2003	10/14/2003	P-18 (237.65)	Total	40 U
10/07/2003	10/14/2003	P-18 (237.65)	Dissolved	14 J
10/07/2003	10/14/2003	P-18 (247.65)	Total	40 U
10/07/2003	10/14/2003	P-18 (247.65) DUP	Total	40 U
10/07/2003	10/14/2003	P-18 (247.65)	Dissolved	40 U
10/07/2003	10/14/2003	P-18 (247.65) DUP	Dissolved	15.4 J
10/07/2003	10/14/2003	P-18 (257.65)	Dissolved	40 U
10/07/2003	10/14/2003	P-18 (267.65)	Dissolved	14.7 J
10/08/2003	10/14/2003	P-18 (277.65)	Dissolved	40 U
10/08/2003	10/14/2003	P-18 (287.65)	Total	40 U
10/08/2003	10/14/2003	P-18 (287.65)	Dissolved	40 U
10/08/2003	10/14/2003	P-18 (302.66)	Total	40 U
10/09/2003	10/14/2003	P-18 (302.66)	Dissolved	40 U
10/09/2003	10/14/2003	P-18 (328.31)	Dissolved	40 U
10/09/2003	10/14/2003	P-18 (335.80)	Total	40 U
10/09/2003	10/14/2003	P-18 (335.80)	Dissolved	40 U
10/09/2003	10/28/2003	P-18 (343.96)	Dissolved	21.1 J
10/10/2003	10/28/2003	P-18 (350.25)	Dissolved	40 U
08/04/2003	08/08/2003	P-20 (79.60)	Total	40 U
08/04/2003	08/08/2003	P-20 (89.60)	Total	40 U
08/05/2003	08/08/2003	P-20 (99.60)	Dissolved	40 U
08/05/2003	08/08/2003	P-20 (109.60)	Total	40 U
08/05/2003	08/08/2003	P-20 (119.60)	Total	40 U
08/05/2003	08/08/2003	P-20 (129.60)	Dissolved	50.6
08/05/2003	08/08/2003	P-20 (139.60)	Dissolved	89.1
08/05/2003	08/08/2003	P-20 (149.60)	Total	77.2
08/05/2003	08/08/2003	P-20 (159.60)	Total	56.7
08/05/2003	08/11/2003	P-20 (169.60)	Total	28.9 J
08/05/2003	08/11/2003	P-20 (169.60) DUP	Total	40 U
08/06/2003	08/11/2003	P-20 (179.60)	Total	33.2 J
08/06/2003	08/11/2003	P-20 (189.60)	Dissolved	40 U
08/07/2003	08/11/2003	P-20 (209.70)	Dissolved	562
08/07/2003	08/11/2003	P-20 (220.76)	Total	295
08/07/2003	08/11/2003	P-20 (229.70)	Dissolved	153
08/07/2003	08/11/2003	P-20 (269.55)	Dissolved	187
08/08/2003	08/14/2003	P-20 (281.94)	Dissolved	95.6
08/08/2003	08/14/2003	P-20 (289.55)	Total	90.7

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
08/09/2003	08/14/2003	P-20 (309.60)	Dissolved	270
08/09/2003	08/14/2003	P-20 (319.60)	Total	180
08/09/2003	08/14/2003	P-20 (328.19)	Total	96.7
08/09/2003	08/14/2003	P-20 (339.60)	Total	56.8
08/09/2003	08/14/2003	P-20 (349.60)	Total	73.1
08/09/2003	08/19/2003	P-20 (359.60)	Dissolved	40 U
08/10/2003	08/19/2003	P-20 (369.60)	Dissolved	40 U
08/10/2003	08/19/2003	P-20 (379.60)	Dissolved	40 U
08/11/2003	08/19/2003	P-20 (392.0)	Dissolved	258
08/12/2003	08/19/2003	P-20 (427.99)	Dissolved	290
08/12/2003	08/19/2003	P-20 (427.99) DUP	Dissolved	250
08/13/2003	08/21/2003	P-20 (462.87)	Dissolved	224
08/13/2003	08/21/2003	P-20 (469.15)	Dissolved	149
08/13/2003	08/21/2003	P-20 (476.68)	Total	125
06/24/2003	06/30/2003	P-23 (80.1)	Total	40 U
06/24/2003	06/30/2003	P-23 (90.1)	Dissolved	40 U
06/24/2003	06/30/2003	P-23 (100.1)	Total	40 U
06/25/2003	06/30/2003	P-23 (110.1)	Total	40 U
06/25/2003	06/30/2003	P-23 (120.1)	Total	41.8
06/25/2003	06/30/2003	P-23 (130.1)	Dissolved	40 U
06/25/2003	06/30/2003	P-23 (140.1)	Dissolved	40 U
06/25/2003	06/30/2003	P-23 (150.1)	Dissolved	40 U
06/25/2003	06/30/2003	P-23 (160.1)	Dissolved	41.6
06/25/2003	06/30/2003	P-23 (170.1)	Dissolved	40 U
06/25/2003	06/30/2003	P-23 (180.1)	Dissolved	40 U
06/25/2003	06/30/2003	P-23 (180.1) DUP	Dissolved	40 U
06/25/2003	07/01/2003	P-23 (190.1)	Dissolved	14.9 J
06/25/2003	07/01/2003	P-23 (200.1)	Dissolved	13.7 J
06/26/2003	07/01/2003	P-23 (210.1)	Dissolved	12.9 J
06/26/2003	07/01/2003	P-23 (220.1)	Total	20.6 J
06/26/2003	07/01/2003	P-23 (227.65)	Dissolved	15.9 J
06/27/2003	07/03/2003	P-23 (239.8)	Total	47.9
06/27/2003	07/04/2003	P-23 (252.0)	Dissolved	42.2
06/27/2003	07/04/2003	P-23 (262.0)	Total	40 U
06/30/2003	07/04/2003	P-23 (286.96)	Dissolved	52
06/30/2003	07/04/2003	P-23 (293.50)	Dissolved	40 U
07/01/2003	07/07/2003	P-23 (334.1)	Dissolved	150
07/01/2003	07/07/2003	P-23 (343.4)	Dissolved	131
07/02/2003	07/07/2003	P-23 (347.6)	Total	40 U
07/02/2003	07/07/2003	P-23 (347.6) DUP	Total	40 U
06/16/2003	06/18/2003	P-24 (77.35)	Dissolved	31.3 J
06/16/2003	06/18/2003	P-24 (87.35)	Dissolved	20.2 J
06/16/2003	06/20/2003	P-24 (97.35)	Dissolved	14.1 J
06/17/2003	06/20/2003	P-24 (107.35)	Dissolved	14.4 J
06/17/2003	06/20/2003	P-24 (115.35)	Dissolved	19.2 J
06/17/2003	06/20/2003	P-24 (127.3)	Total	47.7
06/17/2003	06/20/2003	P-24 (137.3)	Dissolved	22.8 J
06/17/2003	06/20/2003	P-24 (147.3)	Total	28.6 J

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
06/18/2003	06/23/2003	P-24 (157.3)	Total	32.6 J
06/18/2003	06/23/2003	P-24 (167.3)	Total	22.2 J
06/18/2003	06/23/2003	P-24 (167.3) DUP	Total	20.9 J
06/18/2003	06/23/2003	P-24 (177.3)	Dissolved	19.6 J
06/18/2003	06/23/2003	P-24 (187.3)	Total	22 J
06/18/2003	06/23/2003	P-24 (197.3)	Total	16.5 J
06/18/2003	06/23/2003	P-24 (207.3)	Total	17.1 J
06/18/2003	06/23/2003	P-24 (217.3)	Total	17.4 J
06/19/2003	06/23/2003	P-24 (227.3)	Dissolved	17.8 J
06/19/2003	06/23/2003	P-24 (237.3)	Total	14 J
06/19/2003	06/23/2003	P-24 (247.3)	Total	31 J
06/19/2003	06/23/2003	P-24 (257.3)	Total	20.7 J
06/19/2003	06/23/2003	P-24 (267.3)	Dissolved	22.4 J
06/19/2003	06/23/2003	P-24 (277.3)	Dissolved	16.8 J
06/19/2003	06/23/2003	P-24 (287.3)	Dissolved	25.8 J
06/19/2003	06/23/2003	P-24 (287.3) DUP	Dissolved	23.4 J
06/19/2003	06/30/2003	P-24 (297.3)	Dissolved	43.9
07/08/2003	07/15/2003	P-25 (79.7)	Total	40 U
07/08/2003	07/15/2003	P-25 (89.7)	Total	40 U
07/09/2003	07/15/2003	P-25 (99.7)	Total	40 U
07/09/2003	07/15/2003	P-25 (109.7)	Total	1190
07/09/2003	07/15/2003	P-25 (119.7)	Total	784
07/09/2003	07/15/2003	P-25 (129.7)	Total	465
07/09/2003	07/15/2003	P-25 (139.7)	Total	40 U
07/09/2003	07/15/2003	P-25 (149.7)	Total	40 U
07/09/2003	07/15/2003	P-25 (159.7)	Dissolved	40 U
07/10/2003	07/15/2003	P-25 (169.7)	Dissolved	40 U
07/10/2003	07/15/2003	P-25 (179.7)	Total	40 U
07/10/2003	07/15/2003	P-25 (179.7) DUP	Total	40 U
07/10/2003	07/15/2003	P-25 (189.7)	Total	40 U
07/10/2003	07/15/2003	P-25 (199.7)	Dissolved	40 U
07/10/2003	07/15/2003	P-25 (209.7)	Dissolved	40 U
07/11/2003	07/15/2003	P-25 (219.7)	Dissolved	40 U
07/11/2003	07/17/2003	P-25 (229.5)	Total	40 U
07/11/2003	07/17/2003	P-25 (239.5)	Dissolved	40 U
07/11/2003	07/17/2003	P-25 (249.5)	Dissolved	40 U
07/11/2003	07/17/2003	P-25 (259.5)	Dissolved	40 U
07/11/2003	07/17/2003	P-25 (269.5)	Total	40 U
07/12/2003	07/17/2003	P-25 (275.8)	Total	40 U
07/12/2003	07/17/2003	P-25 (275.8) DUP	Total	40 U
07/12/2003	07/17/2003	P-25 (290.0)	Total	40 U
07/12/2003	07/17/2003	P-25 (300.0)	Total	40 U
07/12/2003	07/17/2003	P-25 (310.0)	Total	40 U
07/13/2003	07/17/2003	P-25 (320.0)	Dissolved	40 U
07/13/2003	07/17/2003	P-25 (330.0)	Dissolved	40 U
07/13/2003	07/17/2003	P-25 (340.0)	Total	40 U
07/13/2003	07/17/2003	P-25 (349.4)	Total	40 U
07/14/2003	07/17/2003	P-25 (370.0)	Total	62.4

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
07/14/2003	07/17/2003	P-25 (379.2)	Total	40 U
05/12/2003	05/20/2003	P-26 (76.86)	Dissolved	45.6
05/12/2003	05/20/2003	P-26 (86.8)	Dissolved	40 U
05/12/2003	05/20/2003	P-26 (96.8)	Dissolved	40 U
05/13/2003	05/20/2003	P-26 (106.8)	Dissolved	40 U
05/13/2003	05/20/2003	P-26 (116.8)	Dissolved	40 U
05/13/2003	05/20/2003	P-26 (126.8)	Dissolved	40 U
05/13/2003	05/20/2003	P-26 (136.8)	Dissolved	40 U
05/13/2003	05/20/2003	P-26 (146.8)	Dissolved	40 U
05/14/2003	05/21/2003	P-26 (152.25)	Dissolved	84.9
05/14/2005	05/21/2003	P-26 (162.25)	Dissolved	44.3
05/14/2003	05/21/2003	P-26 (172.25)	Dissolved	102
05/14/2003	05/21/2003	P-26 (182.25)	Dissolved	43.3
05/14/2003	05/21/2003	P-26 (192.25)	Dissolved	39.9 J
05/14/2003	05/21/2003	P-26 (202.25)	Dissolved	45.6
05/15/2005	05/21/2003	P-26 (211.25)	Dissolved	59.1
05/15/2003	05/21/2003	P-26 (221.25)	Dissolved	33.2 J
05/15/2003	05/21/2003	P-26 (231.25)	Dissolved	39.1 J
05/15/2003	05/21/2003	P-26 (241.25)	Dissolved	30 J
05/16/2003	05/22/2003	P-26 (257.2)	Dissolved	61.8
05/19/2003	05/22/2003	P-26 (276.53)	Dissolved	86.9
05/19/2003	05/22/2003	P-26 (286.5)	Dissolved	40 J
05/19/2003	05/29/2003	P-26 (295.85)	Dissolved	47.1
05/03/2003	05/14/2003	P-27 (79.75)	Total	156
05/03/2003	05/14/2003	P-27 (89.75)	Total	48.7
05/03/2003	05/14/2003	P-27 (99.75)	Total	29.7 J
05/03/2003	05/14/2003	P-27 (99.75) DUP	Total	31.2 J
05/04/2003	05/14/2003	P-27 (109.75)	Dissolved	47.7
05/04/2003	05/14/2003	P-27 (119.75)	Total	61.4
05/04/2003	05/14/2003	P-27 (129.75)	Dissolved	48.3
05/04/2003	05/14/2003	P-27 (139.75)	Total	59.6
05/04/2003	05/14/2003	P-27 (149.75)	Total	90.1
05/04/2003	05/14/2003	P-27 (159.75)	Total	119
05/05/2003	05/14/2003	P-27 (169.75)	Total	81.5
05/05/2003	05/14/2003	P-27 (179.75)	Total	66.4
05/05/2003	05/14/2003	P-27 (189.75)	Total	44.1
05/05/2003	05/14/2003	P-27 (199.75)	Dissolved	31.8 J
05/05/2003	05/14/2003	P-27 (209.75)	Total	32 J
05/06/2003	05/14/2003	P-27 (219.50)	Dissolved	50.9
05/06/2003	05/14/2003	P-27 (229.50)	Total	26.1 J
05/06/2003	05/14/2003	P-27 (239.50)	Total	25.7 J
05/07/2003	05/14/2003	P-27 (267.02)	Total	130
05/07/2003	05/14/2003	P-27 (277.02)	Dissolved	118
05/02/2003	05/14/2003	P-28 (77.90)	Total	75.5
05/03/2003	05/14/2003	P-28 (87.02)	Dissolved	12 J
05/03/2003	05/14/2003	P-28 (97.02)	Dissolved	40 U
05/03/2003	05/14/2003	P-28 (107.02)	Dissolved	40.1
05/04/2003	05/14/2003	P-28 (117.02)	Total	74

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
05/04/2003	05/14/2003	P-28 (127.02)	Dissolved	46.4
05/04/2003	05/14/2003	P-28 (137.02)	Dissolved	40 U
05/04/2003	05/14/2003	P-28 (147.02)	Dissolved	24.6 J
05/04/2003	05/14/2003	P-28 (160.88)	Dissolved	40 U
05/05/2003	05/14/2003	P-28 (167.02)	Dissolved	40 U
05/05/2003	05/15/2003	P-28 (177.02)	Dissolved	40 U
05/05/2003	05/15/2003	P-28 (187.02)	Dissolved	40 U
05/05/2003	05/15/2003	P-28 (197.02)	Total	40 U
05/05/2003	05/15/2003	P-28 (207.02)	Total	35.1 J
05/05/2003	05/15/2003	P-28 (217.02)	Dissolved	20.2 J
05/06/2003	05/15/2003	P-28 (227.02)	Dissolved	40 U
05/06/2003	05/15/2003	P-28 (237.02)	Dissolved	40 U
05/06/2003	05/15/2003	P-28 (247.02)	Dissolved	40 U
09/16/2003	09/23/2003	P-29 (79.5)	Total	16.3 J
09/16/2003	09/23/2003	P-29 (89.5)	Dissolved	40 U
09/16/2003	09/23/2003	P-29 (99.5)	Dissolved	24.7 J
09/17/2003	09/23/2003	P-29 (109.5)	Dissolved	40 U
09/17/2003	09/23/2003	P-29 (109.5) DUP	Dissolved	40 U
09/17/2003	09/23/2003	P-29 (119.5)	Total	17 J
09/17/2003	09/24/2003	P-29 (129.5)	Total	24.4 J
09/17/2003	09/24/2003	P-29 (139.5)	Total	24.6 J
09/17/2003	09/24/2003	P-29 (149.5)	Total	127
09/17/2003	09/24/2003	P-29 (159.5)	Total	154
09/17/2003	09/25/2003	P-29 (169.35)	Total	612
09/18/2003	09/25/2003	P-29 (176.7)	Dissolved	273
09/18/2003	09/25/2003	P-29 (191.33)	Dissolved	491
09/18/2003	09/25/2003	P-29 (200.8)	Total	59.1
09/19/2003	09/25/2003	P-29 (231.0)	Total	66.2
09/19/2003	09/25/2003	P-29 (239.45)	Dissolved	334
09/19/2003	09/25/2003	P-29 (249.85)	Total	189
09/19/2003	09/25/2003	P-29 (259.5)	Total	186
09/19/2003	09/25/2003	P-29 (268.4)	Total	163
09/19/2003	09/25/2003	P-29 (278.4)	Total	40 U
09/19/2003	09/25/2003	P-29 (289.85)	Total	40 U
09/20/2003	09/25/2003	P-29 (299.85)	Total	40 U
09/20/2003	09/25/2003	P-29 (310.2)	Total	40 U
09/20/2003	09/25/2003	P-29 (318.9)	Total	40 U
09/21/2003	09/25/2003	P-29 (329.85)	Total	40 U
09/21/2003	09/25/2003	P-29 (329.85) DUP	Total	40 U
09/21/2003	09/25/2003	P-29 (339.5)	Dissolved	40 U
09/21/2003	09/25/2003	P-29 (360.0)	Total	40 U
09/22/2003	09/25/2003	P-29 (369.2)	Total	40 U
09/22/2003	09/25/2003	P-29 (390.0)	Total	44.6
09/23/2003	09/26/2003	P-29 (410.7)	Total	40 U
09/30/2003	10/06/2003	P-30 (79.55)	Dissolved	22.3 J
09/30/2003	10/06/2003	P-30 (89.50)	Dissolved	86.5
10/01/2003	10/06/2003	P-30 (99.50)	Dissolved	104
10/01/2003	10/06/2003	P-30 (119.5)	Dissolved	57.1

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J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
10/01/2003	10/07/2003	P-30 (128.8)	Dissolved	53.8
10/01/2003	10/07/2003	P-30 (139.5)	Dissolved	43
10/01/2003	10/07/2003	P-30 (149.5)	Dissolved	40 U
10/02/2003	10/07/2003	P-30 (186.25)	Dissolved	142
10/02/2003	10/07/2003	P-30 (194.35)	Total	304
10/02/2003	10/07/2003	P-30 (194.35)	Dissolved	133
10/02/2003	10/07/2003	P-30 (204.55)	Total	235
10/02/2003	10/07/2003	P-30 (204.55) DUP	Total	271
10/02/2003	10/07/2003	P-30 (204.55)	Dissolved	70.4
10/02/2003	10/07/2003	P-30 (204.55) DUP	Dissolved	84.4
10/02/2003	10/10/2003	P-30 (214.55)	Total	163
10/02/2003	10/09/2003	P-30 (214.55)	Dissolved	82.8
10/03/2003	10/09/2003	P-30 (224.55)	Dissolved	172
10/03/2003	10/09/2003	P-30 (232.85)	Dissolved	106
10/03/2003	10/09/2003	P-30 (244.5)	Dissolved	57.3
10/05/2003	10/09/2003	P-30 (260.85)	Dissolved	140
10/05/2003	10/10/2003	P-30 (269.00)	Dissolved	115
10/05/2003	10/10/2003	P-30 (279.00)	Total	84.1
10/05/2003	10/10/2003	P-30 (279.00)	Dissolved	49.8
10/05/2003	10/10/2003	P-30 (289.00)	Total	92.2
10/05/2003	10/10/2003	P-30 (289.00)	Dissolved	50.8
10/06/2003	10/10/2003	P-30 (298.6)	Total	127
10/06/2003	10/10/2003	P-30 (298.6) DUP	Total	138
10/06/2003	10/10/2003	P-30 (298.6)	Dissolved	123
10/06/2003	10/10/2003	P-30 (298.6) DUP	Dissolved	106
10/06/2003	10/10/2003	P-30 (307.45)	Total	77.8
10/06/2003	10/10/2003	P-30 (307.45)	Dissolved	43.7
10/07/2003	10/14/2003	P-30 (331.0)	Total	114
10/07/2003	10/14/2003	P-30 (331.0)	Dissolved	67.2
10/07/2003	10/14/2003	P-30 (340.0)	Dissolved	49
10/07/2003	10/14/2003	P-30 (345.25)	Total	44.3
10/07/2003	10/14/2003	P-30 (345.25)	Dissolved	45.4
10/08/2003	10/14/2003	P-30 (390.8)	Dissolved	42.8
10/08/2003	10/14/2003	P-30 (399.2)	Dissolved	38.3 J
10/08/2003	10/14/2003	P-30 (406.55)	Total	41
10/08/2003	10/14/2003	P-30 (406.55) DUP	Total	39.8 J
10/08/2003	10/14/2003	P-30 (406.55)	Dissolved	30.3 J
10/08/2003	10/14/2003	P-30 (406.55) DUP	Dissolved	24.9 J
01/05/2004	01/16/2004	P-31 (79.25)	Dissolved	40 U
01/05/2004	01/16/2004	P-31 (89.25)	Dissolved	40 U
01/06/2004	01/16/2004	P-31 (99.25)	Dissolved	42
01/06/2004	01/16/2004	P-31 (111.67)	Dissolved	40 U
01/06/2004	01/16/2004	P-31 (124.25)	Dissolved	40 U
01/06/2004	01/16/2004	P-31 (134.25)	Dissolved	40 U
01/07/2004	01/16/2004	P-31 (143.30)	Dissolved	84.5
01/08/2004	01/16/2004	P-31 (184.25)	Total	55.6
01/08/2004	01/16/2004	P-31 (190.40)	Dissolved	40 U
01/13/2004	01/16/2004	P-31 (190.40) DUP	Dissolved	40 U

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
01/09/2004	01/16/2004	P-31 (199.25)	Dissolved	71.2
01/10/2004	01/16/2004	P-31 (223.75)	Dissolved	40 U
01/11/2004	01/16/2004	P-31 (233.11)	Total	69.6
01/11/2004	01/16/2004	P-31 (233.11)	Dissolved	40 U
01/11/2004	01/16/2004	P-31 (244.25)	Dissolved	81.5
01/11/2004	01/16/2004	P-31 (254.25)	Dissolved	50.3
01/11/2004	01/16/2004	P-31 (263.70)	Dissolved	40 U
01/12/2004	01/21/2004	P-31 (284.25)	Total	41.1
01/12/2004	01/21/2004	P-31 (284.25)	Dissolved	44.8
01/12/2004	01/21/2004	P-31 (294.25)	Total	41
01/12/2004	01/21/2004	P-31 (294.25)	Dissolved	40 U
01/13/2004	01/21/2004	P-31 (304.25)	Dissolved	40 U
01/14/2004	01/21/2004	P-31 (344.25)	Dissolved	40 U
01/14/2004	01/21/2004	P-31 (351.55)	Dissolved	49
01/14/2004	01/21/2004	P-31 (351.55) DUP	Dissolved	52.1
01/21/2004	01/29/2004	P-31 (363.2)	Dissolved	44.2
01/21/2004	01/29/2004	P-31 (374.25)	Dissolved	48.6
01/22/2004	01/29/2004	P-31 (404.25)	Total	40 U
01/22/2004	01/29/2004	P-31 (404.25)	Dissolved	40 U
01/22/2004	01/29/2004	P-31 (414.25)	Dissolved	40 U
01/23/2004	02/03/2004	P-31 (444.25)	Dissolved	45.3
02/09/2004	02/16/2004	P-32 (79.95)	Dissolved	36.1 J
02/09/2004	02/16/2004	P-32 (89.35)	Dissolved	18.7 J
02/09/2004	02/16/2004	P-32 (99.35)	Dissolved	26.8 J
02/10/2004	02/16/2004	P-32 (109.35)	Dissolved	14.3 J
02/10/2004	02/16/2004	P-32 (119.35)	Dissolved	18.6 J
02/10/2004	02/16/2004	P-32 (128.75)	Dissolved	37.8 J
02/10/2004	02/16/2004	P-32 (139.35)	Dissolved	36.6 J
02/11/2004	02/17/2004	P-32 (174.35)	Dissolved	22.9 J
02/11/2004	02/17/2004	P-32 (174.35) DUP	Dissolved	25.3 J
02/11/2004	02/17/2004	P-32 (184.35)	Dissolved	33.2 J
02/11/2004	02/17/2004	P-32 (194.35)	Dissolved	31 J
02/11/2004	02/17/2004	P-32 (224.35)	Total	40 U
02/11/2004	02/17/2004	P-32 (224.35)	Dissolved	29.1 J
02/11/2004	02/17/2004	P-32 (234.35)	Total	40 U
02/11/2004	02/17/2004	P-32 (234.35)	Dissolved	28.2 J
02/11/2004	02/17/2004	P-32 (241.01)	Dissolved	15.5 J
02/11/2004	02/17/2004	P-32 (241.01)	Total	40 U
02/12/2004	02/17/2004	P-32 (251.77)	Dissolved	63.3
02/12/2004	02/17/2004	P-32 (259.35)	Total	41.5
02/12/2004	02/17/2004	P-32 (259.35)	Dissolved	43.4
02/12/2004	02/17/2004	P-32 (269.35)	Total	40.2
02/12/2004	02/17/2004	P-32 (269.35)	Dissolved	44.9
02/12/2004	02/17/2004	P-32 (279.35)	Dissolved	30.3 J
02/12/2004	02/19/2004	P-32 (289.35)	Total	19.4 J
02/12/2004	02/19/2004	P-32 (289.35)	Dissolved	11.6 J
02/12/2004	02/19/2004	P-32 (299.35)	Dissolved	27.3 J
02/13/2004	02/19/2004	P-32 (309.35)	Total	39.3 J

U - The analyte was not detected above reported sample quantitation limits.

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
02/13/2004	02/19/2004	P-32 (309.35)	Dissolved	39.9 J
02/14/2003	02/19/2004	P-32 (352.0)	Total	29.7 J
02/14/2004	02/19/2004	P-32 (352.0)	Dissolved	13 J
02/15/2004	02/19/2004	P-32 (359.25)	Dissolved	62.3 J
02/15/2004	02/19/2004	P-32 (359.25) DUP	Dissolved	36.2 J
02/15/2004	02/19/2004	P-32 (369.25)	Dissolved	27.6 J
02/15/2004	02/19/2004	P-32 (379.25)	Dissolved	30.7 J
02/15/2004	02/19/2004	P-32 (387.80)	Dissolved	16.7 J
02/16/2004	02/24/2004	P-32 (411.3)	Dissolved	30.7 J
02/17/2004	02/24/2004	P-32 (419.3)	Total	43.7
02/17/2004	02/24/2004	P-32 (419.3)	Dissolved	40.4
02/17/2004	02/24/2004	P-32 (426.7)	Total	40 U
02/17/2004	02/24/2004	P-32 (426.7)	Dissolved	28.9 J
02/18/2004	02/24/2004	P-32 (461.0)	Total	82.9
02/18/2004	02/24/2004	P-32 (461.0)	Dissolved	78.6
02/19/2004	02/24/2004	P-32 (481.0)	Total	162
02/19/2004	02/24/2004	P-32 (481.0)	Dissolved	64.3
02/19/2004	02/24/2004	P-32 (488.9)	Total	43.9 J
02/19/2004	02/24/2004	P-32 (488.9) DUP	Total	62.6 J
02/19/2004	02/24/2004	P-32 (488.9)	Dissolved	27.4 J
02/19/2004	02/24/2004	P-32 (488.9) DUP	Dissolved	36.2 J
12/05/2003	12/12/2003	P-33 (79.6)	Dissolved	19.5 J
12/05/2003	12/12/2003	P-33 (89.6)	Dissolved	40 U
12/06/2003	12/12/2003	P-33 (99.6)	Dissolved	18.5 J
12/06/2003	12/12/2003	P-33 (109.6)	Dissolved	20.2 B
12/06/2003	12/12/2003	P-33 (119.6)	Dissolved	27.3 J
12/06/2003	12/12/2003	P-33 (129.6)	Dissolved	38.7 J
12/06/2003	12/12/2003	P-33 (139.6)	Dissolved	27.6 J
12/06/2003	12/12/2003	P-33 (149.6)	Total	192
12/06/2003	12/12/2003	P-33 (149.6)	Dissolved	71.2
12/06/2003	12/12/2003	P-33 (159.6)	Total	112
12/06/2003	12/12/2003	P-33 (159.6)	Dissolved	89.7
12/07/2003	12/12/2003	P-33 (169.6)	Dissolved	76.1 J
12/07/2003	12/12/2003	P-33 (169.6) DUP	Dissolved	120 J
12/07/2003	12/12/2003	P-33 (179.6)	Total	216
12/07/2003	12/12/2003	P-33 (179.6)	Dissolved	88.7
12/07/2003	12/12/2003	P-33 (189.60)	Total	251
12/07/2003	12/12/2003	P-33 (189.60)	Dissolved	127
12/07/2003	12/12/2003	P-33 (198.10)	Total	137
12/07/2003	12/12/2003	P-33 (198.10)	Dissolved	168
12/08/2003	12/12/2003	P-33 (214.60)	Dissolved	121
12/08/2003	12/12/2003	P-33 (224.60)	Dissolved	158
12/08/2003	12/17/2003	P-33 (234.60)	Dissolved	117
12/09/2003	12/17/2003	P-33 (244.60)	Total	245
12/09/2003	12/17/2003	P-33 (244.60)	Dissolved	114
12/09/2003	12/17/2003	P-33 (254.60)	Total	142
12/09/2003	12/17/2003	P-33 (254.60)	Dissolved	125
12/09/2003	12/17/2003	P-33 (264.60)	Dissolved	92.5

U - The analyte was not detected above reported sample quantitation limits.

B - Analyte is found in the associated method blank as well as the sample.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
12/09/2003	12/17/2003	P-33 (274.60)	Total	210
12/09/2003	12/17/2003	P-33 (274.60)	Dissolved	125
12/09/2003	12/17/2003	P-33 (284.60)	Dissolved	83
12/09/2003	12/17/2003	P-33 (294.60)	Total	224
12/09/2003	12/17/2003	P-33 (294.60)	Dissolved	93.8
12/09/2003	12/17/2003	P-33 (304.60)	Total	181 J
12/09/2003	12/17/2003	P-33 (304.60) DUP	Total	74.2 J
12/09/2003	12/17/2003	P-33 (304.60)	Dissolved	78.2
12/09/2003	12/17/2003	P-33 (304.60) DUP	Dissolved	82.5
12/09/2003	12/17/2003	P-33 (344.3)	Dissolved	55
12/11/2003	12/17/2003	P-33 (374.3)	Total	110
12/11/2003	12/17/2003	P-33 (374.3)	Dissolved	68.5
12/11/2003	12/17/2003	P-33 (412.4)	Total	34.5 J
12/11/2003	12/17/2003	P-33 (412.4)	Dissolved	17.4 J
12/11/2003	12/18/2003	P-33 (423.8)	Dissolved	35.9 J
12/12/2003	12/20/2003	P-33 (432.6)	Total	60.7
12/12/2003	12/18/2003	P-33 (432.6)	Dissolved	31.6 J
12/12/2002	12/18/2003	P-33 (454.3)	Dissolved	26.2 J
12/13/2003	12/20/2003	P-33 (481.1)	Total	60.6
12/13/2003	12/18/2003	P-33 (481.1)	Dissolved	28.8 J
11/21/2003	12/03/2003	P-34 (79.55)	Total	40 U
11/21/2003	12/03/2003	P-34 (79.55)	Dissolved	11.9 J
11/21/2003	12/03/2003	P-34 (89.55)	Total	40 U
11/21/2003	12/03/2003	P-34 (89.55)	Dissolved	13.7 J
11/22/2003	12/03/2003	P-34 (99.55)	Total	40 U
11/22/2003	12/03/2003	P-34 (99.55)	Dissolved	14.3 J
11/22/2003	12/03/2003	P-34 (109.55)	Dissolved	17 J
11/22/2003	12/03/2003	P-34 (119.55)	Dissolved	9.9 J
11/22/2003	12/03/2003	P-34 (129.55)	Total	40 U
11/22/2003	12/03/2003	P-34 (129.55)	Dissolved	10.9 J
11/22/2003	12/03/2003	P-34 (139.55)	Total	40 U
11/22/2003	12/03/2003	P-34 (139.55) DUP	Total	40 U
11/22/2003	12/04/2003	P-34 (139.55)	Dissolved	11.1 J
11/22/2003	12/04/2003	P-34 (139.55) DUP	Dissolved	8.6 J
11/23/2003	12/03/2003	P-34 (154.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (154.55)	Dissolved	12.7 J
11/23/2003	12/03/2003	P-34 (164.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (164.55)	Dissolved	10.9 J
11/23/2003	12/04/2003	P-34 (174.55)	Dissolved	19 J
11/23/2003	12/03/2003	P-34 (184.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (184.55)	Dissolved	14 J
11/23/2003	12/04/2003	P-34 (194.55)	Total	40 U
11/23/2003	12/03/2003	P-34 (194.55)	Dissolved	9.4 J
11/23/2003	12/03/2003	P-34 (204.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (204.55)	Dissolved	16.8 J
11/23/2003	12/03/2003	P-34 (214.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (214.55)	Dissolved	18.6 J
11/23/2003	12/03/2003	P-34 (224.55)	Total	40 U

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
11/23/2003	12/04/2003	P-34 (224.55)	Dissolved	12.2 J
11/23/2003	12/03/2003	P-34 (234.55)	Total	40 U
11/23/2003	12/04/2003	P-34 (234.55)	Dissolved	14.2 J
11/24/2003	12/04/2003	P-34 (244.55)	Total	40 U
11/24/2003	12/04/2003	P-34 (244.55) DUP	Total	40 U
11/24/2003	12/04/2003	P-34 (244.55)	Dissolved	24.4 J
11/24/2003	12/04/2003	P-34 (244.55) DUP	Dissolved	19.2 J
11/24/2003	12/04/2003	P-34 (254.55)	Total	40 U
11/24/2003	12/04/2003	P-34 (254.55)	Dissolved	25.4 J
11/24/2003	12/04/2003	P-34 (264.55)	Total	40 U
11/24/2003	12/04/2003	P-34 (264.55)	Dissolved	18.6 J
11/25/2003	12/04/2003	P-34 (284.55)	Dissolved	31.9 J
11/25/2003	12/04/2003	P-34 (294.55)	Dissolved	21.7J
11/25/2003	12/04/2003	P-34 (304.50)	Total	40 U
11/25/2003	12/04/2003	P-34 (304.50)	Dissolved	13.2 J
12/01/2003	12/10/2003	P-34 (324.50)	Total	55.4
12/01/2003	12/10/2003	P-34 (324.50)	Dissolved	32.4 J
12/01/2003	12/10/2003	P-34 (334.50)	Total	37.8 J
12/01/2003	12/10/2003	P-34 (334.50)	Dissolved	28.4 J
12/02/2003	12/10/2003	P-34 (352.73)	Total	33.9 J
12/02/2003	12/10/2003	P-34 (352.73)	Dissolved	27.6 J
12/02/2003	12/10/2003	P-34 (384.35)	Total	31 J
12/02/2003	12/10/2003	P-34 (384.35)	Dissolved	22.9 J
12/03/2003	12/10/2003	P-34 (394.55)	Dissolved	21.3 J
12/03/2003	12/10/2003	P-34 (401.58)	Dissolved	21.5 J
07/09/2003	07/15/2003	P-35 (77.2)	Total	40 U
07/09/2003	07/15/2003	P-35 (87.2)	Total	40 U
07/09/2003	07/15/2003	P-35 (97.2)	Total	49.4
07/10/2003	07/15/2003	P-35 (107.2)	Total	598
07/10/2003	07/15/2003	P-35 (117.2)	Total	570
07/10/2003	07/15/2003	P-35 (127.2)	Total	84.8
07/10/2003	07/15/2003	P-35 (137.2)	Total	40 U
07/10/2003	07/15/2003	P-35 (147.2)	Total	40 U
07/10/2003	07/15/2003	P-35 (157.2)	Total	40 U
07/10/2003	07/15/2003	P-35 (167.2)	Total	40 U
07/10/2003	07/15/2003	P-35 (177.2)	Total	40 U
07/10/2003	07/15/2003	P-35 (177.2) DUP	Total	40 U
07/10/2003	07/17/2003	P-35 (187.2)	Dissolved	40 U
07/10/2003	07/17/2003	P-35 (197.2)	Dissolved	40 U
07/11/2003	07/17/2003	P-35 (207.2)	Total	40 U
07/11/2003	07/18/2003	P-35 (217.2)	Dissolved	40 U
07/11/2003	07/17/2003	P-35 (227.2)	Dissolved	40 U
07/12/2003	07/17/2003	P-35 (237.2)	Total	40 U
07/12/2003	07/17/2003	P-35 (247.2)	Dissolved	40 U
07/12/2003	07/17/2003	P-35 (257.2)	Dissolved	40 U
07/12/2003	07/17/2003	P-35 (267.2)	Total	40 U
07/12/2003	07/17/2003	P-35 (277.2)	Dissolved	40 U
07/13/2003	07/17/2003	P-35 (292.2)	Dissolved	75.5

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ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
07/14/2003	07/17/2003	P-35 (322.2)	Total	40 U
07/14/2003	07/17/2003	P-35 (332.2)	Dissolved	40 U
07/14/2003	07/17/2003	P-35 (332.2) DUP	Dissolved	40 U
07/14/2003	07/17/2003	P-35 (342.2)	Dissolved	40 U
07/14/2003	07/17/2003	P-35 (347.2)	Dissolved	40 U
08/19/2003	08/26/2003	P-36 (76.7)	Dissolved	65.3 U
08/19/2003	08/26/2003	P-36 (86.7)	Dissolved	51.8 U
08/19/2003	08/26/2003	P-36 (96.7)	Dissolved	40 U
08/20/2003	08/26/2003	P-36 (106.7)	Dissolved	40 U
08/20/2003	08/26/2003	P-36 (116.7)	Dissolved	43 U
08/20/2003	08/26/2003	P-36 (126.7)	Dissolved	40 U
08/20/2003	08/26/2003	P-36 (136.7)	Dissolved	40 U
08/20/2003	08/26/2003	P-36 (146.7)	Dissolved	40 U
08/20/2003	08/26/2003	P-36 (156.7)	NA	40 U
08/20/2003	08/26/2003	P-36 (156.7) DUP	NA	40 U
08/21/2003	08/26/2003	P-36 (166.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (176.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (186.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (196.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (206.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (216.7)	Dissolved	40 U
08/21/2003	08/26/2003	P-36 (226.7)	Dissolved	40 U
08/21/2003	08/29/2003	P-36 (236.7)	Dissolved	40 U
08/23/2003	08/29/2003	P-36 (266.8)	Total	40 U
08/23/2003	08/29/2003	P-36 (282.0)	Total	40 U
08/23/2003	08/29/2003	P-36 (292.4)	Total	40.5
08/24/2003	08/29/2003	P-36 (328.4)	Dissolved	40 U
08/25/2003	08/29/2003	P-36 (371.75)	Dissolved	40 U
08/26/2003	09/02/2003	P-36 (475.2)	Total	14.8 J
08/19/2003	08/26/2003	P-37 (79.3)	Total	40 U
08/19/2003	08/26/2003	P-37 (89.95)	Dissolved	40 U
08/19/2003	08/26/2003	P-37 (99.95)	Dissolved	40 U
08/20/2003	08/26/2003	P-37 (109.95)	Dissolved	40 U
08/20/2003	08/26/2003	P-37 (119.95)	Dissolved	40 U
08/20/2003	08/27/2003	P-37 (119.95) DUP	Dissolved	40 U
08/20/2003	08/26/2003	P-37 (129.95)	Total	40 U
08/21/2003	08/27/2003	P-37 (139.95)	Dissolved	40 U
08/20/2003	08/27/2003	P-37 (149.95)	Total	40 U
08/20/2003	08/26/2003	P-37 (159.95)	Total	40 U
08/20/2003	08/26/2003	P-37 (169.95)	Dissolved	40 U
08/20/2003	08/27/2003	P-37 (179.95)	Dissolved	40 U
08/20/2003	08/27/2003	P-37 (189.95)	Dissolved	40 U
08/21/2003	08/29/2003	P-37 (224.75)	Dissolved	126
08/22/2003	08/29/2003	P-37 (264.85)	Total	221
08/22/2003	08/29/2003	P-37 (274.85)	Total	145
08/24/2003	08/29/2003	P-37 (284.4)	Total	81.6
08/24/2003	08/29/2003	P-37 (304.8)	Dissolved	104
08/24/2003	08/29/2003	P-37 (304.8) DUP	Dissolved	99.9

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ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
08/24/2003	08/29/2003	P-37 (314.8)	Total	40 U
08/24/2003	09/02/2003	P-37 (324.8)	Dissolved	31.3 J
08/24/2003	09/02/2003	P-37 (333.2)	Total	52
08/26/2003	09/02/2003	P-37 (356.15)	Dissolved	75.1
08/26/2003	09/02/2003	P-37 (385.0)	Total	107
08/27/2003	09/02/2003	P-37 (394.5)	Total	95.1
09/16/2003	09/24/2003	P-38 (76.7)	Total	24.5 J
09/17/2003	09/24/2003	P-38 (86.7)	Dissolved	19 J
09/17/2003	09/24/2003	P-38 (96.8)	Dissolved	23.1 J
09/17/2003	09/24/2003	P-38 (106.7)	Total	19.2 J
09/17/2003	09/24/2003	P-38 (116.7)	Dissolved	40 U
09/17/2003	09/24/2003	P-38 (116.7) DUP	Dissolved	40 U
09/17/2003	09/24/2003	P-38 (126.7)	Dissolved	40 U
09/17/2003	09/24/2003	P-38 (136.7)	Dissolved	40 U
09/17/2003	09/24/2003	P-38 (146.7)	Dissolved	29.1 J
09/17/2003	09/24/2003	P-38 (152.5)	Total	33 J
09/18/2003	09/25/2003	P-38 (166.3)	Total	40 U
09/18/2003	09/25/2003	P-38 (176.3)	Total	40 U
09/18/2003	09/25/2003	P-38 (186.3)	Total	40 U
09/19/2003	09/25/2003	P-38 (207.5)	Total	43.1
09/19/2003	09/25/2003	P-38 (216.3)	Dissolved	40 U
09/19/2003	09/25/2003	P-38 (226.3)	Dissolved	40 U
09/20/2003	09/25/2003	P-38 (260.7)	Dissolved	426
09/21/2003	09/25/2003	P-38 (312.9)	Total	40 U
09/22/2003	09/25/2003	P-38 (322.9)	Dissolved	40 U
09/22/2003	09/25/2003	P-38 (322.9) DUP	Dissolved	40 U
09/22/2003	09/25/2003	P-38 (332.3)	NA	40 U
09/22/2003	09/25/2003	P-38 (341.1)	Dissolved	40 U
09/23/2003	09/26/2003	P-38 (370.1)	Dissolved	40 U
09/23/2003	09/26/2003	P-38 (381.3)	NA	40 U
09/23/2003	09/26/2003	P-38 (381.3) DUP	NA	40 U
09/23/2003	09/26/2003	P-38 (391.3)	NA	40 U
07/23/2003	07/29/2003	P-42 (79.6)	Total	56.8
07/23/2003	07/29/2003	P-42 (89.6)	Total	71.4
07/23/2003	07/29/2003	P-42 (99.6)	Total	40 U
07/23/2003	07/29/2003	P-42 (109.6)	Total	40 U
07/23/2003	07/29/2003	P-42 (119.6)	Total	48.4
07/23/2003	07/29/2003	P-42 (129.6)	Total	40.6
07/23/2003	07/29/2003	P-42 (139.6)	Total	40 U
07/23/2003	07/29/2003	P-42 (149.6)	Dissolved	40 U
07/23/2003	07/29/2003	P-42 (159.6)	Dissolved	40 U
07/24/2003	07/29/2003	P-42 (169.4)	Total	40 U
07/24/2003	07/29/2003	P-42 (179.6)	Total	40 U
07/24/2003	07/29/2003	P-42 (189.6)	Total	40 U
07/24/2003	07/29/2003	P-42 (197.7)	Total	40 U
07/24/2003	07/29/2003	P-42 (202.7)	Total	40 U
07/24/2003	07/29/2003	P-42 (202.7) DUP	Total	40 U
07/25/2003	08/01/2003	P-42 (217.2)	Total	352

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ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
07/25/2003	08/01/2003	P-42 (224.6)	Total	106
07/25/2003	08/01/2003	P-42 (234.6)	Dissolved	75.7
07/26/2003	08/01/2003	P-42 (276.4)	Dissolved	134
07/26/2003	08/01/2003	P-42 (287.9)	Dissolved	55.3
07/26/2003	08/01/2003	P-42 (298.0)	Total	77.9
07/27/2003	08/01/2003	P-42 (308.6)	Total	75.2
07/27/2003	08/01/2003	P-42 (319.8)	Dissolved	46.9
07/27/2003	08/01/2003	P-42 (329.8)	Total	106 J
07/27/2003	08/01/2003	P-42 (329.8) DUP	Total	43.5 J
07/27/2003	07/31/2003	P-42 (336.8)	Total	41.8
07/28/2003	07/31/2003	P-42 (354.6)	Total	99.8
07/29/2003	08/05/2003	P-42 (389.50)	Dissolved	56.4
07/29/2003	08/05/2003	P-42 (410.07)	Total	115
07/30/2003	08/05/2003	P-42 (424.45)	Total	55.6
09/08/2003	09/16/2003	P-43 (79.88)	Total	20.9 J
09/09/2003	09/16/2003	P-43 (89.88)	Total	27.4 J
09/10/2003	09/16/2003	P-43 (99.88)	Dissolved	40 U
09/10/2003	09/16/2003	P-43 (109.88)	Total	40 U
09/10/2003	09/16/2003	P-43 (119.88)	Dissolved	17.8 J
09/10/2003	09/16/2003	P-43 (119.88) DUP	Dissolved	14.2 J
09/10/2003	09/16/2003	P-43 (129.88)	Dissolved	40 U
09/16/2003	09/24/2003	P-43 (139.88)	Dissolved	25.2 J
09/16/2003	09/24/2003	P-43 (153.05)	Dissolved	40 U
09/16/2003	09/24/2003	P-43 (161.65)	Dissolved	15.5 J
09/16/2003	09/24/2003	P-43 (169.88)	Dissolved	40 U
09/16/2003	09/24/2003	P-43 (179.88)	Dissolved	40 U
09/16/2003	09/24/2003	P-43 (189.88)	Dissolved	40 U
09/17/2003	09/24/2003	P-43 (199.88)	Total	40 U
09/19/2003	09/25/2003	P-43 (233.85)	Total	137
09/19/2003	09/25/2003	P-43 (246.68)	Dissolved	99.9
09/19/2003	09/25/2003	P-43 (246.68) DUP	Dissolved	81
09/19/2003	09/25/2003	P-43 (254.85)	Dissolved	47.4
09/19/2003	09/25/2003	P-43 (264.85)	Dissolved	40 U
09/19/2003	09/25/2003	P-43 (274.85)	Dissolved	40 U
09/19/2003	09/25/2003	P-43 (284.85)	Dissolved	40 U
09/20/2003	09/25/2003	P-43 (294.85)	Total	40 U
09/20/2003	09/25/2003	P-43 (304.85)	Dissolved	40 U
09/02/2003	09/08/2003	P-44 (79.3)	Dissolved	40 U
09/02/2003	09/08/2003	P-44 (89.8)	Dissolved	40 U
09/03/2003	09/08/2003	P-44 (99.3)	Dissolved	40 U
09/03/2003	09/08/2003	P-44 (99.3) DUP	Dissolved	40 U
09/03/2003	09/08/2003	P-44 (109.8)	Dissolved	40 U
09/03/2003	09/08/2003	P-44 (121.55)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (131.1)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (139.8)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (149.8)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (159.8)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (169.8)	Dissolved	40 U

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
09/04/2003	09/09/2003	P-44 (179.8)	Dissolved	40 U
09/04/2003	09/09/2003	P-44 (189.8)	Dissolved	51.4
09/04/2003	09/09/2003	P-44 (199.8)	Dissolved	40 U
09/05/2003	09/11/2003	P-44 (215.5)	Total	113
09/05/2003	09/11/2003	P-44 (229.2)	Total	83.3
09/05/2003	09/11/2003	P-44 (239.85)	Dissolved	45.1
09/05/2003	09/11/2003	P-44 (239.85) DUP	Dissolved	40 U
09/05/2003	09/11/2003	P-44 (249.85)	Total	47
09/06/2003	09/11/2003	P-44 (257.1)	Total	40 U
09/06/2003	09/11/2003	P-44 (284.85)	Total	40 U
09/07/2003	09/11/2003	P-44 (299.85)	Total	40 U
09/07/2003	09/11/2003	P-44 (307.9)	Dissolved	55.6
09/08/2003	09/11/2003	P-44 (339.8)	Dissolved	48.6
09/08/2003	09/11/2003	P-44 (339.8) DUP	Dissolved	45.5
09/08/2003	09/11/2003	P-44 (349.8)	Dissolved	40 U
09/08/2003	09/11/2003	P-44 (356.1)	Dissolved	47.7
08/04/2003	08/08/2003	P-45 (71.25)	Total	168
08/04/2003	08/08/2003	P-45 (81.25)	Total	40 U
08/04/2003	08/08/2003	P-45 (81.25) DUP	Total	40 U
08/05/2003	08/08/2003	P-45 (91.25)	Dissolved	40 U
08/05/2003	08/08/2003	P-45 (101.25)	Total	40 U
08/05/2003	08/08/2003	P-45 (111.25)	Total	40 U
08/05/2003	08/08/2003	P-45 (121.25)	Total	40 U
08/05/2003	08/08/2003	P-45 (131.25)	Dissolved	40 U
08/05/2003	08/11/2003	P-45 (151.25)	Dissolved	40 U
08/06/2003	08/11/2003	P-45 (167.25)	Dissolved	40 U
08/06/2003	08/11/2003	P-45 (177.25)	Total	65.4
08/06/2003	08/11/2003	P-45 (187.25)	Total	42.4
08/06/2003	08/11/2003	P-45 (197.25)	Dissolved	40 U
08/06/2003	08/11/2003	P-45 (207.25)	Dissolved	40 U
08/06/2003	08/11/2003	P-45 (217.25)	Dissolved	40 U
08/07/2003	08/11/2003	P-45 (227.25)	Total	40 U
08/07/2003	08/11/2003	P-45 (237.25)	Dissolved	40 U
08/08/2003	08/14/2003	P-45 (281.65)	Dissolved	54.2
08/08/2003	08/14/2003	P-45 (291.65)	Total	46.8
08/08/2003	08/14/2003	P-45 (301.25)	Total	66.1
08/08/2003	08/14/2003	P-45 (311.65)	Dissolved	50.5
08/09/2003	08/14/2003	P-45 (321.65)	Total	53.7
08/11/2003	08/14/2003	P-45 (340.11)	Dissolved	54.2
08/11/2003	08/14/2003	P-45 (351.75)	Total	48.2
08/13/2003	08/21/2003	P-45 (366.39)	Dissolved	60.9
08/13/2003	08/21/2003	P-45 (366.39) DUP	Dissolved	61.6
08/19/2003	08/26/2003	P-46 (79.60)	Dissolved	40 U
08/19/2003	08/26/2003	P-46 (89.60)	Total	40 U
08/20/2003	08/26/2003	P-46 (99.60)	Dissolved	40 U
08/20/2003	08/26/2003	P-46 (109.60)	Dissolved	40 U
08/20/2003	08/26/2003	P-46 (119.60)	Total	40 U
08/20/2003	08/26/2003	P-46 (129.60)	Dissolved	40 U

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DUP - Duplicate sample.

ug/L - micrograms per liter.

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Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
08/20/2003	08/26/2003	P-46 (139.6)	Total	57.1
08/20/2003	08/26/2003	P-46 (139.6) DUP	Total	42.3
08/21/2003	08/26/2003	P-46 (149.6)	Dissolved	92.3
08/21/2003	08/26/2003	P-46 (159.6)	Dissolved	71.5
08/21/2003	08/26/2003	P-46 (169.6)	Dissolved	66.7
08/21/2003	08/26/2003	P-46 (179.6)	Dissolved	169
08/21/2003	08/26/2003	P-46 (189.6)	Total	59
08/21/2003	08/26/2003	P-46 (199.6)	Dissolved	322
08/21/2003	08/29/2003	P-46 (209.60)	Dissolved	75
08/22/2003	08/29/2003	P-46 (215.15)	Total	86.2
08/23/2003	08/29/2003	P-46 (275.42)	Dissolved	242
08/23/2003	08/29/2003	P-46 (275.42) DUP	Dissolved	240
08/23/2003	08/29/2003	P-46 (284.32)	Total	693
08/24/2003	08/29/2003	P-46 (291.69)	Dissolved	72.9
08/24/2003	08/29/2003	P-46 (298.35)	Total	78.1
08/24/2003	08/29/2003	P-46 (307.69)	Dissolved	45.8
08/26/2003	09/02/2003	P-46 (318.42)	Dissolved	65.8
08/26/2003	09/02/2003	P-46 (330.21)	Dissolved	40 U
08/26/2003	09/02/2003	P-46 (340.21)	Total	40 U
08/27/2003	09/02/2003	P-46 (348.32)	Dissolved	26 J
08/27/2003	09/02/2003	P-46 (360.21)	Total	42.2
09/03/2003	09/08/2003	P-46 (389.28)	Total	66.4
09/03/2004	09/09/2003	P-46 (399.30)	Dissolved	49.9
09/04/2003	09/09/2003	P-46 (409.34)	Total	65.2 J
09/04/2003	09/09/2003	P-46 (409.34) DUP	Total	42.2 J
09/04/2003	09/09/2003	P-46 (419.27)	Dissolved	49
09/04/2003	09/09/2003	P-46 (429.95)	Dissolved	51
09/04/2003	09/11/2003	P-46 (438.47)	Dissolved	102
09/06/2003	09/11/2003	P-46 (470.25)	Dissolved	45.2
09/06/2003	09/11/2003	P-46 (480.25)	Dissolved	40 U
09/06/2003	09/11/2003	P-46 (490.25)	Dissolved	40 U
09/07/2003	09/11/2003	P-46 (498.12)	Dissolved	44.8
09/04/2003	09/09/2003	P-47 (77.1)	Total	40 U
09/04/2003	09/09/2003	P-47 (87.08)	Total	40 U
09/04/2003	09/11/2003	P-47 (97.1)	Total	40 U
09/05/2003	09/11/2003	P-47 (107.1)	Total	40 U
09/05/2003	09/11/2003	P-47 (117.1)	Total	16.5 J
09/05/2003	09/11/2003	P-47 (127.1)	Total	24.6 J
09/05/2003	09/11/2003	P-47 (137.1)	Dissolved	40 U
09/05/2003	09/11/2003	P-47 (147.1)	Dissolved	40 U
09/05/2003	09/11/2003	P-47 (157.1)	Dissolved	18.2 J
09/05/2003	09/11/2003	P-47 (163.9)	Dissolved	40 U
09/05/2003	09/11/2003	P-47 (163.9) DUP	Dissolved	40 U
09/06/2003	09/11/2003	P-47 (177.0)	Dissolved	22.8 J
09/06/2003	09/11/2003	P-47 (187.0)	Dissolved	22.7 J
09/06/2003	09/11/2003	P-47 (187.0) DUP	Dissolved	40 U
09/06/2003	09/11/2003	P-47 (197.0)	Dissolved	30.3 J
09/07/2003	09/11/2003	P-47 (205.7)	Dissolved	40 U

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GTEOSI
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Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
09/07/2003	09/11/2003	P-47 (217.0)	Dissolved	16.1 J
09/07/2003	09/11/2003	P-47 (227.0)	Total	40 U
09/08/2003	09/11/2003	P-47 (247.0)	Total	40 U
09/08/2003	09/11/2003	P-47 (272.0)	Total	40 U
09/09/2003	09/16/2003	P-47 (282.0)	Total	46.3
09/09/2003	09/16/2003	P-47 (308.5)	Total	39.4 J
09/09/2003	09/16/2003	P-47 (317.0)	Total	25 J
09/09/2003	09/16/2003	P-47 (317.0) DUP	Total	30.7 J
09/10/2003	09/16/2003	P-47 (327.7)	Dissolved	14.2 J
09/10/2003	09/16/2003	P-47 (337.0)	Dissolved	28.5 J
09/10/2003	09/16/2003	P-47 (344.1)	Dissolved	19.2 J
09/11/2003	09/16/2003	P-47 (368.4)	Dissolved	35.9 J
09/11/2003	09/16/2003	P-47 (377.0)	Dissolved	24.7 J
09/11/2003	09/16/2003	P-47 (387.0)	Dissolved	28 J
09/11/2003	09/16/2003	P-47 (397.00)	Total	30.5
10/21/2003	10/28/2003	P-49 (74.25)	Total	40 U
10/21/2003	10/28/2003	P-49 (74.25)	Dissolved	40 U
10/21/2003	10/28/2003	P-49 (84.25)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (94.3)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (104.6)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (114.3)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (124.3)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (134.3)	Dissolved	40 U
10/22/2003	10/28/2003	P-49 (134.3)	Total	60.2
10/22/2003	10/28/2003	P-49 (144.3)	Dissolved	125
10/23/2003	10/28/2003	P-49 (167.3)	Dissolved	54.7
10/23/2003	10/28/2003	P-49 (167.3) DUP	Dissolved	40.8
10/23/2003	10/28/2003	P-49 (177.3)	Total	40 U
10/23/2003	10/28/2003	P-49 (177.3)	Dissolved	40 U
10/24/2003	11/03/2003	P-49 (222.3)	Dissolved	31.8 J
10/24/2003	11/03/2003	P-49 (232.3)	Dissolved	28.6 J
10/24/2003	11/03/2003	P-49 (239.3)	Dissolved	36.9 J
10/24/2003	11/03/2003	P-49 (249.3)	Dissolved	18.9 J
10/25/2003	11/03/2003	P-49 (261)	Dissolved	26.5 J
10/25/2003	11/03/2003	P-49 (284.3)	Dissolved	101
10/26/2003	11/03/2003	P-49 (314.0)	Dissolved	50
10/26/2003	11/03/2003	P-49 (333.0)	Dissolved	53.3
10/26/2003	11/03/2003	P-49 (324.0)	Dissolved	34.4 J
10/27/2003	11/03/2003	P-49 (340.8)	Dissolved	42.3 J
10/27/2003	11/03/2003	P-49 (340.8) DUP	Dissolved	28.6 J
10/27/2003	11/04/2003	P-49 (394.1)	Dissolved	44.3
10/28/2003	11/04/2003	P-49 (423.0)	Total	72.5
10/28/2003	11/04/2003	P-49 (423.0)	Dissolved	68.1
10/28/2003	11/04/2003	P-49 (444.1)	Dissolved	67.9
10/30/2003	11/04/2003	P-49 (463.2)	Dissolved	47.9
10/21/2003	10/28/2003	P-50 (82.90)	Dissolved	24.5 J
10/21/2003	10/28/2003	P-50 (89.90)	Dissolved	13.9 J
10/22/2003	10/28/2003	P-50 (99.90)	Dissolved	40 U

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Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
10/22/2003	10/28/2003	P-50 (109.90)	Dissolved	40 U
10/22/2003	10/28/2003	P-50 (119.90)	Dissolved	40 U
10/22/2003	10/28/2003	P-50 (129.90)	Dissolved	40 U
10/22/2003	10/28/2003	P-50 (129.90) DUP	Dissolved	18.5 J
10/22/2003	10/28/2003	P-50 (139.90)	Dissolved	19.4 J
10/23/2003	10/28/2003	P-50 (149.90)	Dissolved	40 U
10/23/2003	10/28/2003	P-50 (159.90)	Dissolved	40 U
10/23/2003	10/28/2003	P-50 (169.90)	Dissolved	40 U
10/23/2003	10/28/2003	P-50 (179.90)	Dissolved	40 U
10/23/2003	10/28/2003	P-50 (189.90)	Dissolved	40 U
10/23/2003	10/28/2003	P-50 (198.55)	Dissolved	40 U
10/23/2003	11/03/2003	P-50 (206.64)	Dissolved	18.7 J
10/24/2003	11/03/2003	P-50 (242.55)	Dissolved	35.7 J
10/24/2003	11/03/2003	P-50 (249.90)	Dissolved	31 J
10/24/2003	11/03/2003	P-50 (259.90)	Dissolved	40 U
10/25/2003	11/03/2003	P-50 (267.44)	Total	38.5 J
10/25/2003	11/03/2003	P-50 (267.44)	Dissolved	40 U
10/25/2003	11/03/2003	P-50 (279.90)	Dissolved	20.5 J
10/25/2003	11/03/2003	P-50 (289.90)	Total	52.7
10/25/2003	11/03/2003	P-50 (289.90)	Dissolved	40 U
10/25/2003	11/03/2003	P-50 (299.90)	Total	21.9 J
10/25/2003	11/03/2003	P-50 (299.90)	Dissolved	40 U
10/25/2003	11/03/2003	P-50 (309.90)	Total	23.3 J
10/25/2003	11/03/2003	P-50 (309.90)	Dissolved	51.9
10/25/2003	11/03/2003	P-50 (319.90)	Total	63.4
10/25/2003	11/03/2003	P-50 (319.90)	Dissolved	16.4 J
10/25/2003	11/03/2003	P-50 (327.07)	Total	34.6 J
10/25/2003	11/03/2003	P-50 (327.07)	Dissolved	19.7 J
10/26/2003	11/03/2003	P-50 (342.60)	Total	31.8 J
10/26/2003	11/03/2003	P-50 (342.60) DUP	Total	42.4
10/26/2003	11/03/2003	P-50 (342.60)	Dissolved	29 J
10/26/2003	11/03/2003	P-50 (342.60) DUP	Dissolved	15 J
10/26/2003	11/03/2003	P-50 (349.90)	Total	40 U
10/26/2003	11/03/2003	P-50 (349.90)	Dissolved	40 U
10/27/2003	11/03/2003	P-50 (359.90)	Total	29.8 J
10/27/2003	11/03/2003	P-50 (359.90)	Dissolved	41.1
10/27/2003	11/03/2003	P-50 (370.45)	Total	23.9 J
10/27/2003	11/03/2003	P-50 (370.45)	Dissolved	16 J
10/27/2003	11/03/2003	P-50 (376.64)	Total	20.7 J
10/27/2003	11/03/2003	P-50 (376.64)	Dissolved	24.1 J
10/27/2003	11/03/2003	P-50 (385.90)	Total	40 U
10/27/2003	11/03/2003	P-50 (385.90)	Dissolved	40 U
10/28/2003	11/04/2003	P-50 (413.43)	Total	68.3
10/28/2003	11/04/2003	P-50 (424.08)	Dissolved	58
10/29/2003	11/04/2003	P-50 (434.90)	Total	53.6
10/29/2003	11/04/2003	P-50 (434.90)	Dissolved	40 U
10/22/2003	10/28/2003	P-51 (77.78)	Dissolved	40 U
10/22/2003	10/28/2003	P-51 (87.78)	Dissolved	40 U

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Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
10/22/2003	10/28/2003	P-51 (97.78)	Dissolved	40 U
10/22/2003	10/28/2003	P-51 (97.78) DUP	Dissolved	40 U
10/22/2003	10/28/2003	P-51 (107.78)	Total	40 U
10/22/2003	10/28/2003	P-51 (107.78)	Dissolved	40 U
10/22/2003	10/28/2003	P-51 (117.78)	Dissolved	40 U
10/23/2003	10/28/2003	P-51 (127.78)	Dissolved	40 U
10/23/2003	10/28/2003	P-51 (137.78)	Dissolved	40 U
10/23/2003	10/28/2003	P-51 (147.78)	Total	24 J
10/23/2003	10/28/2003	P-51 (147.78)	Dissolved	40 U
10/23/2003	10/28/2003	P-51 (158.02)	Dissolved	40 U
10/23/2003	10/28/2003	P-51 (167.78)	Dissolved	40 U
10/23/2003	11/03/2003	P-51 (177.78)	Dissolved	40 U
10/24/2003	11/03/2003	P-51 (201.20)	Total	40 U
10/24/2003	11/03/2003	P-51 (201.20)	Dissolved	40 U
10/25/2003	11/03/2003	P-51 (226.75)	Dissolved	40 U
10/25/2003	11/03/2003	P-51 (236.75)	Dissolved	21.9 J
10/26/2003	11/03/2003	P-51 (246.75)	Dissolved	17.2 J
10/26/2003	11/03/2003	P-51 (246.75) DUP	Dissolved	40 U
10/26/2003	11/03/2003	P-51 (256.75)	Dissolved	40 U
10/26/2003	11/03/2003	P-51 (266.71)	Dissolved	40 U
10/26/2003	11/03/2003	P-51 (276.75)	Dissolved	40 U
10/26/2003	11/03/2003	P-51 (286.75)	Dissolved	40 U
10/26/2003	11/03/2003	P-51 (295.25)	Total	40 U
10/26/2003	11/03/2003	P-51 (295.25)	Dissolved	40 U
10/27/2003	11/03/2003	P-51 (301.12)	Dissolved	40 U
10/28/2003	11/04/2003	P-51 (321.00)	Total	43.7
10/28/2003	11/04/2003	P-51 (321.00)	Dissolved	40 U
10/28/2003	11/04/2003	P-51 (327.85)	Total	44.3
10/28/2003	11/04/2003	P-51 (327.85)	Dissolved	40 U
10/28/2003	11/04/2003	P-51 (336.85)	Total	43.5
10/28/2003	11/04/2003	P-51 (336.85)	Dissolved	40.7
10/28/2003	11/04/2003	P-51 (346.85)	Total	46.3
10/28/2003	11/04/2003	P-51 (346.85)	Dissolved	41.7
10/29/2003	11/04/2003	P-51 (363.30)	Total	40 U
10/29/2003	11/04/2003	P-51 (363.30)	Dissolved	41.4
10/30/2003	11/04/2003	P-51 (371.80)	Total	40 U
10/30/2003	11/04/2003	P-51 (371.80)	Dissolved	40 U
10/30/2003	11/04/2003	P-51 (381.80)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (80.0)	Total	40 U
11/05/2003	11/11/2003	P-52 (80.0)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (90.0)	Total	40 U
11/05/2003	11/11/2003	P-52 (90.0)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (100.0)	Total	40 U
11/05/2003	11/11/2003	P-52 (100.0)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (110.0)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (120.0)	Dissolved	40 U
11/05/2003	11/11/2003	P-52 (130.0)	Total	40 U
11/05/2003	11/11/2003	P-52 (130.0)	Dissolved	40 U

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Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
11/06/2003	11/11/2003	P-52 (140.0)	Total	40 U
11/06/2003	11/11/2003	P-52 (140.0)	Dissolved	40 U
11/06/2003	11/11/2003	P-52 (150.0)	Total	523
11/06/2003	11/11/2003	P-52 (150.0)	Dissolved	470
11/06/2003	11/11/2003	P-52 (160.0)	Total	1240
11/06/2003	11/11/2003	P-52 (160.0)	Dissolved	1190
11/06/2003	11/11/2003	P-52 (170.0)	Total	1490
11/06/2003	11/11/2003	P-52 (170.0) DUP	Total	1490
11/06/2003	11/11/2003	P-52 (170.0)	Dissolved	1430
11/06/2003	11/11/2003	P-52 (170.0) DUP	Dissolved	1500
11/06/2003	11/11/2003	P-52 (180.0)	Dissolved	271
11/07/2003	11/13/2003	P-52 (224.5)	Total	57.9
11/07/2003	11/13/2003	P-52 (224.5)	Dissolved	38.2 J
11/07/2003	11/13/2003	P-52 (232.3)	Total	43.1
11/07/2003	11/13/2003	P-52 (232.3)	Dissolved	45.8
11/07/2003	11/13/2003	P-52 (243.7)	Dissolved	19 J
11/08/2003	11/13/2003	P-52 (254.5)	Dissolved	21.9 J
11/08/2003	11/13/2003	P-52 (264.5)	Dissolved	15.3 J
11/08/2003	11/13/2003	P-52 (274.5)	Dissolved	59.4
11/08/2003	11/13/2003	P-52 (283.5)	Total	194
11/08/2003	11/13/2003	P-52 (283.5)	Dissolved	188
11/08/2003	11/13/2003	P-52 (291.7)	Dissolved	368
11/08/2003	11/13/2003	P-52 (299.5)	Dissolved	131
11/10/2003	11/18/2003	P-52 (319.2)	Total	24.9 J
11/10/2003	11/18/2003	P-52 (319.2)	Dissolved	17.1 J
11/10/2003	11/18/2003	P-52 (327.2)	Total	61.9
11/10/2003	11/18/2003	P-52 (327.2)	Dissolved	26.2 J
11/10/2003	11/18/2003	P-52 (339.2)	Dissolved	40 U
11/12/2003	11/18/2003	P-52 (364.2)	Total	34.5 J
11/12/2003	11/18/2003	P-52 (364.2) DUP	Total	65 J
11/12/2003	11/18/2003	P-52 (364.2)	Dissolved	25.6 J
11/12/2003	11/18/2003	P-52 (364.2) DUP	Dissolved	17 J
11/12/2003	11/18/2003	P-52 (374.4)	Total	41.3
11/12/2003	11/18/2003	P-52 (374.4)	Dissolved	23 J
11/13/2003	11/18/2003	P-52 (395.4)	Dissolved	28.9 J
11/17/2003	11/25/2003	P-52 (404.45)	Dissolved	40 U
11/18/2003	11/25/2003	P-52 (414.15)	Total	68.4
11/18/2003	11/25/2003	P-52 (414.15)	Dissolved	53.7
11/18/2003	11/25/2003	P-52 (444.35)	Dissolved	42.9
11/19/2003	11/25/2003	P-52 (483.38)	Dissolved	40 U
11/18/2003	11/25/2003	P-53 (86.40)	Total	40 U
11/18/2003	11/25/2003	P-53 (86.40)	Dissolved	40 U
11/20/2003	11/25/2003	P-53 (76.40)	Total	40 U
11/20/2003	11/25/2003	P-53 (76.40)	Dissolved	40 U
11/20/2003	12/03/2003	P-53 (96.40)	Total	40 U
11/20/2003	12/03/2003	P-53 (96.40)	Dissolved	40 U
11/20/2003	12/03/2003	P-53 (106.40)	Total	40 U
11/20/2003	12/03/2003	P-53 (106.40)	Dissolved	40 U

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
11/21/2003	12/03/2003	P-53 (116.40)	Total	40 U
11/21/2003	12/03/2003	P-53 (116.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (126.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (136.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (146.40)	Total	40 U
11/21/2003	12/03/2003	P-53 (146.40) DUP	Total	40 U
11/21/2003	12/03/2003	P-53 (146.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (146.40) DUP	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (156.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (165.70)	Total	40 U
11/21/2003	12/03/2003	P-53 (165.70)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (176.40)	Dissolved	40 U
11/21/2003	12/03/2003	P-53 (188.85)	Total	40 U
11/21/2003	12/03/2003	P-53 (188.85)	Dissolved	40 U
11/22/2003	12/03/2003	P-53 (212.60)	Total	40 U
11/22/2003	12/03/2003	P-53 (212.60)	Dissolved	40 U
11/22/2003	12/03/2003	P-53 (221.35)	Dissolved	40 U
11/23/2003	12/03/2003	P-53 (231.35)	Dissolved	40 U
11/23/2003	12/03/2003	P-53 (238.55)	Dissolved	7.2 J
11/23/2003	12/03/2003	P-53 (248.35)	Dissolved	7.6 J
11/23/2003	12/03/2003	P-53 (256.35)	Dissolved	9 J
11/23/2003	12/03/2003	P-53 (266.35)	Dissolved	9.3 J
11/23/2003	12/03/2003	P-53 (266.35) DUP	Dissolved	6.9 J
11/23/2003	12/03/2003	P-53 (276.35)	Dissolved	7.5 J
11/23/2003	12/03/2003	P-53 (286.35)	Dissolved	5.1 J
11/23/2003	12/03/2003	P-53 (295.50)	Dissolved	18.3 J
11/23/2003	12/03/2003	P-53 (306.00)	Dissolved	22.8 J
11/24/2003	12/03/2003	P-53 (313.30)	Dissolved	12.8 J
11/25/2003	12/04/2003	P-53 (331.10)	Dissolved	9.7 J
11/25/2003	12/04/2003	P-53 (340.05)	Total	40 U
11/25/2003	12/04/2003	P-53 (340.05)	Dissolved	12.5 J
12/02/2003	12/10/2003	P-53 (366.65)	Dissolved	128
12/03/2003	12/10/2003	P-53 (391.6)	Total	69
12/03/2003	12/10/2003	P-53 (391.6)	Dissolved	60.2
12/03/2003	12/10/2003	P-53 (401.10)	Dissolved	31.5 B
12/04/2003	12/10/2003	P-53 (410.15)	Total	55.9
12/04/2003	12/10/2003	P-53 (410.15)	Dissolved	20.3 J
12/05/2003	12/12/2003	P-53 (426.75)	Total	102
12/05/2003	12/12/2003	P-53 (480.90)	Dissolved	236
12/09/2003	12/17/2003	P-53 (487.40)	Total	139
12/09/2003	12/17/2003	P-53 (487.40)	Dissolved	94
12/10/2003	12/17/2003	P-53 (497.00)	Dissolved	143
12/10/2003	12/17/2003	P-53 (504.80)	Total	93.9
12/10/2003	12/17/2003	P-53 (504.80)	Dissolved	75.5
11/04/2003	11/11/2003	P-54 (74.15)	Dissolved	40 U
11/04/2003	11/11/2003	P-54 (87.55)	Dissolved	40 U
11/05/2003	11/11/2003	P-54 (97.55)	Dissolved	40 U
11/05/2003	11/11/2003	P-54 (107.55)	Dissolved	40 U

U - The analyte was not detected above reported sample quantitation limits.

B - Analyte is found in the associated method blank as well as the sample.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
11/05/2003	11/11/2003	P-54 (117.55)	Total	40 U
11/05/2003	11/11/2003	P-54 (117.55)	Dissolved	40 U
11/05/2003	11/11/2003	P-54 (127.55)	Total	40 U
11/05/2003	11/11/2003	P-54 (127.55)	Dissolved	40 U
11/05/2003	11/11/2003	P-54 (137.55)	Total	40 U
11/05/2003	11/11/2003	P-54 (137.55) DUP	Total	40 U
11/05/2003	11/11/2003	P-54 (137.55)	Dissolved	40 U
11/05/2003	11/11/2003	P-54 (137.55) DUP	Dissolved	40 U
11/06/2003	11/11/2003	P-54 (147.55)	Total	40 U
11/06/2003	11/11/2003	P-54 (147.55)	Dissolved	40 U
11/06/2003	11/11/2003	P-54 (155.75)	Total	40 U
11/06/2003	11/11/2003	P-54 (155.75)	Dissolved	40 U
11/06/2003	11/11/2003	P-54 (165.85)	Total	40 U
11/06/2003	11/11/2003	P-54 (165.85)	Dissolved	40 U
11/06/2003	11/11/2003	P-54 (177.55)	Dissolved	40 U
11/06/2003	11/11/2003	P-54 (187.55)	Dissolved	40 U
11/08/2003	11/13/2003	P-54 (226.55)	Dissolved	11.7 J
11/08/2003	11/13/2003	P-54 (236.55)	Dissolved	9 J
11/08/2003	11/13/2003	P-54 (246.55)	Dissolved	16.5 J
11/08/2003	11/13/2003	P-54 (256.55)	Total	40 U
11/08/2003	11/13/2003	P-54 (256.55)	Dissolved	7.5 J
11/08/2003	11/13/2003	P-54 (267.95)	Dissolved	8.2 J
11/08/2003	11/13/2003	P-54 (267.95) DUP	Dissolved	9.5 J
11/08/2003	11/13/2003	P-54 (276.4)	Total	40 U
11/08/2003	11/13/2003	P-54 (276.4)	Dissolved	11.2 J
11/08/2003	11/13/2003	P-54 (285.4)	Total	40 U
11/08/2003	11/13/2003	P-54 (285.4)	Dissolved	9.4 J
11/09/2003	11/13/2003	P-54 (296.25)	Total	40 U
11/09/2003	11/13/2003	P-54 (296.25)	Dissolved	11.5 J
11/09/2003	11/13/2003	P-54 (303.55)	Total	40 U
11/09/2003	11/13/2003	P-54 (303.55)	Dissolved	20.5 J
11/10/2003	11/18/2003	P-54 (326.25)	Total	40 U
11/10/2003	11/18/2003	P-54 (326.25)	Dissolved	40 U
11/11/2003	11/18/2003	P-54 (334.4)	Total	28.2 J
11/11/2003	11/18/2003	P-54 (334.4)	Dissolved	20.6 J
11/11/2003	11/18/2003	P-54 (342.95)	Total	40 U
11/11/2003	11/18/2003	P-54 (342.95)	Dissolved	40 U
11/11/2003	11/18/2003	P-54 (351.25)	Dissolved	40 U
11/11/2003	11/18/2003	P-54 (351.25) DUP	Dissolved	40 U
11/11/2003	11/18/2003	P-54 (360.8)	Dissolved	40 U
11/13/2003	11/18/2003	P-54 (400.5)	Total	16.6 J
11/13/2003	11/18/2003	P-54 (400.5)	Dissolved	40 U
11/13/2003	11/18/2003	P-54 (411.05)	Total	40 U
11/13/2003	11/18/2003	P-54 (411.05)	Dissolved	40 U
11/18/2003	11/25/2003	P-54 (421.00)	Dissolved	40 U
11/18/2003	11/25/2003	P-54 (431.00)	Dissolved	40 U
11/18/2003	11/25/2003	P-54 (437.05)	Dissolved	40 U
01/11/2004	01/16/2004	P-55 (74.55)	Dissolved	75.8

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
01/11/2004	01/19/2004	P-55 (84.10)	Total	596
01/11/2004	01/19/2004	P-55 (84.10)	Dissolved	51.8
01/11/2004	01/19/2004	P-55 (94.55)	Total	40 U
01/11/2004	01/19/2004	P-55 (94.55)	Dissolved	40 U
01/12/2004	01/19/2004	P-55 (104.55)	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (114.55)	Total	40 U
01/12/2004	01/19/2004	P-55 (114.55)	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (124.55)	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (134.55)	Dissolved	40 U
01/12/2004	01/19/2004	P-55 (144.55)	Total	40 U
01/12/2004	01/16/2004	P-55 (144.55)	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (154.55)	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (154.55) DUP	Dissolved	40 U
01/12/2004	01/16/2004	P-55 (164.55)	Dissolved	40 U
01/12/2004	01/21/2004	P-55 (174.55)	Total	57
01/12/2004	01/21/2004	P-55 (174.55)	Dissolved	40 U
01/12/2004	01/21/2004	P-55 (186.15)	Dissolved	40 U
01/14/2004	01/21/2004	P-55 (244.40)	Dissolved	237
01/14/2004	01/21/2004	P-55 (254.40)	Dissolved	157
01/14/2004	01/21/2004	P-55 (264.40)	Total	84.3
01/14/2004	01/21/2004	P-55 (264.40)	Dissolved	89.4
01/14/2004	01/21/2004	P-55 (271.00)	Dissolved	75.4
01/26/2004	02/03/2004	P-55 (294.45)	Dissolved	85.5
01/26/2004	02/03/2004	P-55 (304.45)	Total	42
01/26/2004	02/03/2004	P-55 (304.45)	Dissolved	40 U
01/26/2004	02/03/2004	P-55 (311.95)	Total	40 U
01/26/2004	02/03/2004	P-55 (311.95) DUP	Total	40 U
01/26/2004	02/03/2004	P-55 (311.95)	Dissolved	40 U
01/26/2004	02/03/2004	P-55 (311.95) DUP	Dissolved	40 U
01/27/2004	02/03/2004	P-55 (334.55)	Total	40 U
01/27/2004	02/03/2004	P-55 (334.55)	Dissolved	40 U
01/27/2004	02/03/2004	P-55 (340.35)	Total	40 U
01/27/2004	02/03/2004	P-55 (340.35)	Dissolved	40 U
01/28/2004	02/03/2004	P-55 (374.35)	Dissolved	40 U
02/03/2004	02/16/2004	P-55 (404.45)	Dissolved	19.6 J
02/04/2004	02/16/2004	P-55 (425.35)	Dissolved	32.9 J
02/04/2004	02/14/2004	P-55 (434.45)	Total	40 U
02/04/2004	02/16/2004	P-55 (434.45)	Dissolved	17.5 J
02/05/2004	02/14/2004	P-55 (442.25)	Total	40 U
02/05/2004	02/16/2004	P-55 (442.25)	Dissolved	14.6 J
01/21/2004	01/29/2004	P-56 (76.55)	Dissolved	95.1
01/21/2004	01/29/2004	P-56 (86.55)	Total	96.8
01/22/2004	01/29/2004	P-56 (86.55) DUP	Total	104
01/21/2004	01/29/2004	P-56 (86.55)	Dissolved	94.9
01/22/2004	01/29/2004	P-56 (86.55) DUP	Dissolved	88.6
01/21/2004	01/29/2004	P-56 (96.55)	Total	46.9
01/21/2004	01/29/2004	P-56 (96.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (106.55)	Total	53.1

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
01/22/2004	01/29/2004	P-56 (106.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (116.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (116.55)	Total	40 U
01/22/2004	01/29/2004	P-56 (126.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (136.55)	Dissolved	54.4
01/22/2004	01/29/2004	P-56 (146.55)	Total	60.1
01/22/2004	01/29/2004	P-56 (146.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (156.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (166.55)	Dissolved	55.2
01/22/2004	01/29/2004	P-56 (176.55)	Dissolved	52.8
01/22/2004	01/29/2004	P-56 (186.55)	Dissolved	40 U
01/22/2004	01/29/2004	P-56 (194.40)	Dissolved	40 U
01/29/2004	02/03/2004	P-56 (388.60)	Total	40 U
01/29/2004	02/03/2004	P-56 (388.60)	Dissolved	40 U
01/23/2004	02/03/2004	P-56 (211.45)	Total	71
01/23/2004	02/03/2004	P-56 (211.45)	Dissolved	40 U
01/23/2004	02/03/2004	P-56 (221.45)	Total	73.1
01/23/2004	02/03/2004	P-56 (221.45)	Dissolved	40 U
01/24/2004	02/03/2004	P-56 (231.45)	Dissolved	48.6
01/24/2004	02/03/2004	P-56 (241.45)	Dissolved	40 U
01/24/2004	02/03/2004	P-56 (251.45)	Dissolved	40 U
01/24/2004	02/03/2004	P-56 (261.45)	Dissolved	48.5
01/26/2004	02/03/2004	P-56 (305.90)	Dissolved	45.5
01/26/2004	02/03/2004	P-56 (316.45)	Total	51.8
01/26/2004	02/03/2004	P-56 (316.45)	Dissolved	40 U
01/26/2004	02/03/2004	P-56 (324.20)	Dissolved	46.3
01/28/2004	02/03/2004	P-56 (346.60)	Dissolved	92.1
01/28/2004	02/03/2004	P-56 (354.00)	Dissolved	49.8
11/04/2003	11/11/2003	P-58 (79.65)	Total	40 U
11/04/2003	11/11/2003	P-58 (79.65)	Dissolved	40 U
11/04/2003	11/11/2003	P-58 (89.65)	Dissolved	40 U
11/04/2003	11/11/2003	P-58 (99.65)	Dissolved	40 U
11/04/2003	11/11/2003	P-58 (109.65)	Dissolved	40 U
11/05/2003	11/11/2003	P-58 (119.65)	Dissolved	40 U
11/05/2003	11/11/2003	P-58 (129.65)	Dissolved	51.3
11/05/2003	11/11/2003	P-58 (139.65)	Dissolved	47.9
11/05/2003	11/11/2003	P-58 (149.65)	Dissolved	111
11/05/2003	11/11/2003	P-58 (159.65)	Dissolved	61.6
11/05/2003	11/11/2003	P-58 (159.65) DUP	Dissolved	60.9
11/05/2003	11/11/2003	P-58 (169.65)	Total	99
11/05/2003	11/11/2003	P-58 (169.65)	Dissolved	72.2
11/05/2003	11/11/2003	P-58 (179.65)	Dissolved	43.6
11/05/2003	11/11/2003	P-58 (189.65)	Total	103
11/05/2003	11/11/2003	P-58 (189.65)	Dissolved	40 U
11/06/2003	11/11/2003	P-58 (196.02)	Dissolved	75.4
11/06/2003	11/11/2003	P-58 (213.20)	Dissolved	349
11/06/2003	11/13/2003	P-58 (274.65)	Total	268
11/06/2003	11/13/2003	P-58 (274.65) DUP	Total	200

U - The analyte was not detected above reported sample quantitation limits.

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DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
11/06/2003	11/13/2003	P-58 (274.65)	Dissolved	224
11/06/2003	11/13/2003	P-58 (274.65) DUP	Dissolved	210
11/07/2003	11/13/2003	P-58 (284.65)	Dissolved	308
11/07/2003	11/13/2003	P-58 (294.65)	Dissolved	99
11/07/2003	11/13/2003	P-58 (304.65)	Dissolved	37.6 J
11/07/2003	11/13/2003	P-58 (314.65)	Total	40 U
11/07/2003	11/13/2003	P-58 (314.65)	Dissolved	29.2 J
11/07/2003	11/13/2003	P-58 (323.15)	Total	40 U
11/07/2003	11/13/2003	P-58 (323.15)	Dissolved	17 J
11/08/2003	11/13/2003	P-58 (342.25)	Total	1030
11/08/2003	11/13/2003	P-58 (342.25)	Dissolved	203
11/09/2003	11/13/2003	P-58 (402.40)	Dissolved	27 J
11/10/2003	11/13/2003	P-58 (432.05)	Total	73.4
11/10/2003	11/13/2003	P-58 (432.05)	Dissolved	24.9 J
11/11/2003	11/18/2003	P-58 (471.35)	Total	32.8 J
11/11/2003	11/18/2003	P-58 (471.35)	Dissolved	30.1 J
06/09/2003	06/16/2003	P-C (79.60)	Total	21.2 J
06/10/2003	06/16/2003	P-C (89.60)	Total	26.5 J
06/10/2003	06/16/2003	P-C (99.60)	Dissolved	27.6 J
06/10/2003	06/16/2003	P-C (99.60) DUP	Dissolved	27.4 J
06/11/2003	06/16/2003	P-C (109.60)	Dissolved	47.9
06/11/2003	06/16/2003	P-C (119.60)	Total	26.3 J
06/11/2003	06/16/2003	P-C (129.60)	Dissolved	40 U
06/11/2003	06/16/2003	P-C (139.60)	Dissolved	40 U
06/11/2003	06/16/2003	P-C (149.60)	Dissolved	40 U
06/11/2003	06/16/2003	P-C (159.60)	Total	32.8 J
06/11/2003	06/16/2003	P-C (169.60)	Dissolved	40 U
06/11/2003	06/16/2003	P-C (179.60)	Total	12.5 J
06/12/2003	06/18/2003	P-C (185.3)	Total	15.4 J
06/12/2003	06/18/2003	P-C (195.3)	Total	40 U
06/12/2003	06/18/2003	P-C (205.3)	Dissolved	40 U
06/13/2003	06/18/2003	P-C (215.3)	Dissolved	40 U
06/13/2003	06/18/2003	P-C (225.3)	Total	16.9 J
06/13/2003	06/18/2003	P-C (235.3)	Total	32 J
06/13/2003	06/18/2003	P-C (245.3)	Total	24.1 J
06/14/2003	06/18/2003	P-C (265.3)	Total	40
06/14/2003	06/18/2003	P-C (275.3)	Dissolved	20.7 J
06/16/2003	06/18/2003	P-C (320.3)	Dissolved	239
04/16/2003	06/18/2003	P-C (320.3) DUP	Dissolved	253
06/16/2003	06/18/2003	P-C (330.3)	Dissolved	148
06/16/2003	06/18/2003	P-C (337.5)	Dissolved	44.2
06/17/2003	06/20/2003	P-C (347.7)	Total	50.6
06/18/2003	06/23/2003	P-C (364.5)	Dissolved	56.2
06/18/2003	06/23/2003	P-C (374.5)	Total	54.2
06/18/2003	06/23/2003	P-C (384.5)	Dissolved	24.4 J
06/18/2003	06/23/2003	P-C (394.5)	Total	17.2 J
05/27/2003	06/03/2003	P-D (77.05)	Dissolved	31.9 J
05/27/2003	06/03/2003	P-D (87.05)	Total	23.5 J

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ug/L - micrograms per liter.

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Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
05/27/2003	06/03/2003	P-D (97.05)	Dissolved	20.6 J
05/28/2003	06/03/2003	P-D (107.05)	Dissolved	155
05/28/2003	06/03/2003	P-D (117.05)	Total	21.1 J
05/28/2003	06/03/2003	P-D (127.05)	Total	21.9 J
05/28/2003	06/03/2003	P-D (137.05)	Dissolved	40 U
05/28/2003	06/03/2003	P-D (147.05)	Dissolved	40 U
05/29/2003	06/05/2003	P-D (157.05)	Dissolved	40 U
05/29/2003	06/05/2003	P-D (167.01)	Dissolved	12.3 J
05/29/2003	06/05/2003	P-D (177.01)	Total	60.1
05/29/2003	06/05/2003	P-D (187.1)	Dissolved	16.6 J
05/30/2003	06/05/2003	P-D (197.1)	Dissolved	21.4 J
05/30/2003	06/05/2003	P-D (207.1)	Dissolved	13.2 J
05/30/2003	06/05/2003	P-D (217.1)	Dissolved	17 J
05/30/2003	06/05/2003	P-D (217.1) DUP	Dissolved	13.1 J
05/30/2003	06/05/2003	P-D (227.1)	Dissolved	22.4 J
05/30/2003	06/05/2003	P-D (237.1)	Dissolved	23.2 J
05/31/2003	06/05/2003	P-D (247.05)	Dissolved	74.7
05/31/2003	06/05/2003	P-D (257.)	Dissolved	44.4
06/01/2003	06/05/2003	P-D (290.1)	Dissolved	363
06/04/2003	06/09/2003	P-D (321.95)	Dissolved	156
06/04/2003	06/09/2003	P-D (321.95) DUP	Dissolved	167
06/04/2003	06/09/2003	P-D (331.95)	Dissolved	26.5 J
06/04/2003	06/09/2003	P-D (341.95)	Total	22.4 J
06/04/2003	06/09/2003	P-D (351.95)	Dissolved	16.4 J
05/15/2003	05/21/2003	P-E (78.57)	Total	64.7
05/15/2003	05/21/2003	P-E (88.57)	Total	15.4 J
05/15/2003	05/22/2003	P-E (98.57)	Dissolved	12.3 J
05/16/2003	05/22/2003	P-E (108.57)	Total	26 J
05/16/2003	05/22/2003	P-E (118.57)	Total	34.7 J
05/16/2003	05/22/2003	P-E (128.57)	Dissolved	72.8
05/16/2003	05/22/2003	P-E (138.57)	Dissolved	102
05/16/2003	05/22/2003	P-E (148.57)	Dissolved	23.2 J
05/17/2003	05/22/2003	P-E (158.57)	Dissolved	40 U
05/17/2003	05/23/2003	P-E (168.57)	Total	19.1 J
05/17/2003	05/23/2003	P-E (178.57)	Total	13.3 J
05/17/2003	05/23/2003	P-E (198.57)	Total	23.2 J
05/17/2003	05/23/2003	P-E (208.57)	Dissolved	40 U
05/18/2003	05/23/2003	P-E (218.57)	Dissolved	32.5 J
05/18/2003	05/23/2003	P-E (228.57)	Dissolved	24.9 J
05/18/2003	05/23/2003	P-E (238.57)	Dissolved	19.4 J
05/19/2003	05/29/2003	P-E (268.57)	Dissolved	64.6
05/20/2003	05/29/2003	P-E (292.28)	Total	889
05/21/2003	05/29/2003	P-E (301.23)	Dissolved	180
05/21/2003	05/29/2003	P-E (317.15)	Dissolved	110
05/21/2003	05/29/2003	P-E (327.15)	Dissolved	87.4
05/21/2003	05/29/2003	P-E (332.85)	Dissolved	92.8
04/28/2003	04/30/2003	P-F (86.48)	Dissolved	13.5 J
04/29/2003	05/06/2003	P-F (96.48)	Dissolved	40 U

U - The analyte was not detected above reported sample quantitation limits.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

DUP - Duplicate sample.

ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth ft)	Sample Description	Nickel Data (ug/L)
04/29/2003	05/06/2003	P-F (106.46)	Dissolved	40 U
04/29/2003	05/06/2003	P-F (116.49)	Dissolved	40U
07/21/2003	07/26/2003	P-H (76.8)	Dissolved	40 U
07/21/2003	07/26/2003	P-H (86.8)	Dissolved	40 U
07/22/2003	07/26/2003	P-H (96.8)	Total	64.6
07/22/2003	07/26/2003	P-H (106.8)	Dissolved	40 U
07/22/2003	07/26/2003	P-H (116.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (126.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (126.8) DUP	Dissolved	40 U
07/23/2003	07/29/2003	P-H (136.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (146.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (156.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (166.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (176.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (186.8)	Dissolved	40 U
07/23/2003	07/29/2003	P-H (196.8)	Dissolved	45.2
07/24/2003	07/29/2003	P-H (206.55)	Total	66.2
07/24/2003	07/29/2003	P-H (206.55) DUP	Total	61.7
07/24/2003	08/01/2003	P-H (216.55)	Total	94
07/24/2003	08/01/2003	P-H (226.55)	Total	40 U
07/24/2003	08/01/2003	P-H (236.55)	Total	60.7
07/25/2003	08/01/2003	P-H (328.5)	Total	624
07/26/2003	08/01/2003	P-H (334.97)	Total	376
07/26/2003	08/01/2003	P-H (351.65)	Dissolved	170
07/29/2003	08/01/2003	P-H (376.85)	Dissolved	87.2
07/27/2003	08/01/2003	P-H (386.5)	Dissolved	75.9
07/27/2003	08/01/2003	P-H (396.5)	Total	77.6

U - The analyte was not detected above reported sample quantitation limits.
J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
DUP - Duplicate sample.
ug/L - micrograms per liter.

Table 4-2
Metals Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Date Sampled	Date Analyzed	Location (depth)	Chromium Fraction	Chromium Data (ug/L)
9/20/2003	9/23/2003	P-29 (310.2)	Total	10 U
9/20/2003	9/23/2003	P-29 (310.2)	Hexavalent	R
9/21/2003	9/23/2003	P-29 (360.0)	Total	20.6
9/21/2003	9/23/2003	P-29 (360.0)	Hexavalent	R
9/22/2003	9/23/2003	P-29 (390.0)	Total	11.8
9/22/2003	9/23/2003	P-29 (390.0)	Hexavalent	10 U
8/26/2003	9/2/2003	P-46 (330.21)	Total	10 U
8/26/2003	9/2/2003	P-46 (307.69)	Total	10 U
9/3/2003	9/8/2003	P-46 (389.28)	Total	10 U
9/3/2003	9/8/2003	P-46 (389.28)	Hexavalent	11.4
11/7/2003	11/11/2003	P-58 (304.65)	Total	10 U
11/7/2003	11/11/2003	P-58 (304.65)	Hexavalent	R
11/9/2003	11/11/2003	P-58 (402.40)	Total	10 U
11/9/2003	11/11/2003	P-58 (402.40)	Hexavalent	R
11/10/2003	11/11/2003	P-58 (432.05)	Total	91.9
11/10/2003	11/11/2003	P-58 (432.05)	Hexavalent	10 U

Depths are presented as feet below ground surface.

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

ug/L - micrograms per liter.

Table 4-3
Metals Data - On-Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Location	**MetalS Data ug/L** *Regulatory Limit (ug/L)*									
	NA		*50*		*200*		*100*		*NA*	
	Beryllium		Chromium		Copper		Nickel		Thallium	
	10/13/2002	03/2002	10/13/2002	03/2002	10/13/2002	03/2002	10/13/2002	03/2002	10/13/2002	03/2002
MW-1	5 U	5 U	10 U	10 U	25 U	25 U	261	184	10 U	10 U
MW-2	5 U	5 U	10.4 U	3.9 J	11.2	25 U	46.1	53.3	10 U	10 U
MW-3	5 U	5 U	10 U	10 U	25 U	25 U	40 U	40 U	10 U	10 U
MW-4	5 U	5 U	10 U	4.7 J	25 U	25 U	15.2 J	29.2 J	10 U	10 U
MW-5	5 U	5 U	15.8	15.8	25 U	25 U	36.0 J	44	10 U	10 U
MW-6	5 U	5 U	10 U	3 J	25 U	25 U	40 U	40 U	10 U	10 U
MW-7	5 U	5 U	2.5 J	2.9 J	25 U	25 U	40 U	40 U	10 U	10 U
MW-8	5 U	5 U	10 U	3.3 J	25 U	25 U	40 U	40 U	10 U	10 U
MW-9	5 U	5 U	10 U	2.1 J	25 U	25 U	40 U	40 U	10 U	10 U
MW-10	5 U	5 U	10 U	7.1 J	25 U	25 U	44.8	68.3	10 U	10 U
MW-11	5 U	5 U	10 U	3.4 J	25 U	25 U	12.0 J	40 U	10 U	10 U
MW-12	5 U	5 U	10 U	2.9 J	25 U	25 U	40 U	40 U	10 U	10 U

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ug/L = micrograms per liter.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Boring/Well No.	Sample Description*	Radiological Results, pCi/L																			
		K-40				Cs-137				Ac-228				Pb-212				Pb-214			
		Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-1	78.7'	-45	71	150	U	-2.4	5.1	8.9	U	-3	23	48	U	-15.7	7.9	14	UJ	-6	12	23	U
	78.7' - Dissolved	-46	74	150	U	-6.6	5.9	11	UJ	17	21	42	U	-24	8.5	14	UJ	-10.9	9.9	19	UJ
	98.7'	-29	69	140	U	-9	6.3	13	UJ	15	19	39	U	-22.5	9.5	16	UJ	-2	12	22	U
P-2	78.5'	-32	60	130	U	-4.5	6.4	14	U	13	21	42	U	-20	8.8	15	UJ	8	11	22	U
	78.5' - Dissolved	-90	73	140	UJ	-8.4	5.4	9.4	UJ	-0.1	23	42	U	-23.7	8.3	14	UJ	-11.8	9.2	18	UJ
	98.8'	-66	71	140	U	-9.1	6.4	13	UJ	0.8	22	41	U	-20.1	8.6	15	UJ	-19	10	17	UJ
	98.8' - Dissolved	-22	82	170	U	-2.7	5.3	11	U	3	20	39	U	-15.3	8.4	15	UJ	-14	10	20	UJ
P-3	107.4'	-20	63	140	U	-1.6	5.1	9	U	-16	19	36	U	-13.1	8.5	16	UJ	-0.5	12	23	U
	107.4'- Dissolved	-22	61	140	U	-5.7	6.6	12	U	-29	22	31	UJ	-13.2	8	15	UJ	-9.6	9.9	19	U
	87.4'	-64	70	150	U	1.7	4.9	9.7	U	-22	23	43	U	-12.6	7.6	14	UJ	-2	12	24	U
P-4	77.5'	8	72	160	U	-5.2	5.9	11	U	6	22	42	U	-21.1	8.5	14	UJ	-6	10	20	U
	97.2'	-9	63	140	U	-0.05	5.7	10	U	27	21	44	U	-13.8	7.7	14	UJ	-10	10	19	U
P-5	77.5'	-44	66	140	U	-8.6	4.9	8.4	UJ	19	23	46	U	-11.2	7.8	14	UJ	-17	11	19	UJ
P-6	102.8'	-105	59	110	UJ	0.01	5	9.4	U	-19	18	36	UJ	-5.4	7.3	15	U	-7	10	21	U
	82.8'	-51	65	130	UJ	-11.6	6.7	13	UJ	5	19	36	U	-29.7	9.4	14	UJ	-17	11	19	UJ
P-6 DUP	102.8'	64	83	190	U	1.9	5.5	11	U	-9	22	44	U	-23.5	8.2	14	UJ	-13	11	21	UJ
P-7	102.4'	-59	70	150	U	-2.3	5.3	9.3	U	-36	22	37	UJ	-9.8	8.1	15	UJ	-11	11	20	U
	102.4' - Dissolved	-31	64	140	U	3.4	5.9	11	U	-13	23	40	U	-9	7.9	15	UJ	-14.2	9.6	18	UJ
	82.4'	-16	67	140	U	-11.3	6.6	13	UJ	12	20	39	U	-18.8	8.7	15	UJ	-18	11	19	UJ
P-8	77.55'	-51	57	120	U	-11.5	6.7	13	UJ	14	22	44	U	-19.4	9.1	16	UJ	-23	11	19	UJ
	97.55'	-78	71	140	UJ	4	4.8	9.9	U	9	24	46	U	-23.3	8.7	15	UJ	-23	11	19	UJ
P-9	102.61'	-56	70	140	U	-12.3	6.3	12	UJ	-1	20	37	U	-28.4	9.4	14	UJ	-19	11	19	UJ
	82.61'	-41	69	140	U	-6.1	5.3	9.8	UJ	12	19	39	U	-14.4	7.9	14	UJ	-9.3	9.8	19	U
P-10	77.6'	-23	69	37	UJ	-9.4	6.3	17	UJ	14	21	10	U	-29.5	9.9	17	UJ	-11	10	140	UJ
	97.9'	-12	76	170	U	2.3	5.1	10	U	-30	21	38	UJ	-19.4	8.7	15	UJ	-19	11	20	UJ
P-11	107.4'	-4	73	160	U	-3.1	5.7	9.5	U	28	27	52	U	-17.5	8.2	15	UJ	-10.6	9.5	18	UJ
	87'	-100	67	130	UJ	0.2	5.1	9.6	U	-9	23	47	U	-14.8	8.3	15	UJ	-14	11	21	UJ
P-12	78.85'	-20	67	150	U	2.6	5.4	11	U	-22	20	36	UJ	-20	8.1	14	UJ	-4	11	22	U
	97.92'	-45	70	140	U	-9.5	6.5	13	UJ	27	25	48	U	-14.9	9	16	UJ	-9	12	22	U
P-13	76.6'	-39	68	140	U	1.5	5.7	11	U	12	21	42	U	-22.4	8.1	14	UJ	-7	11	22	U
	96.6'	-63	83	160	U	-0.8	5.7	10	U	-2	20	37	U	-19.6	8.4	15	UJ	-2	12	24	U
	96.6' - Dissolved	-35	64	140	U	-2.4	6	10	U	18	19	40	U	-2.8	8.8	17	U	11	13	17	U
P-14	77.82'	-46	70	140	U	-9.3	6.7	13	UJ	0.7	20	38	U	-22.4	9.6	15	UJ	20	19	18	
	77.82' - Dissolved	-38	64	130	U	-13.6	6.7	12	UJ	2	20	37	U	-16.2	8.6	15	UJ	-1	12	24	U
	95.17'	-37	67	140	U	4.8	4.9	10	U	-22	23	41	U	-9.8	8.7	16	UJ	-12	11	21	UJ
	95.17' - Dissolved	-55	72	140	U	-8.7	6.2	12	UJ	15	20	40	U	-20.8	8.9	15	UJ	-18	11	19	UJ
P-16	101'	-31	63	140	U	3.6	5.5	11	U	-8	20	42	U	-10.5	8.5	16	UJ	-25	11	19	UJ
	81'	-45	68	150	U	-1.2	6.1	11	U	-43	21	28	UJ	-23.4	8.4	14	UJ	-12	9.4	18	UJ
	81' - Dissolved	-4	77	170	U	5.9	5.2	11	U	-11	24	46	U	-17.5	7.9	14	UJ	-10	11	21	U

* Sampling event October to December 2002
U = Undetected below thespecified reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit.
UJ = The radionuclide was not detected at or above the sample reporting limit, which is approximate.
pCi/L = PicoCuries per liter.
DUP = Duplicate sample.
Depths are presented as feet below ground surface.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Boring/Well No.	Sample Description*	Radiological Results, pCi/L											
		U-234				U-235				U-238			
		Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-2	78.5'	0.36	0.21	0.14	J	0.07	0.11	0.21	U	0.26	0.17	0.14	J
	78.5' - Dissolved	0.15	0.13	0.15	U	0.026	0.066	0.15	U	0.16	0.14	0.18	U
	98.8'	1.24	0.44	0.15		0.032	0.065	0.087	U	1.27	0.44	0.12	
	98.8' - Dissolved	0.17	0.12	0.1	J	0.021	0.054	0.13	U	0.46	0.22	0.16	J
P-6	102.8'	0.71	0.35	0.1	J	0.07	0.13	0.26	U	0.63	0.33	0.1	J
	82.8'	2.69	0.84	0.210		0.14	0.16	0.13	J	2.43	0.78	0.1	
P-6 DUP	102.8'	0.65	0.34	0.18	J	0.14	0.16	0.12	J	0.46	0.28	0.21	J
P-7	102.4'	0.35	0.24	0.1	J	0.048	0.096	0.13	U	0.14	0.16	0.22	U
	102.4' - Dissolved	0.07	0.11	0.18	U	0	0	0.1	U	0.038	0.077	0.1	U
	82.4'	0.12	0.16	0.21	U	0.1	0.16	0.26	U	0.22	0.2	0.12	J
P-11	107.4'	0.35	0.25	0.12	J	0	0	0.1	U	0.39	0.27	0.12	J
	87'	0.18	0.18	0.22	U	0.049	0.098	0.13	U	0.039	0.079	0.11	U

* Sampling event October to December 2002
U = Undetected below thespecified reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit.
UJ = The radionuclide was not detected at or above the sample reporting limit, which is approximate.
`

DUP = Duplicate sample.
Depths are presented as feet below ground surface.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Boring/Well No.	Sample Description*	Radiological Results (pCi/L)											
		Th-228				Th-230				Th-232			
		Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-2	78.5'	0.054	0.098	0.2	U	0.48	0.25	0.21	J	-0.005	0.011	0.13	U
	78.5' - Dissolved	0.18	0.16	0.18	J	0.81	0.37	0.2	J	0.057	0.092	0.15	U
	98.8'	0.15	0.17	0.3	U	0.71	0.34	0.23	J	0	0	0.08	U
	98.8' - Dissolved	0.1	0.12	0.21	U	0.27	0.21	0.3	U	-0.005	0.059	0.21	U
P-6	102.8'	0.08	0.14	0.28	U	0.41	0.22	0.12	J	0.000	0	0.07	U
	82.8'	0.09	0.15	0.3	U	1.16	0.45	0.17	J	0.21	0.17	0.15	J
P-6 DUP	102.8'	0.12	0.18	0.35	U	0.75	0.36	0.09	J	-0.014	0.02	0.19	U
P-7	102.4'	-0.038	0.032	0.24	UJ	0.6	0.3	0.19	J	0.031	0.062	0.084	U
	102.4' - Dissolved	0.04	0.12	0.26	U	0.66	0.3	0.15	J	0.053	0.076	0.072	U
	82.4'	0.02	0.12	0.3	UJ	0.68	0.32	0.17	J	0.03	0.061	0.082	UJ
P-11	107.4'	0.41	0.27	0.34	J	0.33	0.21	0.08	J	0.03	0.06	0.081	U
	87'	0.17	0.19	0.3	U	0.38	0.24	0.19	J	0.059	0.094	0.16	U

* Sampling event October to December 2002
U = Undetected below thespecified reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit.
UJ = The radionuclide was not detected at or above the sample reporting limit, which is approximate.
pCi/L = PicoCuries per liter.
DUP = Duplicate sample.
Depths are presented as feet below ground surface.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Uranium 234				Uranium 235				Uranium 238			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-15(89.65)	5/28/2003	Total	0.06	0.1	0.15	U,J	0	0	0.1	U	0	0	0.07	U
P-15(99.65)	5/28/2003	Total	0.16	0.15	0.14	J	0.033	0.087	0.17	U	0.0532	0.0999	0.16	U
P-17(82.25)	4/24/2003	Total	0.14	0.16	0.13	J	-0.012	0.023	0.28	U,J	0.09	0.13	0.13	U,J
P-17(92.25)	4/25/2003	Total	0.11	0.16	0.28	U,J	0.1	0.16	0.26	U	-0.026	0.031	0.28	U,J
P-18(86.65)	10/4/2003	Total	0.12	0.11	0.07	J	0	0	0.08	U	0.024	0.049	0.066	U
P-18(96.65)	10/5/2003	Total	0.08	0.092	0.072	J	0	0	0.09	U	0.13	0.12	0.07	J
P-20(89.60)	8/4/2003	Total	0.07	0.12	0.19	U,J	0.03	0.086	0.17	U	0.056	0.094	0.14	U
P-20(99.60)	8/5/2003	Dissolved	0.07	0.11	0.16	U,J	0	0	0.2	U	0.009	0.074	0.16	U
P-23(100.1)	6/24/2003	Total	0.07	0.14	0.23	U	0	0	0.2	U	0.016	0.088	0.19	U
P-23(90.1)	6/24/2003	Dissolved	0.33	0.24	0.21	J	0	0	0.2	U	0.06	0.12	0.21	U
P-24(87.35)	6/16/2003	Dissolved	0.07	0.13	0.2	U,J	0	0	0.2	U	0.08	0.12	0.17	U
P-24(97.35)	6/16/2003	Dissolved	0.12	0.14	0.16	U	0	0	0.1	U	0.027	0.07	0.14	U
P-25(89.7)	7/8/2003	Total	0.1	0.11	0.13	U	0.027	0.069	0.16	U	0.1	0.11	0.13	U
P-25(99.7)	7/9/2003	Total	0.09	0.11	0.16	U	0	0	0.09	U	0.23	0.16	0.07	J
P-26(86.8)	5/12/2003	Dissolved	0.027	0.071	0.14	U	0	0	0.2	U	0.16	0.15	0.09	J
P-26(96.8)	5/12/2003	Dissolved	0.07	0.12	0.18	U	0.07	0.12	0.17	U	0.026	0.069	0.13	U
P-27(89.75)	5/3/2003	Total	0.044	0.095	0.16	U	0	0	0.2	U	0.03	0.06	0.081	U
P-27(99.75)	5/3/2003	Total	0.09	0.12	0.16	U	0	0	0.2	U	0.05	0.081	0.12	U
P-28(87.02)	5/3/2003	Dissolved	0.83	0.34	0.16	J	0	0	0.2	U	1.03	0.38	0.09	
P-28(97.02)	5/3/2003	Dissolved	0.24	0.19	0.18	J	0	0	0.1	U	0.38	0.22	0.14	J
P-29(310.2)	9/20/2003	Total	0.08	0.1	0.14	U	0.035	0.071	0.096	U	0.14	0.13	0.14	J
P-29(360.0)	9/21/2003	Total	0.081	0.095	0.073	J	-0.013	0.019	0.19	U	0.048	0.077	0.13	U,J
P-29(390.0)	9/22/2003	Total	0.017	0.087	0.24	U	-0.014	0.02	0.2	U	0.046	0.083	0.16	U,J
P-29(89.5)	9/16/2003	Dissolved	0.13	0.11	0.07	J	0.12	0.12	0.08	J	0.2	0.14	0.07	J
P-29(99.5)	9/16/2003	Dissolved	0.16	0.13	0.07	J	0	0	0.09	U	0.054	0.076	0.073	U
P-30(89.50)	9/30/2003	Dissolved	0.23	0.14	0.06	J	0.035	0.07	0.094	U	0.021	0.042	0.057	U
P-30(99.50)	10/1/2003	Dissolved	0.11	0.11	0.07	J	0	0	0.09	U	0.11	0.11	0.07	J
P-31(89.25)	1/5/2004	Dissolved	0.076	0.099	0.13	U	0.028	0.056	0.076	U	0.053	0.087	0.13	U
P-31(99.25)	1/6/2004	Dissolved	0.04	0.067	0.099	U	0.07	0.1	0.14	U	0.052	0.086	0.13	U

U = Undetected below thespecified reporting limit.
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pCi/L = PicoCuries per liter.
Depths are presented as feet below ground surface.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Uranium 234				Uranium 235				Uranium 238			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-32 (89.35)	2/9/2004	Dissolved	0.12	0.13	0.16	U	0	0	0.2	U	0.073	0.085	0.066	J
P-32 (99.35)	2/9/2004	Dissolved	0.07	0.1	0.14	U	0.028	0.056	0.076	U	0.068	0.078	0.061	J
P-33 (89.6)	12/5/2003	Dissolved	0.28	0.21	0.19	J	0	0	0.2	U	0.06	0.11	0.16	U
P-33 (99.6)	12/6/2003	Dissolved	0.032	0.08	0.14	U	0	0	0.1	U	0	0	0.1	U
P-34 (89.55)	11/21/2003	Total	0.1	0.11	0.14	U	0	0	0.1	U	0.041	0.07	0.1	UJ
P-34 (99.55)	11/22/2003	Total	0	0	0.2	U	0.046	0.078	0.12	U	0.054	0.079	0.11	UJ
P-35 (87.2)	7/9/2003	Total	1.9	0.59	0.15		0.09	0.12	0.19	U	1.43	0.48	0.18	
P-35 (97.2)	7/9/2003	Total	1.04	0.38	0.12		0.055	0.088	0.15	U	0.84	0.33	0.07	J
P-36 (86.7)	8/19/2003	Dissolved	0.07	0.11	0.15	U	0	0	0.1	U	0	0	0.1	U
P-36 (96.7)	8/19/2003	Dissolved	0.11	0.11	0.07	J	0.033	0.066	0.089	U	0.021	0.059	0.12	U
P-37 (89.95)	8/19/2003	Dissolved	0.02	0.12	0.2	U	0	0	0.2	U	0	0	0.3	U
P-37 (99.95)	8/19/2003	Dissolved	0.12	0.14	0.17	U	0	0	0.2	U	0	0	0.2	U
P-38 (86.7)	9/17/2003	Dissolved	0.052	0.073	0.07	U,J	0.032	0.064	0.086	U	0.13	0.12	0.07	J
P-38 (96.8)	9/17/2003	Dissolved	0.024	0.048	0.065	U,J	0	0	0.08	U	0.024	0.048	0.065	U
P-42 (89.6)	7/23/2003	Total	0.11	0.18	0.27	U,J	0	0	0.3	U,J	0.03	0.11	0.24	U,J
P-42 (99.6)	7/23/2003	Total	0.19	0.22	0.27	U,J	0	0	0.3	U,J	0	0	0.2	U,J
P-43 (89.88)	9/9/2003	Total	0.051	0.086	0.13	U	0.035	0.071	0.096	U	0.016	0.069	0.15	U
P-43 (99.88)	9/10/2003	Dissolved	0.08	0.13	0.19	U	0	0	0.2	U	0	0	0.2	U
P-44 (89.8)	9/2/2003	Dissolved	0.025	0.064	0.15	U	-0.015	0.022	0.22	U	0.16	0.14	0.08	J
P-44 (99.3)	9/3/2003	Dissolved	0.12	0.16	0.21	U	0	0	0.3	U	0	0	0.3	U
P-45 (81.25)	8/4/2003	Total	0	0	0.2	U,J	0	0	0.1	U	0.024	0.068	0.14	U
P-45 (91.25)	8/5/2003	Dissolved	0.06	0.1	0.15	U,J	0.0593	0.0998	0.15	U	0.015	0.065	0.14	U
P-46 (307.69)	8/24/2003	Dissolved	0.01	0.13	0.23	U	0	0	0.3	U	0	0	0.3	U
P-46 (330.21)	8/26/2003	Dissolved	0	0	0.2	U	0	0	0.2	U	0	0	0.2	U
P-46 (389.28)	9/3/2003	Total	0.006	0.06	0.19	U	-0.007	0.014	0.16	U	0.038	0.08	0.17	U,J
P-46 (89.60)	8/19/2003	Total	0.02	0.12	0.22	U	0	0	0.3	U	0	0	0.3	U
P-46 (99.60)	8/20/2003	Dissolved	0	0	0.4	U	0	0	0.5	U	0	0	0.4	U
P-47 (87.08)	9/4/2003	Total	0.08	0.1	0.16	U	0	0	0.1	U	0.058	0.083	0.079	U,J
P-47 (97.1)	9/4/2003	Total	0.21	0.2	0.24	U	0	0	0.3	U	0.08	0.22	0.34	U
P-49 (84.25)	10/21/2003	Dissolved	0.14	0.12	0.12	J	0.02	0.058	0.12	U	0.17	0.14	0.13	J
P-49 (94.3)	10/22/2003	Dissolved	0.16	0.13	0.11	J	0.047	0.079	0.12	U	0.09	0.1	0.12	U,J
P-50 (89.90)	10/21/2003	Dissolved	0.14	0.12	0.11	J	0.021	0.06	0.12	U	0.029	0.072	0.13	U,J
P-50 (99.90)	10/22/2003	Dissolved	0.16	0.12	0.12	J	0.013	0.058	0.12	U	0.094	0.09	0.087	J

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Uranium 234				Uranium 235				Uranium 238			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-51 (87.78)	10/22/2003	Dissolved	0.12	0.12	0.15	U,J	0.052	0.074	0.071	U	0.17	0.12	0.06	J
P-51 (97.78)	10/22/2003	Dissolved	0.15	0.12	0.12	J	0	0	0.1	U	0.039	0.084	0.14	U,J
P-52 (100.0)	11/5/2003	Total	0.095	0.097	0.064	J	0	0	0.08	U	0.18	0.14	0.11	J
P-52 (90.0)	11/5/2003	Total	0.19	0.15	0.07	J	-0.013	0.019	0.19	U	0.11	0.11	0.07	J
P-53 (86.40)	11/18/2003	Total	0.078	0.089	0.12	UJ	0.048	0.077	0.13	U	0.15	0.12	0.1	J
P-53 (96.40)	11/20/2003	Total	0.2	0.17	0.18	J	0.038	0.077	0.1	U	0.08	0.12	0.16	UJ
P-54 (87.55)	11/4/2003	Dissolved	0.067	0.092	0.15	U	0.019	0.066	0.18	U	-0.005	0.01	0.12	U
P-54 (97.55)	11/5/2003	Dissolved	0.18	0.14	0.15	J	-0.006	0.012	0.14	U	0.12	0.11	0.07	J
P-55 (84.10)	1/11/2004	Total	0.07	0.083	0.1	U	0	0	0.07	U	0.035	0.059	0.087	U
P-55 (94.55)	1/11/2004	Total	0	0	0.1	U	0.047	0.08	0.12	U	0.017	0.048	0.096	U
P-56 (86.55)	1/21/2004	Total	0.13	0.12	0.15	U	0.03	0.06	0.081	U	0.005	0.052	0.17	U
P-56 (96.55)	1/21/2004	Total	0.037	0.092	0.21	U	0.008	0.083	0.26	U	0.09	0.11	0.08	J
P-58 (304.65)	11/7/2003	Dissolved	0.063	0.093	0.13	UJ	0	0	0.2	U	0.09	0.13	0.17	U
P-58 (402.40)	11/9/2003	Dissolved	0.11	0.12	0.15	UJ	0	0	0.2	U	0.17	0.14	0.11	J
P-58 (432.05)	11/10/2003	Total	0.09	0.11	0.14	UJ	0	0	0.2	U	0.14	0.14	0.16	U
P-58 (89.65)	11/4/2003	Dissolved	0.14	0.13	0.08	J	0.069	0.098	0.093	U	0.17	0.14	0.08	J
P-58 (99.65)	11/4/2003	Dissolved	0.17	0.12	0.09	J	0.024	0.048	0.064	U	0.015	0.039	0.092	U
P-C (89.60)	6/10/2003	Total	-0.007	0.013	0.16	U	-0.008	0.016	0.19	U	0.065	0.093	0.088	U
P-C (99.60)	6/10/2003	Dissolved	-0.021	0.025	0.22	U	0.035	0.089	0.21	U	0	0	0.1	U
P-D (87.05)	5/27/2003	Total	0.12	0.14	0.11	J	0.05	0.1	0.14	U,J	0.28	0.22	0.17	J
P-D (97.05)	5/28/2003	Dissolved	0.0008	0.16	0.31	U,J	0	0	0.3	U	0.16	0.2	0.25	U
P-E (88.57)	5/15/2003	Total	0.15	0.17	0.22	U	0.08	0.16	0.25	U	0.12	0.16	0.21	U
P-E (98.57)	5/15/2003	Dissolved	0.08	0.092	0.072	J	0.1	0.11	0.09	J	0.13	0.12	0.11	J
P-F (86.48)	4/28/2003	Dissolved	0.08	0.12	0.21	U,J	0	0	0.1	U	0.13	0.15	0.12	J
P-F (96.48)	4/29/2003	Dissolved	0.28	0.24	0.3	U,J	0.0496	0.0998	0.13	U,J	0.04	0.081	0.11	U
P-H (86.8)	7/21/2003	Dissolved	0.12	0.28	0.43	U	0	0	0.3	U	0.17	0.23	0.31	U
P-H (96.8)	7/22/2003	Total	0.09	0.13	0.18	U	0.033	0.094	0.19	U	0.1	0.16	0.23	U

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Thorium 228				Thorium 230				Thorium 232			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-15 (89.65)	5/28/2003	Total	0.048	0.086	0.18	U	0.33	0.19	0.11	J	0	0	0.06	U
P-15 (99.65)	5/28/2003	Total	0.07	0.14	0.3	U	0.42	0.25	0.16	J	0.059	0.094	0.16	U
P-17 (82.25)	4/24/2003	Total	0.16	0.14	0.13	J	0.55	0.28	0.16	J	0.017	0.058	0.16	U
P-17 (92.25)	4/25/2003	Total	0.06	0.12	0.26	U	0.71	0.31	0.15	J	0.021	0.053	0.12	U
P-18 (86.65)	10/4/2003	Total	0.32	0.19	0.08	J	0.43	0.23	0.08	J	0.029	0.058	0.078	U
P-18 (96.65)	10/5/2003	Total	0.19	0.14	0.07	J	0.75	0.29	0.07	J	0	0	0.07	U
P-20 (89.60)	8/4/2003	Total	0.09	0.11	0.19	U,J	0.18	0.15	0.16	J	0.028	0.056	0.075	U
P-20 (99.60)	8/5/2003	Dissolved	0.017	0.058	0.16	U,J	0.51	0.27	0.18	J	0.017	0.058	0.16	U
P-23 (100.1)	6/24/2003	Total	0.09	0.15	0.3	U	0.37	0.22	0.14	J	0.08	0.1	0.14	U,J
P-23 (90.1)	6/24/2003	Dissolved	0.12	0.14	0.22	U	0.78	0.37	0.16	J	0.14	0.14	0.09	J
P-24 (87.35)	6/16/2003	Dissolved	0.06	0.16	0.38	U	0.37	0.23	0.15	J	-0.019	0.022	0.2	U
P-24 (97.35)	6/16/2003	Dissolved	0.09	0.12	0.16	U	0.59	0.3	0.09	J	0.065	0.093	0.088	U
P-25 (89.7)	7/8/2003	Total	0.006	0.066	0.21	U	0.24	0.18	0.08	J		0.028	0.22	R
P-25 (99.7)	7/9/2003	Total	0.027	0.07	0.16	U	0.16	0.16	0.16	J	-0.007	0.014	0.16	U
P-26 (86.8)	5/12/2003	Dissolved	0.057	0.081	0.077	U,J	0.57	0.28	0.08	J	0	0	0.08	U
P-26 (96.8)	5/12/2003	Dissolved	0.21	0.16	0.07	J	0.58	0.28	0.15	J	-0.005	0.011	0.13	U
P-27 (89.75)	5/3/2003	Total	0.09	0.14	0.28	U,J	0.23	0.18	0.17	J	0.06	0.085	0.081	U
P-27 (99.75)	5/3/2003	Total	0.19	0.16	0.2	U,J	0.47	0.25	0.19	J	0.022	0.055	0.13	U
P-28 (87.02)	5/3/2003	Dissolved	0.029	0.059	0.079	U,J	0.63	0.3	0.16	J	0.029	0.058	0.079	U
P-28 (97.02)	5/3/2003	Dissolved	0.11	0.12	0.17	U,J	0.68	0.32	0.14	J	-0.006	0.012	0.14	U
P-29 (310.2)	9/20/2003	Total	0.066	0.098	0.17	U	0.13	0.13	0.13	J	0.044	0.08	0.16	U
P-29 (360.0)	9/21/2003	Total	0.054	0.086	0.14	U	0.53	0.28	0.14	J	0.03	0.06	0.081	U
P-29 (390.0)	9/22/2003	Total	0.05	0.11	0.23	U,J	0.8	0.31	0.13	J	0.059	0.08	0.13	U
P-29 (89.5)	9/16/2003	Dissolved	0.051	0.092	0.19	U	0.28	0.18	0.07	J	0	0	0.07	U
P-29 (99.5)	9/16/2003	Dissolved	0.1	0.14	0.24	U	0.72	0.34	0.09	J	-0.007	0.013	0.16	U
P-30 (89.50)	9/30/2003	Dissolved	0.022	0.084	0.22	U	0.36	0.21	0.08	J	0	0	0.08	U
P-30 (99.50)	10/1/2003	Dissolved	0.026	0.076	0.19	U	0.33	0.2	0.07	J	0.02	0.052	0.12	U
P-31 (89.25)	1/5/2004	Dissolved	0.07	0.17	0.26	U	0.15	0.13	0.14	J	0	0	0.1	U
P-31 (99.25)	1/6/2004	Dissolved	0	0	0.3	U	0.11	0.11	0.11	J	0.037	0.075	0.12	U
P-32 (89.35)	2/9/2004	Dissolved	-0.08	0.11	0.38	U	0.28	0.21	0.28	U	0.1	0.15	0.3	U
P-32 (99.35)	2/9/2004	Dissolved	0.049	0.098	0.21	U	0.15	0.14	0.15	U	0.016	0.056	0.15	U
P-33 (89.6)	12/5/2003	Dissolved	0.04	0.1	0.24	U	0.36	0.22	0.16	J	-0.011	0.016	0.16	U
P-33 (99.6)	12/6/2003	Dissolved	-0.013	0.083	0.25	U	0.54	0.24	0.06	J	0.004	0.047	0.15	U

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Thorium 228				Thorium 230				Thorium 232			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-34 (89.55)	11/21/2003	Total	-0.11	0.13	0.45	U	0.27	0.19	0.15	J	0.018	0.063	0.17	U
P-34 (99.55)	11/22/2003	Total	-0.029	0.069	0.27	U	0.06	0.1	0.2	UJ	-0.012	0.016	0.16	U
P-35 (87.2)	7/9/2003	Total	0.08	0.11	0.23	U	0.75	0.3	0.13	J	0.022	0.045	0.06	U
P-35 (97.2)	7/9/2003	Total	0.1	0.12	0.09	J	0.19	0.17	0.16	J	0.033	0.067	0.09	U
P-36 (86.7)	8/19/2003	Dissolved	0.1	0.21	0.46	U	0.42	0.25	0.18	J	0.031	0.062	0.084	U
P-36 (96.7)	8/19/2003	Dissolved	0.11	0.13	0.22	U	0.22	0.17	0.08	J	0	0	0.08	U
P-37 (89.95)	8/19/2003	Dissolved	0.2	0.15	0.17	J	0.38	0.21	0.12	J	0.068	0.085	0.12	U
P-37 (99.95)	8/19/2003	Dissolved		0.033	R		0.62	0.31	0.09	J	0	0	0.09	U
P-38 (86.7)	9/17/2003	Dissolved	0.027	0.08	0.2	U	0.18	0.15	0.15	J	0.016	0.056	0.15	U
P-38 (96.8)	9/17/2003	Dissolved	0.04	0.084	0.18	U	0.26	0.19	0.21	J	-0.011	0.016	0.16	U
P-42 (89.6)	7/23/2003	Total	-0.00001	0.059	0.2	U	0.29	0.19	0.07	J	-0.005	0.011	0.13	U
P-42 (99.6)	7/23/2003	Total	-0.015	0.059	0.22	U	0.16	0.14	0.18	U,J	0	0	0.07	U
P-43 (89.88)	9/9/2003	Total	0.17	0.15	0.15	J	0.41	0.25	0.23	J	0	0	0.4	U
P-43 (99.88)	9/10/2003	Dissolved	0.037	0.091	0.16	U,J	0.45	0.24	0.17	J	0	0	0.2	U
P-44 (89.8)	9/2/2003	Dissolved	0.016	0.057	0.15	U	0.2	0.16	0.17	J	-0.011	0.016	0.15	U
P-44 (99.3)	9/3/2003	Dissolved	-0.04	0.15	0.56	U,J	0.66	0.47	0.48	J	0.05	0.13	0.31	U,J
P-45 (81.25)	8/4/2003	Total	0.017	0.061	0.16	U,J	0.29	0.19	0.14	J	-0.006	0.012	0.14	U
P-45 (91.25)	8/5/2003	Dissolved	0.16	0.17	0.27	U,J	0.18	0.17	0.23	U,J	0.024	0.062	0.15	U
P-46 (307.69)	8/24/2003	Dissolved	-0.01	0.13	0.35	U	1.16	0.44	0.14	J	0	0	0.08	U
P-46 (330.21)	8/26/2003	Dissolved	0.066	0.098	0.17	U	1.02	0.4	0.13	J	-0.006	0.011	0.13	U
P-46 (389.28)	9/3/2003	Total	0.04	0.2	0.49	U	0.39	0.25	0.19	J	0.1	0.12	0.09	J
P-46 (89.60)	8/19/2003	Total	-0.05	0.14	0.41	U	0.26	0.18	0.18	J	0	0	0.07	U
P-46 (99.60)	8/20/2003	Dissolved	0.04	0.13	0.32	U	0.48	0.26	0.14	J	0.024	0.062	0.14	U
P-47 (87.08)	9/4/2003	Total	0.05	0.11	0.23	U	0.36	0.22	0.08	J	0.03	0.06	0.081	U
P-47 (97.1)	9/4/2003	Total	0.14	0.15	0.19	U,J	0.51	0.26	0.23	J	0	0	0.3	U
P-49 (84.25)	10/21/2003	Dissolved	0.1	0.18	0.26	U	0.67	0.29	0.19	J	0	0	0.1	U
P-49 (94.3)	10/22/2003	Dissolved	0.21	0.22	0.28	U	0.62	0.26	0.15	J	0.008	0.061	0.14	U
P-50 (89.90)	10/21/2003	Dissolved	0	0	0.3	U	0.66	0.28	0.12	J	0.021	0.061	0.12	U
P-50 (99.90)	10/22/2003	Dissolved	0.06	0.12	0.19	U	0.28	0.19	0.08	J	0	0	0.1	U
P-51 (87.78)	10/22/2003	Dissolved	0.08	0.19	0.29	U	0.63	0.27	0.14	J	0	0	0.2	U
P-51 (97.78)	10/22/2003	Dissolved	0.04	0.13	0.21	U	0.32	0.18	0.11	J	0.069	0.09	0.11	U
P-52 (100.0)	11/5/2003	Total	0.21	0.17	0.21	J	0.27	0.18	0.13	J	0.055	0.078	0.074	U
P-52 (90.0)	11/5/2003	Total	0.006	0.062	0.2	U	0.26	0.18	0.08	J	0.029	0.058	0.078	U
P-53 (86.40)	11/18/2003	Total	0.14	0.17	0.3	U	0.51	0.27	0.25	J	0.01	0.11	0.29	U
P-53 (96.40)	11/20/2003	Total	0.17	0.19	0.34	U	0.38	0.23	0.18	J	0.11	0.12	0.14	U
P-54 (87.55)	11/4/2003	Dissolved	0.09	0.11	0.17	U	0.36	0.21	0.13	J	0.016	0.054	0.15	U
P-54 (97.55)	11/5/2003	Dissolved	0.031	0.077	0.18	U	0.18	0.14	0.12	J	-0.01	0.015	0.15	U

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pCi/L = PicoCuries per liter.
Depths are presented as feet below ground surface.

Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results (pCi/L)											
			Thorium 228				Thorium 230				Thorium 232			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-55 (84.10)	1/11/2004	Total	0	0	0.2	U	0.21	0.14	0.11	J	0.007	0.057	0.12	U
P-55 (94.55)	1/11/2004	Total	0.14	0.19	0.26	U	0.09	0.11	0.14	J	0.015	0.064	0.14	U
P-56 (86.55)	1/21/2004	Total	0.1	0.18	0.39	U	0.27	0.21	0.3	J	-0.078	0.043	0.28	R
P-56 (96.55)	1/21/2004	Total	0.13	0.14	0.23	U	0.31	0.2	0.14	J	0.011	0.06	0.18	U
P-58 (304.65)	11/7/2003	Dissolved	0.012	0.065	0.19	U	0.39	0.24	0.15	J	0.018	0.064	0.17	U
P-58 (402.40)	11/9/2003	Dissolved	0.09	0.12	0.19	U	0.23	0.17	0.08	J	0.028	0.057	0.076	U
P-58 (432.05)	11/10/2003	Total	0.05	0.11	0.24	U	0.21	0.17	0.08	J	0.03	0.061	0.082	U
P-58 (89.65)	11/4/2003	Dissolved	0.24	0.2	0.31	U	0.17	0.14	0.15	J	0.13	0.12	0.12	J
P-58 (99.65)	11/4/2003	Dissolved	0.03	0.14	0.36	U	0.25	0.17	0.07	J	0.016	0.057	0.15	U
P-C (89.60)	6/10/2003	Total	0.09	0.11	0.15	U	0.58	0.29	0.08	J	0.09	0.11	0.08	J
P-C (99.60)	6/10/2003	Dissolved	0.04	0.072	0.14	U	0.37	0.21	0.07	J	0	0	0.07	U,J
P-D (87.05)	5/27/2003	Total	0.17	0.19	0.32	U	0.41	0.26	0.2	J	0.0699	0.0999	0.095	U
P-D (97.05)	5/28/2003	Dissolved	0.077	0.091	0.07	J	0.12	0.12	0.15	U,J	0.026	0.052	0.07	U
P-E (88.57)	5/15/2003	Total	-0.067	0.089	0.33	U,J	0.25	0.17	0.12	J	-0.005	0.01	0.12	U
P-E (98.57)	5/15/2003	Dissolved	0.12	0.12	0.08	J	0.29	0.2	0.08	J	0.09	0.1	0.08	J
P-F (86.48)	4/28/2003	Dissolved	0.028	0.056	0.076	U	0.67	0.31	0.13	J	0.028	0.056	0.076	U
P-F (96.48)	4/29/2003	Dissolved	0.1	0.14	0.26	U	0.36	0.22	0.15	J	0	0	0.08	U
P-H (86.8)	7/21/2003	Dissolved	0.1	0.12	0.19	U	0.43	0.23	0.07	J	-0.005	0.01	0.12	U
P-H (96.8)	7/22/2003	Total	0.1	0.12	0.18	U	0.45	0.25	0.14	J	0.028	0.057	0.077	U

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results pCi/L							
			Radium 226				Radium 228			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-15 (89.65)	5/28/2003	Total	0.39	0.2	0.25	J	0.72	0.45	0.7	J
P-15 (99.65)	5/28/2003	Total	0.24	0.2	0.29	U	0.15	0.57	0.96	U
P-17 (82.25)	4/24/2003	Total	-0.09	0.16	0.33	U	0.41	0.49	0.8	U,J
P-17 (92.25)	4/25/2003	Total	0.13	0.12	0.19	U	-0.13	0.38	0.66	U,J
P-18 (86.65)	10/4/2003	Total	0.34	0.1	0.08	J	0.46	0.38	0.6	U
P-18 (96.65)	10/5/2003	Total	0.42	0.14	0.14	J	0.7	0.43	0.67	J
P-20 (89.60)	8/4/2003	Total	0.87	0.3	0.28	J	2.17	0.58	0.75	
P-20 (99.60)	8/5/2003	Dissolved	0.15	0.18	0.28	U,J	0.43	0.36	0.58	U
P-23 (100.1)	6/24/2003	Total	0.16	0.16	0.24	U	0.35	0.53	0.88	U
P-23 (90.1)	6/24/2003	Dissolved	0.5	0.24	0.29	J	0.3	0.51	0.85	U
P-24 (87.35)	6/16/2003	Dissolved	0.3	0.22	0.31	U	0.59	0.7	1.1	U
P-24 (97.35)	6/16/2003	Dissolved	0.22	0.2	0.29	U	0.57	0.6	0.98	U
P-25 (89.7)	7/8/2003	Total	0.26	0.17	0.23	J	0.41	0.41	0.66	U
P-25 (99.7)	7/9/2003	Total	0.85	0.25	0.2	J	1.1	0.46	0.68	
P-26 (86.8)	5/12/2003	Dissolved	0.41	0.24	0.3	J	0.85	0.52	0.82	J
P-26 (96.8)	5/12/2003	Dissolved	1.18	0.29	0.19	J	1	0.39	0.56	J
P-27 (89.75)	5/3/2003	Total	0.34	0.18	0.22	J	0.19	0.41	0.69	U
P-27 (99.75)	5/3/2003	Total	0.4	0.26	0.36	J	0.48	0.54	0.88	U
P-28 (87.02)	5/3/2003	Dissolved	0.09	0.12	0.2	U	0.06	0.37	0.63	U
P-28 (97.02)	5/3/2003	Dissolved	-0.003	0.087	0.18	U	-0.07	0.41	0.71	U
P-29 (310.2)	9/20/2003	Total	0.87	0.27	0.22	J	1.18	0.62	0.94	
P-29 (360.0)	9/21/2003	Total	0.21	0.15	0.2	J	0.61	0.69	1.1	U
P-29 (390.0)	9/22/2003	Total	0.29	0.16	0.19	J	0.72	0.59	0.95	U
P-29 (89.5)	9/16/2003	Dissolved	0.18	0.23	0.37	U	1.15	0.67	1	J
P-29 (99.5)	9/16/2003	Dissolved	0.42	0.2	0.22	J	0.49	0.45	0.73	U,J
P-30 (89.50)	9/30/2003	Dissolved	0.67	0.22	0.18	J	0.83	0.43	0.66	J

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results pCi/L							
			Radium 226				Radium 228			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-30 (99.50)	10/1/2003	Dissolved	0.26	0.2	0.29	U,J	0.41	0.4	0.64	U
P-31 (89.25)	1/5/2004	Dissolved	1.5	0.57	0.82		1.05	0.28	0.22	
P-31 (99.25)	1/6/2004	Dissolved	1.247	0.53	0.78		0.82	0.22	0.19	J
P-32 (89.35)	2/9/2004	Dissolved	0.18	0.15	0.22	U	0.24	0.42	0.69	U
P-32 (99.35)	2/9/2004	Dissolved	0.76	0.24	0.22	J	0.79	0.43	0.65	J
P-33 (89.6)	12/5/2003	Dissolved	0.32	0.18	0.23	J	1.12	0.65	1	
P-33 (99.6)	12/6/2003	Dissolved	0.19	0.16	0.23	UJ	0.04	0.42	0.71	U
P-34 (89.55)	11/21/2003	Total	0.46	0.23	0.27	J	0.32	0.61	1	U
P-34 (99.55)	11/22/2003	Total	0.06	0.18	0.33	U	0.65	0.53	0.85	U
P-35 (87.2)	7/9/2003	Total	0.46	0.2	0.21	J	0.06	0.5	0.85	U
P-35 (97.2)	7/9/2003	Total	0.1	0.11	0.18	U	0.64	0.46	0.72	U
P-36 (86.7)	8/19/2003	Dissolved	0.32	0.22	0.31	J	0.2	0.47	0.79	U
P-36 (96.7)	8/19/2003	Dissolved	0.32	0.21	0.28	J	0.48	0.45	0.72	U
P-37 (89.95)	8/19/2003	Dissolved	0.17	0.16	0.24	U,J	0.14	0.44	0.74	U
P-37 (99.95)	8/19/2003	Dissolved	0.31	0.21	0.28	J	0.87	0.45	0.69	J
P-38 (86.7)	9/17/2003	Dissolved	0.24	0.15	0.19	J	0.9	0.48	0.74	J
P-38 (96.8)	9/17/2003	Dissolved	0.71	0.24	0.21	J	0.76	0.46	0.71	J
P-42 (89.6)	7/23/2003	Total	0.37	0.22	0.3	J	0.33	0.55	0.91	U
P-42 (99.6)	7/23/2003	Total	0.17	0.16	0.25	U,J	0.18	0.38	0.63	U
P-43 (89.88)	9/9/2003	Total	0.3	0.2	0.27	J	0.37	0.6	0.99	U
P-43 (99.88)	9/10/2003	Dissolved	0.29	0.16	0.18	J	0.01	0.44	0.75	U
P-44 (89.8)	9/2/2003	Dissolved	0.25	0.21	0.31	U,J	0.52	0.48	0.77	U
P-44 (99.3)	9/3/2003	Dissolved	0.24	0.15	0.2	J	0.43	0.36	0.58	U
P-45 (81.25)	8/4/2003	Total	0.08	0.15	0.25	U,J	-0.28	0.57	0.98	U
P-45 (91.25)	8/5/2003	Dissolved	0.21	0.14	0.18	J	0.39	0.38	0.62	U
P-46 (307.69)	8/24/2003	Dissolved	2.44	0.5	0.33	J	2.84	0.67	0.83	
P-46 (330.21)	8/26/2003	Dissolved	1.22	0.32	0.26	J	1.18	0.48	0.71	
P-46 (389.28)	9/3/2003	Total	6.4	0.87	0.18	J	2.51	0.51	0.57	
P-46 (89.60)	8/19/2003	Total	0.35	0.19	0.22	J	0.31	0.44	0.73	U
P-46 (99.60)	8/20/2003	Dissolved	0.25	0.19	0.26	U,J	0.18	0.47	0.78	U
P-47 (87.08)	9/4/2003	Total	0.51	0.24	0.26	J	1.58	0.65	0.95	J
P-47 (97.1)	9/4/2003	Total	0.67	0.13	0.26	J	1.3	3.1	5.1	U
P-49 (84.25)	10/21/2003	Dissolved	0.04	0.13	0.24	U,J	0.15	0.43	0.73	U
P-49 (94.3)	10/22/2003	Dissolved	0.17	0.14	0.2	U,J	0.68	0.41	0.63	J
P-50 (89.90)	10/21/2003	Dissolved	0.09	0.19	0.34	U,J	-0.08	0.53	0.91	U

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Table 4-4
Radionuclide Data - Groundwater Profiles
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Sample ID (depth)	Sample Date	Sample Description	Radiological Results pCi/L							
			Radium 226				Radium 228			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
P-50 (99.90)	10/22/2003	Dissolved	0.07	0.17	0.3	U,J	0.28	0.38	0.62	U
P-51 (87.78)	10/22/2003	Dissolved	0.19	0.2	0.31	U,J	0.3	0.66	1.1	U
P-51 (97.78)	10/22/2003	Dissolved	0.33	0.17	0.21	J	0.96	0.41	0.61	J
P-52 (100.0)	11/5/2003	Total	0.29	0.17	0.21	J	1.02	0.55	0.84	J
P-52 (90.0)	11/5/2003	Total	0.3	0.19	0.26	J	0.38	0.53	0.87	UJ
P-53 (86.40)	11/18/2003	Total	0.67	0.26	0.28	J	0.2	0.52	0.86	U
P-53 (96.40)	11/20/2003	Total	0.73	0.25	0.21	J	0.45	0.55	0.9	U
P-54 (87.55)	11/4/2003	Dissolved	0.4	0.21	0.26	J	0.22	0.49	0.82	UJ
P-54 (97.55)	11/5/2003	Dissolved	0.09	0.19	0.33	UJ	0.74	0.63	1	UJ
P-55 (84.10)	1/11/2004	Total	0.13	0.51	0.85	U	0.2	0.13	0.18	J
P-55 (94.55)	1/11/2004	Total	0.21	0.5	0.83	U	0.069	0.092	0.15	U
P-56 (86.55)	1/21/2004	Total	0.14	0.11	0.15	U	0.43	0.65	1.1	J
P-56 (96.55)	1/21/2004	Total	0.125	0.087	0.12	J	0.73	0.69	1.1	J
P-58 (304.65)	11/7/2003	Dissolved	1.89	0.42	0.22	J	1.86	0.58	0.79	
P-58 (402.40)	11/9/2003	Dissolved	0.99	0.29	0.22	J	0.65	0.47	0.75	U
P-58 (432.05)	11/10/2003	Total	1.91	0.41	0.22	J	1.14	0.52	0.79	
P-58 (89.65)	11/4/2003	Dissolved	0.59	0.24	0.25	J	0.65	0.56	0.9	UJ
P-58 (99.65)	11/4/2003	Dissolved	0.35	0.2	0.25	J	0.59	0.56	0.91	UJ
P-C (89.60)	6/10/2003	Total	0.13	0.13	0.2	U	0.29	0.79	1.3	J
P-C (99.60)	6/10/2003	Dissolved	0.03	0.11	0.21	U	-0.03	0.77	1.3	J
P-D (87.05)	5/27/2003	Total	0.14	0.15	0.24	U	0.48	0.41	0.65	U
P-D (97.05)	5/28/2003	Dissolved	0.07	0.16	0.29	U	0.44	0.44	0.71	U
P-E (88.57)	5/15/2003	Total	0.24	0.25	0.39	U	0.23	0.52	0.86	U
P-E (98.57)	5/15/2003	Dissolved	0.06	0.19	0.35	U	0.19	0.66	1.1	U
P-F (86.48)	4/28/2003	Dissolved	0.01	0.13	0.24	U	0.46	0.47	0.76	U,J
P-F (96.48)	4/29/2003	Dissolved	0.21	0.22	0.34	U	0.35	0.46	0.75	U
P-H (86.8)	7/21/2003	Dissolved	0.15	0.16	0.24	U,J	0.64	0.41	0.64	U
P-H (96.8)	7/22/2003	Total	0.21	0.17	0.24	U,J	0.4	0.38	0.62	U

U = Undetected below thespecified reporting limit.
J = The result is an estimated concentration because the result was below the sample reporting limit.
UJ = The radionuclide was not detected at or above the sample reporting limit, which is approximate.
pCi/L = PicoCuries per liter.
Depths are presented as feet below ground surface.

Table 4-5
Radionuclide Data - On Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Well ID	Sample Description	Radiological Results (pCi/L)																			
		K-40				Cs-137				Ac-228				Pb-212				Pb-214			
		Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
EB-101302		-44	72	150	U	-6.2	5.5	11	UJ	15	21	43	U	-14.3	7.7	14	UJ	-20	9.4	17	UJ
MW-1	total	-116	65	120	UJ	0.8	5.3	10	U	4	20	39	U	-3.8	8	16	U	-16	11	19	UJ
MW-2	total	-63	64	130	U	-11.2	6.6	12	UJ	18	20	42	U	-9	8	16	UJ	-15	10	18	UJ
MW-3	total	-44	68	140	U	-10.3	6	12	UJ	-0.2	20	37	U	-16.7	8.9	16	UJ	-8	11	20	U
MW-4	total	-90	67	120	UJ	-5.5	4.7	9	UJ	3	19	37	U	-16.9	7.3	13	UJ	-12.3	9.8	19	UJ
MW-5	total	-51	74	160	U	-10.6	6	11	UJ	19	22	42	U	-14.2	8.5	15	UJ	-9	10	20	U
MW-6	total	-85	74	150	UJ	-9.5	5.8	10	UJ	-5	20	37	U	-13.7	7.9	14	UJ	-24	9.9	17	UJ
MW-7	total	-9	74	160	U	3.2	5.9	11	U	23	23	46	U	-11	8	15	UJ	-11	10	20	UJ
MW-8	total	-49	61	130	U	-14.6	6.5	12	UJ	5	20	38	U	-22.8	9.2	15	UJ	-4	11	21	U
MW-8 DUP	total	-24	61	140	U	1	4.8	9.4	U	-18	19	37	U	-15.9	7.8	14	UJ	-19	11	20	UJ
MW-9	total	-8	70	150	U	-9.1	4.9	8.2	UJ	7	17	35	U	-12.1	8.1	15	UJ	-17.3	9.5	17	UJ
MW-10	total	-55	65	130	U	-8.8	6	12	UJ	-3	19	35	U	-18.1	8.5	15	UJ	-9	11	21	U
MW-11	total	-114	63	110	UJ	0.6	7	15	U	2	21	40	U	-17.1	8.8	16	UJ	-10	11	20	U
MW-12	total	-22	71	150	U	-5.6	5.6	10	U	22	22	45	U	-19.4	8.1	14	UJ	-17	10	19	UJ

U = Undetected below the specified reporting limit.

J = The result is an estimated concentration because result below sample reporting limit.

EB = Equipment blank sample

DUP = Duplicate sample

UJ = The radionuclide was not detected at or above the sample reporting limit,approximate.

pCi/L = Picocuries per liter.

Table 4-5
Radionuclide Data - On Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Well ID	Sample Description	Date Sampled	Radiological Results (pCi/L)											
			Th-228				Th-230				Th-232			
			Result	Uncertainty	MDC	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
MW-1	Total	3/15/2003	0.0	0.0	0.07	U	0.56	0.27	0.16	J	0.021	0.053	0.12	U
MW-2	Total	3/15/2003	0.1	0.1	0.12	U	0.72	0.31	0.12	J	0.3	0.18	0.12	J
MW-3	Total	3/16/2003	0.09	0.14	0.27	U	1.86	0.6	0.18	J	-0.006	0.012	0.14	U
MW-4	Total	3/16/2003	-0.05	0.11	0.39	U	2.0	0.67	0.2	J	0.14	0.14	0.09	J
MW-5	Total	3/15/2003	0.07	0.13	0.28	U	0.54	0.27	0.08	J	0.028	0.057	0.076	U
MW-6	Total	3/16/2003	0.07	0.12	0.25	U	0.57	0.27	0.07	J	0.0	0.0	0.07	U
MW-7	Total	3/15/2003	0.04	0.13	0.3	U	0.92	0.38	0.16	J	0.07	0.1	0.18	U
MW-8	Total	3/16/2003	0.09	0.13	0.23	U	1.87	0.62	0.17	J	0.18	0.16	0.08	J
MW-9	Total	3/15/2003	0.032	0.08	0.19	U	1.34	0.47	0.15	J	0.065	0.096	0.17	U
MW-10	Total	3/15/2003	0.25	0.2	0.28	U	0.99	0.4	0.18	J	0.023	0.059	0.14	U
MW-11	Total	3/15/2003	-0.01	0.015	0.14	U	0.64	0.29	0.07	J	0.51	0.073	0.069	U
MW-12	Total	3/15/2003	0.05	0.12	0.26	U	0.79	0.34	0.19	J	0.005	0.059	0.19	U

U=Undetected below the specified reporting limit.

J=The result is an estimated concentration because result below sample reporting limit.

UJ=The radionuclide was not detected at or above the sample reporting limit,approximate.

pCi/L = Picocuries per liter.

Table 4-5
Radionuclide Data - On Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Well ID	Sample Description	Date Sampled	Radiological Results (pCi/L)												
			U-234				U-235				U-238				Sum
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	Uranium
MW-1	Total	3/15/2003	3.44	0.99	0.17		0.18	0.18	0.12	J	2.22	0.72	0.1		5.84
MW-2	Total	3/15/2003	38.6	8.2	0.2		2.25	0.8	0.23		38.3	8.1	0.2		79.15
MW-3	Total	3/16/2003	0.033	0.084	0.2	U,J	-0.2	0.029	0.29	U	0.041	0.082	0.11	U	-0.126
MW-4	Total	3/16/2003	0.016	0.056	0.15	U,J	0.033	0.067	0.09	U	0.1	0.11	0.13	U	0.149
MW-5	Total	3/15/2003	0.16	0.15	0.09	J	0.039	0.079	0.11	U	0.15	0.15	0.15	J	0.349
MW-6	Total	3/16/2003	0.46	0.28	0.1	J	0.047	0.095	0.13	U	0.38	0.25	0.1	J	0.887
MW-7	Total	3/15/2003	0.1	0.12	0.09	J	0.0	0.0	0.1	U	0.0	0.0	0.09	U	0.1
MW-8	Total	3/16/2003	0.08	0.12	0.18	U,J	0.08	0.12	0.11	U	0.026	0.066	0.16	U	0.186
MW-9	Total	3/15/2003	0.08	0.12	0.2	U,J	0.0	0.0	0.1	U	-0.008	0.017	0.2	U	0.072
MW-10	Total	3/15/2003	-0.007	0.015	0.18	U,J	-0.009	0.018	0.22	U	0.06	0.11	0.21	U	0.044
MW-11	Total	3/15/2003	0.09	0.13	0.2	U,J	0.0	0.0	0.1	U	0.035	0.071	0.095	U	0.125
MW-12	Total	3/15/2003	1.62	0.57	0.19		0.08	0.12	0.11	U	1.76	0.6	0.09		3.46

U=Undetected below the specified reporting limit.

J=The result is an estimated concentration because result below sample reporting limit.

UJ=The radionuclide was not detected at or above the sample reporting limit,approximate.

pCi/L = Picocuries per liter.

Table 4-5
Radionuclide Data - On Site Monitoring Wells
GTEOSI
Former Sylvania Electric Products Incorporated Facility
Hicksville, NY

Well ID	Sample Description	Date Sampled	Radiologicla Results (pCi/L)																
			Ra-226				Ra-228				Sum Ra	Gross Alpha				Tc-99			
			Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag	MDAs	Result	Uncertainty	MDA	Flag	Result	Uncertainty	MDA	Flag
MW-1	Total	3/15/2003	0.032	0.094	0.17	U,J	0.17	0.44	0.73	U	0.9	6.4	1.6	1.4					R
MW-2	Total	3/15/2003	0.21	0.14	0.18	U,J	1.77	0.59	0.83		1.01	90	11	2.0		-2.7	2.8	4.8	U,J
MW-3	Total	3/16/2003	0.16	0.15	0.22	U,J	0.3	0.48	0.8	U	1.02	1.25	0.98	1.5	U	-1.2	3.0	5.1	U,J
MW-4	Total	3/16/2003	0.09	0.12	0.19	U,J	0.58	0.5	0.8	U	0.99	1.2	1.0	1.6	U	-1.2	2.2	3.8	U,J
MW-5	Total	3/15/2003	-0.04	0.1	0.21	U,J	0.55	0.52	0.84	U	1.05	0.78	0.74	1.1	U	-1.4	2.0	3.5	U,J
MW-6	Total	3/16/2003	0.04	0.13	0.23	U,J	0.45	0.51	0.84	U	1.07	3.0	1.7	2.1	J	-1.4	2.8	4.8	U,J
MW-7	Total	3/15/2003	0.34	0.15	0.17	J	0.59	0.49	0.79	U	0.96	0.8	0.84	1.3	U	-1.8	2.5	4.3	U,J
MW-8	Total	3/16/2003	0.011	0.09	0.17	U,J	0.36	0.51	0.84	U	1.01	1.0	1.1	1.7	U	-0.7	2.4	4.2	U,J
MW-9	Total	3/15/2003	0.21	0.13	0.17	J	0.56	0.56	0.9	U	1.07	0.78	0.61	0.89	U	-1.1	2.2	3.7	U,J
MW-10	Total	3/15/2003	0.1	0.15	0.26	U,J	0.62	0.52	0.83	U	1.09	0.67	0.68	1.1	U	-2.4	2.8	4.8	U,J
MW-11	Total	3/15/2003	0.15	0.011	0.16	U,J	0.28	0.51	0.84	U	1	0.36	0.5	0.82	U	0.1	2.0	3.4	U,J
MW-12	Total	3/15/2003	0.06	0.12	0.21	U,J	0.28	0.52	0.86	U	1.07	3.0	1.3	1.4	J				R

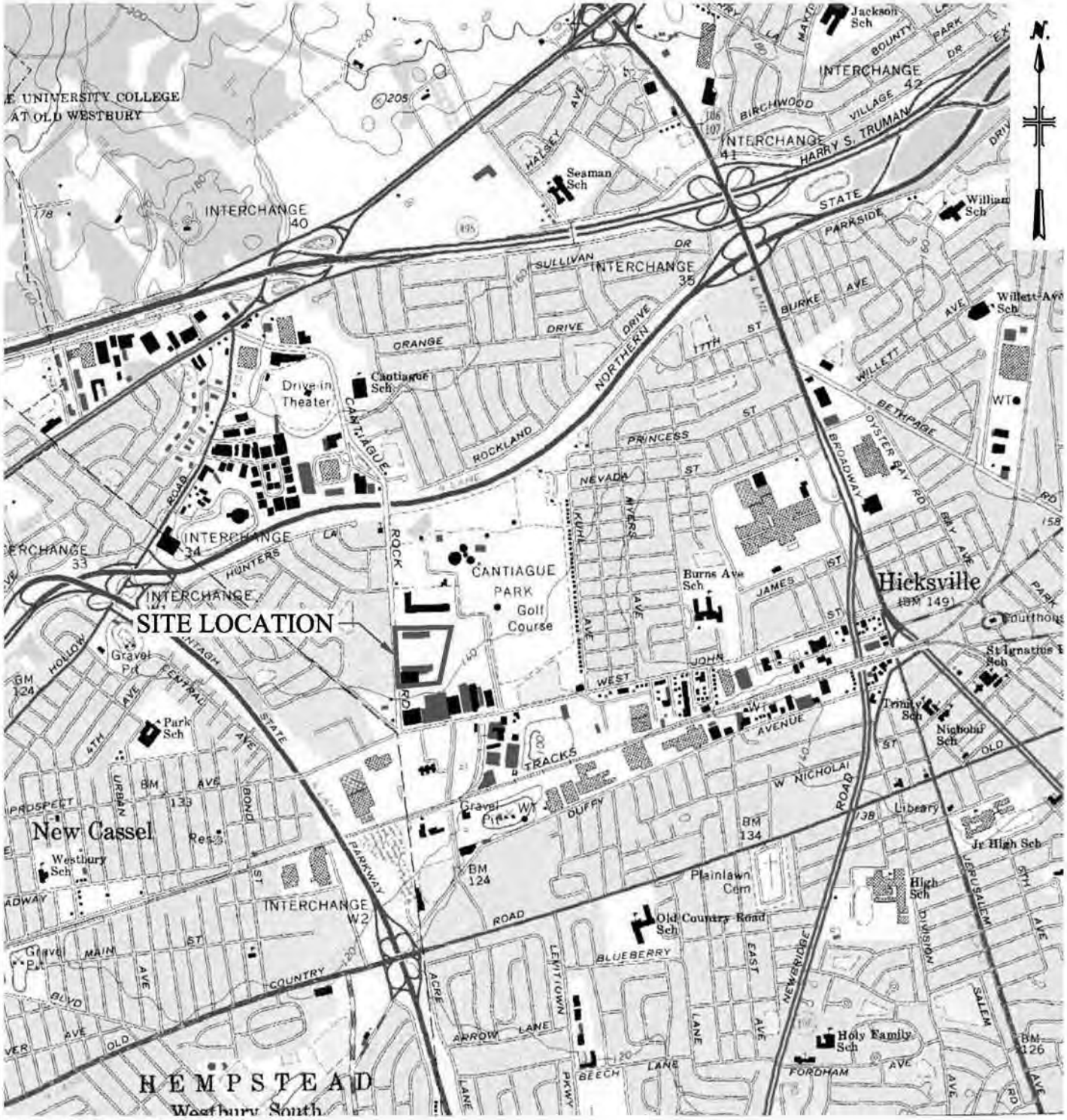
U = Undetected below the specified reporting limit.

J = The result is an estimated concentration because result below sample reporting limit.

R = The associated non-detect or numerical value is rejected and the presence or absence of the analyte cannot be verified at or above the approximate sample recording limit.

UJ = The radionuclide was not detected at or above the sample reporting limit,approximate.

pCi/L = Picocuries per liter.



SOURCE: PORTION OF USGS (TOPOGRAPHIC)
HICKSVILLE, NEW YORK 1967.
PHOTOREVISED 1979.

SCALE: 1:24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

QUADRANGLE LOCATION
4563001

MALCOLM PIRNIE

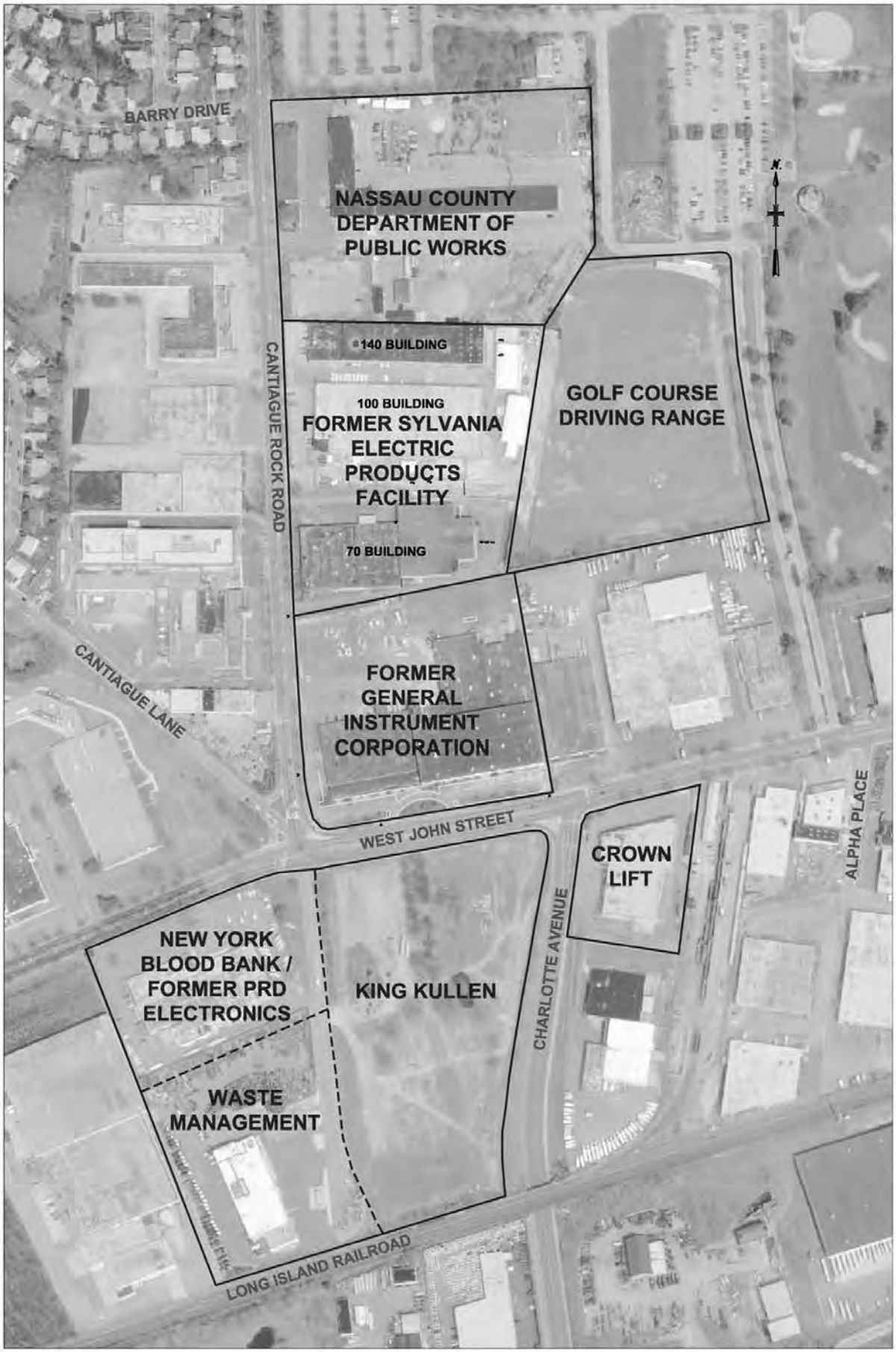
GTEOSI
FORMER SYLVANIA ELECTRIC
PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

SITE LOCATION MAP

MALCOLM PIRNIE, INC.

JANUARY 2007

FIGURE 1-1



NOTES

1. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

SCALE IN FEET

0 125 250 500

4563001

MALCOLM PIRNIE

GTEOSI
FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

FORMER SYLVANIA AND SURROUNDING PROPERTIES

MALCOLM PIRNIE, INC.
JANUARY 2007
FIGURE 1-2

User:GRONCKI Scec:PIRNIE STANDARD File:I:\GTEOSI\Hicksville\dwg\GW-Report-0125-07\FIG1-2_FINAL.DWG Scale:1:1 Date:01/25/2007 Time:14:16 Layout:LAYOUT

LEGEND

GTEOSI MONITORING WELL - EXISTING

GTEOSI MONITORING WELL - DECOMMISSIONED

NOTES

1. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

SCALE IN FEET

0 50 100 200

4563001

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NEW YORK	ON-SITE MONITORING WELL LOCATIONS	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 1-3

User:GRONCKI Spec:PIRNIE STANDARD File:I:\GTEOSI\Hicksville\dwg\GW-Report-0125-07\FIG1-3_FINAL.DWG Scale:1:1 Date:01/25/2007 Time:13:23 Layout:LAYOUT

LEGEND

PROFILE LOCATION - COMPLETED

NOTES

1. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

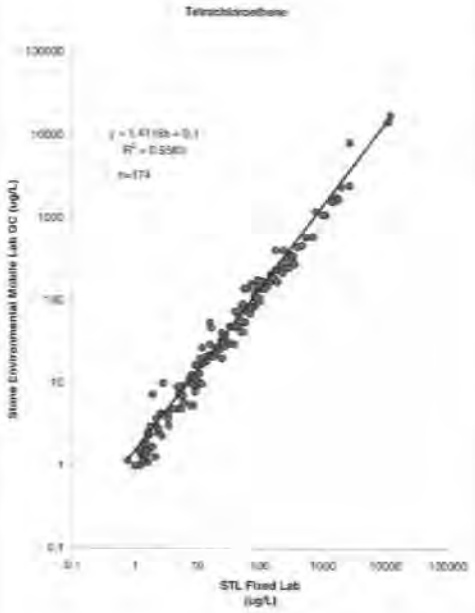
SCALE IN FEET

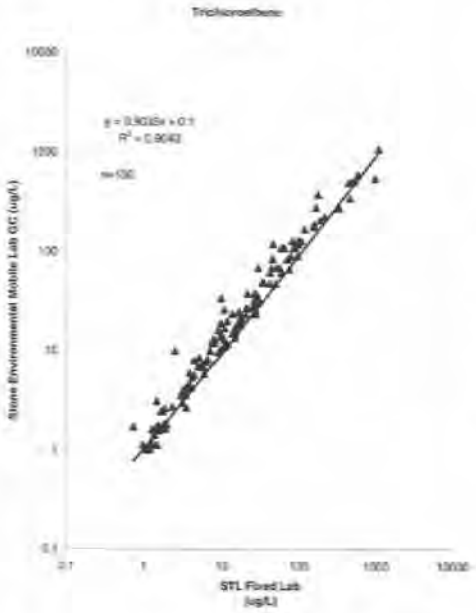
0 150 300 600

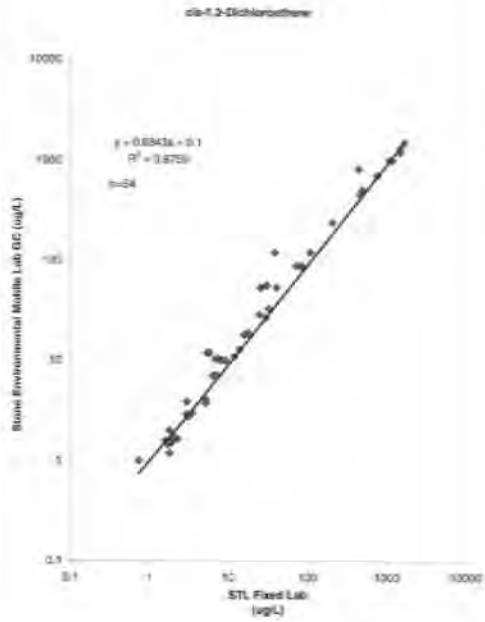
4563001

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NEW YORK	ON-SITE AND OFF-SITE PROFILE LOCATIONS	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 1-4

User:GRONCKI Spec:PIRNIE STANDARD File:I:\GTEOSI\Hicksville\dwg\GW-Report-0125-07\FIG1-4_FINAL.DWG Scale:1:1 Date:01/25/2007 Time:14:35 Layout:LAYOUT







MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NY	CORRELATION OF STONE ENVIRONMENTAL, INC. DATA AND STL LABORATORY DATA	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 2-1

System	Series	Geologic Units		Hydrogeologic Unit	Range of Thickness	Range of Altitude of Upper Surface, in feet above or below sea level
Quaternary	Holocene	Shore, beach Salt-Marsh deposits, and alluvium				
	Pleistocene	Wisconsin Glaciation (Harbor Hill, Interstadial Marine, and Ronkonkoma Drift)	Till (ground terminal moraine) Outwash 20-foot Clay (marine)	Upper Glacial aquifer	0 to 450	Land Surface
		Sangamon Interglaciation	Gardiners Clay (marine)	Gardiners Clay	0 to 320	-40 to -250
		Pre-Wisconsin Glaciation (Illinoian)	Jameco Gravel	Jameco aquifer	0 to 185	-90 to -450
Tertiary	Pliocene	Mannetto Gravel		Unsaturated	0-220	0 to -120
Cretaceous	Upper Cretaceous	Matawan Group - Magothy Formation (undifferentiated)		Magothy aquifer	0 to 800	200 to -350
		Raritan Formation	Clay member	Raritan Clay confining unit	0 to 300	-100 to -1,000
			Lloyd sand member	Lloyd aquifer	0 to 300	-200 to -1,200
Precambrian		Crystaline Bedrock		Bedrock	--	-400 to -1,500

MALCOLM PIRNIE

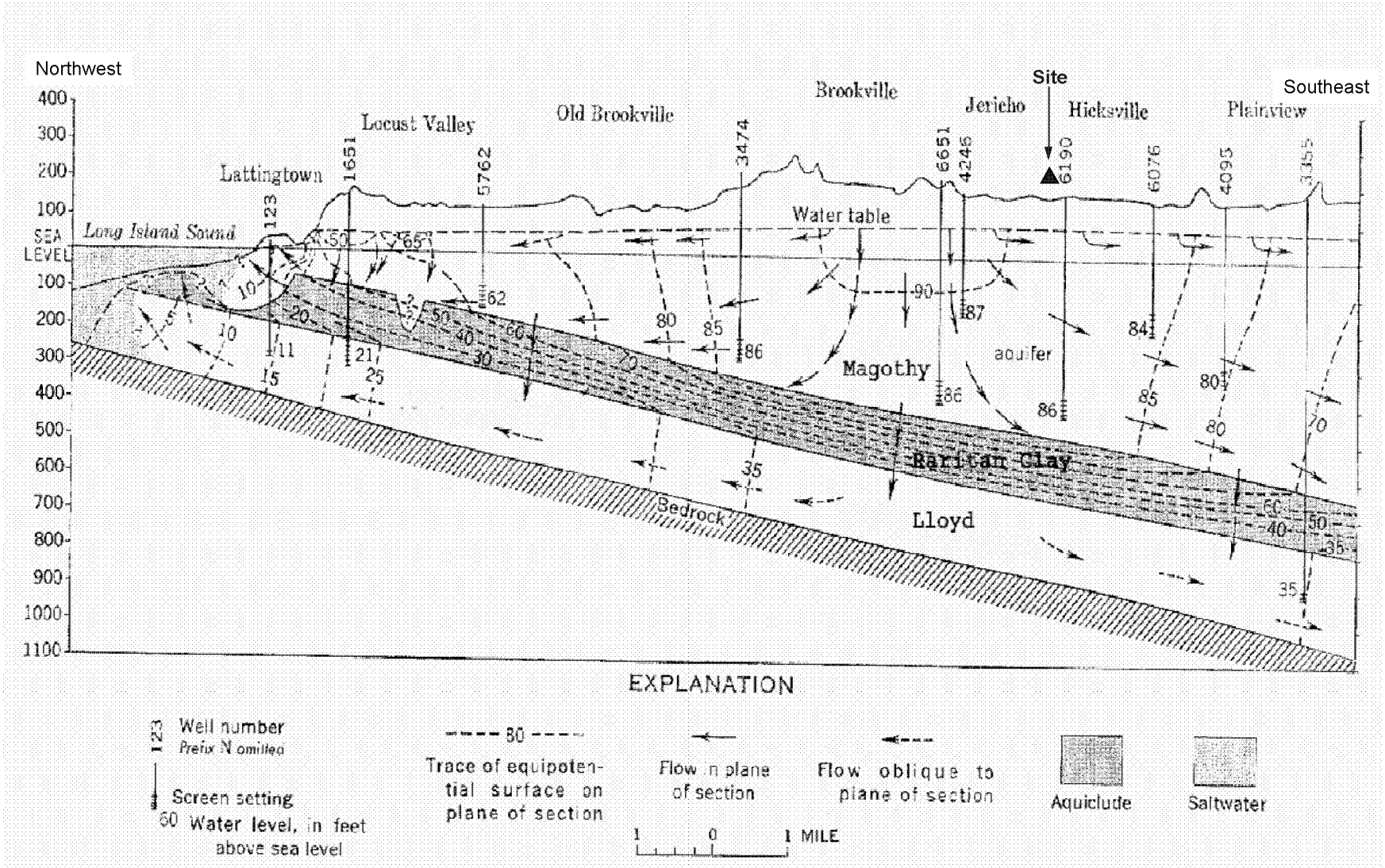
GTEOSI
FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NY

STRATIGRAPHIC COLUMN OF NASSAU COUNTY

MALCOLM PIRNIE, INC.

JANUARY 2007

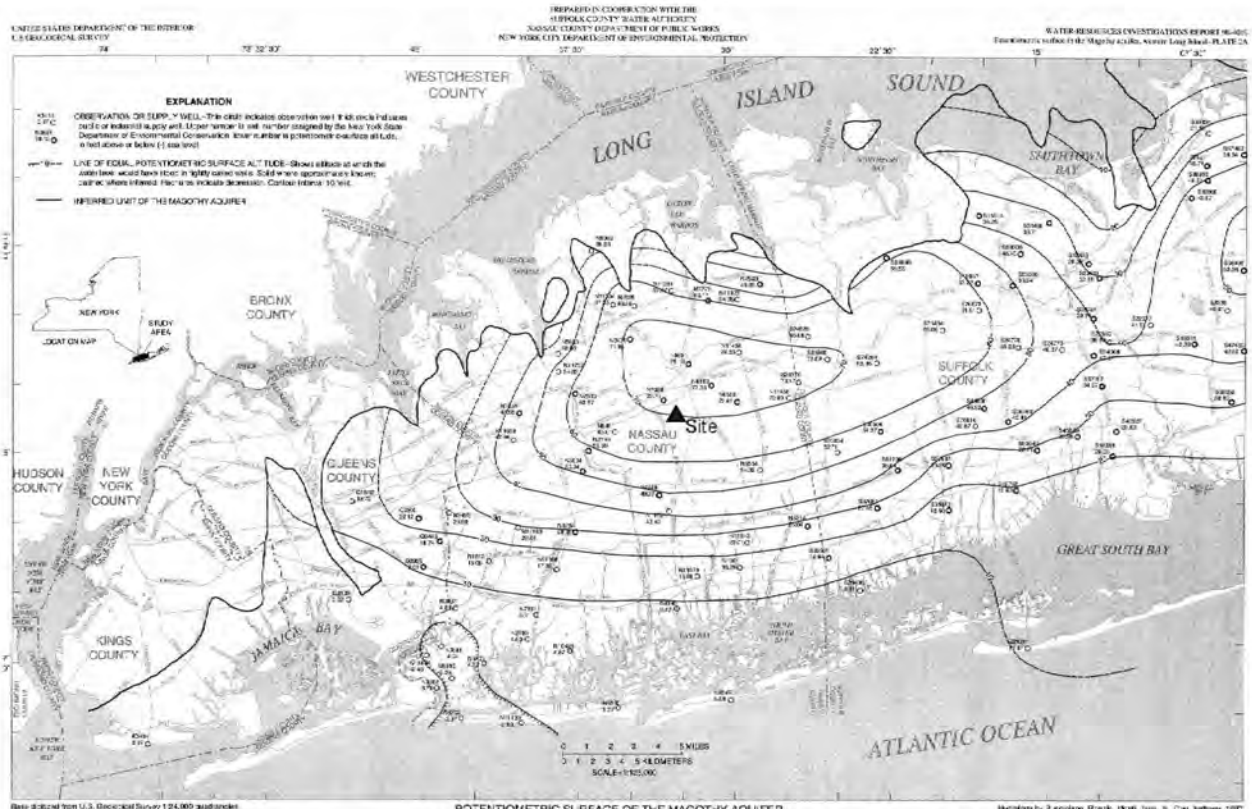
FIGURE 3-1



Source: USGS WSP 1613-A

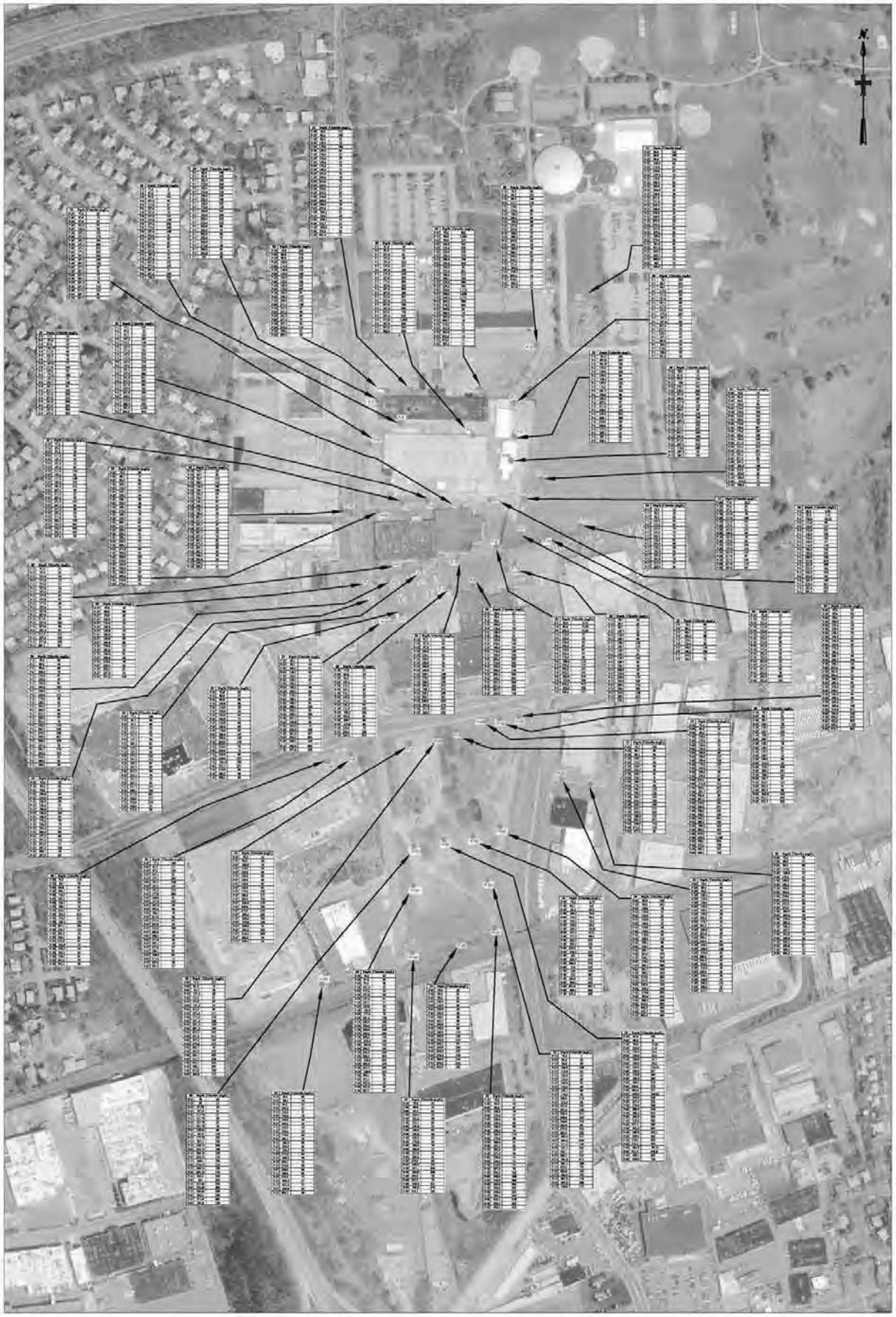
MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NY	GENERALIZED HYDROGEOLOGIC CROSS-SECTION	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE3-2

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NY	SURFICIAL GEOLOGIC MAP OF LONG ISLAND	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 3-3



POTENTIOMETRIC SURFACE OF THE MAGOTHY AQUIFER
ON WESTERN LONG ISLAND, NEW YORK, IN MARCH-APRIL 1997
By
Ronald Busciolano, Jack Monti, Jr., and Anthony Chu
1997

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NY	POTENTIOMETRIC SURFACE MAP OF THE MAGOTHY AQUIFER	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 3-4



LEGEND

PROFILE LOCATION

NOTES

1. DEPTHS ARE PRESENTED AS FEET BELOW GROUND SURFACE.
2. ND = ANALYTE WAS NOT DETECTED.
3. CONCENTRATIONS ARE PRESENTED AS MILLIGRAMS PER LITER.
4. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

SCALE IN FEET

0 200 400 800

4563001

MALCOLM PIRNIE

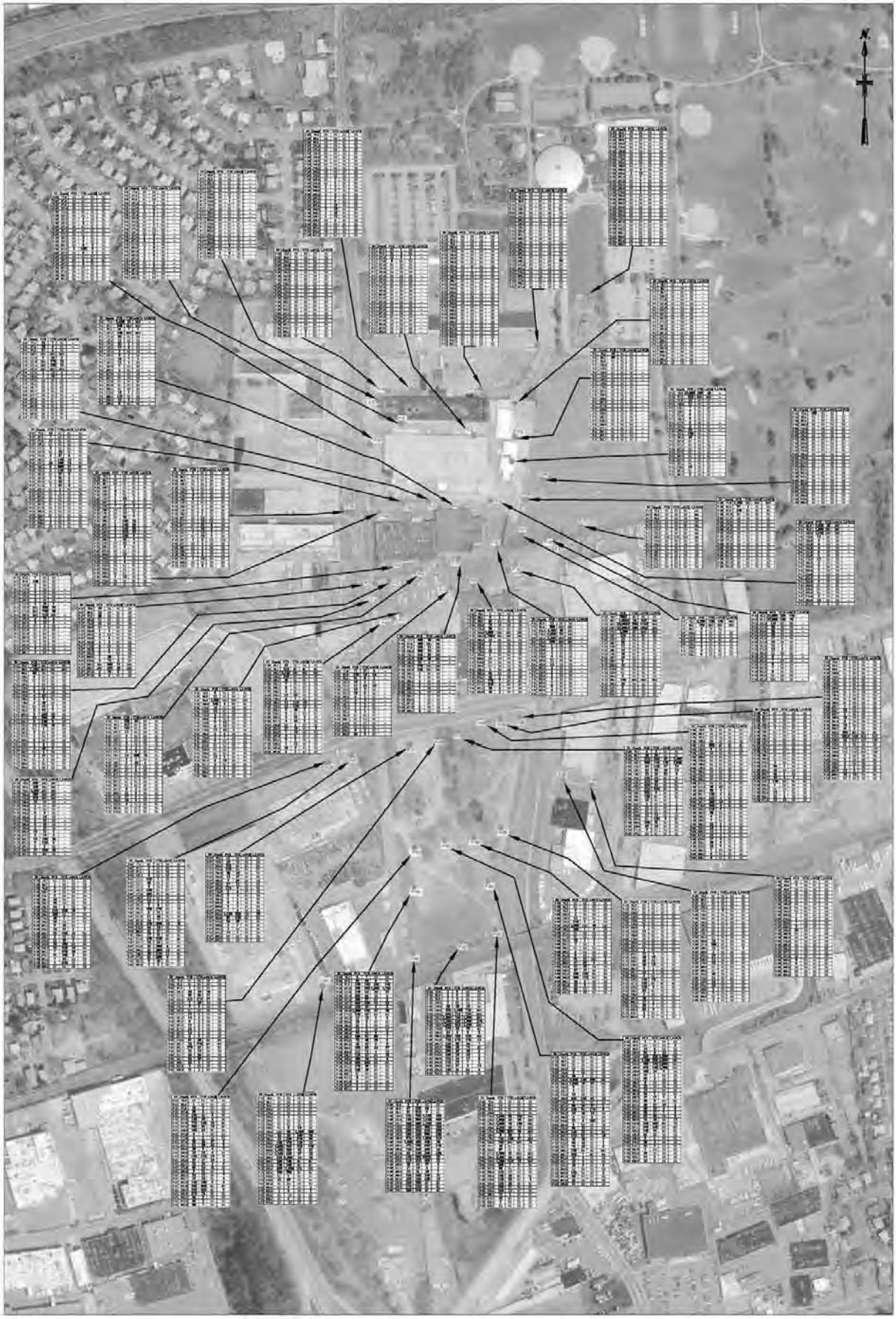
GTEOSI
FORMER SYLVANIA ELECTRIC
PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

DISTRIBUTION OF CHLORIDES
IN GROUNDWATER

MALCOLM PIRNIE, INC.

JANUARY 2007

FIGURE 3-5



LEGEND

PROFILE LOCATION

NOTES

1. DEPTHS ARE PRESENTED AS FEET BELOW GROUND SURFACE.
2. CONCENTRATIONS ARE PRESENTED AS MICROGRAMS PER LITER.
3. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

ABBREVIATIONS

PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
c-DCE = CIS-1,2-DICHLOROETHENE
1,2 -DCB = 1,2-DICHLOROBENZENE
E = COMPOUND QUANTITATION IS ABOVE THE INSTRUMENT CALIBRATION RANGE FOR THIS ANALYSIS.
J = INDICATES AN ESTIMATED QUANTITATION VALUE.
U = COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. VALUE REPORTED IS THE METHOD REPORTING LIMIT.
Z = ESTIMATED VALUE THAT IS MARGINALLY ABOVE THE CALIBRATION RANGE.
-- = NOT ANALYZED

SCALE IN FEET

0 200 400 800

4563001

MALCOLM PIRNIE

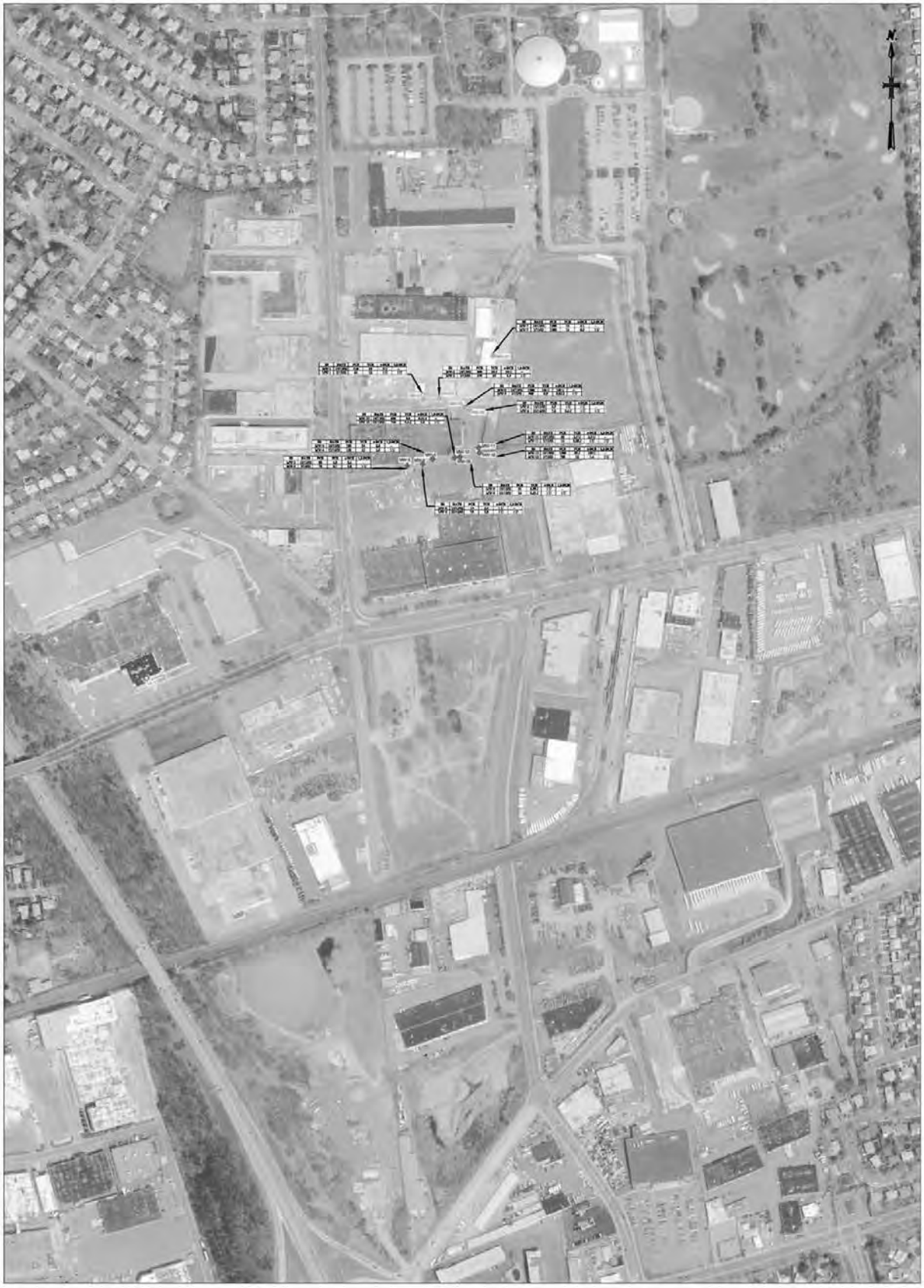
GTEOSI
FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

DISTRIBUTION OF CHLORINATED VOLATILE ORGANIC ORGANIC COMPOUNDS IN GROUNDWATER - PROFILE DATA

MALCOLM PIRNIE, INC.

JANUARY 2007

FIGURE 4-1



LEGEND

MONITORING WELL - EXISTING

MONITORING WELL - ABANDONED

NOTES

1. CONCENTRATIONS ARE PRESENTED AS MICROGRAMS PER LITER.
2. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).

ABBREVIATIONS

PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
c-DCE = CIS-1,2-DICHLOROETHENE
1,2 -DCB = 1,2-DICHLOROBENZENE
J = INDICATES AN ESTIMATED QUANTITATION VALUE.
U = COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. VALUE REPORTED IS THE METHOD REPORTING LIMIT.
-- = NOT ANALYZED

SCALE IN FEET

0 200 400 800

4563001

MALCOLM PIRNIE

GTEOSI
FORMER SYLVANIA ELECTRIC
PRODUCTS INCORPORATED FACILITY
HICKSVILLE, NEW YORK

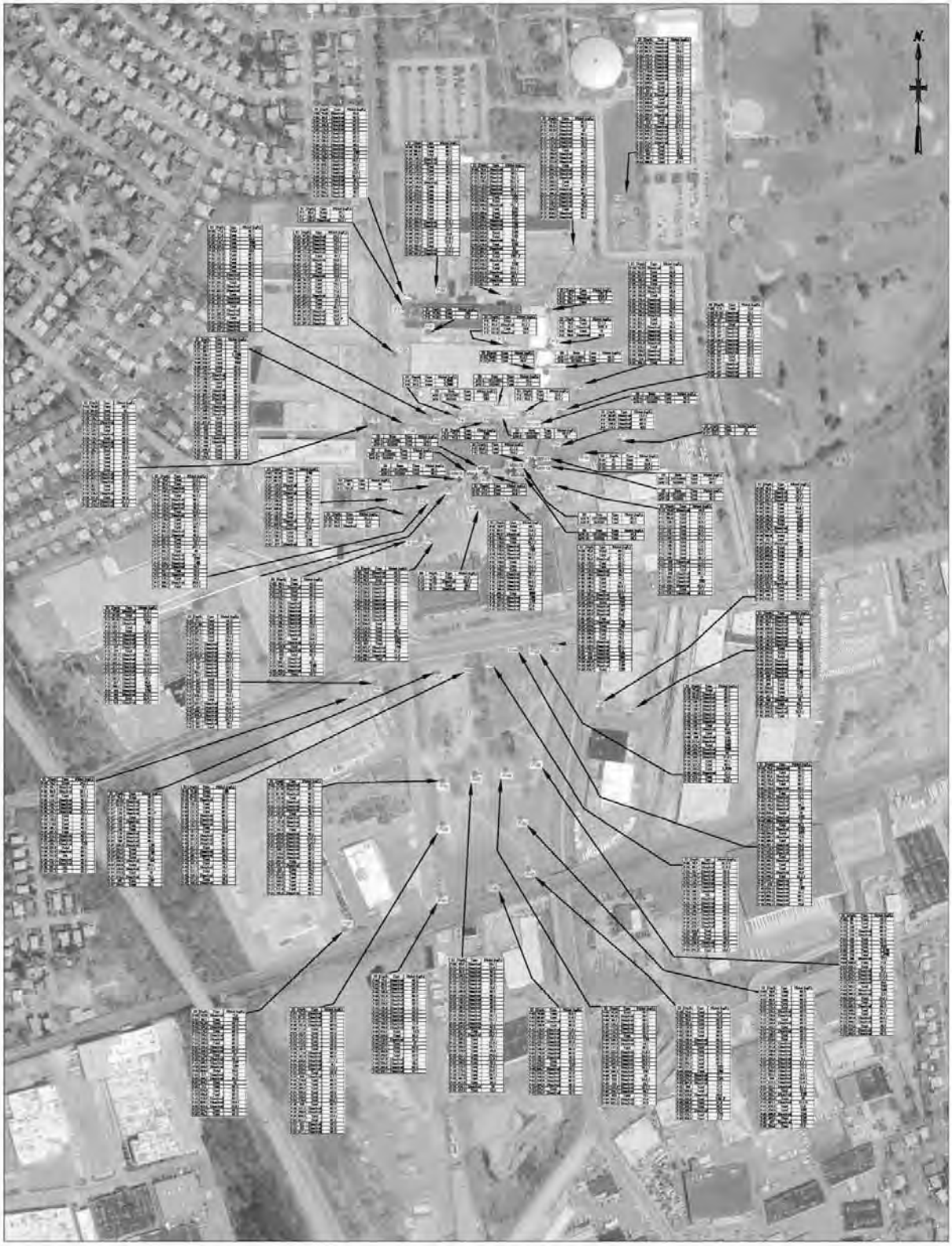
DISTRIBUTION OF CHLORINATED VOLATILE ORGANIC ORGANIC COMPOUNDS IN GROUNDWATER - MONITORING WELL DATA

MALCOLM PIRNIE, INC.

JANUARY 2007

FIGURE 4-2

User:GRONCKI Space:PIRNIE STANDARD File:H:\GTEOSI\Hicksville\dwg\CIV\Report-0125-07\FIG4-2_110-07.DWG Scale:1:1 Date:01/25/2007 Time:14:05 Layout:22x34-2



LEGEND

- PROFILE LOCATION
- MONITORING WELL - EXISTING
- MONITORING WELL - ABANDONED

NOTES

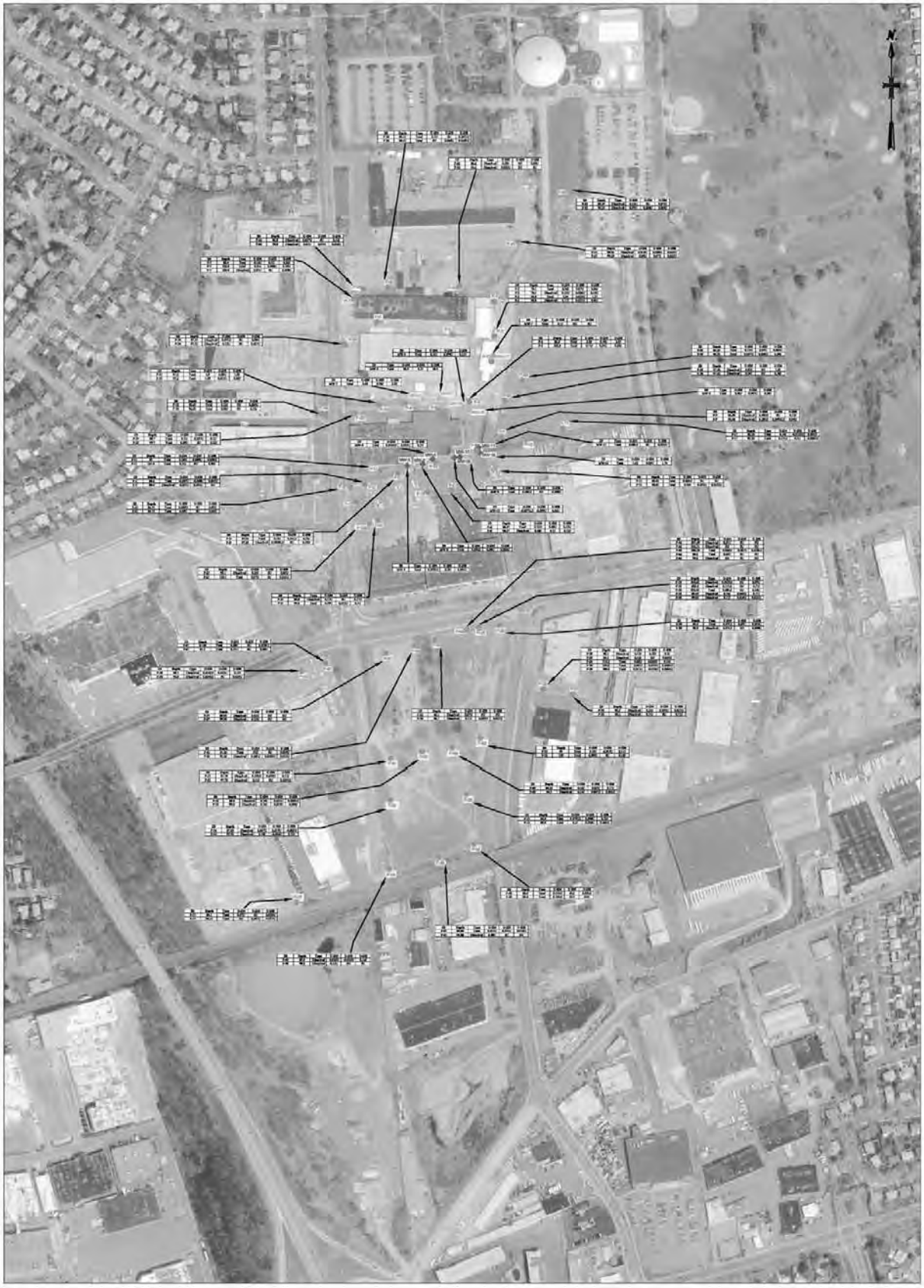
1. U - INDICATES SAMPLE WAS NOT DETECTED AT THE LISTED CONCENTRATION.
2. J - INDICATES THE CONCENTRATION IS AN ESTIMATED QUANTITY.
3. * - INDICATES TURBIDITY WAS LESS THAN 50 NTUs; HOWEVER, ONLY DISSOLVED SAMPLES WERE COLLECTED.
4. N/A - INFORMATION IS NOT AVAILABLE.
5. B - ANALYTE IS FOUND IN THE ASSOCIATED METHOD BLANK AS WELL AS THE SAMPLE.
6. DEPTHS ARE PRESENTED AS FEET BELOW GROUND SURFACE.
7. CONCENTRATIONS ARE PRESENTED AS MICROGRAMS PER LITER.
8. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).
9. THE DATA ON THIS FIGURE WAS ASSEMBLED ACCORDING TO NYSDEC TECHNICAL ADMINISTRATIVE GUIDANCE MEMORANDUM #4015 USING TOTAL NICKEL CONCENTRATIONS FOR SAMPLES WITH A TURBIDITY OF 50 NTUs OR LESS AND DISSOLVED NICKEL CONCENTRATIONS FOR SAMPLES WITH A TURBIDITY GREATER THAN 50 NTUs UNLESS OTHERWISE SPECIFIED.
10. TURBIDITY WAS NOT RECORDED DURING SAMPLING OF PROFILES P-1 THROUGH P-14 AND P-16; THEREFORE, BOTH TOTAL AND DISSOLVED SAMPLE RESULTS ARE PRESENTED.
11. MONITORING WELL RESULTS ARE REPRESENTATIVE OF TOTAL NICKEL CONCENTRATIONS.

SCALE IN FEET

0 200 400 800

4563001

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NEW YORK	DISTRIBUTION OF NICKEL IN GROUNDWATER	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 4-3



LEGEND

- PROFILE LOCATION
- MONITORING WELL - EXISTING
- MONITORING WELL - ABANDONED

NOTES

1. U - INDICATES SAMPLE WAS NOT DETECTED AT THE LISTED CONCENTRATION.
2. J - INDICATES THE CONCENTRATION IS AN ESTIMATED QUANTITY.
3. UJ - THE RADIONUCLIDE WAS NOT DETECTED AT OR ABOVE THE SAMPLE REPORTING LIMIT, WHICH IS APPROXIMATE.
4. DEPTHS ARE PRESENTED AS FEET BELOW GROUND SURFACE.
5. CONCENTRATIONS ARE PRESENTED AS PICOCURIES PER LITER.
6. AERIAL IMAGE FROM NYS GIS CLEARINGHOUSE HIGH RESOLUTION DIGITAL ORTHOIMAGERY (6-INCHES RESOLUTION - 2004).
7. THE DATA ON THIS FIGURE WAS ASSEMBLED ACCORDING TO NYSDEC TECHNICAL ADMINISTRATIVE GUIDANCE MEMORANDUM #4015 USING TOTAL URANIUM CONCENTRATIONS FOR SAMPLES WITH A TURBIDITY OF 50 NTUs OR LESS AND DISSOLVED URANIUM CONCENTRATIONS FOR SAMPLES WITH A TURBIDITY GREATER THAN 50 NTUs.
8. MONITORING WELL RESULTS ARE FROM SAMPLES COLLECTED IN MARCH 2003.

SCALE IN FEET

0 200 400 800

4563001

MALCOLM PIRNIE	GTEOSI FORMER SYLVANIA ELECTRIC PRODUCTS INCORPORATED FACILITY HICKSVILLE, NEW YORK	DISTRIBUTION OF RADIONUCLIDES IN GROUNDWATER	MALCOLM PIRNIE, INC. JANUARY 2007 FIGURE 4-4

User:GRONCKI Space:PIRNIE STANDARD File:I:\GTEOSI\Hicksville\dwg\CIV\Report-0125-07\FIG4-4_110-07.DWG Scale:1:1 Date:01/25/2007 Time:14:09 Layout:22x34-2

Appendix A

STANDARD OPERATING PROCEDURE FOR LOW-STRESS (Low Flow) / MINIMAL DRAWDOWN GROUND-WATER SAMPLE COLLECTION

INTRODUCTION

The collection of "representative" water samples from wells is neither straightforward nor easily accomplished. Ground-water sample collection can be a source of variability through differences in sample personnel and their individual sampling procedures, the equipment used, and ambient temporal variability in subsurface and environmental conditions. Many site inspections and remedial investigations require the sampling at ground-water monitoring wells within a defined criterion of data confidence or data quality, which necessitates that the personnel collecting the samples are trained and aware of proper sample-collection procedures.

The purpose of this standard operating procedure (SOP) is to provide a method which minimize the amount of impact the purging process has on the ground water chemistry during sample collection and to minimize the volume of water that is being purged and disposed. This will take place by placing the pump intake within the screen interval and by keeping the drawdown at a minimal level (0.33 feet) (Puls and Barcelona, 1996) until the water quality parameters have stabilized and sample collection is complete. The flow rate at which the pump will be operating will be depended upon both hydraulic conductivity of the aquifer and the drawdown with the goal of minimizing the drawdown. The flow rate from the pump during purging and sampling will be at a rate that will not compromise the integrity of the analyte that is being sampled. This sampling procedure may or may not provide a discrete ground water sample at the location of the pump intake. The flow of ground-water to the pump intake will be dependent on the distribution of the hydraulic conductivity (K) of the aquifer within the screen interval. In order to minimize the drawdown in the monitoring well a low-flow rate must be utilized. Low-flow refers to the velocity with which water enters the pump intake from the surrounding formation in the

immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface, which can be affected by flow regulators or restrictions (Puls and Barcelona, 1996). This SOP was developed by the Superfund/RCRA Ground Water Forum and draws from an USEPA's Ground Water Issue Paper, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedure, by Robert W. Puls and Michael J. Barcelona. Also, available USEPA Regional SOPs regarding Low-Stress(Low Flow)Purging and Sampling were used for this SOP.

SCOPE AND APPLICATION

This SOP should be used primarily at monitoring wells which have a screen or an open interval with a length of ten feet or less and can accept a sampling device which minimizes the disturbance to the aquifer or the water column in the well casing. The screen or open interval should have been optimally located to intercept an existing contaminant plume(s) or along flowpaths of potential contaminant releases. Knowledge of the contaminant distribution within the screen interval is highly recommended and is essential for the success of this sampling procedure. The ground-water samples which are collected using this procedure are acceptable for the analyses of ground-water contaminants which may be found at Superfund and RCRA contamination sites. The analytes may be volatile, semi-volatile organic compounds, pesticides, PCBs, metals and other inorganic compounds. The screened interval should be located within the contaminant plume(s) and the pump intake should be placed at or near the known source of the contamination within the screened interval. It is critical to place the pump intake in the exact location or depth for each sampling event. This argues for the use of dedicated, permanently installed sampling devices whenever possible. If this is not possible then the placement of the pump intake should be positioned with a calibrated sampling pump hose sounded with a weighted-tape or using a pre-measured hose. The pump intake should not be placed near the bottom of the screened interval to avoid disturbing any sediment that may have settled at the bottom of the well.

Water-quality indicator parameters and water levels must be measured during purging, prior to sample collection. Stabilization of the water quality parameters as well as

monitoring water levels are a prerequisite to sample collection. The water-quality indicator parameters which are recommended include the following: specific electrical conductance, dissolved oxygen, turbidity, oxidation-reduction potential, pH, and temperature. The latter two parameters are useful data, but are generally insensitive as purging parameters. Oxidation-reduction potential may not always be appropriate stabilization parameter, and will depend on site-specific conditions. However, readings should be recorded because of its value as a double check for oxidation conditions, and for fate and transport issues. Also, when samples are collected for metals, semi-volatile organic compounds, and pesticides every effort must be made to reduce turbidity to 10 NTUs or less (not just the stabilization of turbidity) prior to the collection of the water sample. In addition to the measurement of the above parameters, depth to water must be measured during purging (U.S. Environmental Protection Agency, 1995).

Proper well construction, development and maintenance are essential for any ground-water sampling procedure. Prior to conducting the field work, information on the construction of the well and well development should be obtained and that information factored into the site specific sampling procedure. The attached Sampling Checklist is an example of the type of information that is useful.

Stabilization of the water-quality indicator parameters is the criterion for sample collection. But if stabilization is not occurring and the procedure has been strictly followed, then sample collection can take place once three (minimum) to six (maximum) casing volumes have been removed (Schuller et al., 1981 and U.S. Environmental Protection Agency., 1986; Wilde et al., 1998; Gibs and Imbrigiotta., 1990). The specific information on what took place during purging must be recorded in the field notebook or in the ground-water sampling log.

This SOP is not to be used where non-aqueous phase liquids (immiscible fluids) are present in the monitoring well.

EQUIPMENT

- Depth-to-water measuring device - An electronic water-level indicator or steel tape and chalk, with marked intervals of

0.01 foot. Interface probe for determination of liquid products (NAPL) presence, if needed.

- Steel tape and weight - Used for measuring total depth of well. Lead weight should not be used.
- Sampling pump - Submersible or bladder pumps with adjustable rate controls are preferred. Pumps are to be constructed of inert materials, such as stainless steel and teflon®. Pump types that are acceptable include gear and helical driven, centrifugal (low-flow type) and air-activated piston. Adjustable rate, peristaltic pump can be used when the depth to water is 20 feet or less.
- Tubing - Teflon® or Teflon® lined polyethylene tubing is preferred when sampling for organic compounds. Polyethylene tubing can be used when sampling inorganics.
- Power Source - If a combustion type (gasoline or diesel-driven) generator is used, it must be placed downwind of the sampling area.
- Flow measurement supplies - flow meter, graduated cylinder and a stop watch.
- Multi-Parameter meter with flow-through-cell - This can be one instrument or more contained in a flow-through cell. The water-quality indicator parameters which must be monitored are pH, ORP/EH, dissolved oxygen (DO), turbidity, specific conductance, and temperature. Turbidity readings must be collected before the flow cell because of the potential for sediment buildup which can bias the turbidity measurements. Calibration fluids for all instruments should be NIST-traceable and there should be enough for daily calibration through-out the sampling event. The inlet of the flow cell must be located near the bottom of the flow cell and the outlet near the top. The size of the flow cell should be kept to a minimum and a closed cell is preferred. The flow cell must not contain any air or gas bubbles when monitoring for the water-quality indicator parameters.
- Decontamination Supplies - Including a reliable and documented source of distilled water and any solvents (if used). Pressure sprayers, buckets or decontamination tubes for pumps, brushes and non-phosphate soap will also be needed.
- Sample bottles, sample preservation supplies, sample tags or labels and chain of custody forms.
- Approved Field Sampling and Quality Assurance Project Plan.
- Well construction data, field and water quality data from the previous sampling event.
- Well keys and map of well locations.

- Field notebook, ground-water sampling logs and calculator. A suggested field data sheet (ground-water sampling record or ground-water sampling log) are provided in the attachment.
- Filtration equipment, if needed. An in-line disposable filter is recommended.
- Polyethylene sheeting which will be placed on ground around the well head.
- Personal protective equipment specified in the site Health and Safety Plan.
- Air monitoring equipment as specified in the Site Health and Safety Plan.
- Tool box - All needed tools for all site equipment used.
- A 55-gallon drum or container to contain the purged water.

Materials of construction of the sampling equipment (bladders, pumps, tubing, and other equipment that comes in contact with the sample) should be limited to stainless steel, Teflon®, glass and other inert material. This will reduce the chance of the sampling materials to alter the ground-water where concentrations of the site contaminants are expected to be near the detection limits. The sample tubing diameter thickness should be maximized and the tubing length should be minimized so that the loss of contaminants into and through the tubing walls may be reduced and the rate of stabilization of ground-water parameters is maximized. The tendency of organics to sorb into and out of material makes the appropriate selection of sample tubing material critical for trace analyses (Pohlmann and Alduino, 1992; Parker and Ranney, 1998).

PURGING AND SAMPLING PROCEDURES

The following describes the purging and sampling procedures for the Low-Stress (Low Flow)/ Minimal Drawdown method for the collection of ground-water samples. These procedures also describe steps for dedicated and non-dedicated systems.

<u>Pre-Sampling Activities</u> (Non-dedicated and dedicated system)

1. Sampling locations must begin at the monitoring well with the least contamination, generally up-gradient or furthest from the site or suspected source. Then proceed systematically to the monitoring wells with the most contaminated ground water.

2. Check and record the condition of the monitoring well for damage or evidence of tampering. Lay out polyethylene sheeting around the well to minimize the likelihood of contamination of sampling/purging equipment from the soil. Place monitoring, purging and sampling equipment on the sheeting.

3. Unlock well head. Record location, time, date and appropriate information in a field logbook or on the ground-water sampling log (See attached ground-water sampling record and ground-water sampling log as examples).

4. Remove inner casing cap.

5. Monitor the headspace of the monitoring well at the rim of the casing for volatile organic compounds (VOC) with a Photo-ionization detector (PID) or Flame ionization detector (FID), and record in the logbook. If the existing monitoring well has a history of positive readings of the headspace, then the sampling must be conducted in accordance with the Health and Safety Plan.

6. Measure the depth to water (water level must be measured to nearest 0.01 feet) relative to a reference measuring point on the well casing with an electronic water level indicator or steel tape and record in logbook or ground-water sampling log. If no reference point is found, measure relative to the top of the inner casing, then mark that reference point and note that location in the field logbook. Record information on depth to ground water in the field logbook or ground water sampling log. Measure the depth to water a second time to confirm initial measurement; measurement should agree within 0.01 feet or re-measure.

7. Check the available well information or field information for the total depth of the monitoring well. Use the information from the depth of water in step six and the total depth of the monitoring well to calculate the volume of the water in the monitoring well or the volume of one casing. Record information in field logbook or ground-water sampling log.

<u>Purging and Sampling Activities</u>

8A. Non-dedicated system - Place the pump and support equipment at the wellhead and slowly lower the pump and tubing down into the monitoring well until the location of the pump intake is set

at a pre-determined location within the screen interval. The placement of the pump intake should be positioned with a calibrated sampling pump hose, sounded with a weighted-tape, or using a pre-measured hose. Refer to the available monitoring well information to determine the depth and length of the screen interval. Measure the depth of the pump intake while lowering the pump into location. Record pump location in field logbook or groundwater sampling log.

8B. Dedicated system - Pump has already been installed, refer to the available monitoring well information and record the depth of the pump intake in the field logbook or ground-water sampling log.

9. Non-dedicated system and dedicated system - Measure the water level (water level must be measured to nearest 0.01 feet) and record information on the ground-water sampling log, leave water level indicator probe in the monitoring well.

10. Non-dedicated and dedicated system - Connect the discharge line from the pump to a flow-through cell. A "T" connection is needed prior to the flow cell to allow for the collection of water for the turbidity measurements. The discharge line from the flow-through cell must be directed to a container to contain the purge water during the purging and sampling of the monitoring well.

11. Non-dedicated and dedicated system - Start pumping the well at a low flow rate (0.2 to 0.5 liter per minute) and slowly increase the speed. Check water level. Maintain a steady flow rate while maintaining a drawdown of less than 0.33 feet (Puls and Barcelona, 1996). If drawdown is greater than 0.33 feet lower the flow rate. 0.33 feet is a goal to help guide with the flow rate adjustment. It should be noted that this goal may be difficult to achieve under some circumstances due to geologic heterogeneities within the screened interval, and may require adjustment based on site-specific conditions and personal experience (Puls and Barcelona, 1996).

12. Non-dedicated and dedicated system - Measure the discharge rate of the pump with a graduated cylinder and a stop watch. Also, measure the water level and record both flow rate and water level on the groundwater sampling log. Continue purging, monitor and record water level and pump rate every three to five minutes during purging. Pumping rates should be kept at minimal flow to

ensure minimal drawdown in the monitoring well.

13. Non-dedicated and dedicated system - During the purging, a minimum of one tubing volume (including the volume of water in the pump and flow cell) must be purged prior to recording the water-quality indicator parameters. Then monitor and record the water-quality indicator parameters every three to five minutes. The water-quality indicator field parameters are turbidity, dissolved oxygen, specific electrical conductance, pH, redox-potential and temperature. Oxidation-reduction potential may not always be an appropriate stabilization parameter, and will depend on site-specific conditions. However, readings should be recorded because of its value as a double check for oxidizing conditions. Also, for the final dissolved oxygen measurement, if the readings are less than 1 milligram per liter, it should be collected and analyze with the spectrophotometric method (Wilde et al., 1998 Wilkin et al., 2001), colorimetric or Winkler titration (Wilkin et al., 2001). The stabilization criterion is based on three successive readings of the water quality field parameters; the following are the criteria which must be used:

Parameter	**Stabilization Criteria**	**Reference**
pH	± 0.1 pH units	Puls and Barcelona, 1996; Wilde et al.,
Specific electrical conductance (SEC)	± 3% •S/cm	Puls and Barcelona, 1996
oxidation-reduction potential (ORP)	± 10 millivolts	Puls and Barcelona 1996
turbidity	± 10 % NTUs (when turbidity is greater than 10 NTUs)	Puls and Barcelona, 1996 Wilde et al., 1998
dissolved oxygen	± 0.3 milligrams per liter	Wilde et al., 1998

Once the criteria have been successfully met indicating that the water quality indicator parameters have stabilized, then sample collection can take place.

14. If a stabilized drawdown in the well can't be maintained at 0.33 feet and the water level is approaching the top of the screened interval, reduce the flow rate or turn the pump off (for 15 minutes) and allow for recovery. It should be noted whether or not the pump has a check valve. A check valve is required if the pump is shut off. Under no circumstances should the well be

pumped dry. Begin pumping at a lower flow rate, if the water draws-down to the top of the screened interval again turn pump off and allow for recovery. If two tubing volumes (including the volume of water in the pump and flow cell) have been removed during purging then sampling can proceed next time the pump is turned on. This information should be noted in the field notebook or ground-water sampling log with a recommendation for a different purging and sampling procedure.

15. Non-dedicated and dedicated system - Maintain the same pumping rate or reduce slightly for sampling (0.2 to 0.5 liter per minute) in order to minimize disturbance of the water column. Samples should be collected directly from the discharge port of the pump tubing prior to passing through the flow-through cell. Disconnect the pump's tubing from the flow-through-cell so that the samples are collected from the pump's discharge tubing. For samples collected for dissolved gases or Volatile Organic Compounds (VOCs) analyses, the pump's tubing needs to be completely full of ground water to prevent the ground water from being aerated as the ground water flows through the tubing. The sequence of the samples is immaterial unless filtered (dissolved) samples are collected and they must be collected last (Puls and Barcelona, 1996). All sample containers should be filled with minimal turbulence by allowing the ground water to flow from the tubing gently down the inside of the container. When filling the VOC samples a meniscus must be formed over the mouth of the vial to eliminate the formation of air bubbles and head space prior to capping. In the event that the ground water is turbid,(greater then 10 NTUs), a filtered metal (dissolved) sample also should be collected.

If filtered metal sample is to be collected, then an in-line filter is fitted at the end of the discharge tubing and the sample is collected after the filter. The in-line filter must be pre-rinsed following manufacturer's recommendations and if there are no recommendations for rinsing, a minimum of 0.5 to 1 liter of ground water from the monitoring well must pass through the filter prior to sampling.

16A. Non-dedicated system - Remove the pump from the monitoring well. Decontaminate the pump and dispose of the tubing if it is non-dedicated.

16B Dedicated system - Disconnect the tubing that extends from the plate at the wellhead (or cap) and discard after use.

17. Non-dedicated system - Before locking the monitoring well, measure and record the well depth (to 0.1 feet).
Measure the total depth a second time to confirm initial measurement; measurement should agree within 0.01 feet or re-measure.

18. Non-dedicated and dedicated system - Close and lock the well.

DECONTAMINATION PROCEDURES

Decontamination procedures for the water level meter and the water quality field parameter sensors.
The electronic water level indicator probe/steel tape and the water-quality field parameter sensors will be decontaminated by the following procedures:
1. The water level meter will be hand washed with phosphate free detergent and a scrubber, then thoroughly rinsed with distilled water.

2. Water quality field parameter sensors and flow-through cell will be rinsed with distilled water between sampling locations. No other decontamination procedures are necessary or recommended for these probes since they are sensitive. After the sampling event, the flow cell and sensors must be cleaned and maintained per the manufacturer's requirements.

Decontamination Procedure for the Sampling Pump

Upon completion of the ground water sample collection the sampling pump must be properly decontaminated between monitoring wells. The pump and discharge line including support cable and electrical wires which were in contact with the ground water in the well casing must be decontaminated by the following procedure:

1. The outside of the pump, tubing, support cable and electrical wires must be pressured sprayed with soapy water, tap water and distilled water. Spray outside of tubing and pump until water is flowing off of tubing after each rinse. Use bristle brush to help remove visible dirt and contaminants.
2.Place the sampling pump in a bucket or in a short PVC casing (4-in. diameter) with one end capped. The pump placed in this device must be completely submerged in the water. A small amount of phosphate free detergent must be added to the potable water

(tap water).
3. Remove the pump from the bucket or 4-in. casing and scrub the outside of the pump housing and cable.
4. Place pump and discharge line back in the 4-in. casing or bucket, start pump and re-circulate this soapy water for 2 minutes (wash).
5. Re-direct discharge line to a 55-gallon drum, continue to add 5 gallons of potable water (tap water)or until soapy water is no longer visible.
6. Turn pump off and place pump into a second bucket or 4-in. Casing which contains tap water, continue to add 5-gallons of tap water (rinse).
7. Turn pump off and place pump into a third bucket or 4-in. casing which contains distilled/deionized water, continue to add three to five gallons of distilled/deionized water (final rinse).
8. If a hydrophobic contaminant is present (such as separate phase, high levels of PCB's, etc.) An additional decon step, or steps, may be added. For example, an organic solvent, such as reagent-grade isopropanol alcool may be added as a first spraying/bucket prior to the soapy water rinse/bucket.

FIELD QUALITY CONTROL

Quality control (QC) samples must be collected to verify that sample collection and handling procedures were performed adequately and that they have not compromised the quality of the ground water samples. The appropriate EPA program guidance must be consulted in preparing the field QC sample requirements for the site-specific Quality Assurance Project Plan (QAPP).

There are five primary areas of concern for quality assurance (QA) in the collection of representative ground-water samples:

1. Obtaining a ground-water sample that is representative of the aquifer or zone of interest in the aquifer. Verification is based on the field log documenting that the field water-quality parameters stabilized during the purging of the well, prior to sample collection.
2. Ensuring that the purging and sampling devices are made of materials, and utilized in a manner, which will not interact with or alter the analyses.
3. Ensuring that results generated by these procedures are reproducible; therefore, the sampling scheme should incorporate co-located samples (duplicates).

4. Preventing cross-contamination. Sampling should proceed from least to most contaminated wells, if known. Field equipment blanks should be incorporated for all sampling and purging equipment, and decontamination of the equipment is therefore required.
5. Properly preserving, packaging, and shipping samples.

All field quality control samples must be prepared the same as regular investigation samples with regard to sample volume, containers, and preservation. The chain of custody procedures for the QC samples will be identical to the field ground water samples. The following are quality control samples which must be collected during the sampling event:

Sample Type	Frequency
• Field duplicates	1 per 20 samples
• Matrix spike	1 per 20 samples
• Matrix spike duplicate	1 per 20 samples
• Equipment blank	Per Regional requirements or policy
• Trip blank (VOCs)	1 per sample cooler
• Temperature blank	1 per sample cooler

HEALTH AND SAFETY CONSIDERATIONS

Depending on the site-specific contaminants, various protective programs must be implemented prior to sampling the first well. The site Health and Safety Plan should be reviewed with specific emphasis placed on the protection program planned for the sampling tasks. Standard safe operating practices should be followed, such as minimizing contact with potential contaminants in both the liquid and vapor phase through the use of appropriate personal protective equipment.

Depending on the type of contaminants expected or determined in previous sampling efforts, the following safe work practices will be employed:

Particulate or metals contaminants

1. Avoid skin contact with, and incidental ingestion of, purge water.
2. Use protective gloves and splash protection.

Volatile organic contaminants

1. Avoid breathing constituents venting from well.
2. Pre-survey the well head space with an appropriate device as specified in the Site Health and Safety Plan.
3. If monitoring results indicate elevated organic constituents, sampling activities may be conducted in level C protection. At a minimum, skin protection will be afforded by disposable protective clothing, such as Tyvek®.

General, common practices should include avoiding skin contact with water from preserved sample bottles, as this water will have pH less than 2 or greater than 10. Also, when filling pre-acidified VOA bottles, hydrochloric acid fumes may be released and should not be inhaled.

POST-SAMPLING ACTIVITIES

Several activities need to be completed and documented once ground-water sampling has been completed. These activities include, but are not limited to:

1. Ensure that all field equipment has been decontaminated and returned to proper storage location. Once the individual field equipment has been decontaminated, tag it with date of cleaning, site name, and name of individual responsible.
2. All sample paperwork should be processed, including copies provided to the Regional Laboratory, Sample Management Office, or other appropriate sample handling and tracking facility.
3. All field data should be complied for site records.
4. All analytical data when processed by the analytical laboratory, should be verified against field sheets to ensure all data has been returned to sampler.

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SAMPLING CHECKLIST

Well Identification:_____

Map of Site Included: Y or N
Wells Clearly Identified w/ Roads: Y or N
Well Construction Diagram Attached: Y or N

Well Construction:

Diameter of Borehole:_____ Diameter of Casing:_____
Casing Material:_____ Screen Material:_____

Screen Length:_____ Total Depth:_____

Approximate Depth to Water:_____
Maximum Well Development Pumping Rate:_____
Date of Last Well Development:_____

Previous Sampling Information:

Was the Well Sampled Previously: Y or N
(If Sampled, Fill Out Table Below)

Table of Previous Sampling Information				
Parameter	Previously Sampled	Number of Times Sampled	Maximum Concentration	Notes (include previous purge rates)

Ground-Water Sampling Log

Site Name: **Well #:** **Date:**

Well Depth(Ft-BTOC[1]): **Screen Interval**(Ft):

Well Dia.: **Casing Material:** **Sampling Device:**

Pump placement(Ft from TOC[2]):

Measuring Point: **Water level (static)**(Ft):

Water level (pumping)(Ft): **Pump rate**(Liter/min):

Sampling Personnel:

Other info: (such as sample numbers, weather conditions and field notes)

Water Quality Indicator Parameters

Time	Pumping rates (L/min)	Water level (ft)	DO (mg/l)	ORP (mv)	Turb. (NTU)	SEC[3] (• S/cm)	pH	Temp. (C°)	Volume pumped (L)

Type of Sample collected:

1-casing volume was:

Total volume purged prior to sample collection:

Stabilization Criteria

DO	±	0.3 mg/l
Turb.	±	10%
SEC	±	3%
ORP	±	10 mv
pH	±	0.1 unit

[1]**BTOC-Below Top of Casing**
[2]**TOC-Top of Casing**
[3]**Specific electrical conductance**

Appendix B

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTR

PROJECT NO.:

STAFF: Chris M & Scott M

DATE: 10/12/02

START PURGE: 1200

END PURGE: 1215

WELL NO.: MW-1

1. TOTAL CASING AND SCREEN LENGTH (FT.): 76.92

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 75.54

4. VOLUME OF WATER IN CASING (GAL.): .91

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	.5	1.0	1.5	2.0	2.5	Sampl				
pH	6.34	6.29	6.26	6.26	6.26	6.26	6.26				
SPEC. COND. ~~(µmhos)~~ mS	.165	.163	.162	.160	.157	.156	.156				
TURBIDITY (NTU)	203.0	246	86.2	49.1	23.4	16.3	8.7				
TEMPERATURE (°C)	16.6	18.2	19.5	19.8	19.8	19.9	20.0				
DISSOLVED OXYGEN (mg/L)	5.40	5.43	5.49	5.53	5.63	5.64	5.65				
ORP (mV)	184	170	185	194	200	204	213				
COMMENTS: brn	246	246	246	246	246	246	246				

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Chris M & Scott M

DATE: 10/23/02

START PURGE: 0857

END PURGE: 1330

Sample

WELL NO.: MW-2

		WELL ID.	VOL. (GAL/FT.)
1. TOTAL CASING AND SCREEN LENGTH (FT.):	77.30	1"	0.04
		2"	0.17
2. CASING INTERNAL DIAMETER (IN.):	.66	3"	0.38
		4"	0.66
3. WATER LEVEL BELOW TOP OF CASING (FT.):	74.26	5"	1.04
		6"	1.50
4. VOLUME OF WATER IN CASING (GAL.):	2.0	8"	2.60
#1-#3 x #2 (Gal./Ft.)			

VOLUME OF 3 CASINGS: _____ GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
pH	5.76	5.78	5.77	5.72	5.67	5.67	5.68	5.71	5.76	5.83	3.91
SPEC. COND. (µmhos) mS	.364	.361	.360	.353	.349	.342	.341	.339	.335	.332	.330
TURBIDITY (NTU)	480	559	>1000	876	292.0	234	189	135	99.5	79	55
TEMPERATURE (°C)	16.3	16.5	17.9	19.3	20.3	20.6	20.8	20.9	21.0	20.9	21.0
DISSOLVED OXYGEN (mg/L)	5.61	5.46	5.20	4.97	5.06	5.07	5.13	5.18	5.19	5.19	5.16
ORP mV	172	158	142	149	172	177	182	183	185	189	185
COMMENTS: Depth to water	74.3	74.3	74.3	74.3	74.3	74.2	74.3	74.3	74.3	74.3	74.3

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Chris M & Scott M

DATE: 10/11/02

START PURGE: 0853

END PURGE: 0931

WELL NO.: MW-7

1. TOTAL CASING AND SCREEN LENGTH (FT.): 27.30
2. CASING INTERNAL DIAMETER (IN.): .66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 24.26
4. VOLUME OF WATER IN CASING (GAL.): 2.0

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	~~5.5~~	6.0	6.5	7.0	30 gal						
pH	6.01	6.05	6.08	6.10	6.13						
SPEC. COND. ~~(µmhos)~~ mS	.328	.328	.327	.327	.327						
TURBIDITY (NTU)	45.7	37.7	36.5	34.1	30.6						
TEMPERATURE (°C)	21.0	20.9	21.0	20.9	20.9						
DISSOLVED OXYGEN (mg/L)	5.21	5.22	5.22	5.22	5.23						
ORP mV	189	183	183	183	182						
COMMENTS: Depth to water	24.3	24.7	24.3	24.3	24.3						

URSF-GE12 OF SAMPLING

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 09:21

Pump GT-2 END PURGE:

WELL NO.: MW-3

1. TOTAL CASING AND SCREEN LENGTH (FT.): 77.45
2. CASING INTERNAL DIAMETER (IN.): .66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 73.17
4. VOLUME OF WATER IN CASING (GAL.): 2.82

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: 8.47 GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0 (TRIM 3)	3	6	9	SAMPLE						
pH	5.35	5.55	5.58	5.60	6.16						
SPEC. COND. (µmhos)	.116	.101	.099	.098	.100						
TURBIDITY (NTU)	754	453	107	82.6	20.0						
TEMPERATURE (°C)	16.43	17.45	17.02	17.00	18.38						
DISSOLVED OXYGEN (mg/L)	10.53	9.37	9.28	9.24	10.07						
ORP	209	189	226	240	250						
W.L.	73.17	73.27	73.3	73.27	73.21						
COMMENTS: TIME	09:21	09:26	09:31	09:34	09:45						

Running @ 208.8 Hz

URSF-0012 OF 3/97FLOW

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 11:00

Pump GT-2 END PURGE:

WELL NO.: MW-4

1. TOTAL CASING AND SCREEN LENGTH (FT.): 76.55

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 72.71

4. VOLUME OF WATER IN CASING (GAL.): 2.53

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: 7.60 GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	Initial	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	SAMPLE
pH	6.13	6.34	6.36	6.36	6.35	6.37	6.38	6.38	6.38	6.38	6.31
SPEC. COND. (m S/Cm) (µmhos)	.104	.103	.103	.103	.102	.102	.102	.101	.101	.101	.102
TURBIDITY (NTU)	567	310	415	487	333	163	53	32.9	29.1	26.5	12.3
TEMPERATURE (°C)	17.05	16.78	16.91	17.74	17.84	17.85	17.78	17.84	17.86	17.86	17.89
DISSOLVED OXYGEN (mg/L)	10.45	9.40	8.93	8.86	8.85	8.87	8.78	8.78	8.74	8.74	9.38
ORP	202	192	174	164	169	176	189	194	197	199	223
W.L.	72.71		72.75		72.76		72.77		72.77		72.77
COMMENTS: Time	11:00	11:06	11:08	11:10	11:11	11:13	11:15	11:17	11:19	11:21	11:25

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: CTE

PROJECT NO.:

STAFF: Chris M & Scott M

DATE: 10/13/02

START PURGE: 1425

END PURGE: 1455

WELL NO.: MW-05

1. TOTAL CASING AND SCREEN LENGTH (FT.): 76.05
2. CASING INTERNAL DIAMETER (IN.): .66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 74.14
4. VOLUME OF WATER IN CASING (GAL.): 1.26

#1-#3 x #2 (Gal/Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	Sample
pH	5.64	5.43	5.36	5.39	5.34	5.34	5.34	5.34	5.35	5.35	5.33
SPEC. COND. ~~(µmhos)~~ mS	.154	.152	.151	.152	.152	.153	.154	.155	.156	.156	.157
TURBIDITY (NTU)	308	510	327	210	91	51.3	36.3	25.7	19.8	11.3	9.7
TEMPERATURE (°C)	15.9	17.0	18.1	18.3	18.4	18.7	18.8	18.9	19.0	19.2	19.3
DISSOLVED OXYGEN (mg/L)	5.70	5.58	5.57	5.58	5.62	5.63	5.64	5.62	5.61	5.63	5.63
ORP (mV)	257	240	247	254	261	268	272	276	278	279	281
COMMENTS: Depth to water -	74.22	74.22	74.22	74.21	74.20	74.20	74.20	74.20	74.20	74.21	74.21

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTR
PROJECT NO.:
STAFF: Chris M & Scott M
DATE: 10/13/02
START PURGE: 1020
END PURGE: 1115

WELL NO.: MW-6

1. TOTAL CASING AND SCREEN LENGTH (FT.): 128.91
2. CASING INTERNAL DIAMETER (IN.): .66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 74.32
4. VOLUME OF WATER IN CASING (GAL.): 36.
   #1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	5	10	15	20	25	30	33	34	36	Sample
pH	7.79	7.48	6.85	6.57	6.40	6.32	6.29	6.27	6.28	6.29	6.31
SPEC. COND. (~~µmhos~~) mS	.486	.489	.536	.525	.531	.533	.539	.543	.538	.538	.541
TURBIDITY (NTU)	36.3	41	37.7	4.1	4.5	7.9	4.5	3.7	3.3	3.7	4.1
TEMPERATURE (°C)	14.6	15.1	15.3	15.4	15.4	15.4	15.4	15.9	16.1	16.4	16.4
DISSOLVED OXYGEN (mg/L)	5.40	5.20	6.60	6.52	5.31	5.29	5.37	5.29	5.38	5.27	5.36
ORP (mV)	160	162	208	216	219	224	227	230	228	227	231
COMMENTS: water level	74.32	74.42	74.42	74.42	74.42	74.42	74.42	74.42	74.42	74.42	74.42

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Scott M / Chris M

DATE: 10/13/02

START PURGE: 1530

END PURGE: 1600

WELL NO.: MW-7

1. TOTAL CASING AND SCREEN LENGTH (FT.): 78.80
2. CASING INTERNAL DIAMETER (IN.): 1.66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 74.91
4. VOLUME OF WATER IN CASING (GAL.): 2.6

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.68
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	Sample	
pH	6.13	6.11	6.13	6.14	6.14	6.15	6.17	6.17	6.18	6.18	
SPEC. COND. (µmhos) µS	.178	.177	.177	.177	.175	.176	.179	.180	.181	.183	
TURBIDITY (NTU)	115	94.4	80.3	67.1	59.2	33.0	19.1	17.9	17.6	14.2	
TEMPERATURE (°C)	16.4	16.5	16.5	16.8	17.5	17.7	17.7	17.7	17.8	17.8	
DISSOLVED OXYGEN (mg/L)	5.39	5.39	4.83	4.66	4.41	4.43	4.46	4.47	4.46	4.46	
ORP (mV)	203	204	200	197	197	200	205	206	207	208	
COMMENTS: Depth to water	75.03	75.02	75.02	75.03	75.03	75.03	75.03	75.03	75.03	75.03	

URS-Grab Sample

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Rob Murphy / Bob Fabian

DATE: 10-12-02 START PURGE: 12:25

Pump - Pine #3 END PURGE:

WELL NO.: MW-8

1. TOTAL CASING AND SCREEN LENGTH (FT.): 130.25

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 72.91

4. VOLUME OF WATER IN CASING (GAL.): 37.84

#1-#3 x #2 (Gal/Ft.)

VOLUME OF 3 CASINGS: 113.53 GAL.

WELL ID.	VOL. (GAL/FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	Initial	3	6	9	12	15	18	21	24	27	30
pH	6.92	6.48	6.43	6.42	6.40	6.42	6.41	6.42	6.42	6.42	6.42
SPEC. COND. (µmhos)	.161	.172	.171	.171	.171	.172	.172	.173	.173	.174	.173
TURBIDITY (NTU)	205	151	102	46.3	29	29.6	21	18.9	17.9	17.8	16.3
TEMPERATURE (°C)	16.09	15.24	15.34	15.36	15.36	15.35	15.35	15.35	15.35	15.34	15.35
DISSOLVED OXYGEN (mg/L)	9.68	7.70	7.87	7.87	7.84	7.85	7.82	7.81	7.81	7.80	7.79
ORP	85	85	119	149	159	168	175	179	182	186	190
W.L.	72.91	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94	72.94
COMMENTS: TIME	12:25	12:30	12:33	12:36	12:39	12:42	12:45	12:48	12:51	12:54	12:57

Pumping @ 227.1 Hz (≈ 1 gal/min)

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Rob Murphy / Bob Fabian

DATE: 10-13-02 START PURGE:

END PURGE:

WELL NO.: MW-8 cont...

1. TOTAL CASING AND SCREEN LENGTH (FT.):
2. CASING INTERNAL DIAMETER (IN.):
3. WATER LEVEL BELOW TOP OF CASING (FT.):
4. VOLUME OF WATER IN CASING (GAL.):
   #1-#3 x #2 (Gal/Ft.)

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

VOLUME OF 3 CASINGS: ___ GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	33	36	39	SAMPLE							
pH	6.43	6.43	6.43	6.51							
SPEC. COND. (µmhos)	.173	.174	.174	.175							
TURBIDITY (NTU)	15.8	15.8	15	17.5							
TEMPERATURE (°C)	15.34	15.34	15.41	15.80							
DISSOLVED OXYGEN (mg/L)	7.79	7.77	7.75	9.54							
ORP	193	195	196	197							
W.L.	72.94	72.95	72.93	72.93							
COMMENTS: Time	13:00	13:03	13:06	13:10							

– Took blind Dup here too

URGP-02/16 OF SHAPLOSM

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 14:55

Pump GT-2 END PURGE:

WELL NO.: MW-9

1. TOTAL CASING AND SCREEN LENGTH (FT.): 85.2

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 73.59

4. VOLUME OF WATER IN CASING (GAL.): 7.66

#1-#3 x #2 (Gal/FL)

VOLUME OF 3 CASINGS: 22.98 GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	Initial	2	3	4	5	6	7	8	9	10	Sample
pH	6.52	5.87	5.63	5.45	5.34	5.29	5.28	5.27	5.27	5.27	5.26
SPEC. COND. (µmhos)	.061	.043	.038	.036	.035	.034	.034	.033	.034	.034	.034
TURBIDITY (NTU)	201	43.4	30.9	25.5	20.7	19.1	18.7	18.8	19.3	18.7	11
TEMPERATURE (°C)	16.00	16.22	16.37	16.46	16.51	16.54	16.56	16.56	16.55	16.55	16.84
DISSOLVED OXYGEN (mg/L)	10.56	8.40	8.76	8.99	9.04	9.00	9.01	8.97	9.00	8.98	10.25
ORP	66	132	169	195	216	231	240	244	247	250	261
W.L.	73.59	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.62
COMMENTS: TIME	14:55	15:57	14:00	14:03	14:05	14:07	14:08	14:09	14:10	14:11	14:15

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 14:55

Pump GT-2 END PURGE:

WELL NO.: MW-9

		WELL ID.	VOL. (GAL./FT.)
1. TOTAL CASING AND SCREEN LENGTH (FT.):	85.2	1"	0.04
		2"	0.17
2. CASING INTERNAL DIAMETER (IN.):	.66	3"	0.38
		4"	0.66
3. WATER LEVEL BELOW TOP OF CASING (FT.):	73.59	5"	1.04
		6"	1.50
4. VOLUME OF WATER IN CASING (GAL.):	7.66	8"	2.60

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: 22.98 GAL.

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	Initial	2	3	4	5	6	7	8	9	10	Sample
pH	6.52	5.87	5.63	5.45	5.34	5.29	5.28	5.27	5.27	5.27	5.26
SPEC. COND. (µmhos)	.061	.043	.038	.036	.035	.034	.034	.033	.034	.034	.034
TURBIDITY (NTU)	201	43.4	30.9	25.5	20.7	19.1	18.7	18.8	19.3	18.7	11
TEMPERATURE (°C)	16.00	16.22	16.37	16.46	16.51	16.54	16.56	16.56	16.55	16.55	16.84
DISSOLVED OXYGEN (mg/L)	10.55	8.40	8.76	8.99	9.04	9.00	9.01	8.97	9.00	8.98	10.25
ORP	66	132	169	195	216	231	240	244	247	250	261
W.L.	73.59	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.64	73.62
COMMENTS: TIME	14:55	13:57	14:00	14:03	14:05	14:07	14:08	14:09	14:10	14:11	14:15

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 14:54

Pine #3 END PURGE:

WELL NO.: MW-10

1. TOTAL CASING AND SCREEN LENGTH (FT.): 130.00

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 73.40

4. VOLUME OF WATER IN CASING (GAL.): 37.3

#1-#3 x #2 (Gal/Ft.)

VOLUME OF 3 CASINGS: 112 GAL

WELL ID.	VOL. (GAL/FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										SAMPLE
	~~0~~ Initial	3	6	9	15	~~20~~	~~+8 25~~	~~21~~ 30	~~33~~ 24	~~40~~ 29	~~30~~
pH	5.47	5.38	5.29	5.23	5.20	5.17	5.17	5.17	5.17	5.17	5.22
SPEC. COND. (µmhos)	.057	.060	.058	.059	.059	.060	.060	.060	.060	.061	.063
TURBIDITY (NTU)	119	54.6	36.1	28.9	21.3	17.7	16.1	15.0	14.5	14.2	15.5
TEMPERATURE (°C)	15.10	14.78	14.91	14.97	14.98	~~8.30~~ 14.98	14.98	14.98	14.98	14.99	15.56
DISSOLVED OXYGEN (mg/L)	9.73	8.38	8.37	8.32	8.28	~~14.~~ RTF 8.30	8.31	8.32	8.29	8.28	9.74
ORP	226	227	251	273	284	294	300	306	309	312	307
W.L.	73.40	73.51	73.50	73.50	73.50	73.50	73.50	73.50	73.51	73.51	73.46
COMMENTS: Time	14:54	14:57	15:00	15:02	15:06	15:11	15:16	15:21	15:26	15:31	15:40

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Chris M, Sean B

DATE: 10/17/02 START PURGE: 1250

END PURGE: 1300

WELL NO.: MW-11

1. TOTAL CASING AND SCREEN LENGTH (FT.): 79.93
2. CASING INTERNAL DIAMETER (IN.): .66
3. WATER LEVEL BELOW TOP OF CASING (FT.): 73.65
4. VOLUME OF WATER IN CASING (GAL.): 4.1

#1-#3 x #2 (Gal/Ft.)

VOLUME OF 3 CASINGS: _____ GAL.

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	Sample
pH	6.36	6.33	6.28	6.23	5.91	5.82	5.80	5.75	5.71	5.70	5.70
SPEC. COND. (µmhos) mS	.079	.077	.079	.072	.064	.064	.064	.064	.064	.064	.064
TURBIDITY (NTU)	122	101	89.6	80.6	47.6	46.3	41.2	39.2	35.3	34.3	34.0
TEMPERATURE (°C)	16.9	17.1	17.3	17.4	17.8	17.9	17.9	18.0	18.1	18.1	18.1
DISSOLVED OXYGEN (mg/L)	5.28	5.18	5.20	5.24	5.47	5.50	5.50	5.51	5.51	5.53	5.59
ORP (mV)	253	254	256	259	271	272	270	270	267	264	264
COMMENTS: Depth to wtr	73.75	73.75	73.75	73.75	73.75	73.75	73.75	73.75	73.75	73.75	73.75

WELL PURGING LOG

URS CONSULTANTS, INC.

PROJECT TITLE: GTE

PROJECT NO.:

STAFF: Bob Fabian / Rob Murphy

DATE: 10-13-02 START PURGE: 16:05

Pine #2 END PURGE:

WELL NO.: MW-12

1. TOTAL CASING AND SCREEN LENGTH (FT.): 129.5

2. CASING INTERNAL DIAMETER (IN.): .66

3. WATER LEVEL BELOW TOP OF CASING (FT.): 74.21

4. VOLUME OF WATER IN CASING (GAL.): 36.49

#1-#3 x #2 (Gal./Ft.)

VOLUME OF 3 CASINGS: 109.47 GAL

WELL ID.	VOL. (GAL./FT.)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	Initial	5	10	15	20	25	30	35	40	SAMPLE
pH	7.53	7.03	7.01	7.02	7.05	7.06	7.05	7.07	7.06	7.25
SPEC. COND. (µmhos)	.207	.224	.233	.233	.242	.245	.240	.243	.248	.248
TURBIDITY (NTU)	122	42.9	34.1	28.3	25.9	23.4	25.1	21.2	21.0	15.8
TEMPERATURE (°C)	14.45	14.02	14.07	14.10	14.15	14.15	14.17	14.15	14.32	14.85
DISSOLVED OXYGEN (mg/L)	9.78	2.46	2.65	2.73	2.88	2.99	3.03	3.20	3.35	7.02
ORP	257	209	171	120	80	67	61	56	53	82
W.L.	74.21	74.36	74.35	74.33	74.35	74.39	74.33	74.33	74.25	74.25
COMMENTS: Time	16:05	16:10	16:14	16:18	16:22	16:26	16:30	16:34	16:38	16:45

URSF-0014 OF 3/4/PLUGM

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: 3-15-03
SAMPLERS: A Wood, K Hayes
WEATHER: Fine, windy 36°F

WELL IDENTIFICATION NUMBER: MW-01 PERMIT: --

WELL HEADSPACE READING: -- PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 73.77 FEET FROM TOP OF CASING
WELL DEPTH: 77.00 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- 3.23 FEET
WATER IN ONE WELL VOLUME: -- 2.10 GALLONS
PURGE TIME (start/finish): 1318 to 1356 PURGE RATE: 0.30 l/m
WELL EVACUATION DEVICE: Rediflow electrosubmersible
SAMPLING TIME (start/finish): 1400 to 1412 SAMPLE RATE: 100 ml/min for VOA
SAMPLE COLLECTION DEVICE: Rediflow electrosubmersible 150 ml/min for Radiometals
SAMPLE APPEARANCE: Clear clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1320 ~~1346~~	1325	1335	1340	1345	1350	1355			
pH (SU)	7.53	6.95	6.87	6.68	6.65	6.64	6.61			
specific conductivity (mS)	0.075	0.071	0.070	0.069	0.069	0.069	0.070			
turbidity (NTU's)	4	5	7	7	4	4	2			
dissolved oxygen (mg/l)	7.22	5.40	6.00	5.64	6.09	6.11	6.13			
temperature (degrees C)	12.9	13.6	19.0	19.8	20	19.9	19.9			
redox potential (mv)	223	201	174	173	174	176	176			
depth to water (feet)	73.81	73.77	73.78	73.78	73.78	73.78	73.78			
volume purged (~~gal or~~ L)	~~73.76~~ 1.5	~~73.77~~ 3.0	6.0	7.5	9.0	10.5	12.0			

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (Inches)	(gallons per foot)
2.0	0.1632
(4.0)	(0.6528)
6.0	1.4687
8.0	2.6115

NOTES: soft bottom, windy, open top flowthrough cell. Water surface subject to wind effects. Pump blockage / outages 1325 to 1335 hr, Dwelt to 300 ml/min at 1332 hr

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: 3-15-03
SAMPLERS: R Wood, K Hayes
WEATHER: Fine, windy 36°F

WELL IDENTIFICATION NUMBER: MW-02 PERMIT: --

WELL HEADSPACE READING: -- 0 PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 73.48 FEET FROM TOP OF CASING
WELL DEPTH: 79.00 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- 5.52 FEET
WATER IN ONE WELL VOLUME: -- 3.60 GALLONS
PURGE TIME (start/finish): 1125 to 1210 PURGE RATE: 0.3 l/min
WELL EVACUATION DEVICE: Rediflow electrosubmersible
SAMPLING TIME (start/finish): 1215 to 1228 SAMPLE RATE: 100ml/m for VOA. 150ml/min for others.
SAMPLE COLLECTION DEVICE: Rediflow electrosubmersible
SAMPLE APPEARANCE: Clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1130	1135	1140	1145	1150	1155	1200	1205	1210	
pH (SU)	7.16	7.23	7.11	7.10	7.28	7.12	7.08	7.06	7.06	
specific conductivity (mS)	0.257	0.262	0.262	0.262	0.262	1261	0.261	0.259	0.259	
turbidity (NTU's)	25	31	37	35	29	21	20	18	16	
dissolved oxygen (mg/l)	10.75	10.24	9.64	10.02	9.4	2.81	3.23	3.32	3.15	
temperature (degrees C)	13.4	14.0	14.4	14.6	14.8	14.9	15.4	15.8	16.0	
redox potential (mv)	172	152	140	143	150	147	135	124	120	
depth to water (feet)	73.48	73.48	73.48	73.48	73.48	73.48	73.48	73.48	73.48	
volume purged (~~gal~~ or L)	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	(0.6528)
6.0	1.4687
8.0	2.6115

NOTES: soft bottom, windy conditions. Open top flow through cells. Constant aeration of water surface. Sample rate: 100ml/min VOA. 150ml/min radiochem & metals.

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001 DATE: 3-16-03
PROJECT NAME: GTEOSI SAMPLERS: A Wood
SITE LOCATION: Hicksville K Hayes
SITE CONTACT: Jean Agostinelli WEATHER: fine, light breeze 45°F

WELL IDENTIFICATION NUMBER: MW 3 PERMIT: --

WELL HEADSPACE READING: - 0 PID MODEL/LAMP: -
DEPTH TO WATER (Before Purging): 72.33 FEET FROM TOP OF CASING
WELL DEPTH: 77.75 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: - 5.42 FEET
WATER IN ONE WELL VOLUME: - 3.53 GALLONS
PURGE TIME (start/finish): 0935 ~ 1030 PURGE RATE: 0.32 l/min
WELL EVACUATION DEVICE: Electrosubmersible
SAMPLING TIME (start/finish): 1032 to 1050 SAMPLE RATE: 100 ml/min VOA, 150 ml/min Add a metals
SAMPLE COLLECTION DEVICE: Electrosubmersible
SAMPLE APPEARANCE: clear, clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	0940	0945	0950	0955	1000	1005	1015	1020	1025	1030
pH (SU)	5.86	6.31	6.45	6.51	6.53	missed	6.63	6.63	6.63	6.64
specific conductivity (mS)	0.117	0.110	0.105	0.104	0.105		0.105	0.105	0.105	0.105
turbidity (NTU's)	7	7	9	10	10		12	10	10	10
dissolved oxygen (mg/l)	6.89	5.62	5.43	5.38	5.14		5.76	5.49	5.52	5.50
temperature (degrees C)	14.5	15.1	16.3	17.4	17.1		19.2	19.2	19.1	19.2
redox potential (mv)	238	228	210	190	190		185	182	182	180
depth to water (feet)	72.33	72.33	72.33	72.33	72.33		72.33	72.33	72.33	72.33
volume purged (~~gal or~~ L)	1.6	3.2	4.8	6.4	8.0	9.6	11.2	12.8	14.4	16.0

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: soft bottom
samples (MW DUP & MW3)
sample times MW3 = 1032 hr (MW 3)
MWDUP = ~~1034 hr~~ aw 0900 hr
pump stopped at 1004, 1004 to 1010 restart at 1010 hr at 9.6 l total.

MALCOLM PIRNIE

17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville

DATE: 3/16/03
SAMPLERS: John Jerovits, Emily Moshier

SITE CONTACT: Jean Agostinelli

WEATHER: Sunny, Slight Breeze 45°F

WELL IDENTIFICATION NUMBER: MW-4

PERMIT: --

WELL HEADSPACE READING: --
PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 71.91 FEET FROM TOP OF CASING
WELL DEPTH: 80.00 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- FEET
WATER IN ONE WELL VOLUME: -- GALLONS
PURGE TIME (start/finish): 1108/1130
PURGE RATE: 400 ml/min
WELL EVACUATION DEVICE:
SAMPLING TIME (start/finish): 1131/1196
SAMPLE RATE: 100ml/min / 200ml/min
SAMPLE COLLECTION DEVICE:
SAMPLE APPEARANCE: Clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1115	1120	1125	1130						
pH (SU)	6.30	6.31	6.33	6.33						
specific conductivity (mS)	0.125	0.125	0.126	0.126						
turbidity (NTU's)	4	10	10	10						
dissolved oxygen (mg/l)	6.76	6.16	6.95	6.89						
temperature (degrees C)	19.0	18.6	18.2	18.6						
redox potential (mv)	334	345	381	381						
depth to water (feet)	71.93	71.93	71.93	71.93						
volume purged (gal or L)	2	4	6	8						

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES:

MALCOLM PIRNIE

17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: March 18, 2003
SAMPLERS: Emily Nicholas, John Hoch
WEATHER: Partly Cloudy, 35°F

WELL IDENTIFICATION NUMBER: MW-5 PERMIT: --

WELL HEADSPACE READING: -- PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 73.39 FEET FROM TOP OF CASING
WELL DEPTH: 78.00 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- FEET
WATER IN ONE WELL VOLUME: -- GALLONS
PURGE TIME (start/finish): 1150 / 12:50 PURGE RATE: 400 mL/min
WELL EVACUATION DEVICE:
SAMPLING TIME (start/finish): 12:52 / 13:07 SAMPLE RATE: 100 mL/min VOC, 200 mL/min Rad/Metals
SAMPLE COLLECTION DEVICE:
SAMPLE APPEARANCE: Clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th (2)	8th	9th
time (00:00)	1200	1205	1210	1215	1220	1225	1230	1240	1245	1250
pH (SU)	5.71	5.74	5.77	5.79	5.80	5.82	5.80	5.87	5.87	5.88
specific conductivity (mS)	.128	.124	.119	.117	.118	.118	.118	.119	.116	.116
turbidity (NTU's)	91	86	67	39	35	25	21	29	28	17
dissolved oxygen (mg/l)	6.15	6.72	6.79	6.56	6.39	6.21	8.45	5.90	5.70	6.08
temperature (degrees C)	14.1	14.5	16.3	18.1	18.6	19.1	18.8	16.4	16.3	16.8
redox potential (mv)	220	202	195	208	212	217	225	224	227	225
depth to water (feet)	73.35	73.37	73.37	73.37	73.37	73.37	73.37	73.37	73.37	73.37
volume purged (gal or L)	initial	4	6	8	10	12	14	16	20	22

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: Pump flow adjusted @ 1235

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: March 16, 2003
SAMPLERS: Emily Mashiv, John Fitzpatrick
WEATHER: Sunny Slight Breeze, 4

WELL IDENTIFICATION NUMBER: MW-6
PERMIT: --

WELL HEADSPACE READING: --
PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 73.55 FEET FROM TOP OF CASING
WELL DEPTH: 132.90 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- FEET
WATER IN ONE WELL VOLUME: -- GALLONS
PURGE TIME (start/finish): 0935 / 1025
PURGE RATE: 400 ml/min
WELL EVACUATION DEVICE: Grundfos Submersible w/ disposable poly
SAMPLING TIME (start/finish): 1026 / 1040
SAMPLE RATE: 100 ml/min VOC, 200 ml/min
SAMPLE COLLECTION DEVICE:
SAMPLE APPEARANCE: clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	0940	0945	0950	0955	1000	1005	1010	1015	1020	1025
pH (SU)	6.57 (GW) .395	6.81	6.91	6.74	6.85	6.84	6.82	6.80	6.78	6.78
specific conductivity (mS)	.395	.409	.415	.437	.436	.439	.438	.439	.439	.439
turbidity (NTU's)	0	12		5	1	5	7	9	10	10
dissolved oxygen (mg/l)	5.52	7.09		7.21	6.57	6.18	6.28	6.28	6.31	6.12
temperature (degrees C)	14.8	14.6		15.5	15.7	15.8	15.8	15.9	15.9	16.0
redox potential (mv)	153	150	124	139	152	167	176	185	191	195
depth to water (feet)	73.55	73.55	73.58	73.58	73.57	73.58	73.58	73.58	73.58	73.58
volume purged (gal or L)	2	4	6	8	10	12	14	16	18	20

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: 0950 - recalibrated U10

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER:	4563 001	DATE:	3-15-03
PROJECT NAME:	GTEOSI	SAMPLERS:	Ken Hayes
SITE LOCATION:	Hicksville		H. Wood
SITE CONTACT:	Jean Agostinelli	WEATHER:	Cloudy windy 35°F

WELL IDENTIFICATION NUMBER: MW-7 PERMIT: --

WELL HEADSPACE READING:	-- 0	PID MODEL/LAMP:	--
DEPTH TO WATER (Before Purging):	74.11	FEET FROM TOP OF CASING	
WELL DEPTH:	82.70	FEET FROM TOP OF CASING	
HEIGHT OF WATER IN WELL:	- 8.59	FEET	
WATER IN ONE WELL VOLUME:	- 5.61	GALLONS	
PURGE TIME (start/finish):	0930 to 1011hr	PURGE RATE:	330 ml/min
WELL EVACUATION DEVICE:	Rediflow pump electrosubmersible		
SAMPLING TIME (start/finish):	1012 to 1028	SAMPLE RATE:	150ml/min, VOA=100ml/min
SAMPLE COLLECTION DEVICE:	Rediflow pump - electrosubmersible		
SAMPLE APPEARANCE:	clear clear		

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	0938	0943	0948	0953	0958	1003	1008			
pH (SU)	5.67	6.51	6.69	6.70	6.70	6.71	6.68			
specific conductivity (mS)	0.44	0.129	0.122	0.123	0.126	0.126	0.129			
turbidity (NTU's)	6	6	6	2	1	1	0			
dissolved oxygen (mg/l)	4.11	2.65	3.90	3.86	11.27	11.40	12.0			
temperature (degrees C)	12.3	12.5	13.1	14.3	14.5	14.7	14.8			
redox potential (mv)	124	138	142	145	152	154	157			
depth to water (feet)	~~74~~ 74.12	74.11	74.11	74.11	74.11	74.11	74.11			
volume purged (~~gal~~ L)	2.64	4.29	5.94	7.59	9.24	10.90	12.6			

74.12

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED:	VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY:	STL St.Louis
CONTACT:	John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: Soft bottom Windy conditions Open top to Flow Through cell.

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: 3-16-03
SAMPLERS: A Wood, K Hayes
WEATHER: Fine light breeze 45°F

WELL IDENTIFICATION NUMBER: MW-8 PERMIT: --

WELL HEADSPACE READING: -- PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 72.08 FEET FROM TOP OF CASING
WELL DEPTH: 130.30 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- 57.5 FEET
WATER IN ONE WELL VOLUME: -- 37.54 GALLONS
PURGE TIME (start/finish): 1120 to 1154 PURGE RATE: 0.3 l/min
WELL EVACUATION DEVICE: Electrosubmersible
SAMPLING TIME (start/finish): 1155 to 1207 SAMPLE RATE: 100ml/min VOA, 150ml/min Radionuclides
SAMPLE COLLECTION DEVICE: electrosubmersible
SAMPLE APPEARANCE: clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1128	1133	1138	1143	1148	1153				
pH (SU)	7.12	7.29	7.28	7.38	7.30	7.33				
specific conductivity (mS)	0.17	0.182	0.188	0.190	0.191	0.191				
turbidity (NTU's)	10	10	10	8	9	9				
dissolved oxygen (mg/l)	7.9	5.95	5.68	5.83	5.58	5.57				
temperature (degrees C)	16.9	15.8	15.9	16.3	16.2	16.2				
redox potential (mv)	181	164	150	151	149	148				
depth to water (feet)	72.08	72.08	72.08	72.08	72.08	72.08				
volume purged (~~gal or~~ L)	2.4	3.9	5.4	6.9	8.4	9.9				

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: Sample MW8 at 1155 hr
sample rate = 100ml/min VOA, 150ml/min Rad + metals

MALCOLM PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001 DATE: 3/15/03
PROJECT NAME: GTEOSI SAMPLERS: John Illovits, Emily Mosher
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli WEATHER: Partly Cloudy

WELL IDENTIFICATION NUMBER: MW-9 PERMIT: --

WELL HEADSPACE READING: -- PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): ~~82.8~~ 72.77 FEET FROM TOP OF CASING
WELL DEPTH: 86.5 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- FEET
WATER IN ONE WELL VOLUME: -- GALLONS
PURGE TIME (start/finish): 1600/1630 PURGE RATE: 400 mL/min
WELL EVACUATION DEVICE:
SAMPLING TIME (start/finish): 1632/1647 SAMPLE RATE: 100 ml/min VOA 800 ml/min
SAMPLE COLLECTION DEVICE:
SAMPLE APPEARANCE: Clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1605	1610	1615	1620	1625	1630				
pH (SU)	5.55	5.52	5.49	5.46	5.44	5.43				
specific conductivity (mS)	.041	0.039	.037	.036	.036	.036				
turbidity (NTU's)	0	0	0	0	1	1				
dissolved oxygen (mg/l)	7.66	7.61	7.35	7.31	7.23	6.83				
temperature (degrees C)	14.1	15.0	15.8	16.3	16.6	16.7				
redox potential (mv)	284	286	288	294	298	302				
depth to water (feet)	72.78	72.78	72.76	72.77	72.77	72.77				
volume purged (gal or L)	2/initial	4	6	8	10	12				

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES:

PIRNIE 17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: 3/15/03
SAMPLERS: John Ifkovits, Emily Mosher
WEATHER: P Cloudy Breezy 37

WELL IDENTIFICATION NUMBER: MW-10
PERMIT: --

WELL HEADSPACE READING: --
PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 72.64 FEET FROM TOP OF CASING
WELL DEPTH: 130 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -- FEET
WATER IN ONE WELL VOLUME: -- GALLONS
PURGE TIME (start/finish): ~~15:30~~ 14:30 / 15:17
PURGE RATE: 400 ml/min
WELL EVACUATION DEVICE:
SAMPLING TIME (start/finish): 15:18 / 15:45
SAMPLE RATE: 100/200 ml/min
SAMPLE COLLECTION DEVICE:
SAMPLE APPEARANCE: Clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1435	1440	1445	1450	1455	1500	1505	1510	1515	
pH (SU)	5.46	5.25	5.24	5.24	5.26	5.27	5.29	5.29	5.30	
specific conductivity (mS)	.073	.109	.113	.112	.109	.107	.107	.106	.107	
turbidity (NTU's)	0	0	0	0	0	0	0	0	0	
dissolved oxygen (mg/l)	5.00	5.85	5.84	5.65	5.65	5.72	5.67	5.64	5.72	
temperature (degrees C)	14.2	15.2	15.6	15.8	15.8	15.9	15.8	15.9	15.8	
redox potential (mv)	267	233	244	263	273	278	283	283	284	
depth to water (feet)	72.64	72.64	72.64	72.64	72.64	72.64	72.64	72.64	72.64	
volume purged (gal or L)	2	4	6	8	10	12	14	16	18	

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
4.0	0.6528
6.0	1.4687
8.0	2.6115

NOTES: MS/MSD Triple volume

MALCOLM PIRNIE

17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001 DATE: 3-15-03

PROJECT NAME: GTEOSI SAMPLERS: A Wood

SITE LOCATION: Hicksville Mr Hayes

SITE CONTACT: Jean Agostinelli WEATHER: Fine Windy 36°F

WELL IDENTIFICATION NUMBER: MW-11 PERMIT: --

WELL HEADSPACE READING: - 0 PID MODEL/LAMP: --

DEPTH TO WATER (Before Purging): 72.90 FEET FROM TOP OF CASING

WELL DEPTH: 80.25 FEET FROM TOP OF CASING

HEIGHT OF WATER IN WELL: - 7.30 FEET

WATER IN ONE WELL VOLUME: - 4.57 GALLONS

PURGE TIME (start/finish): 1538 to 1619 PURGE RATE: 0.3 l/min

WELL EVACUATION DEVICE: Redi flow electrosubmersible

SAMPLING TIME (start/finish): 1622 to 1638 SAMPLE RATE: 100 ml/min VOA, 150 ml/min Rad + metals

SAMPLE COLLECTION DEVICE: Redi flow electrosubmersible

SAMPLE APPEARANCE: clear, clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1544 ~~1444~~	1549	1554	1559	1604	1609	1614	1619		
pH (SU)	7.10	6.80	6.78	6.69	6.68	6.50	6.50	6.50		
specific conductivity (mS)	0.044	0.04	0.04	0.040	0.04	0.04	0.04	0.04		
turbidity (NTU's)	1	0	0	0	0	0	0			
dissolved oxygen (mg/l)	8.2	7.30	7.10	7.60	7.80	7.30	7.3	7.28		
temperature (degrees C)	11.6	12.0	12.0	13.0	13.0	13.0	13	13		
redox potential (mv)	175	188	188	188	187	184	184	184		
depth to water (feet)	72.90	72.90	72.90	72.90	72.90	72.90	72.90	72.90		
volume purged (~~gal~~ or L)	2.65	4.15	5.65	7.15	8.65	10.15	11.65	13.15		

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals

LABORATORY: STL St.Louis

CONTACT: John Powel

Casing Diameter/Volume conversions	
(inches)	(gallons per foot)
2.0	0.1632
(4.0)	(0.6528)
6.0	1.4687
8.0	2.6115

NOTES: Little sludge on bottom, lower rate after initial reading to 0.3 l/min, Open top flow through cell.
Flow rates = 100 ml/min for VOA
= 150 ml/min for Rad + metals

MALCOLM PIRNIE

17-17 ROUTE 208 NORTH, FAIRLAWN, NEW JERSEY 07410

GROUNDWATER MONITORING WELL SAMPLE COLLECTION LOGS

PROJECT NUMBER: 4563 001
PROJECT NAME: GTEOSI
SITE LOCATION: Hicksville
SITE CONTACT: Jean Agostinelli

DATE: 3-15-03
SAMPLERS: A Wood, K Hayes.
WEATHER: windy 35°

WELL IDENTIFICATION NUMBER: MW-12 PERMIT: --

WELL HEADSPACE READING: -0 PID MODEL/LAMP: --
DEPTH TO WATER (Before Purging): 73.42 FEET FROM TOP OF CASING
WELL DEPTH: 129.65 FEET FROM TOP OF CASING
HEIGHT OF WATER IN WELL: -56.32 FEET
WATER IN ONE WELL VOLUME: -36.71 GALLONS
PURGE TIME (start/finish): 1653 to 1728 PURGE RATE: 300 ml/min
WELL EVACUATION DEVICE: Rediflow electrosubmersible
SAMPLING TIME (start/finish): 1730 to 1747 SAMPLE RATE: 100 ml/min VOA, 150 ml/min rad-metals
SAMPLE COLLECTION DEVICE: Rediflow electrosubmersible
SAMPLE APPEARANCE: clear

FIELD PARAMETERS	initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
time (00:00)	1658	1703	1708	1713	1718	1723	1728			
pH (SU)	7.1	7.40	7.50	7.50	7.50	7.50	7.50			
specific conductivity (mS)	0.17	0.18	0.17	0.18	0.18	0.18	0.18			
turbidity (NTU's)	0	0	0	0	0	0	0			
dissolved oxygen (mg/l)	4.08	2.42	7.5	2.5	2.0	1.8	1.8			
temperature (degrees C)	12.1	12.0	12.0	12.0	12.0	12.0	12			
redox potential (mv)	157	154	149	149	143	141	141			
depth to water (feet)	73.42	73.42	73.42	73.42	73.42	73.42	73.42			
volume purged (~~gal~~ L)	1.5	3	4.5	6.0	7.5	9.0	10.5			

SAMPLE ANALYSIS INFORMATION

ANALYSIS REQUIRED: VOC's,, Isotopic Uranium, Isotopic Thorium, Technetium 99, Isotopic Radium, and select metals
LABORATORY: STL St.Louis
CONTACT: John Powel

Casing Diameter/Volume conversions (inches)	(gallons per foot)
2.0	0.1632
(4.0)	(0.6528)
6.0	1.4687
8.0	2.6115

NOTES: 1730hr Sample time
100 ml/min VOA
150 ml/min Rad & metal

Appendix C

Boring ID:

MALCOLM PIRNIE, INC.

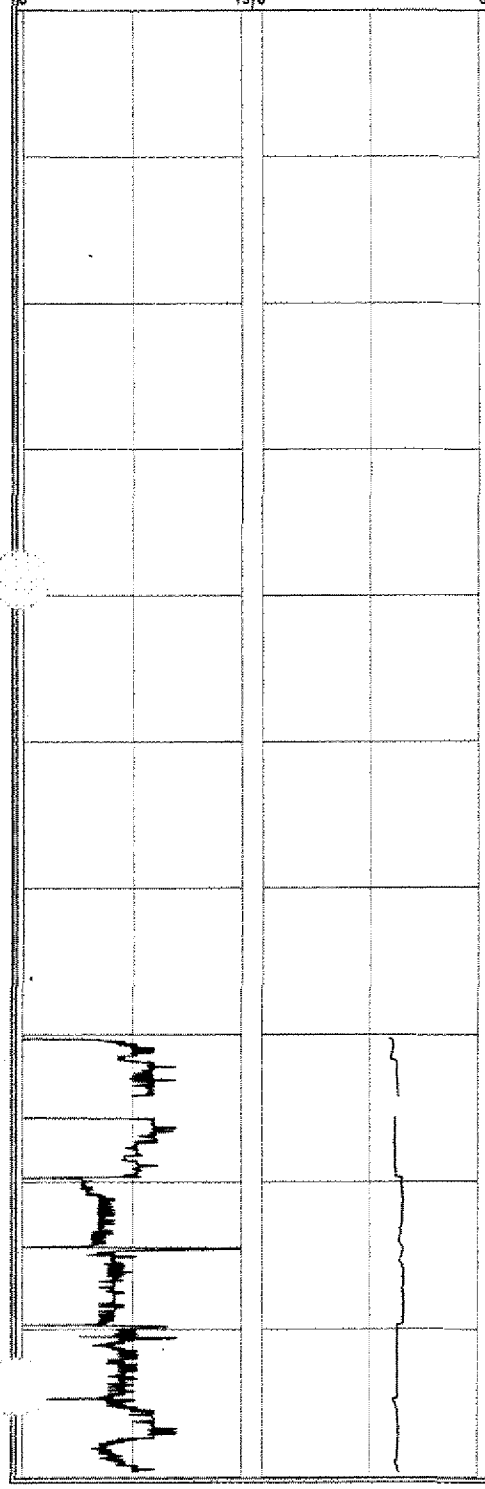
7 Route 208 North Fair Lawn, NJ 07401

P-15

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd,
DRILLING METHOD:	Mud Rotary	WEATHER:	adjacent to Nassau Co driving range
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 336.2 ft Total depth of Boring: 280 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL; dark brown	SP-GP		Hollow stem auger used from 0 to 10 ft. Begin mud rotary drilling at 10 ft
10	Well-graded SAND (fine to coarse); tan	SW		
20	Poorly-graded SAND (coarse) with gravel (fine); tan to light brown	SP-GP		
30				Gravel fraction increases with depth
40				
50	Well-graded SAND (fine to coarse); tan	SW		
60	Poorly-graded SAND (fine to medium); tan to gray	SP		
70	Well-graded SAND (fine to coarse) with some gravel (fine); tan to gray	SW		Profile data gap due to poor KPRO equilibration
80	Poorly-graded SAND (fine to medium) with trace gravel (fine); tan to gray	SP		
90	Poorly-graded SAND (fine to medium) with trace gravel (fine); tan to gray	SP		

Boring ID:

MALCOLM PIRNIE, INC.

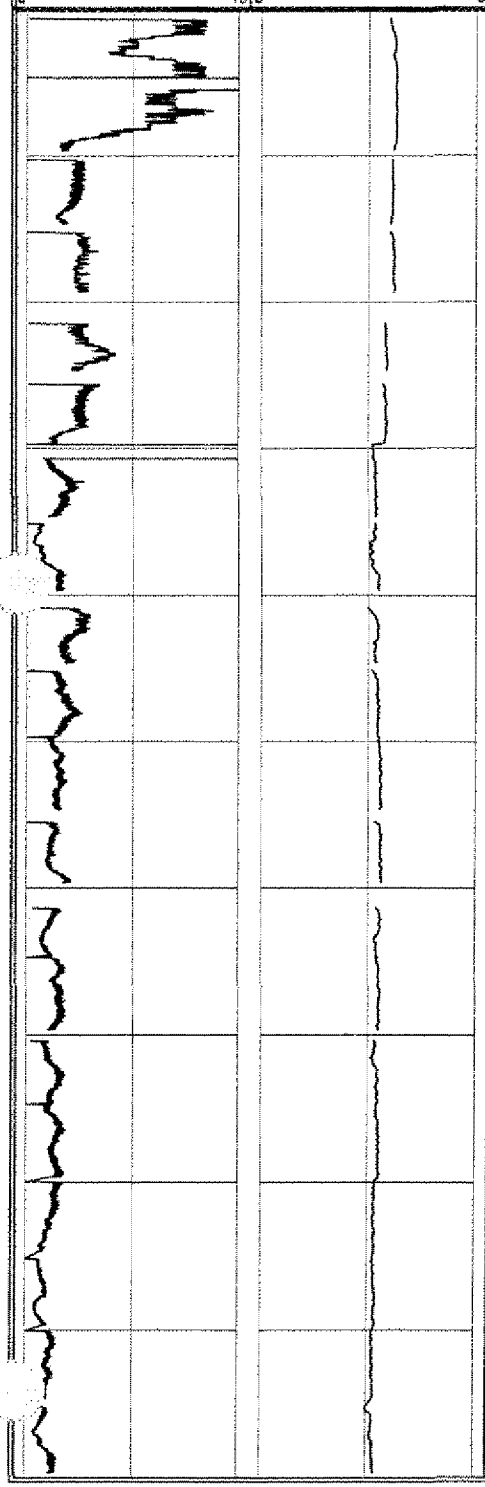
P-15

7 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd,
DRILLING METHOD:	Mud Rotary	WEATHER:	adjacent to Nassau Co driving range
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 339.2 ft Total depth of Boring: 280 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				
120	Poorly-graded SAND (fine to medium); tan to gray	SP		Profile data gaps due to poor KPRO equilibration
130				
140				Profile data gaps due to poor KPRO equilibration
150	Poorly graded GRAVEL (fine) with some sand (fine to medium); tan to gray	GP		
160	Poorly-graded SAND (fine to medium); tan to gray	SP		Profile data gaps due to poor KPRO equilibration
170				
180				
190				

Boring ID:

MALCOLM PIRNIE, INC.

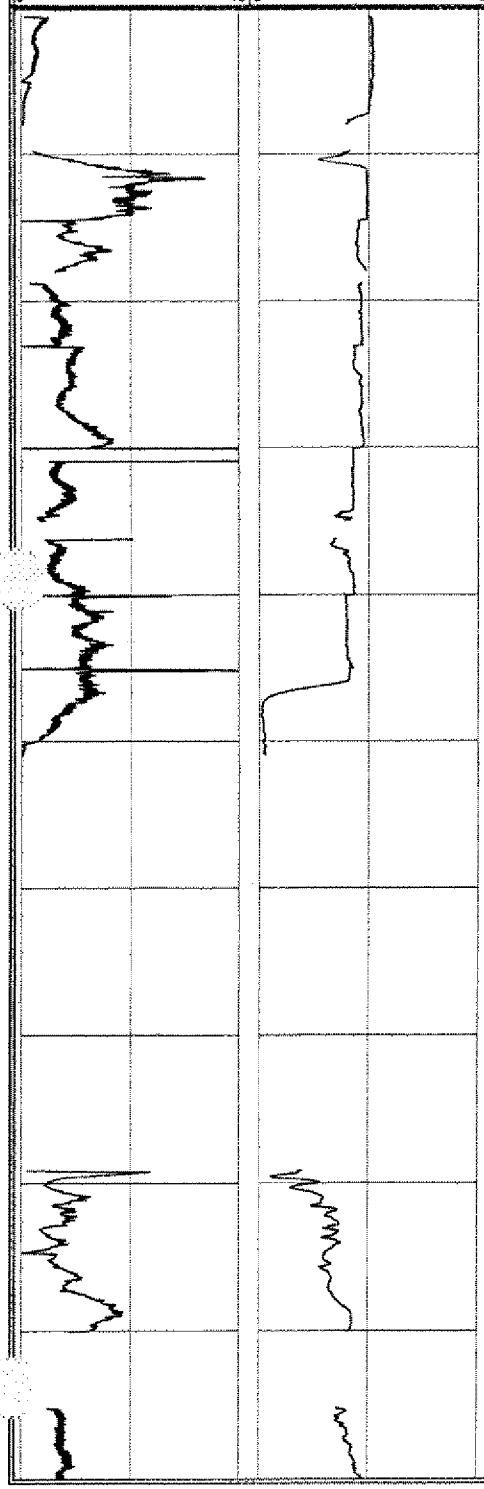
7 Route 208 North Fair Lawn, NJ 07401

P-15

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd,
DRILLING METHOD:	Mud Rotary	WEATHER:	adjacent to Nassau Co driving range
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 339.2 ft Total depth of Boring: 280 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SP		
210	Well-graded SAND; tan to red	SW		Profiler refusal at 208 ft, no penetration rate or IK data from 208 to 209.81 ft due to drilling activities Profile data gap due to poor KPRO equilibration
220	Poorly-graded SAND (fine to medium) with trace silt; tan to red	SP		
230				Profile data gaps due to poor KPRO equilibration
240				
250	Poorly graded SAND (fine to medium) and CLAY with some silt; tan to light brown	SC- CL		Profiler refusal at 250.95 ft, no penetration rate or IK data from 250.95 to 279.15 ft due to drilling activities
260				
270				
280				End of mud rotary boring at 280 ft
290				Profile data gap from 290 to 295.05 ft due to equipment problems

Boring ID:

MALCOLM PIRNIE, INC.

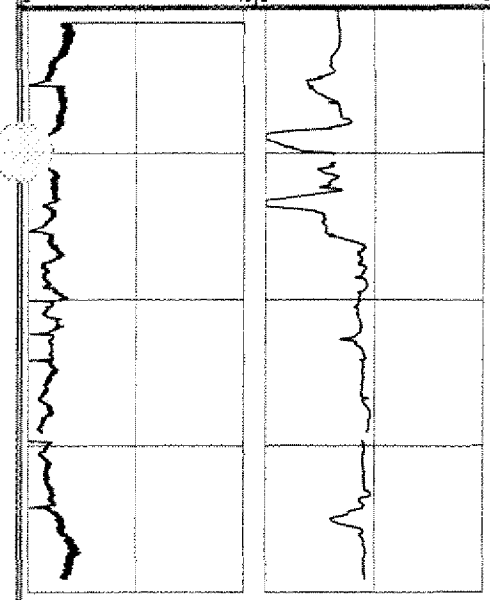
17-17 Route 208 North Fair Lawn, NJ 07401

P-15

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd,
DRILLING METHOD:	Mud Rotary	WEATHER:	adjacent to Nassau Co driving range
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 339.2 ft Total depth of Boring: 280 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				
310				Profile data gaps due to poor KPRO equilibration
320				
330				End of Profile at 339.2 ft
340				

Boring ID:

MALCOLM PIRNIE, INC.

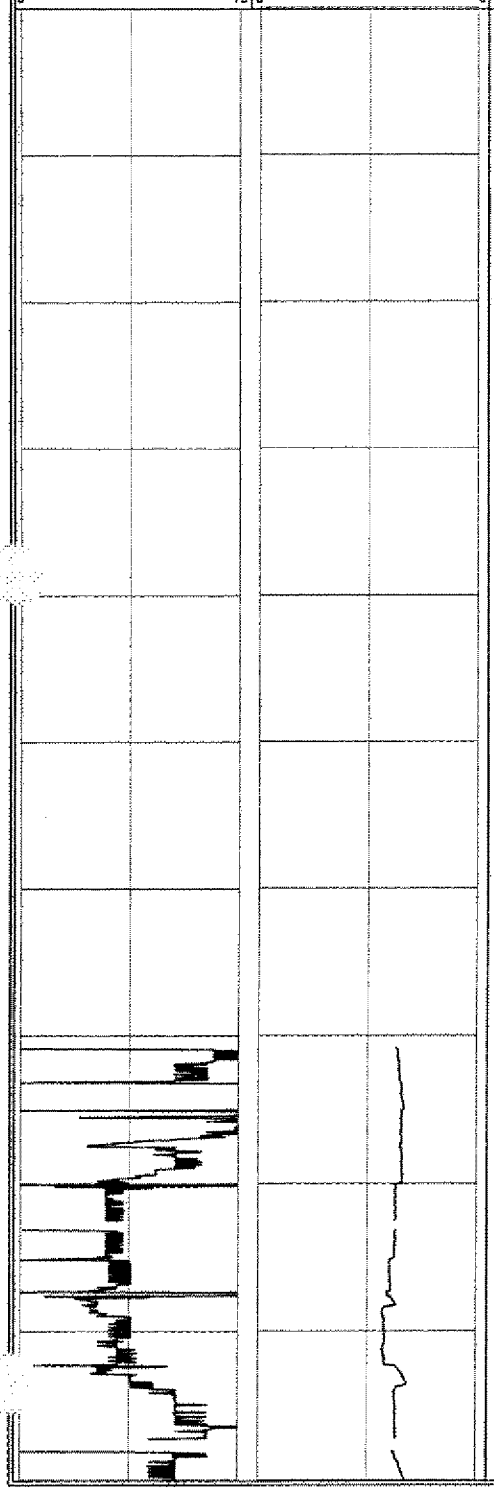
7 Route 208 North Fair Lawn, NJ 07401

P-17

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	April 24, 2003
JOB NUMBER:	4563001	END DATE:	April 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantigue Rock Rd, E of 70 Property, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 235.63 ft Total depth of Boring: 235 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to medium) and GRAVEL (fine to coarse); light brown	SW-GW		Hollow stem auger to used from 0 to 20 ft, begin mud rotary drilling at 20 ft
30	Well-graded GRAVEL; light brown	GW		Based on drilling rig response
	Well-graded SAND (fine to medium) and GRAVEL; light brown	SW-GP		
70	No geologic description recorded below 70 ft			Begin Profiling at 70.88 ft
				Profile data gaps due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

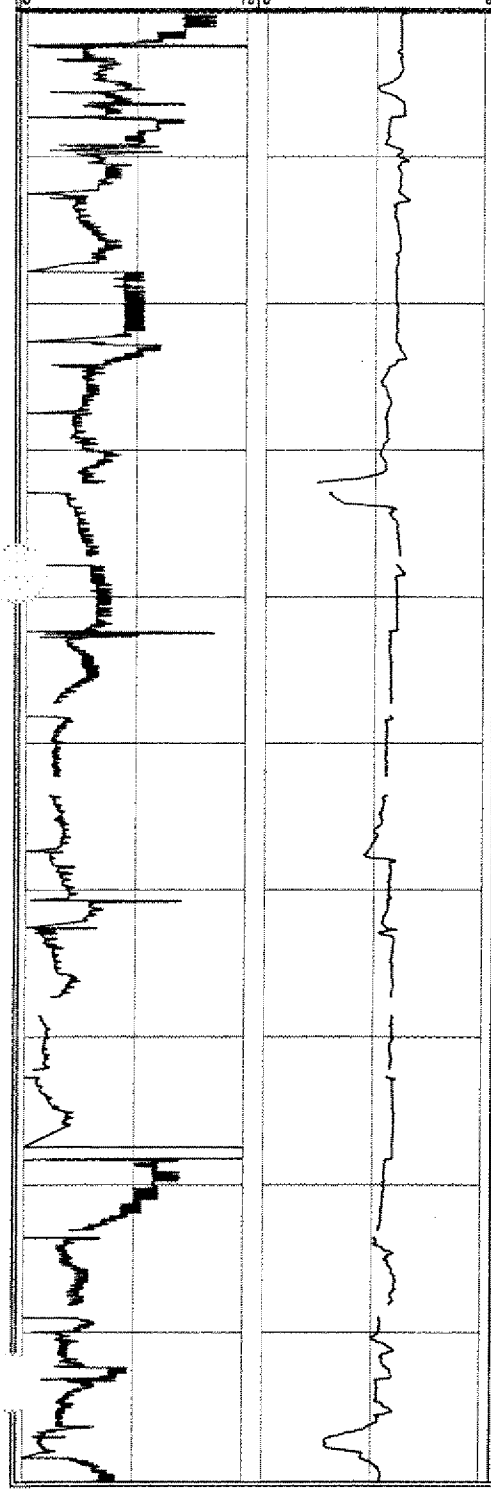
7 Route 208 North Fair Lawn, NJ 07401

P-17

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	April 24, 2003
JOB NUMBER:	4563001	END DATE:	April 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantigue Rock Rd, E of 70 Property, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 235.63 ft Total depth of Boring: 235 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100				
110				
120				
130				
140				Profile data gaps due to poor KPRO equilibration
150				
160				
170				Profile data gaps due to poor KPRO equilibration
180				
190				Profile data gaps due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

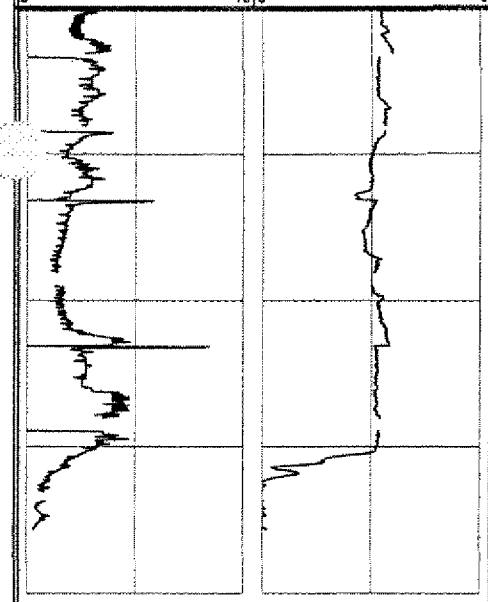
17-17 Route 208 North Fair Lawn, NJ 07401

P-17

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	April 24, 2003
JOB NUMBER:	4563001	END DATE:	April 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantigue Rock Rd, E of 70 Property, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 235.63 ft Total depth of Boring: 235 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200				
210				Profile data gaps due to poor KPRO equilibration
220				
230				Profiler refusal at 235.63 ft. End of profile End of boring at 235 ft
240				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

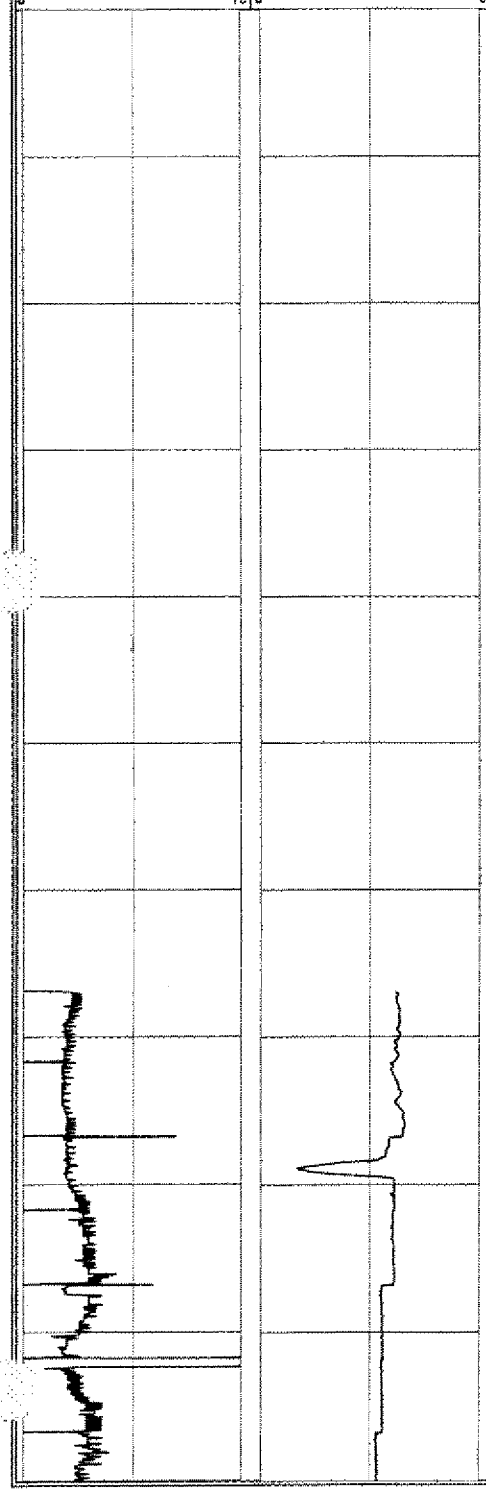
P-18

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 4, 2003
JOB NUMBER:	4563001	END DATE:	October 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	W of Cantiague Rock Rd, Across from the 70 and 100 Properties
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 350.25 ft

Total depth of Boring: 326 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL (fine to coarse); brown	SP-GP		Hollow stem auger used from 0 to 20 ft Begin mud rotary drilling at 20 ft
10 20				
	Poorly-graded SAND (medium to coarse) with some gavel (fine); brown to yellow	SP		Micaceous Micaceous
30 40 50				
	Well-graded SAND with some gravel (well-graded); light brown to white	SW		
60				
	Poorly-graded SAND (medium to coarse) with trace gravel (fine) and trace clay; light brown to white	SP		Begin Profiling at 66.8 ft
70 80				
	Well-graded SAND (fine to coarse); light brown	SW		
90				
	Poorly-graded SAND (medium) with trace gravel (fine); light brown to white	SP		

Boring ID:

MALCOLM PIRNIE, INC.

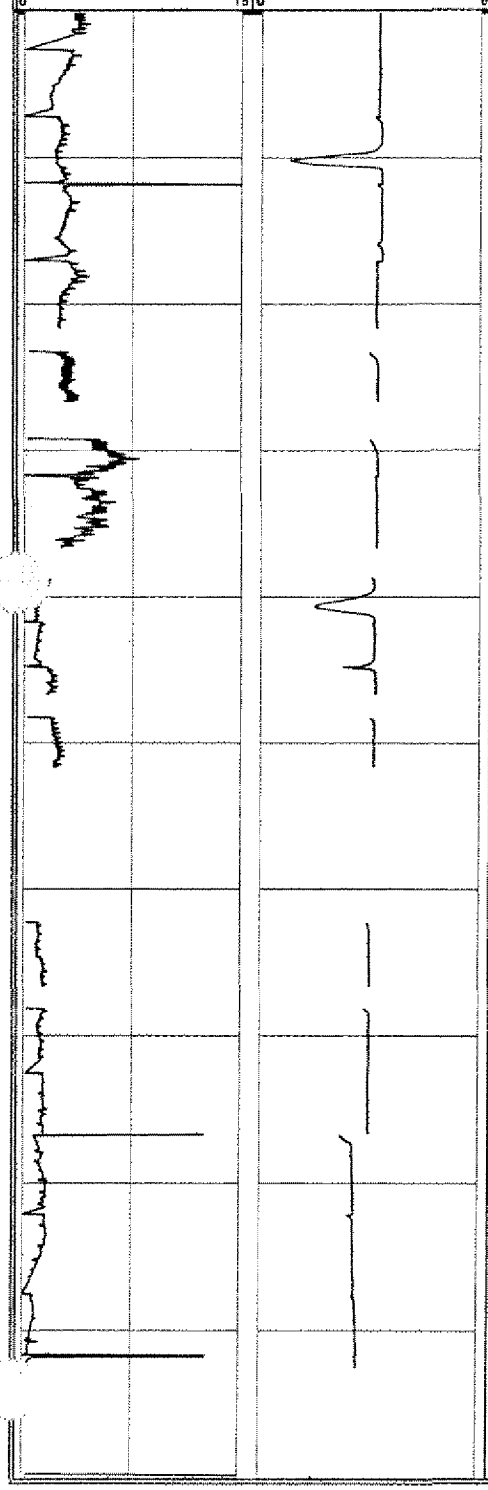
7 Route 208 North Fair Lawn, NJ 07401

P-18

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 4, 2003
JOB NUMBER:	4563001	END DATE:	October 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	W of Cantiague Rock Rd, Across from the 70 and 100 Properties
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 350.25 ft Total depth of Boring: 325 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				
	Well-graded SAND (fine to coarse) with trace gravel (fine); light brown	SW		
120	Poorly-graded SAND (medium to coarse) with some gravel (coarse); light brown	SP		Profile data gaps due to poor KPRO equilibration from 121.72 to 123.2, 126.7 to 129.15, 136.71 to 138.61 and 146.70 to 148.19 ft
130				
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); tan	SP-GP		Gravel lens from 135 to 136 ft
140	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown to white	SP		
	Poorly-graded SAND (medium to coarse) with little gravel (fine); light brown	SP		
150				No profile data from 151.70 to 162.26 ft due to malfunctioning Profiling equipment
160				
170				Profile data gaps due to poor KPRO equilibration
180				
190				Profiler refusal at 192.5 ft bgs, no penetration rate or IK data from 192.5 to 199.73 ft due to drilling activities

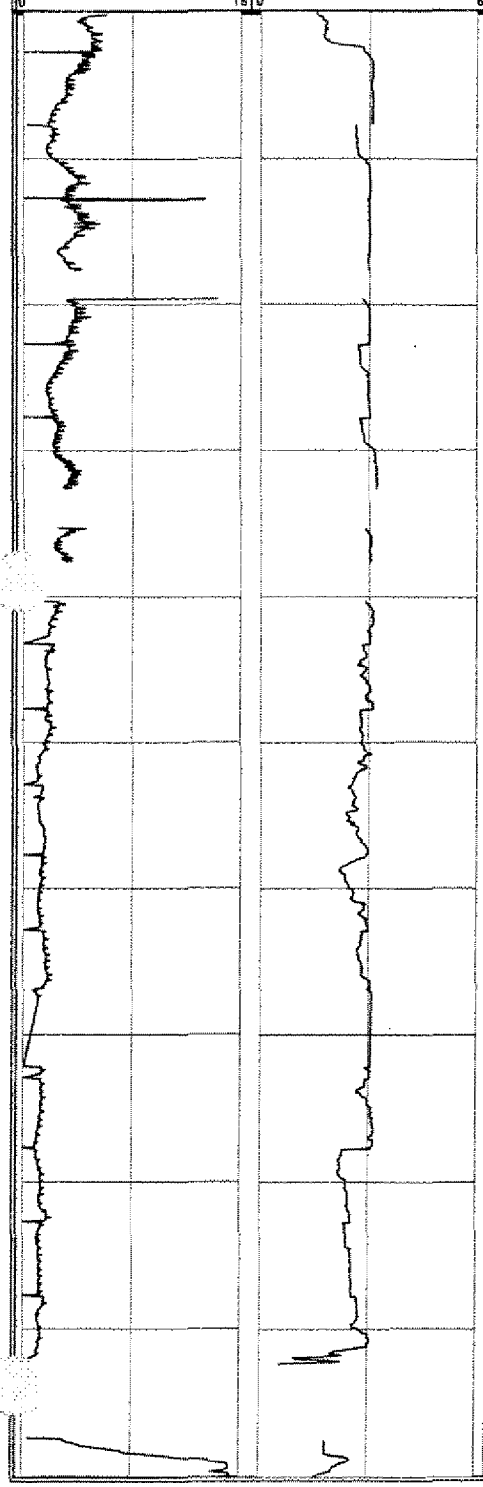
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-18

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 4, 2003
JOB NUMBER:	4563001	END DATE:	October 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	W of Cantiague Rock Rd, Across from the 70 and 100 Properties
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 360.25 ft Total depth of Boring: 325 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium to coarse) with trace gravel (fine); white to light brown	SP		
210				
				Profile data gap due to poor KPRO equilibration
220				
230				Loss of circulation of drilling fluids from 230 to 235 ft, no recovery of cuttings. Much drilling fluid lost into the formation.
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to white	SP-GP		Profile data gaps due to poor KPRO equilibration
240				
250				
	Poorly-graded SAND (medium to coarse) with trace gravel and trace silt; light brown to white	SP		
260				
270				
280	Well-graded SAND with trace clay; light brown to orange	SW		
290				Profiler refusal at 292.4 ft, no penetration rate or IK data from 292.4 to 297.3 ft due to drilling activities
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to orange	SP-GP		

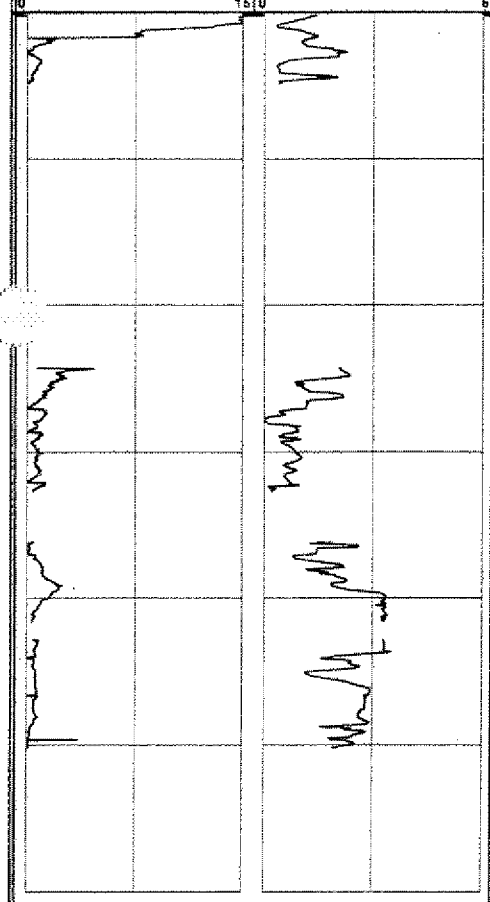
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-18**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 4, 2003
JOB NUMBER:	4563001	END DATE:	October 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	W of Cantiague Rock Rd, Across from the 70 and 100 Properties
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 350.25 ft Total depth of Boring: 325 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Well-graded SAND with trace clay; red to brown	SW		Micaceous
310				Profiler refusal at 307.71 ft, no penetration rate or IK data from 307.7 to 324.66 due to drilling activities.
320				End of boring at 325 ft
330				Loss of IK data from 332.71 to 336.41 ft due to dead generator
340				
350				Profiler refusal at 350.25 ft, end of profile
360				

Boring ID:

MALCOLM PIRNIE, INC.

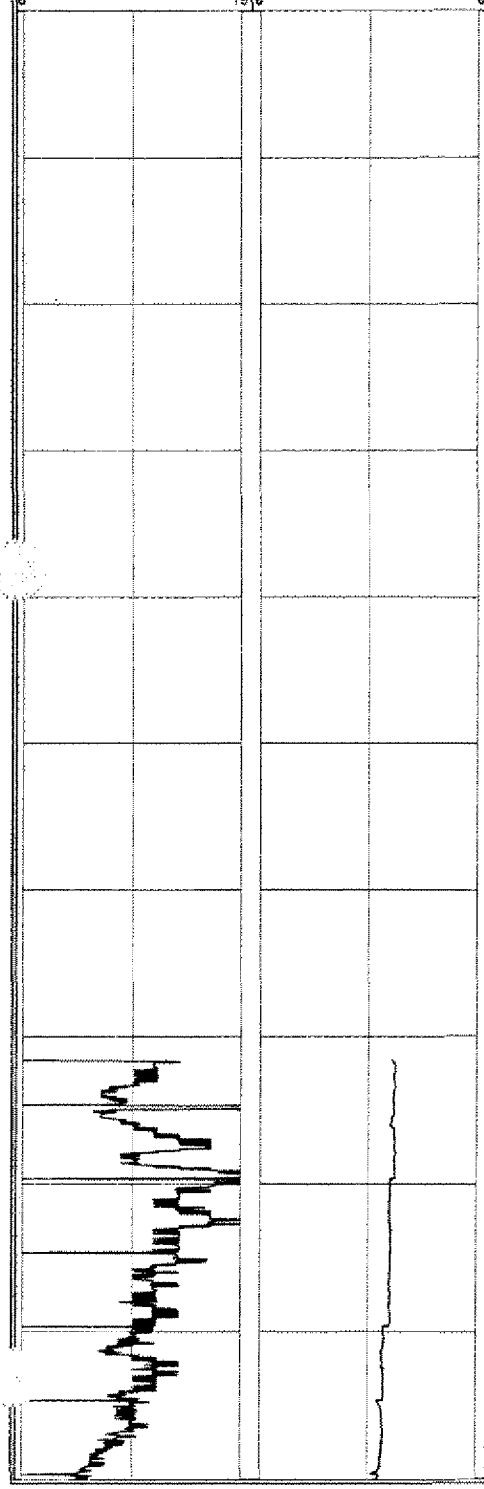
7 Route 208 North Fair Lawn, NJ 07401

P-20

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	NE corner of Property, S of W John St, W of Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Garret Furguson, Colleen Sullivan

Total depth of Profile: 477.73 ft Total depth of Boring: 459 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (fine to medium) and GRAVEL (fine); brown	SP-GP		Hollow stem auger used from 0 to 15 ft Begin mud rotary drilling - 3 inch hole at 15 ft
10				
20				
	Well-graded SAND (fine to coarse) and GRAVEL (fine); brown	SW-GP		
30				
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
40				
50				
60				
	Well-graded SAND with some gravel (fine)	SW		
70	Well-graded SAND with some silt; light brown	SW		Begin Profiling at 71.61 ft
80				Micaceous
	Well-graded SAND with some gravel (fine); light brown	SW		
90				Lost ~50 gal drilling fluid
	Well-graded SAND; light brown	SW		Micaceous

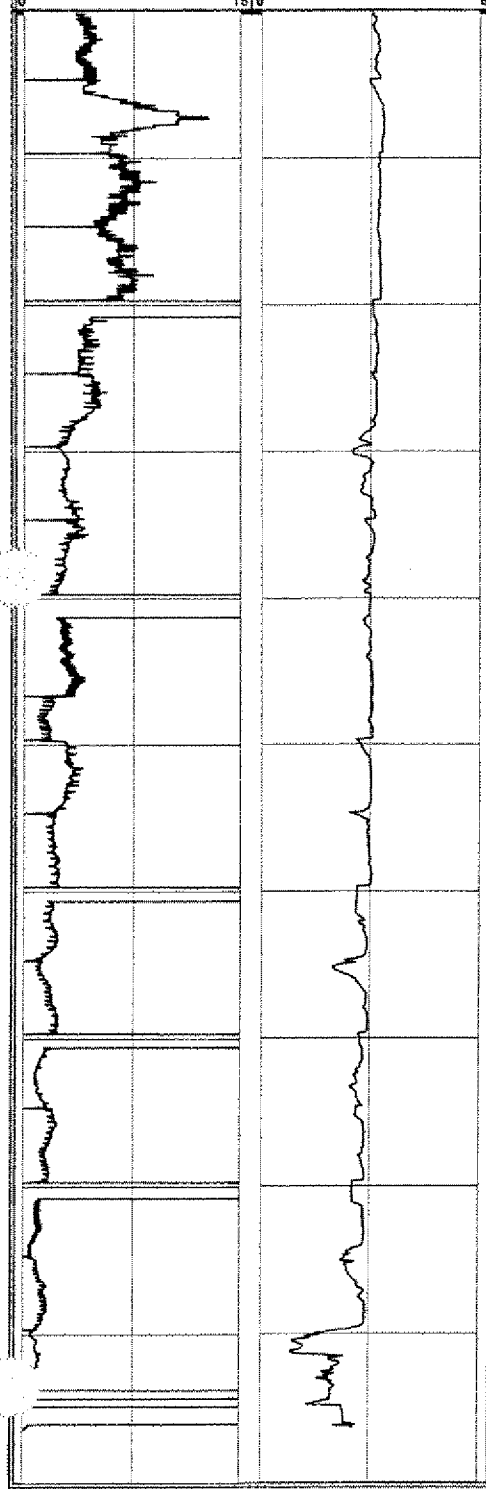
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-20

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	NE corner of Property, S of W John St, W of Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Garret Furguson, Colleen Sullivan

Total depth of Profile: 477.73 ft Total depth of Boring: 459 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SW		
	Poorly-graded SAND (fine to medium) with little gravel (fine); light brown	SP		Micaceous
110				Micaceous
	Well-graded SAND; light brown	SW		Some loss of drilling fluid
120				
	Well-graded SAND (fine to coarse) with little silt; light brown	SM		
130				
	Poorly-graded SAND (medium to coarse) with some silt and trace clay; light brown	SM		
140				
	Poorly-graded SAND (medium to coarse) with little silt and clay; light brown	SM		Micaceous
150				
	Poorly-graded SAND (medium to coarse) with trace clay; light brown	SP		Micaceous
160	Well-graded SAND; light brown	SW		Some fluid loss
				Micaceous
170				
180				
190				Profiler refusal at 196.38 ft, no penetration rate or IK data from to 196.38 to 201.06 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

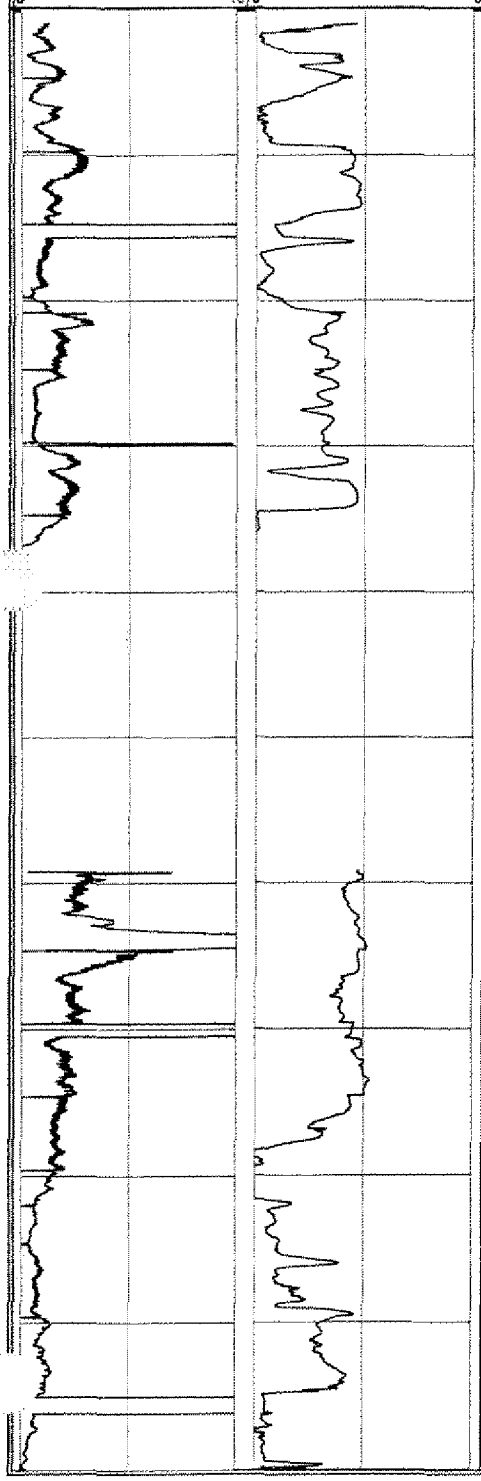
P-20

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	NE corner of Property, S of W John St, W of Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Garret Furguson, Colleen Sullivan

Total depth of Profile: 477.73 ft

Total depth of Boring: 459 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND with trace clay; orange to red	SW		
210				Micaceous
220				
230				
	LIGNITE with some sand (medium) and clay; black	PT		Profiler refusal at 236.88 ft, no penetration rate or IK data from 236.88 to 259.21 ft due to drilling activities
240				
				Bedded lignite
250				
	Poorly-graded SAND (medium); light brown to gray	SP		Micaceous
260				
270				
280	Poorly-graded SAND (medium to coarse) with some clay; gray	SC		
	CLAY with some silt and some sand (fine to medium); gray	CL		Micaceous
290	Poorly-graded SAND (fine) with some to little clay and trace lignite; light brown	SC		Micaceous

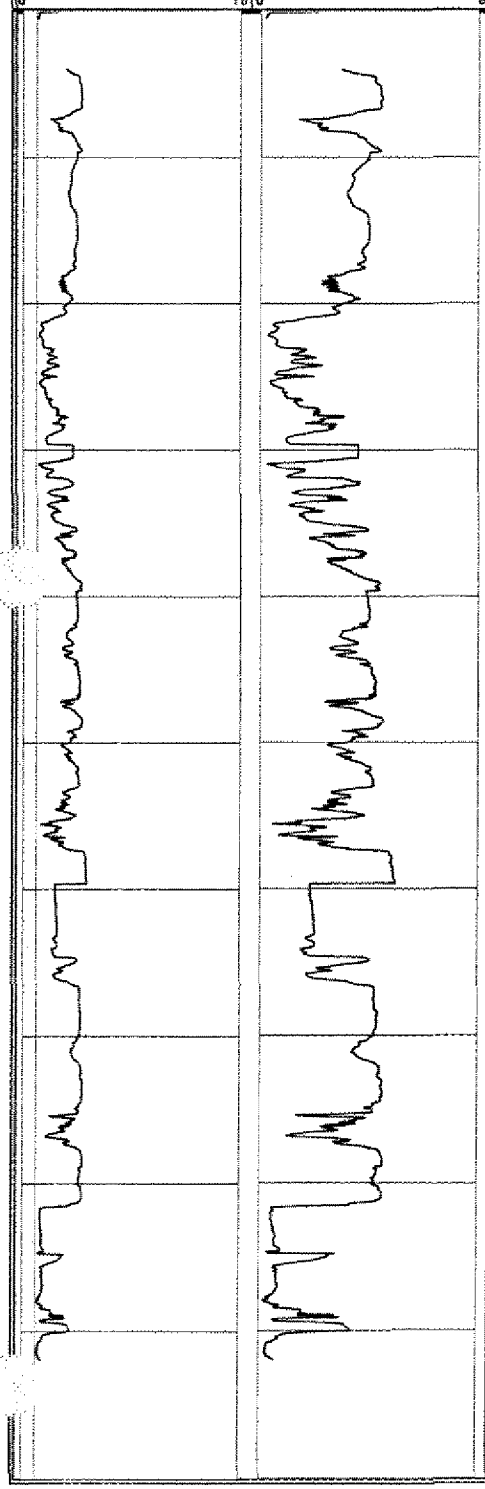
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-20

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	NE corner of Property, S of W John St, W of Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Garret Furguson, Colleen Sullivan

Total depth of Profile: 477.73 ft Total depth of Boring: 459 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SC		Profiler refusal at 300.56 ft, no penetration rate or IK data from 300.56 to 300.05 ft due to drilling activities
310				
320				
330				
340	Poorly-graded SAND (fine to medium) with trace clay and trace lignite; light brown	SP		Micaceous
350	Poorly-graded SAND (fine to medium); white-gray	SP		Micaceous
360				
370	Poorly-graded SAND (medium) and trace clay; white-gray	SP		
380	LIGNITE; black	PT		Bedded Lignite
	Well-graded SAND with trace silt and clay; white to gray	SW		Profiler refusal a 385 ft Restart profiler at 384.15 ft
390				Profiler refusal at 391.96 ft, no penetration rate or IK data from 391.96 to 404.46 ft due to drilling activities

MALCOLM PIRNIE, INC.

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Boring ID:

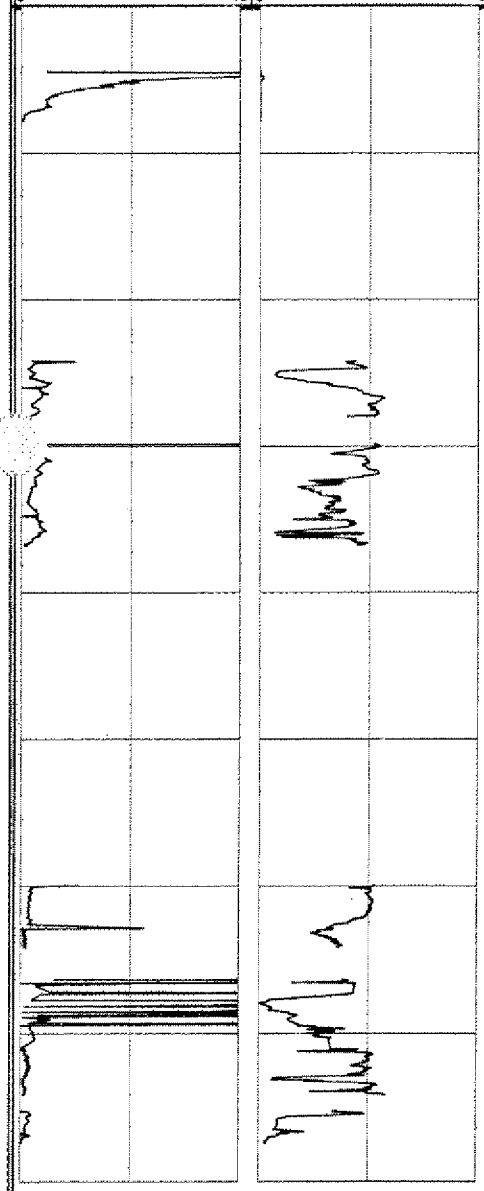
P-20

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	NE corner of Property, S of W John St, W of Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Garret Furguson, Colleen Sullivan

Total depth of Profile: 477.73 ft

Total depth of Boring: 459 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SW		
	Well-graded SAND with some silt and trace lignite; white to gray	SM		Profiler refusal at 407.85 ft, no penetration rate or IK data from 407.85 to 424.2 ft due to drilling activities
410				
420				IK data from 428 to 429 ft is erroneous due to computer malfunction
430	Poorly-graded SAND (medium to coarse); light brown	SP		Bad IK data from 435 to 437.15 ft, broken reed valve
	CLAY with some sand (medium); white to gray	CL		Profiler refusal at 436.77 ft, no penetration rate or IK data from 436.77 to 459.95 ft due to drilling activities
440				
	CLAY with some sand and silt; white-pink-gray	CL		
450				Lignite present in cuttings
	Poorly-graded SAND (medium) with some lignite and trace clay; light	SP		Micaceous
460				End boring at 459 ft
470				Invalid IK data from 474.15 to 475.22 ft - insufficient KPRO fluid End of Profile at 477.73 ft
480				

Boring ID:

MALCOLM PIRNIE, INC.

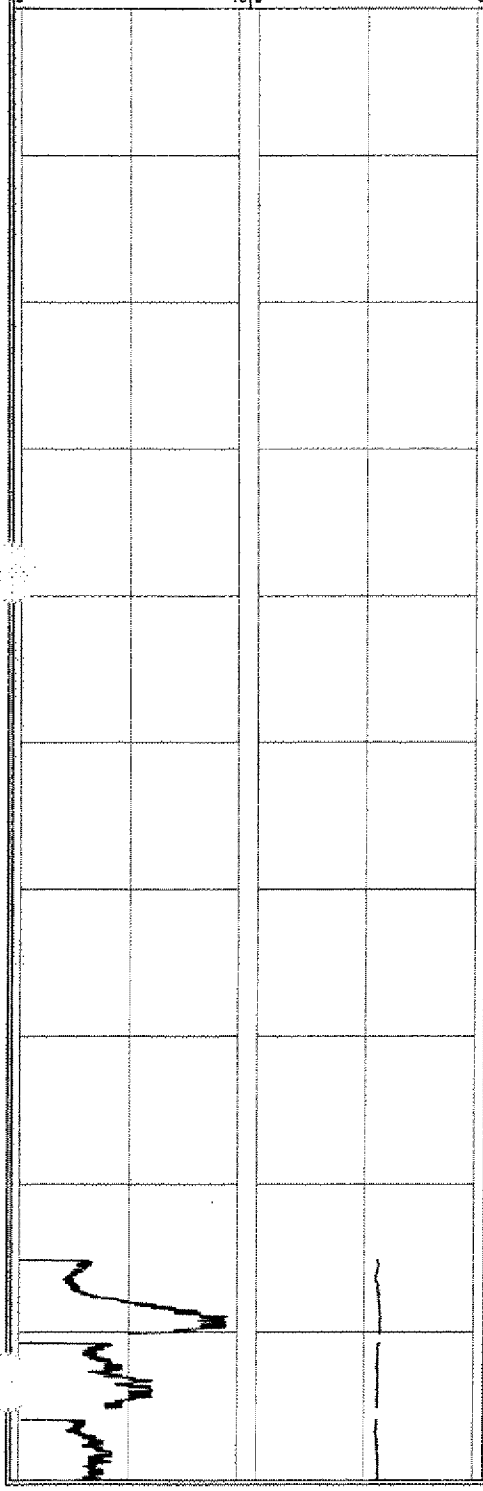
7 Route 208 North Fair Lawn, NJ 07401

P-23

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 24, 2003
JOB NUMBER:	4563001	END DATE:	July 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, W
DRILLING METHOD:	Mud Rotary	WEATHER:	of P-H
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 347.36 ft Total depth of Boring: 330 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Silty SAND (medium), with some gravel (fine), and trace clay; brown	SM		Pavement from 0 to 1 ft
10				Hollow stem auger used from 0 to 15 ft. Begin mud rotary drilling at 15 ft
20	Poorly-graded SAND (medium to coarse) with some gravel (fine); brown to tan	SP		
30	Poorly-graded SAND (fine to medium) with some gravel (fine), trace silt; brown	SP		
40	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); brown to tan	SP-GP		
50	Well-graded SAND with little gravel (fine); tan	SW		
60				
	Well-graded SAND and GRAVEL (fine); white-tan	SW-GP		Micaceous
70	Poorly-graded SAND (medium to coarse); tan	SP		IK and Drive rate data from 69.75 to 80.1 ft did not record
80	Poorly-graded SAND (medium); tan	SP		
90				Profile data gaps due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium); tan	SP		Micaceous

Boring ID:

MALCOLM PIRNIE, INC.

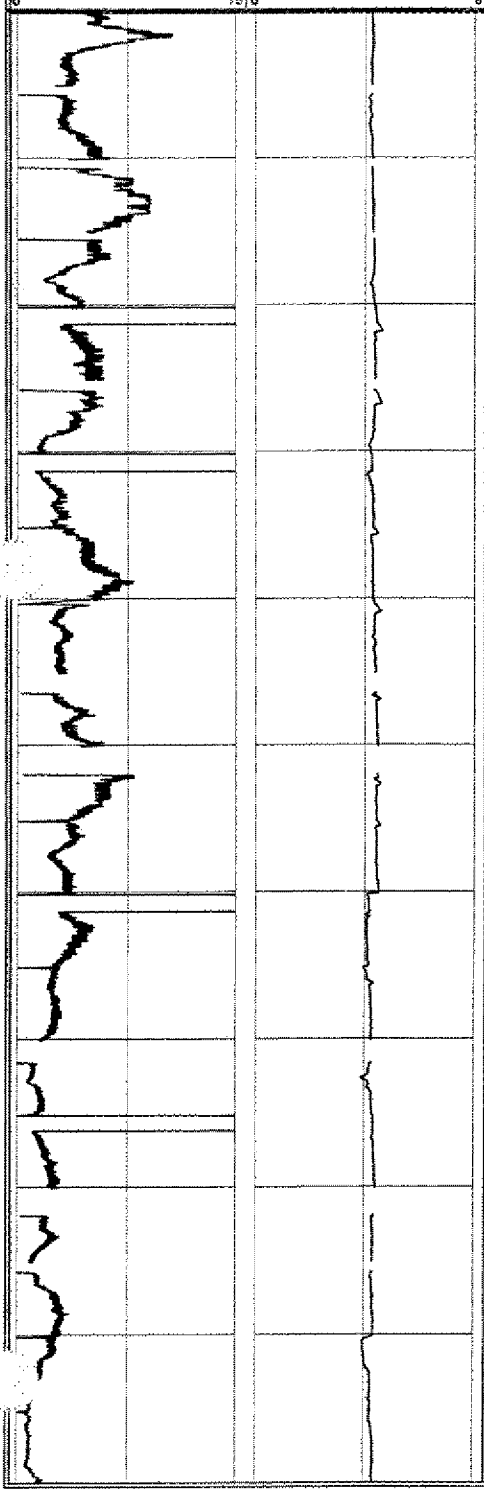
Route 208 North Fair Lawn, NJ 07401

P-23

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 24, 2003
JOB NUMBER:	4563001	END DATE:	July 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, W of P-H
DRILLING METHOD:	Mud Rotary	WEATHER:	
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 347.36 ft Total depth of Boring: 330 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110	Poorly-graded SAND (medium with little fine and coarse); tan	SP		Profile data gaps due to poor KPRO equilibration
120				Micaceous Profile data gaps due to poor KPRO equilibration
130				
140				
	Poorly-graded SAND (medium to coarse) with trace gravel; tan	SP		Profile data gaps due to poor KPRO equilibration
150				
	Poorly-graded SAND (medium with little fine and coarse); tan	SP		
160				Micaceous
170				Profile data gaps due to poor KPRO equilibration
180				
190	Poorly-graded SAND (medium to coarse) with trace gravel; tan	SP		Micaceous
	Poorly-graded SAND (medium with little fine and coarse); tan	SP		

Boring ID:

MALCOLM PIRNIE, INC.

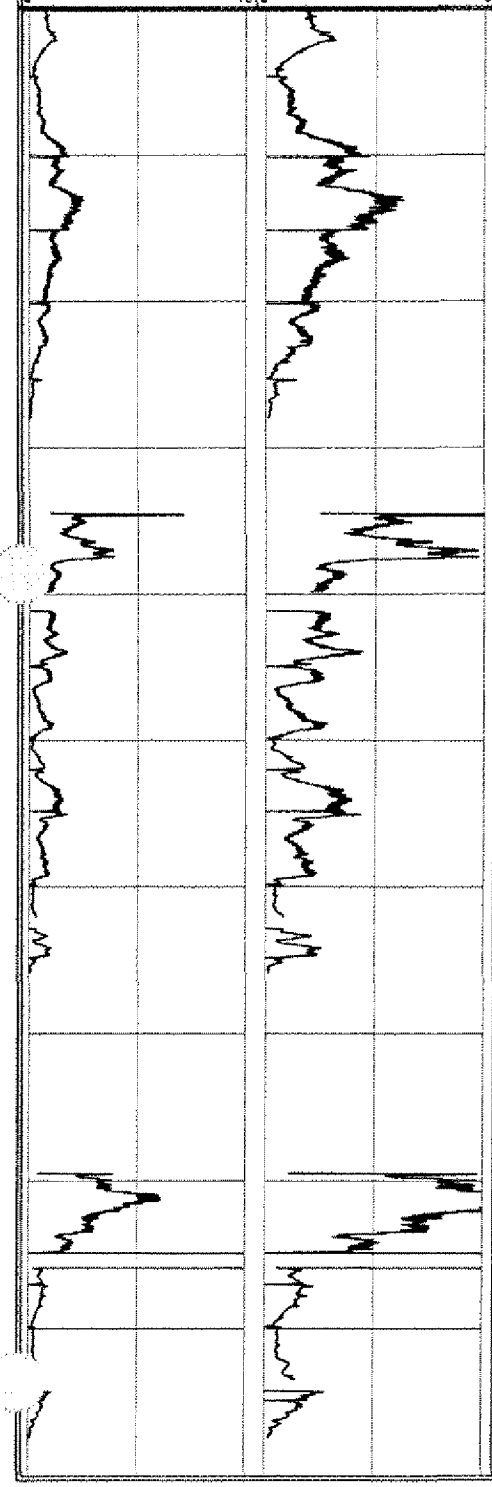
7 Route 208 North Fair Lawn, NJ 07401

P-23

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 24, 2003
JOB NUMBER:	4563001	END DATE:	July 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, W
DRILLING METHOD:	Mud Rotary	WEATHER:	of P-H
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Kerri Carley	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 347.36 ft Total depth of Boring: 330 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SP		Micaceous
210				
	Poorly-graded SAND (medium to coarse); tan	SP		Micaceous
220	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); tan	SP-GP		
	Well-graded SAND and GRAVEL (fine); tan to brown	SW-GP		Profiler refusal at 227.97 ft, no penetration rate or IK data from 227.97 to 234.51 ft due to drilling activities
230	Poorly-graded SAND (medium to coarse) with little gravel (fine); tan to brown	SP		
	Poorly-graded SAND (fine) with trace clay and silt; tan to brown	SP		Most cuttings pass through strainer
240	Poorly-graded SAND (fine) with little clay; tan and white	SC		Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine) with some clay	SC		
250	Poorly-graded SAND (fine) and CLAY; tan and white	SC- CL		Micaceous
	Poorly-graded SAND (fine) with little clay and silt; tan	SC		
260	Poorly-graded SAND (fine) and CLAY with some silt; tan	SC- CL		Clay and silt fractions decrease with depth
270	Poorly-graded SAND (fine to medium) with trace clay, trace lignite; tan	SM		Profiler refusal at 265.85 ft, no penetration rate or IK data from 265.85 to 279.46 ft due to drilling activities
	Poorly-graded SAND (fine to medium) with trace lignite; tan	SP		
280				Loss of circulation of drilling fluids from 280 to 330 ft. No recovery of cuttings. No geologic log.
290				Profile data gap due to poor KPRO equilibration

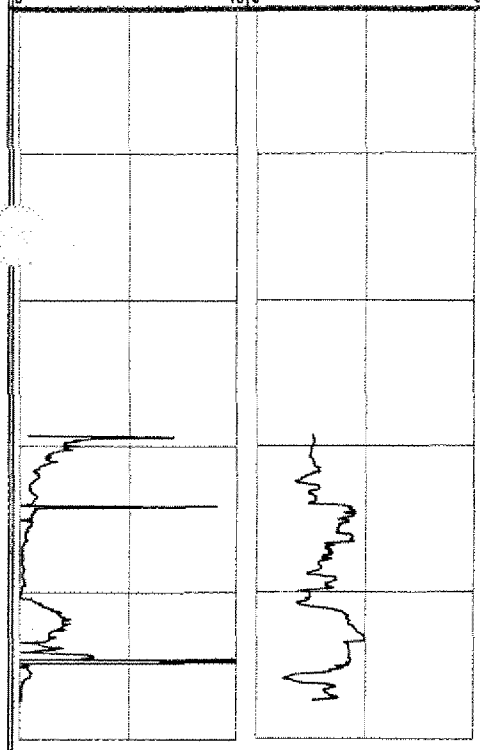
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-23

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 24, 2003
JOB NUMBER:	4563001	END DATE:	July 3, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, W
DRILLING METHOD:	Mud Rotary	WEATHER:	of P-H
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 347.36 ft
Total depth of Boring: 330 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				Profiler refusal at 297.36 ft, no penetration rate or IK data from 297.36 to 329.29 ft due to drilling activities
310				
320				
330				End of boring at 330 ft
340				
				End of profile at 347.36 ft
350				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

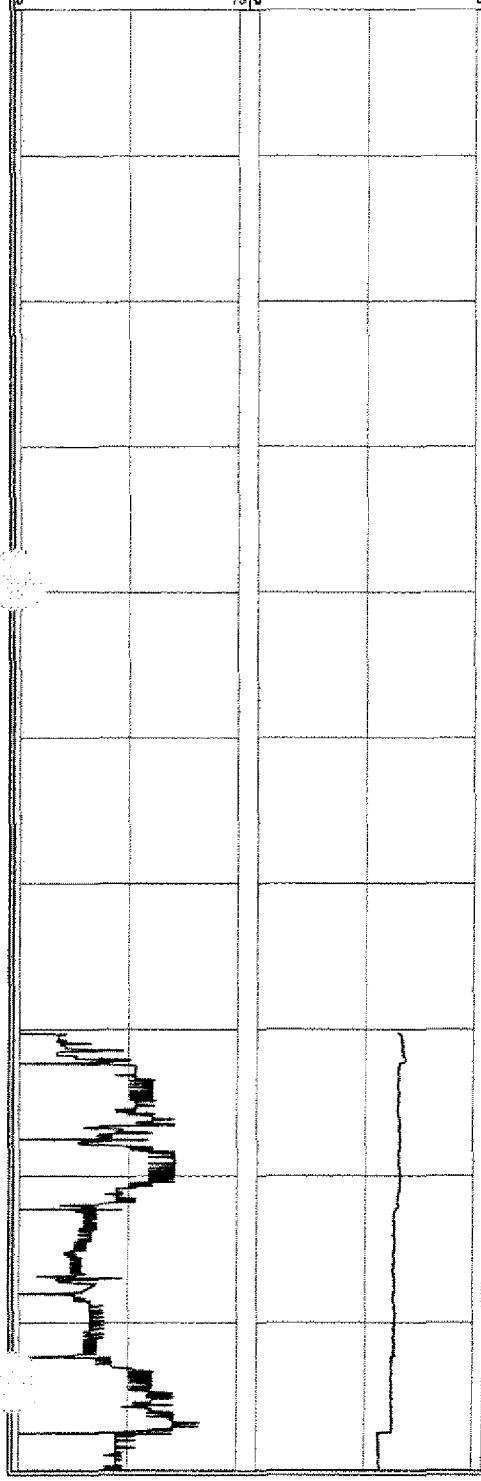
P-24

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 16, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 100 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 297.3 ft

Total depth of Boring: 120 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND with trace gravel (fine); light brown	SW		6 1/4 hollow stem auger used from 0 to 20 ft
10	Well-graded GRAVEL with little sand; light brown	GW		
	Well-graded SAND with trace gravel (fine); medium brown	SW		
20	Poorly-graded SAND (fine to medium); light brown	SP		Begin mud rotary drilling at 20 ft
	Poorly-graded GRAVEL (fine)	GP		
30				
	Poorly-graded SAND (fine to medium) with trace to little gravel (fine); light to medium brown	SP		
40				
50	Well-graded GRAVEL; tan to white	GP		
	Poorly-graded SAND (fine); light tan to white	SP		
60				
70	Poorly-graded SAND (fine to medium) with trace gravel (fine); light tan to brown	SP		Begin Profiling at 70.12 ft
80				
90				

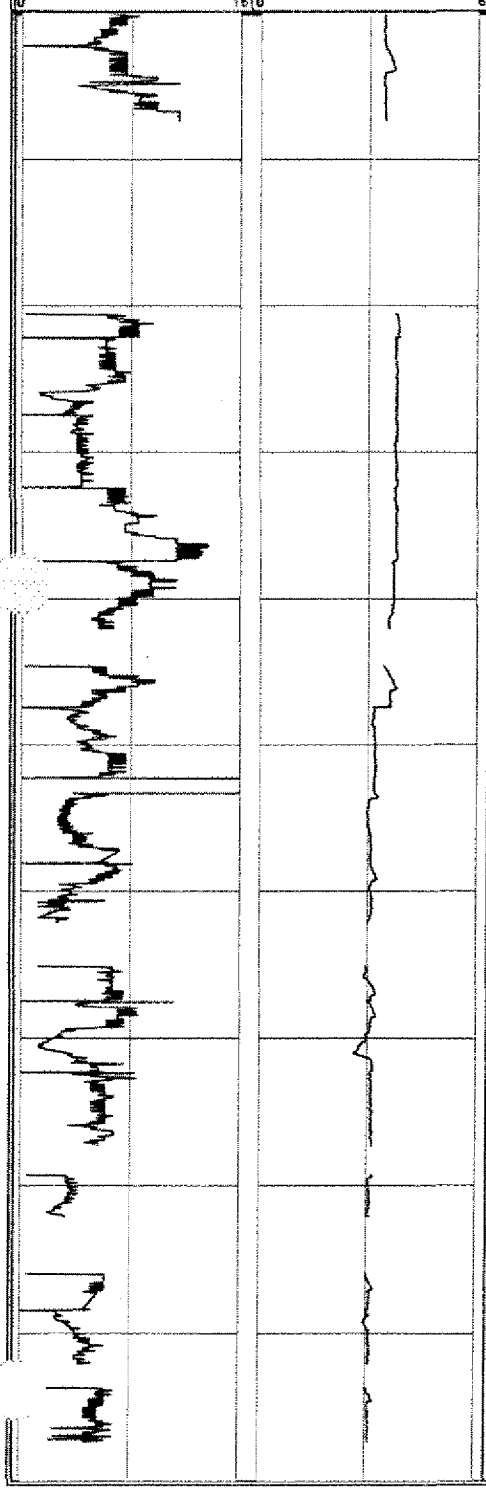
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-24

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 16, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 100 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 297.3 ft Total depth of Boring: 120 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				No IK data from 107.35 to 120.41 malfunctioning profiling equipment and drilling activity.
120				End of boring/mudlog at 120 ft
130				
140				Profile data gap due to poor KPRO equilibration
150				
160				Profile data gap due to poor KPRO equilibration
170				
180				Profile data gaps due to poor KPRO equilibration
190				

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

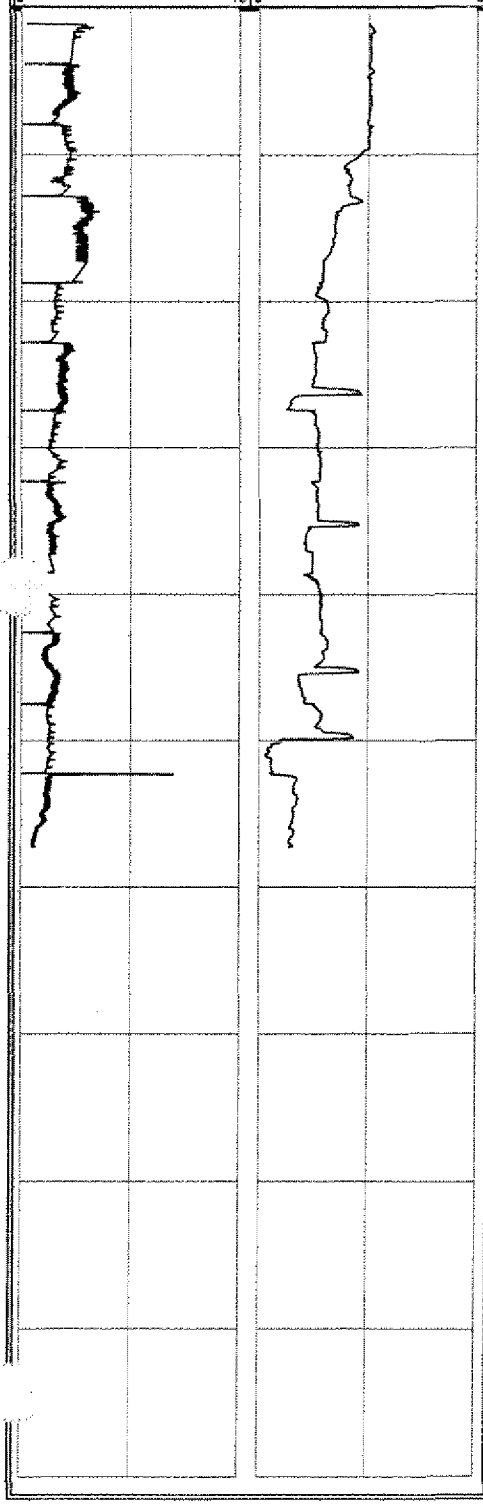
P-24

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 16, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 100 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 297.3 ft

Total depth of Boring: 120 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200				
210				
220				
230				
240				
250				Plugged KPRO line from 257.35 to 297.3 ft
260				
270				
280				
290				End of profile at 297.3 ft bgs
300				

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

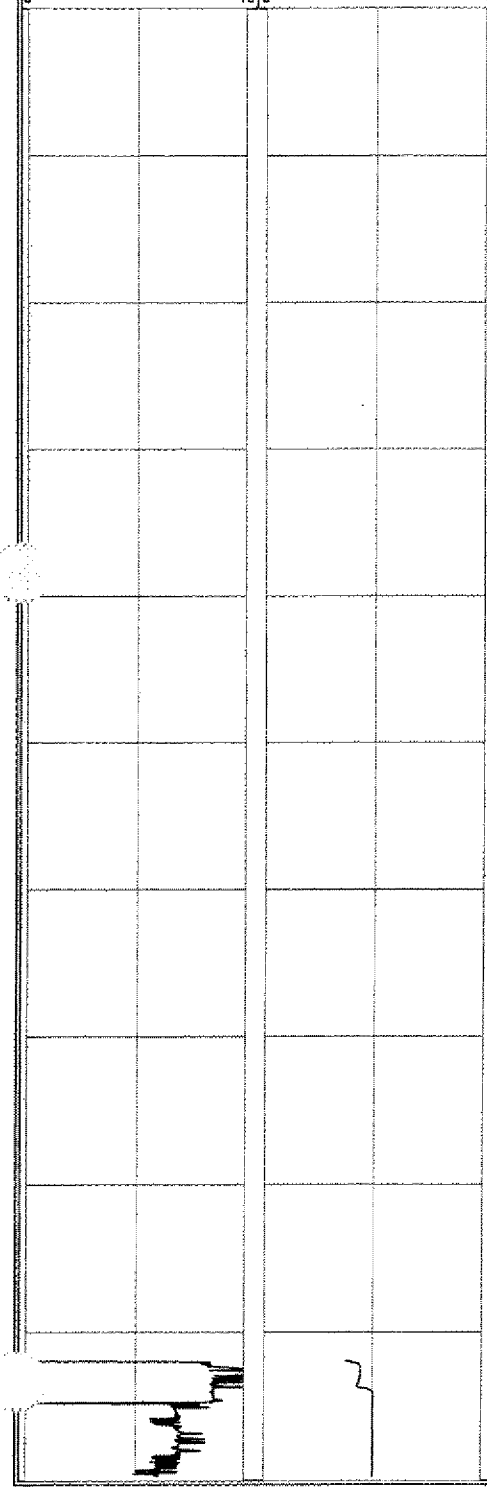
Boring ID: **P-25**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 8, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Cantiague Rock Rd, on NW corner of 70 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karn Carly	HYDROGEOLOGIST:	Jeff Dekoskie/John Hilton

Total depth of Profile: 379.15 ft

Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded silty SAND with gravel (fine); brown to light brown	SM		Drilled with hollow stem auger from 0 to 13 ft
10				Begin mud rotary drilling at 13 ft
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
20				
30	Poorly-graded SAND (fine to medium) with trace gravel (fine); light brown	SP		
40	Poorly-graded GRAVEL (fine); white to tan	GP		
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
50	Poorly-graded GRAVEL (fine) and SAND (coarse); white, tan	GP-SP		
	Poorly-graded SAND (fine to medium); light brown, trace black	SP		
60				Begin profiling at 69.7 ft, no profile data from 69.7 to 91.88 ft due to plugged KPRO line
70	Poorly-graded SAND (fine to medium) with trace gravel (fine); light brown	SP		
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
80	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
90	Poorly-graded SAND (medium to coarse) with some to little gravel (fine); light brown	SP		Gravel fraction decreases with depth

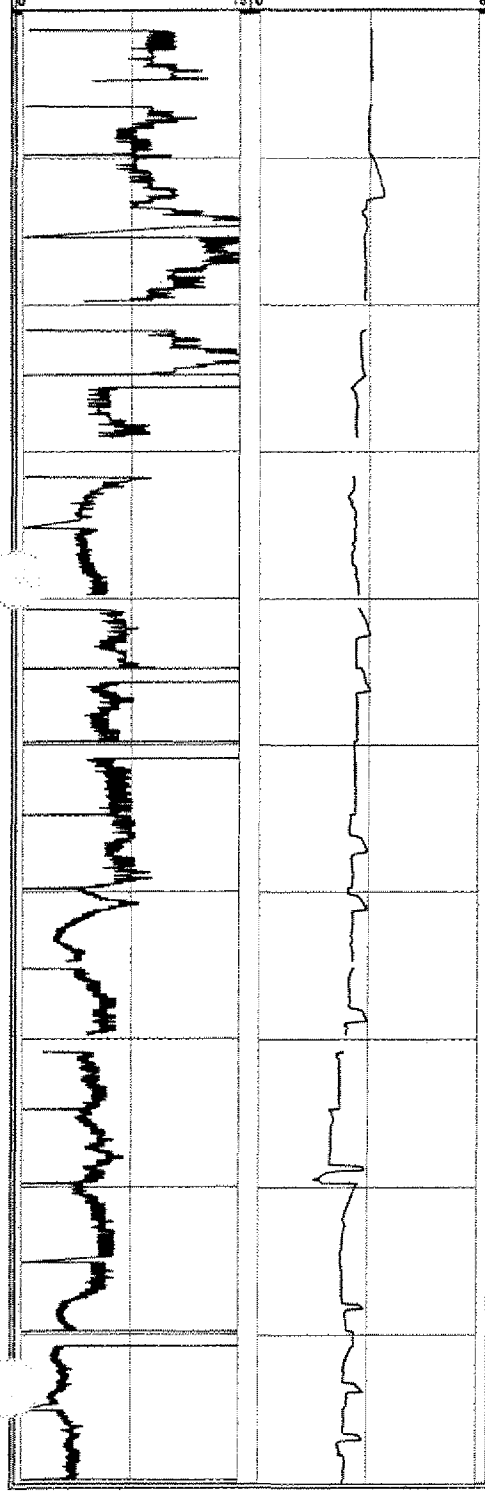
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-25**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 8, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Cantiague Rock Rd, on NW corner of 70 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie/John Hilton

Total depth of Profile: 379.15 ft Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (fine to medium); light brown	SP		
	Well-graded SAND with trace gravel (fine); light brown	SW		Profile data gap due to poor KPRO equilibration
110	Well-graded SAND and GRAVEL (fine); light brown	SW-GP		
120	Well-graded SAND; light brown	SW		Profile data gaps due to poor KPRO equilibration
130				
140	Well-graded SAND with some gravel; light brown	SW		
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
150	Poorly-graded SAND (medium to coarse) with some to trace gravel (fine); light brown	SP		Gravel fraction decreases with depth
160	Poorly-graded SAND (fine to medium); light brown	SP		Profile data gaps due to poor KPRO equilibration
170	Well-graded sand; light brown to tan	SW		Some loss of drilling fluid
180	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
190				
	Poorly-graded SAND (medium to coarse) and some gravel (fine); light brown	SP		Profile data gap due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

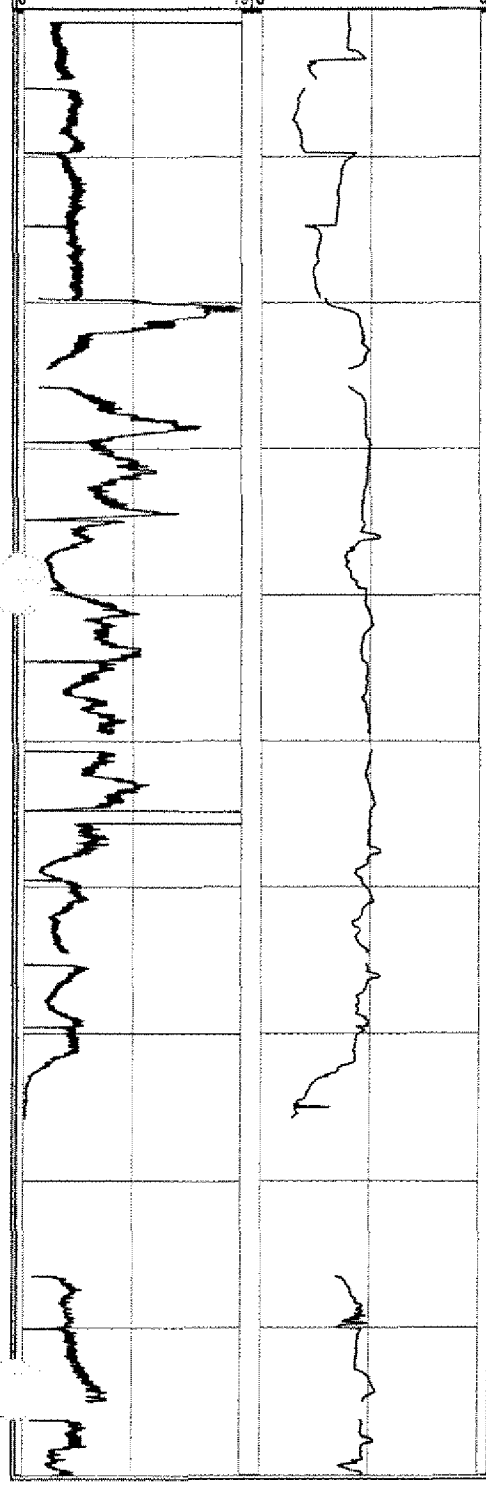
7 Route 208 North Fair Lawn, NJ 07401

P-25

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 8, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Cantiague Rock Rd, on NW corner of 70 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie/John Hilton

Total depth of Profile: 379.15 ft Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SP		
	Well-graded SAND; light brown	SW		Profile data gap due to poor KPRO equilibration
210				
220	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown	SP		Profile data gap due to poor KPRO equilibration
230	Well-graded SAND; light brown	SW		
240				
250	Well-graded SAND with trace gravel (fine); light brown	SW		Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium) and GRAVEL (fine); light brown	SP-GP		
260	Well-graded SAND with trace gravel (fine); light brown	SW		Profile data gap due to poor KPRO equilibration
270	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		Increased down pressure, but drive rate decreasing
	Poorly-graded SAND (fine to medium); light brown	SP		Profiler refusal at 275.8 ft. No penetration rate or IK data from 275.8 to 284.65 ft due to drilling activity, and from 284.65 to 286.42 due to malfunctioning profile equipment.
280	Poorly-graded SAND (medium to coarse); light brown to white	SP		
290	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		Profile data gap due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

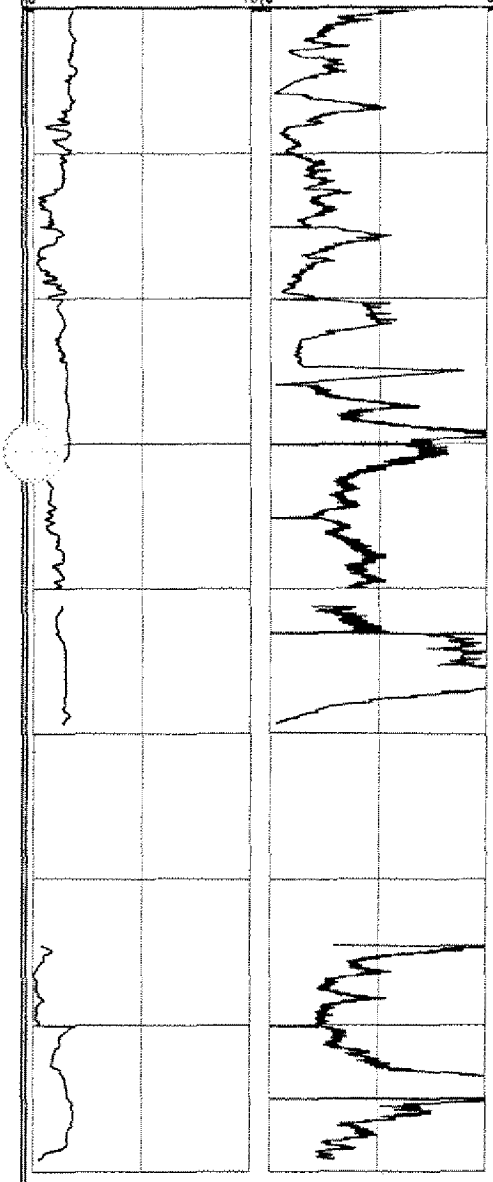
P-25

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 8, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Cantiague Rock Rd, on NW corner of 70 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie/John Hilton

Total depth of Profile: 379.15 ft

Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SP-GP		
310	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown	SP		
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
320	Poorly-graded SAND (fine to medium); light brown	SP		
330				
340				Profile data gap due to poor KPRO equilibration
	SAND and SILT with some clay; gray	SM-CL		Silt and clay fractions increase with depth.
350				Profiler refusal at 349.4 ft. No penetration rate or IK data from 349.4 to 364.5 ft due to drilling activity
	CLAY with some sand; gray	CL		Sand occurs as thin interbeds within the clay
360	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown			End of boring at 365 ft
370				
380				End of profile at 379.15 ft bgs

Boring ID:

MALCOLM PIRNIE, INC.

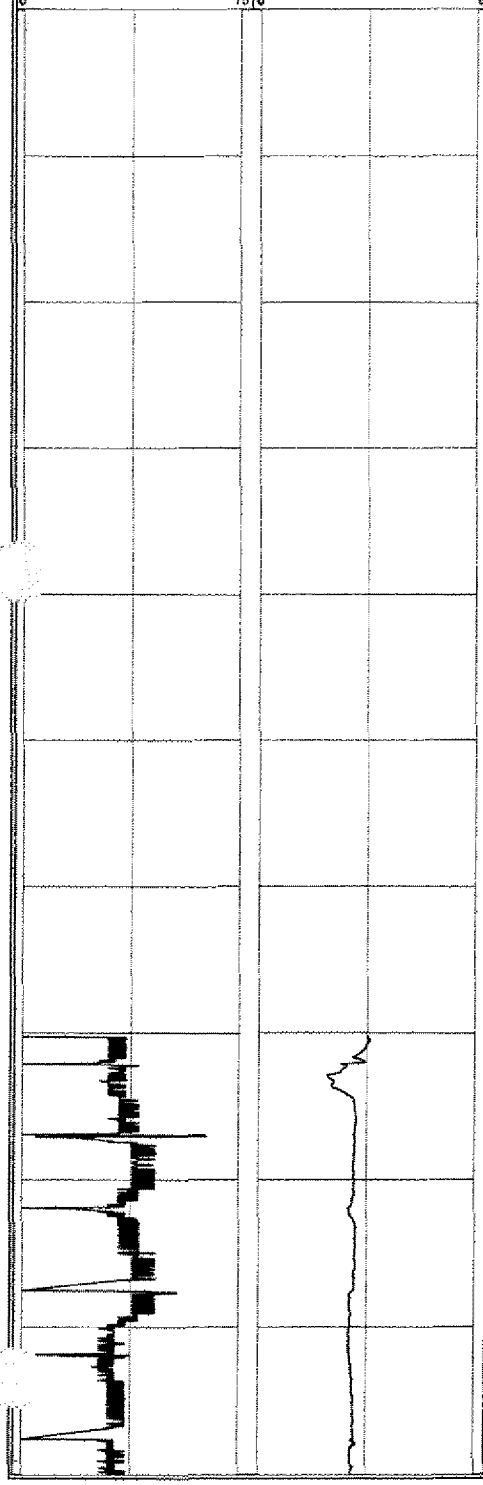
7 Route 208 North Fair Lawn, NJ 07401

P-26

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 12, 2003
JOB NUMBER:	4563001	END DATE:	May 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 140 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 295.8 ft Total depth of Boring: 300 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND with gravel; light to medium brown	SW		8 in steel casing used to drill from 0 to 8 ft Begin mud rotary drilling with 3 in casing at 8 ft
10	Poorly-graded SAND (medium to coarse) with little gravel (fine); light tan to brown	SP		
20				Significant loss of drilling fluid from 20 to 30 ft
	Poorly-graded GRAVEL (fine to medium) with some sand (fine to medium); orange to brown	GP		
30				
	Poorly-graded SAND (medium to coarse) with little gravel (fine); light gray to white	SP		
40				
50	Silty-SAND; tan, orange, brown	SM		Silt occurs as interbeds (< 1ft thick) within the sand
60				
	SAND (medium to coarse) and GRAVEL (fine); white to gray	SP-GP		
70	Poorly-graded SAND (medium) with trace gravel (fine); gray to white	SP		Begin profiling at 69.55 ft
80				
90				

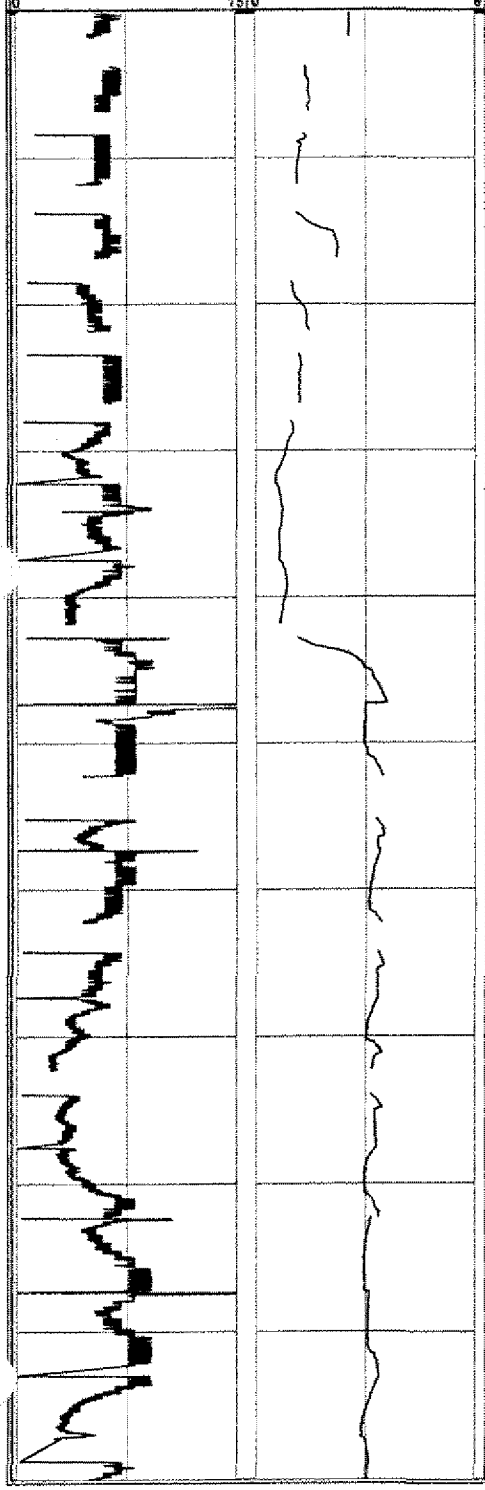
MALCOLM PIRNIE, INC.
7-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-26

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 12, 2003
JOB NUMBER:	4563001	END DATE:	May 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 140 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 255.8 ft Total depth of Boring: 300 ft

GEOLOGIC INFORMATION



Depth (ft bgsl	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		Profile data gaps due to poor KPRO flow equilibration from 101.85 to 103.74, 106.8 to 108.4, 111.85 to 113.72, and 116.85 to 118.43 ft.
	Poorly-graded SAND (fine to medium) with trace gravel (fine); light gray to white	SP		
110				
120				Gravel occurs as thin (<1 ft) thick interbeds within the sand from 120 to 135 ft Profile data gaps due to poor KPRO equilibration
130				
140				Profile data gap due to poor KPRO equilibration
150	Poorly-graded SAND (fine to medium) with silt and trace gravel (coarse); light gray to brown.	SP-SM		Profile data gap due to poor KPRO equilibration
160				Profile data gap due to poor KPRO equilibration
170				Profile data gap due to poor KPRO equilibration Silt lenses (< 1 ft) at 175 - 180 ft and 185 - 190 ft
180				
190				Trace gravel (coarse) at 190 - 195 ft

Boring ID:

MALCOLM PIRNIE, INC.

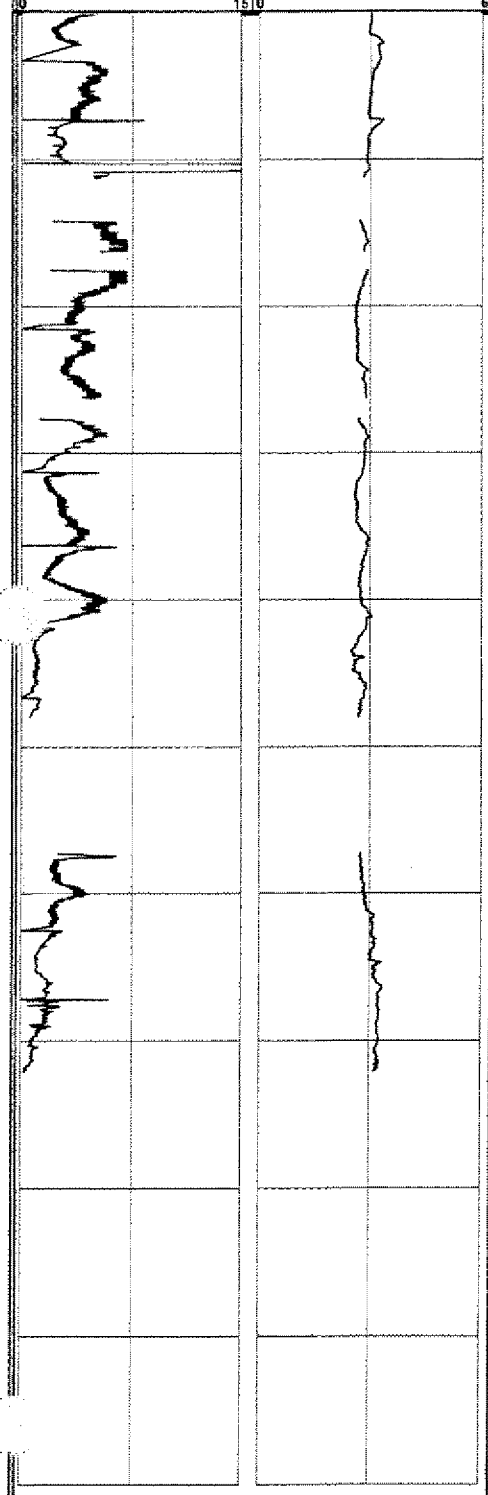
P-26

17-17 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 12, 2003
JOB NUMBER:	4563001	END DATE:	May 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near NW corner of 140 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 295.8 ft Total depth of Boring: 300 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND with trace gravel; light gray to brown	SW		
210				Profile data gap due to poor KPRO equilibration
				Coarsens downward, gravel fraction increases with depth
220				Profile data gap due to poor KPRO equilibration
230				
	Poorly-graded GRAVEL (fine)	GP		
240	Well-graded SAND with trace gravel; brown to tan	SW		
250				Gravel interbeds from 250 - 255 ft
	Poorly-graded SAND (medium to coarse); white to tan	SP		Profile data gap from 247.97 to 257.3 ft due to drilling activities
260				Coarsens with depth
270				Drilling equipment malfunctions, lost 5 ft of 3 in casing and tri-cone roller bit in bore hole. Abandoned bore hole and off-set drilling location. Much drilling fluid lost during drilling upper 80 ft of new hole
280				End of Profile at 272.12 ft
	Poorly-graded SAND (medium to coarse) with trace gravel; orange to pink	SP		
290				Gravel from 291 to 292 ft, Increased K-feldspar (up to 50% at 295 to 298 ft bgs)
				End of boring at 300 ft, end profile at 295.8 ft bgs
300				

MALCOLM PIRNIE, INC.

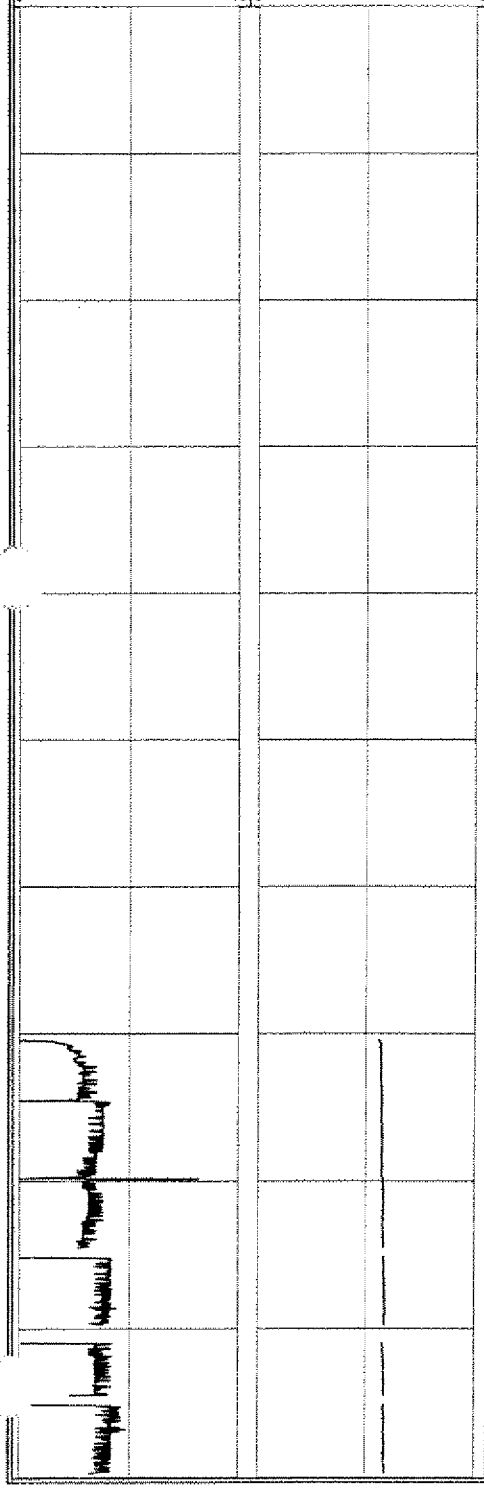
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-27**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 1, 2003
JOB NUMBER:	4563001	END DATE:	May 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. Next to 70 property south driveway
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 285.02 ft Total depth of Boring: 280.5 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) with some gravel; brown	SP		
10				Hollow stem auger used from 0 to 13 ft Begin mud rotary drilling at 13 ft.
20	Well-graded SAND with some gravel (fine); brown	SW		
30				
40	Poorly-graded SAND (coarse) and GRAVEL (fine); brown	SP-GP		
50				
60				
70	Poorly-graded SAND (medium to coarse) with trace gravel (fine); brown	SP		Begin profiling at 70.47 ft
80				
				Profile data gaps due to poor KPRO equilibration
90				

Boring ID:

MALCOLM PIRNIE, INC.

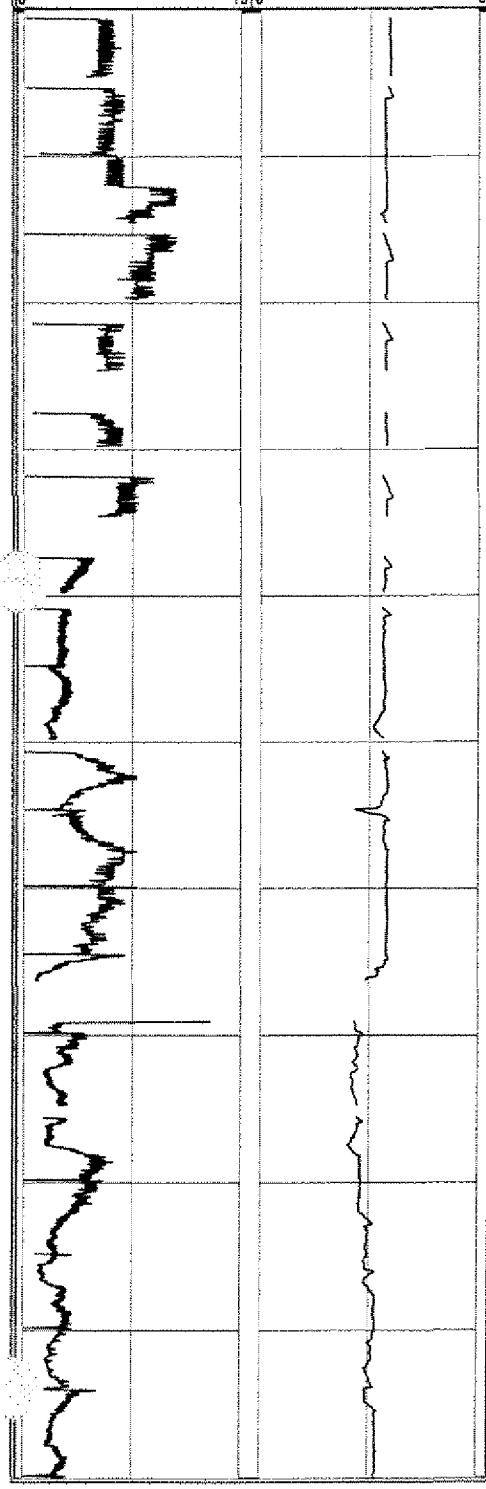
7 Route 208 North Fair Lawn, NJ 07401

P-27

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 1, 2003
JOB NUMBER:	4563001	END DATE:	May 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. Next to 70 property south driveway
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eichfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 285.02 ft Total depth of Boring: 280.5 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		Profile data gap due to poor KPRO equilibration
110	Poorly-graded SAND (medium to coarse) with some gravel (fine); brown	SP		Micaceous
120	Poorly graded SAND (medium to coarse); brown	SP		Micaceous Profile data gaps due to poor KPRO equilibration
130	Well-graded SAND with trace gravel; brown	SW		
140	Well-graded SAND with some gravel (fine); brown	SW		Micaceous Pulled profile rods at 149.75 ft
150	Well-graded SAND with trace gravel and trace silt; brown	SW		Micaceous
160	Well-graded SAND with some gravel (fine); brown	SW		Micaceous Profile data gap due to poor KPRO equilibration
170				
180				
190	Poorly-graded SAND (medium to fine); brown	SP		Micaceous

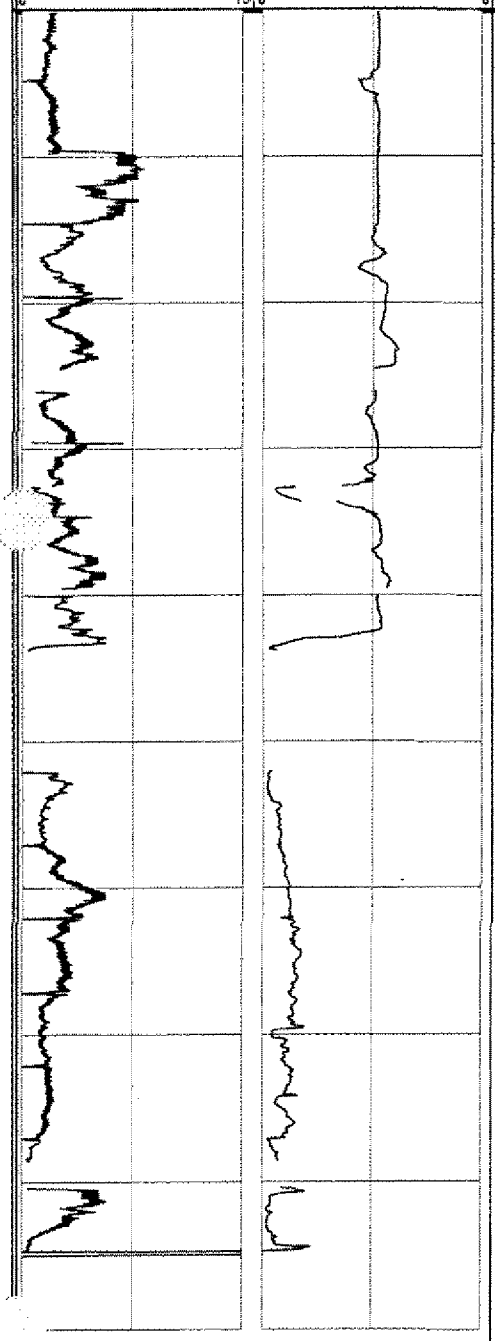
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-27

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 1, 2003
JOB NUMBER:	4563001	END DATE:	May 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. Next to 70 property south driveway
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 285.02 ft Total depth of Boring: 280.5 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND with some gravel (fine); brown	SW		
210				
220				Profile data gaps due to poor KPRO equilibration
230	Poorly-graded SAND (fine to medium); brown	SP		
240	Well-graded SAND (fine to coarse) with some clay and silt; brown	SC		Profiler refusal at 245 ft, no penetration rate or IK data from 243.76 to 252.05 ft due to drilling activities
250	Poorly-graded SAND (medium to coarse) with some gravel and some clay; brown	SC		
260	Poorly-graded SAND (fine to medium) and CLAY with trace gravel; brown	SC- CL		
270				Profiler refusal at 278.58 ft, no penetration rate or IK data from 278.58 to 280.42 ft due to drilling activities
280				End boring at 280.5 ft
				End of profile at 285.02 ft
290				

Boring ID:

MALCOLM PIRNIE, INC.

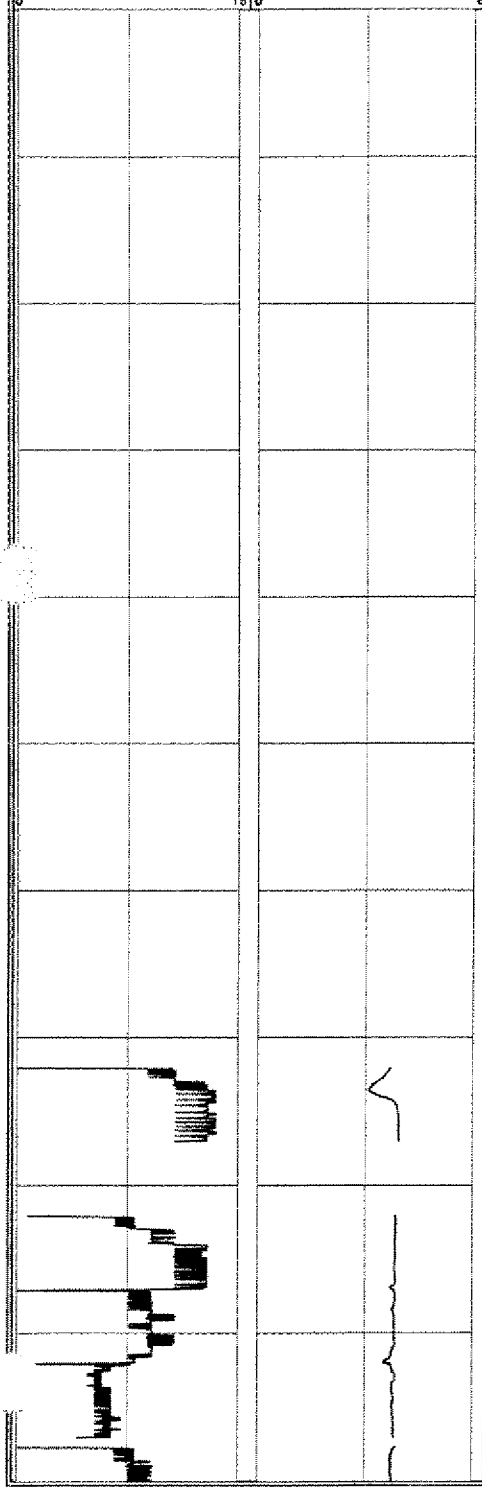
? Route 208 North Fair Lawn, NJ 07401

P-28

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 2, 2003
JOB NUMBER:	4563001	END DATE:	May 7, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co. Golf Course's driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 247 ft Total depth of Boring: 200 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded GRAVEL with little sand (medium to coarse) and trace silt; light brown	GP		
	Well-graded SAND with trace to little gravel (fine); light brown to brown	SW		
10				
	Well-graded SAND with trace silt and gravel (fine); medium brown	SW		~300 gallons drilling fluid lost in upper 15 ft of boring
20				
	SAND (fine to medium) and GRAVEL (fine); light to medium brown	SP-GP		
30				
	Well-graded SAND with trace silt and gravel (fine); light brown to gray	SW		
40				
50				Sand unit fines downward from having fine gravel from 35 to 55 ft, to fine sand at 70 ft
60				Begin profiling at 67.98 ft
70	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light gray to white	SP		No IK data from 67.89 to 72.07 ft due to plugged KPRO lines
80				No record of penetration rate or IK from 77.02 to 82.02 due to broken string potentiometer
	Poorly-graded SAND (fine to medium); light tan to brown	SP		
90				Profile data gap due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

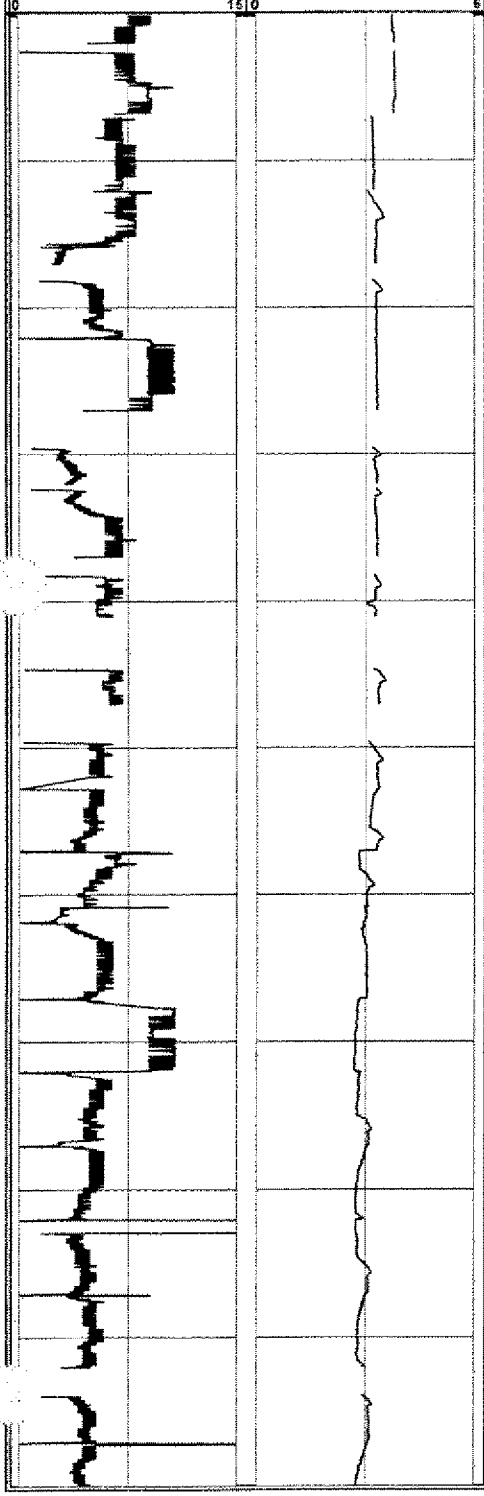
7 Route 208 North Fair Lawn, NJ 07401

P-28

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 2, 2003
JOB NUMBER:	4563001	END DATE:	May 7, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co. Golf Course's driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 247 ft Total depth of Boring: 200 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				Profile data gaps due to poor KPRO equilibration
120				
				Trace fine gravel interbeds at 128 to 130 ft
130				Profile data gaps due to poor KPRO equilibration
140	Poorly-graded SAND (medium) with trace gravel (fine); light tan to brown	SP		
150				Profile data gaps due to poor KPRO equilibration
	Poorly-graded SAND (medium to coarse); gray to white	SP		
160				
170				
180				
190				Profile data gaps due to poor KPRO equilibration

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:

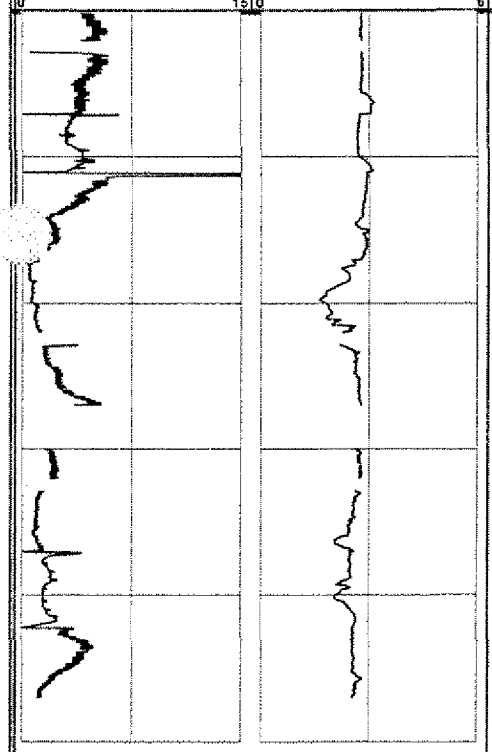
P-28

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 2, 2003
JOB NUMBER:	4563001	END DATE:	May 7, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, E of Cantiague Rock Rd, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co. Golf Course's driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Reinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 247 ft

Total depth of Boring: 200 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200				End of mud rotary boring at 200 ft. End mud log.
210				
220				
				Profile data gaps due to poor KPRO equilibration
230				
240				
				End of profile at 247 ft
250				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

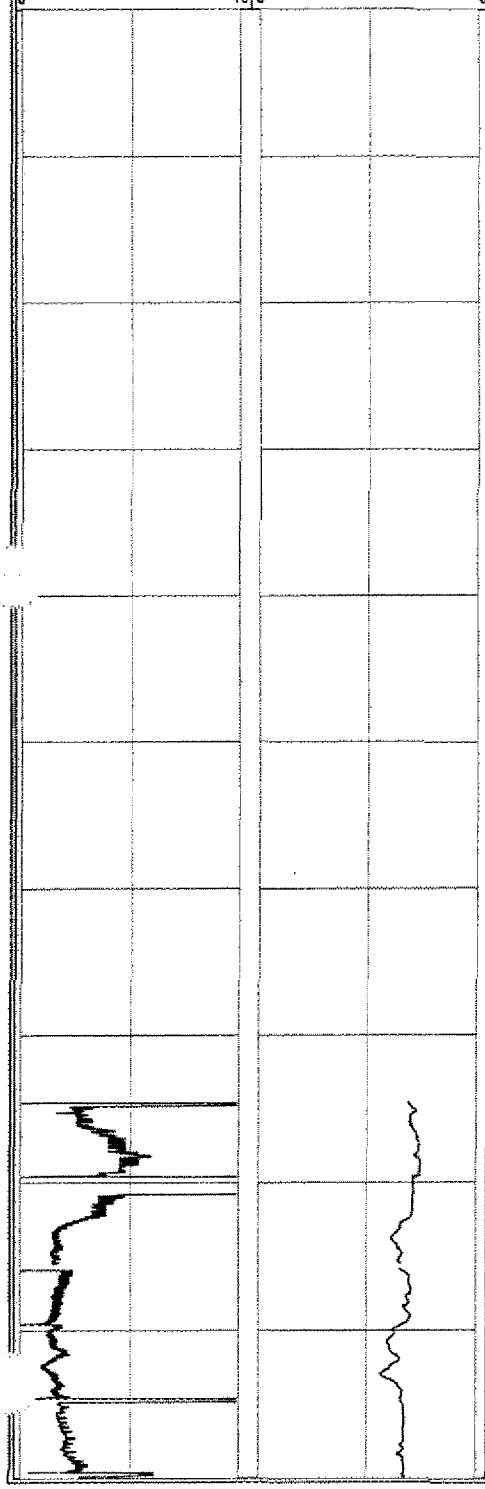
P-29

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 410.7 Total depth of Boring: 410 ft

GEOLOGIC INFORMATION

Penetration Rate (ft/min) 0–15; Index of Hyd. Conductivity 0–6



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	SAND (fine to medium) and GRAVEL (fine); dark brown	SP-GP		6 1/4 hollow stem auger used to drill from 0 to 14 ft
10				
	GRAVEL (coarse) with some sand (medium to coarse); light brown	GP		Begin mud rotary drilling at 14 ft
20	Poorly-graded SAND with trace gravel (fine); light brown	SP		
	SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
30				
40				
50	Poorly-graded SAND (fine to medium) with trace gravel (fine); light brown to white	SP		Gravel occurs as interbeds <1 ft thick.
60				
70	Poorly-graded SAND (fine to medium); light brown to white	SP		Begin profiling at 69.0 ft, but no data due to disconnected string potentiometer, reconnected at 74.57 ft
80				Profile data gap due to poor KPRO equilibration
90				

Boring ID:

MALCOLM PIRNIE, INC.

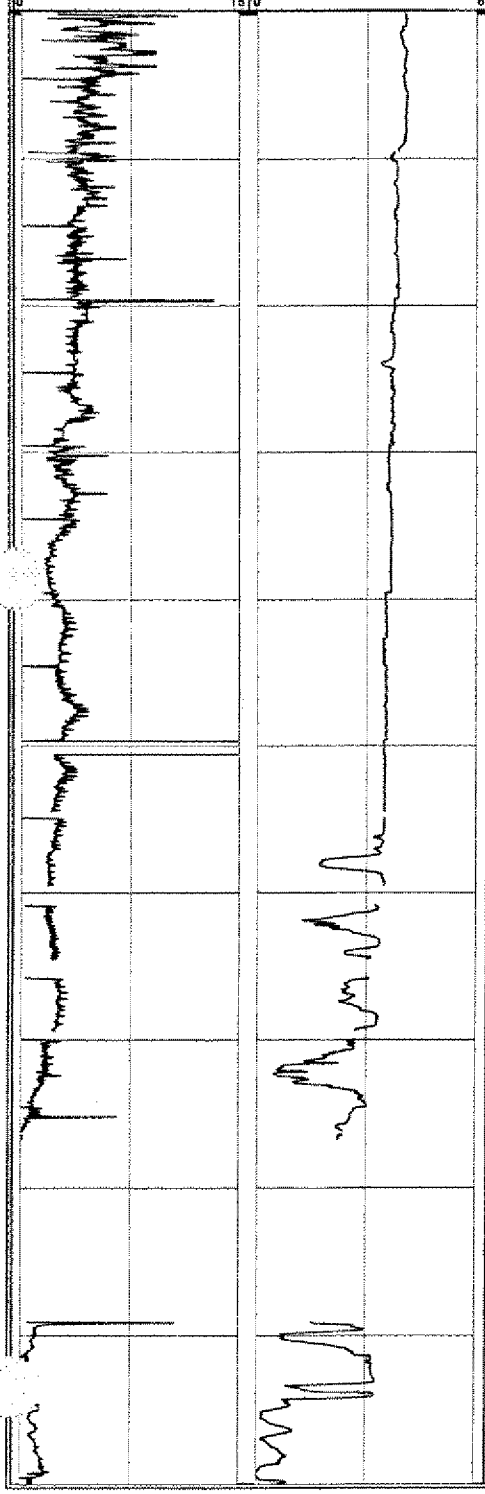
7 Route 208 North Fair Lawn, NJ 07401

P-29

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 410.7 Total depth of Boring: 410 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100				
	Poorly-graded SAND (medium); light gray to brown	SP		
110				
	Poorly-graded SAND (medium) with trace clay and silt; light gray to brown	SP		Clay and silt occurs as thin interbeds
120				
130				
140				
	Poorly-graded SAND (medium to coarse) with some gravel (fine)	SP		Gravel occurs as thin interbeds
150	Silty sand; light brown	SM		Silt occurs as thin interbeds < 1 ft
160				Profile data gaps due to poor KPRO equilibration
170	Poorly-graded SAND (medium to coarse); light brown	SP		Profiler refusal at 176.7 ft, no pentration rate or IK data from 176.7 to 189.07 ft due to drilling activities
180	SAND and GRAVEL (fine)	SP-GP		
	SAND with some silt and clay; light tan to brown	SM		Silt and clay occur as thin interbeds
190				

Boring ID:

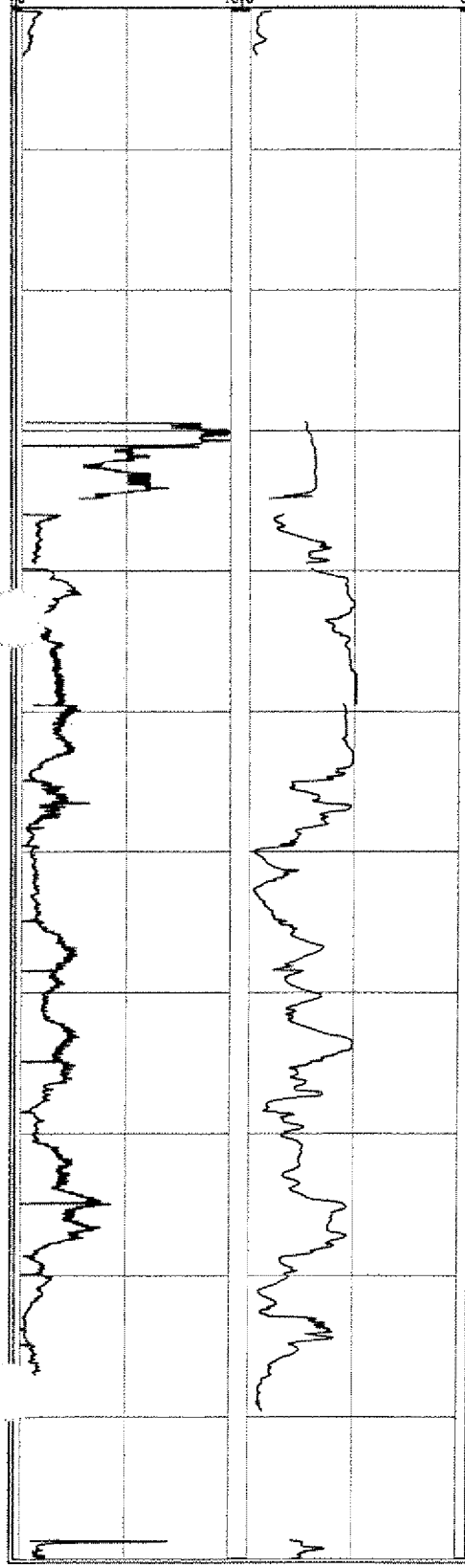
MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

P-29

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
NUMBER:	4563001	END DATE:	September 24, 2003
LING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
RILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	John Hilton
Total depth of Profile:	410.7	Total depth of Boring:	410 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	SILT and CLAY; light gray-white to dark brown	ML- CL		Some carbonaceous clay Profiler refusal at 203.32 ft No penetration rate or IK data from 203.32 to 229.4 ft due to drilling activities
210				
220				
	Silty SAND; light brown to yellow	SM		
230	Poorly-graded SAND (fine); light tan to brown	SP		Profile data gaps due to poor KPRO equilibration
240		SP		
250				
260				
	Poorly-graded sand with some silt and clay; light brown	SM		Silty clay interbeds
270				
280				
290	Silty SAND with some clay; light brown	SM		Carbonaceous clay interbeds Profiler refusal at 299.55 ft. No penetration rate or IK data from 299.55 to 308.71 ft due to drilling activities
300				

Boring ID:

MALCOLM PIRNIE, INC.

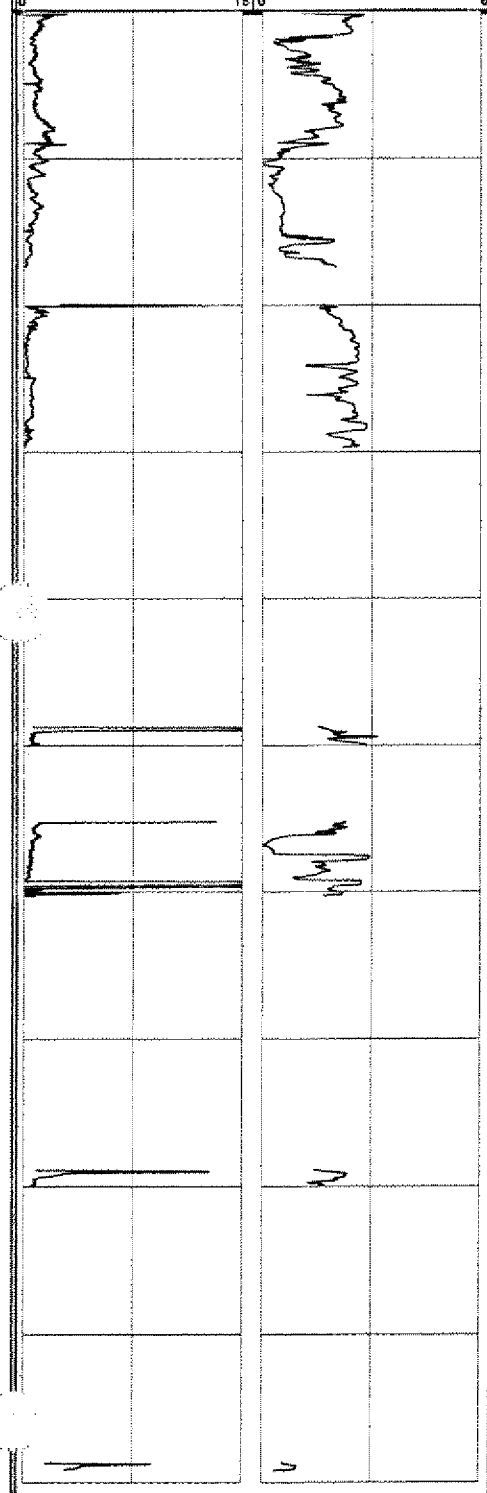
P-29

17-17 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 410.7 — Total depth of Boring: 410 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
310	Poorly-graded SAND (fine to medium) with trace to little silt; gray to white	SP		Silty clay interbeds
320				
330				Profile data gap due to equipment malfunction
	Well-graded SAND; gray to white	SW		Profiler refusal at 339.70. High IK, but very low penetration rate
340				No penetration rate or IK data from 339.70 to 358.75 due to drilling activities
350				
				No profile data from 360.08 to 365.19 due to equipment malfunction
360	Poorly-graded SAND with trace clay; light gray to white	SP		
				Profiler refusal at 370.3 ft
370				No penetration rate or IK data from 370.3 to 388.91 ft due to drilling activities
380				
	CLAY with trace lignite; dark brown, carbonaceous	CL		
	Silty SAND with trace clay; light yellow to white	SM		Profiler refusal at 390.0 ft
390				
	Well-graded SAND; light gray to white	SW		No penetration rate or IK data from 390.0 to 408.71 ft due to drilling activities
400				Profiler refusal at 410.7 ft, end of Profile. End of boring at 410 ft. Upon pulling 3 in mud rotary casing, casing broke, interval from 279 to 409 ft left in boring
410				

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

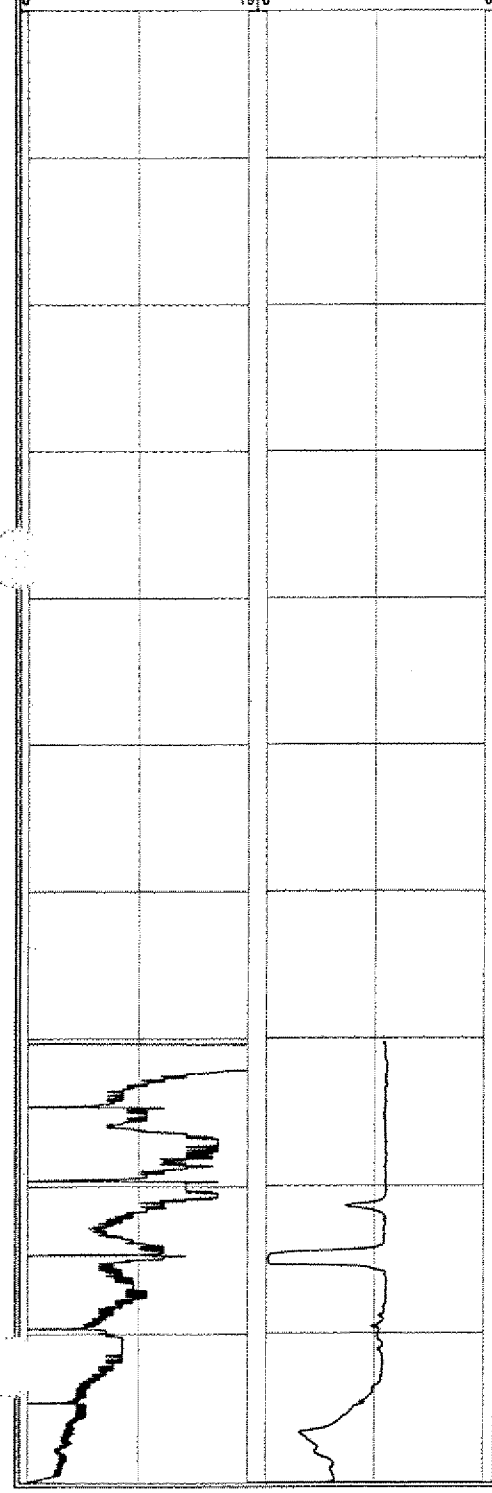
P-30

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 30, 2003
JOB NUMBER:	4563001	END DATE:	October 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-29
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Emily Moshier, John Hilton

Total depth of Profile: 406.55 ft

Total depth of Boring: 390 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL (fine to coarse); medium to dark brown	SP-GP		6 1/4 in hollow stem auger used to drill from 0 to 14 ft
10				Begin mud rotary drilling at 14 ft
	Poorly-graded SAND (coarse to medium) with trace gravel; light to medium brown	SP		
20				
	Well-graded SAND and GRAVEL (fine to medium); light brown	SP-GP		
30				Gravel fraction increases with depth
40	Poorly-graded SAND (medium to coarse) with trace gravel (fine); medium to light brown	SP		
50				
60				
	Poorly-graded SAND (medium to coarse); medium to light brown			Begin profiling at 70.34 ft
70				
80	Poorly-graded SAND (medium) with trace clay; light brown to orange	SC		
	CLAY with some sand; medium brown to orange	CL		
90	Poorly-graded SAND (medium to fine); light brown to white, some orange	SP		

Boring ID:

MALCOLM PIRNIE, INC.

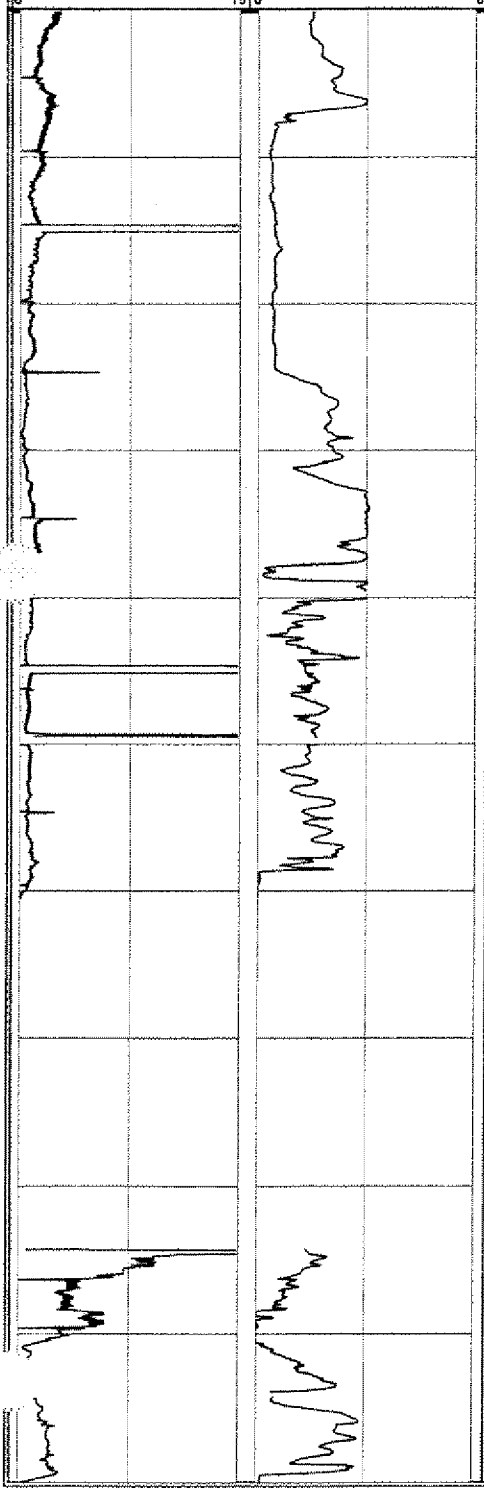
7 Route 208 North Fair Lawn, NJ 07401

P-30

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 30, 2003
JOB NUMBER:	4563001	END DATE:	October 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-29
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Emily Moshier, John Hilton

Total depth of Profile: 406.55 ft Total depth of Boring: 390 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
	Poorly-graded SAND (fine) and SILT; light brown	SM-ML		
110				
120				
	Poorly-graded SAND (medium to fine); light tan	SP		
130				
140	SAND and CLAY; orange-brown	SC- CL		
150	Poorly-graded SAND (coarse); light brown	SP		
	CLAY with some sand; orange-brown	CL		
160	Clay; light gray to brown	CL		Profiler refusal at 160.5 ft, no penetration rate or IK data from 160.5 to 184.27 ft due to drilling activities
170				
180	SILT and SAND (medium); brown and orange	ML-SM		
	SILT; medium brown to orange	ML		
190	CLAY; light brown to white	CL		
	SILT and SAND (fine); dark to light brown	ML-SM		

Boring ID:

MALCOLM PIRNIE, INC.

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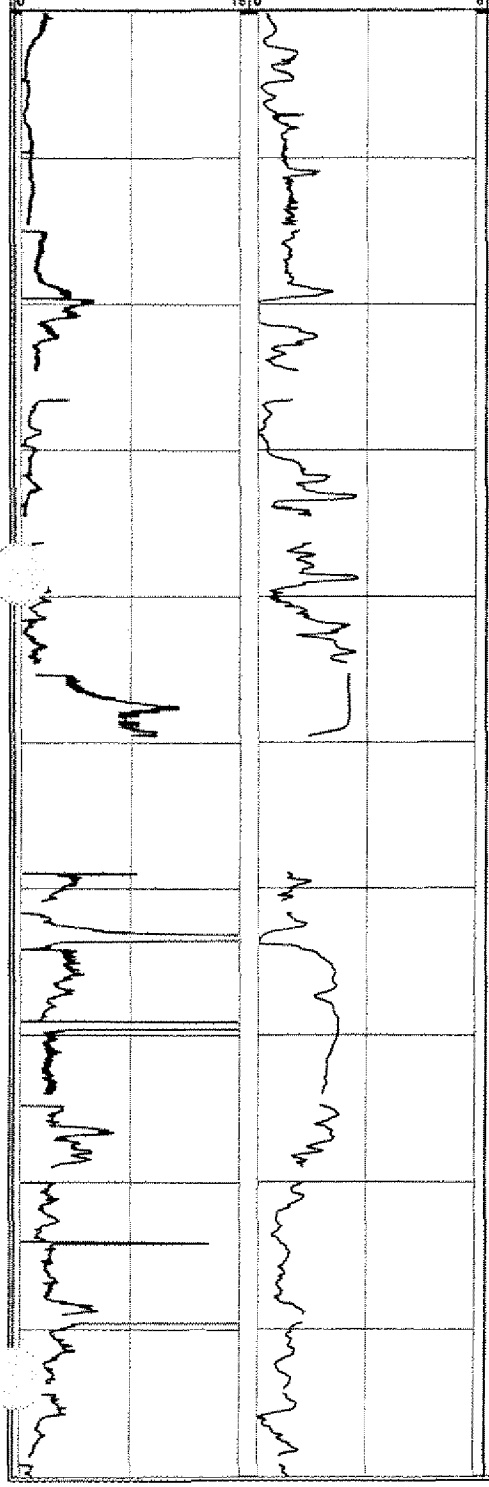
P-30

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 30, 2003
JOB NUMBER:	4563001	END DATE:	October 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-29
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Emily Moshier, John Hilton

Total depth of Profile: 406.55 ft Total depth of Boring: 390 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		ML-SM		
210				Profile data gap due to poor KPRO equilibration
220	CLAY and SAND (fine); light brown	SC- CL		Drill casing broke in hole at 223 ft, casing from 211 to 223 ft abandoned in hole, initiated drilling in off-set location
230				
240				Profile data gaps due to poor KPRO equilibration
250				Profiler refusal at 249.55 ft, no penetration rate or IK data from 249.55 ft to 258.95 ft due to drilling activities
260	Poorly-graded SAND (fine) with trace to little silt; light brown to gray	SP		Profile data gaps due to poor KPRO equilibration
270				
280				
290				Profile data gaps due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

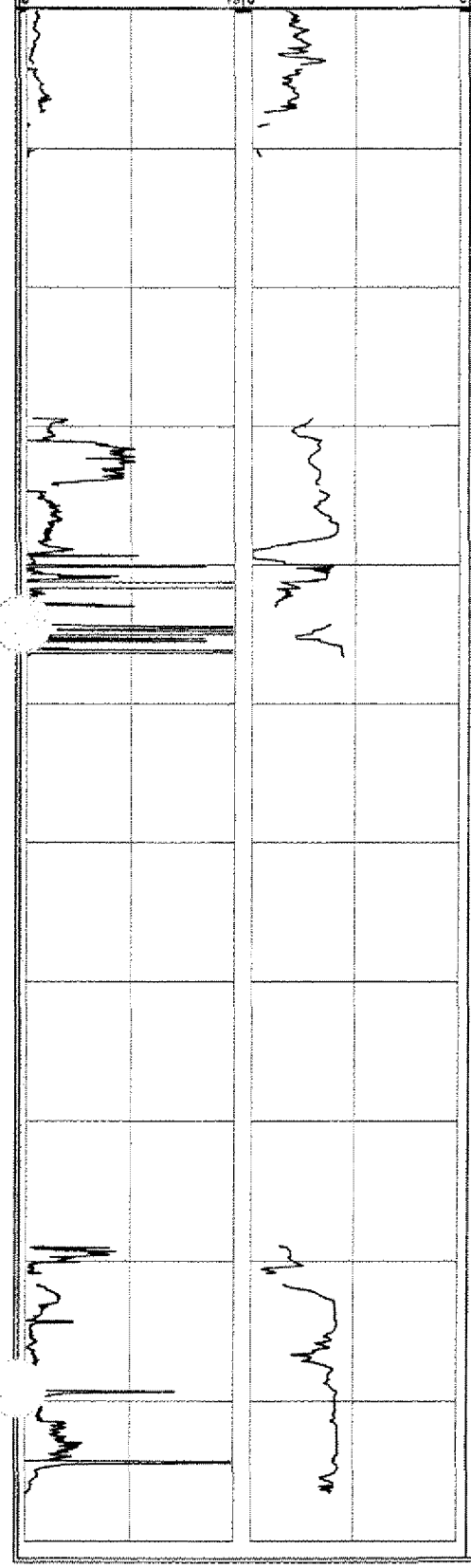
P-30

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 30, 2003
JOB NUMBER:	4563001	END DATE:	October 9, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-29
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Emily Moshier, John Hilton

Total depth of Profile: 406.55 ft

Total depth of Boring: 390 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	SAND with some silt and clay; light brown to gray	SM		Profile data gaps due to poor KPRO equilibration Silt and clay interbeds (< 2 ft) from 305 to 330 ft
310				Profiler refusal at 310.6 ft, no penetration rate or IK data from 310.6 to 329.43 ft due to drilling activities
320				
330	Poorly-graded SAND (fine) with trace silt; light brown to gray	SP		
340				
	Well-graded SAND; light gray to white (1 ft clay lens from 354 to 355 ft)	SW		Profiler refusal at 346.59 ft, no penetration rate or IK data from 346.59 to 388.96 ft due to drilling activities
350				
	Well-graded SAND with trace gravel (fine); light gray to brown	SW		
360				
370				
380				End of boring at 390 ft
390				Profile data gap due to poor KPRO equilibration
400				Profiler refusal at 406.55 ft. End of profile.
410				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

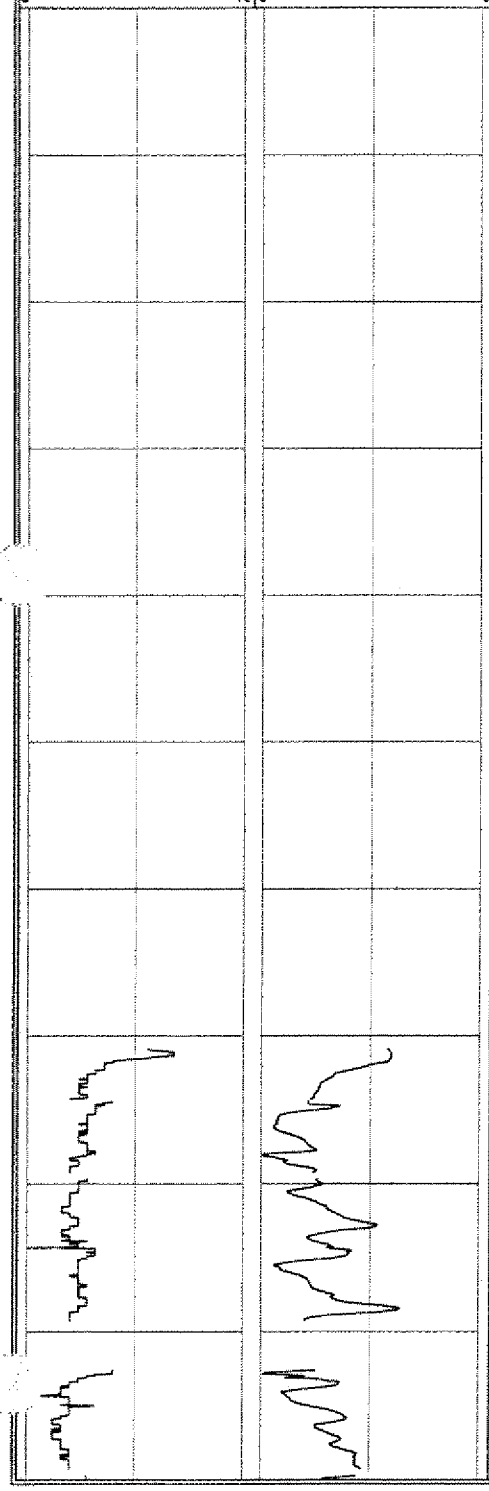
P-31

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 5, 2004
JOB NUMBER:	4563001	END DATE:	January 24, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 451.5 ft

Total depth of Boring: 440 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to coarse) with some gravel and cobbles; light brown.	SW		Hollow stem augers used from 0 to 15 ft
10				
	Poorly-graded SAND (medium to coarse) and GRAVEL; light brown-white-orange	SP-GP		Begin mud rotary drilling at 15 ft
20				
30				
40	Poorly-graded SAND (medium to coarse) with some silt; light brown to white	SM		Micaceous
50	Poorly-graded SAND (fine) with silt and clay; white-gray-orange	SM-SC		
60	Poorly-graded SAND (fine) with little clay; light brown to white	SC		
70	Poorly-graded SAND (fine to medium) with trace silt and clay; light brown to orange	SP		Begin profiling at 69.29 ft Profile data gaps due to poor KPRO equilibriation
80				
90	Poorly-graded SAND (fine to medium) with little clay and silt; brown	SC		Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

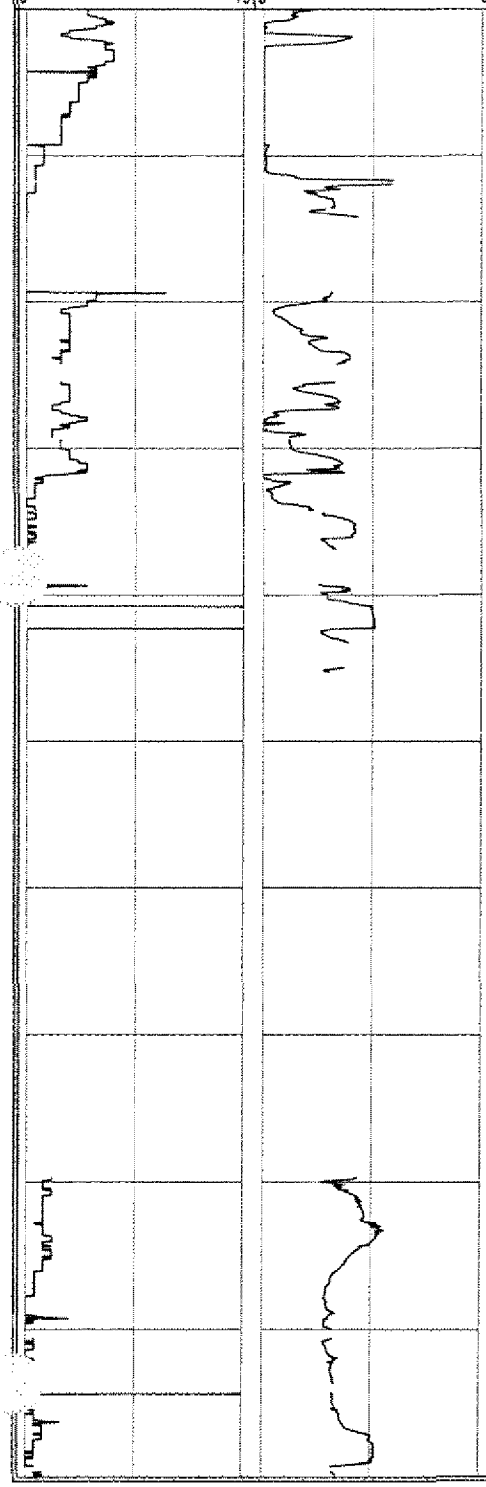
'7 Route 208 North Fair Lawn, NJ 07401

P-31

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 5, 2004
JOB NUMBER:	4563001	END DATE:	January 24, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 451.5 ft Total depth of Boring: 440 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (fine to medium) with little clay and silt; brown	SC		
	SILT and CLAY with little sand (fine); orange-light brown-black	ML-CL		Profile data gaps due to poor KPRO equilibriation
110	Poorly-graded SAND (fine); dark brown to black	SP		Micaceous Profiler refusal at 114.20. No penetration rate or IK data from 114.2 to 119.25 ft due to drilling activities
120	SILT and CLAY with some sand (fine); dark brown-white-black	ML-CL		Profile data gaps due to poor KPRO equilibriation
130	Poorly-graded SAND (fine) and SILT with trace clay	SM-ML		Profiler refusal at 136.9. No penetration rate or IK data from 136.9 to 139.25 ft due to drilling activities
140	Poorly-graded SAND (fine); light brown to orange	SP		Profile data gaps due to poor KPRO equilibriation Interbedded clay from 148 to 173 ft
150	Poorly-graded SAND (fine); light brown to orange	SP		Profiler refusal at 145.2. No penetration rate or IK data from 145.2 to 179.25 ft due to drilling activities
160				
170				
	Poorly-graded SAND (fine); brown	SP		Micaceous
180	Poorly-graded SAND (fine) and SILT; brown	SM-ML		Profile data gaps due to poor KPRO equilibriation
190				

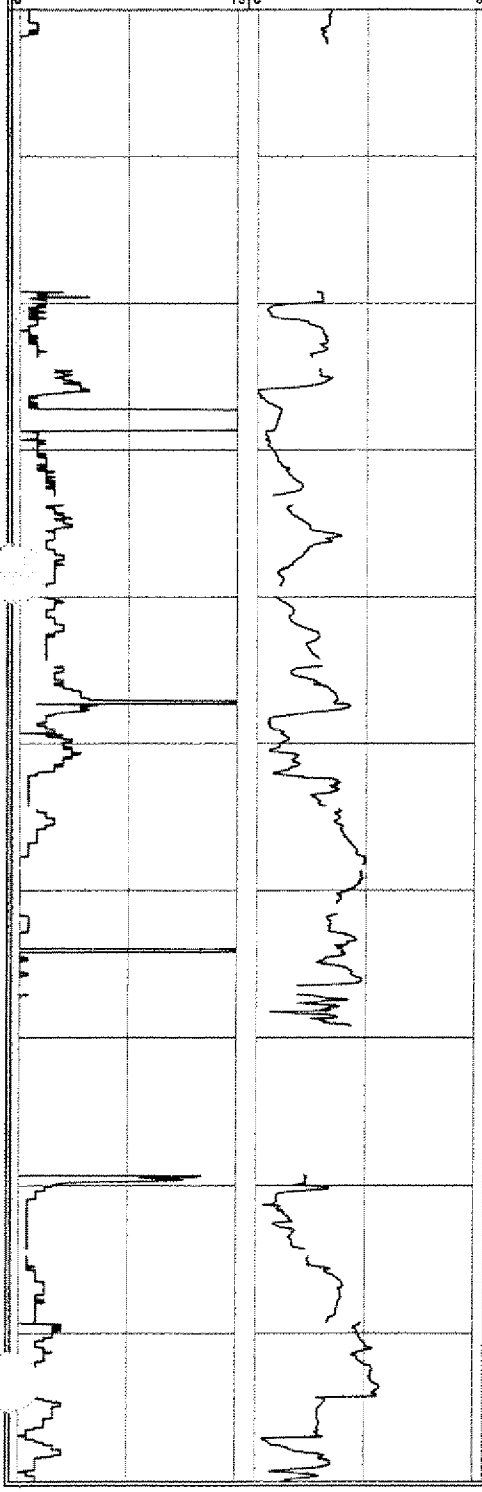
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-31

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 5, 2004
JOB NUMBER:	4563001	END DATE:	January 24, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 451.5 ft Total depth of Boring: 440 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (fine to medium); white to orange	SP		Clay lenses from 200 to 220 ft Micaceous Profiler refusal at 202.38. No penetration rate or IK data from 202.38 to 219.25 ft due to drilling activities
210				
220	Poorly-graded SAND (fine) with trace clay; light brown to white	SP		Micaceous Profile data gaps due to poor KPRO equilibriation
230				
240				Profile data gaps due to poor KPRO equilibriation
250				
260	Poorly-graded SAND (fine); light brown	SP		Micaceous Profile data gaps due to poor KPRO equilibriation Profiler refusal at 269.20. No penetration rate or IK data from 269.20 to 279.75 ft due to drilling activities
270				
280	Poorly-graded SAND (fine) with trace clay; light brown-white-gray	SP		Profile data gaps due to poor KPRO equilibriation
290				

Boring ID:

MALCOLM PIRNIE, INC.

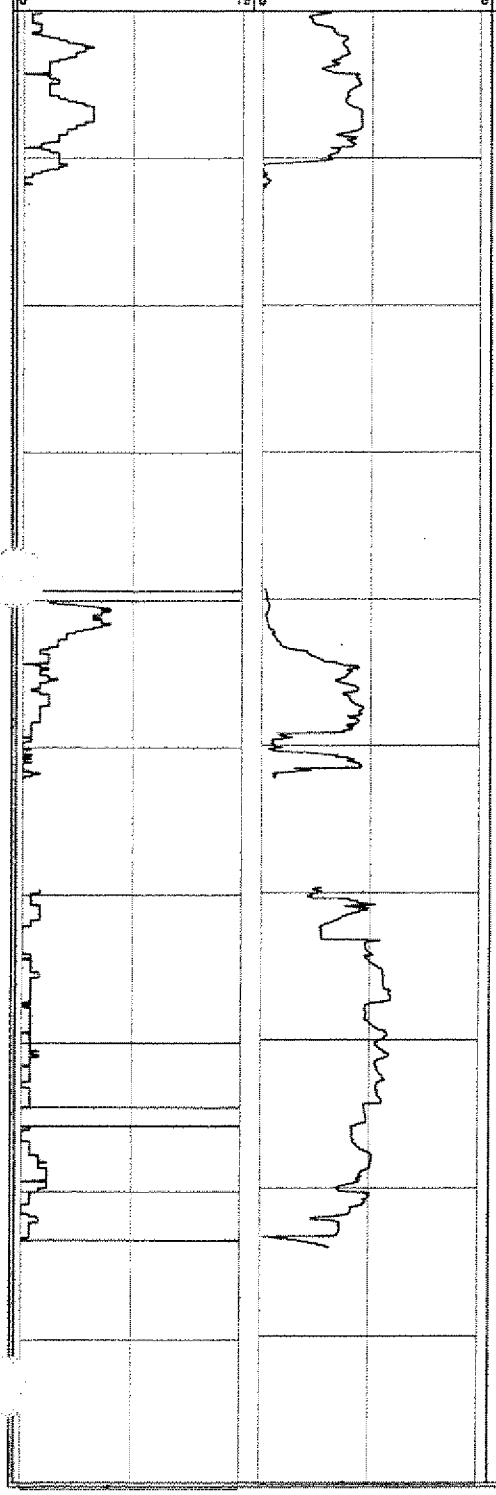
7 Route 208 North Fair Lawn, NJ 07401

P-31

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 5, 2004
JOB NUMBER:	4563001	END DATE:	January 24, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 451.5 ft Total depth of Boring: 440 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (fine); light brown	SP		Micaceous
310	Poorly-graded SAND (fine) with silt and clay; white-orange-black	SM-SC		Profiler refusal at 312.04. No penetration rate or IK data from 312.04 to 339.25 ft due to drilling activities
320	Poorly-graded SAND (fine) and SILT with some clay and lignite; gray	SM-ML		
330	Poorly-graded SAND (fine) and SILT with trace clay	SM-ML		
340	Poorly-graded SAND (fine to medium); light brown to white	SP		Micaceous
350	Poorly-graded SAND (fine to medium); light brown to white	SP		Micaceous Thin clay layer at 352 ft Profiler refusal at 352.20. No penetration rate or IK data from 352.20 to 359.40 ft due to drilling activities
360	Well-graded SAND (fine to coarse) with trace clay; brown-orange-white	SW		Micaceous
370				
380	SILT and CLAY with some sand (fine to medium) and lignite; white-gray-orange	ML-CL		Micaceous Profiler refusal at 384.02. No penetration rate or IK data from 384.02 to 399.25 ft due to drilling activities
390	Poorly-graded SAND (medium to coarse); light brown to white	SP		

Boring ID:

MALCOLM PIRNIE, INC.

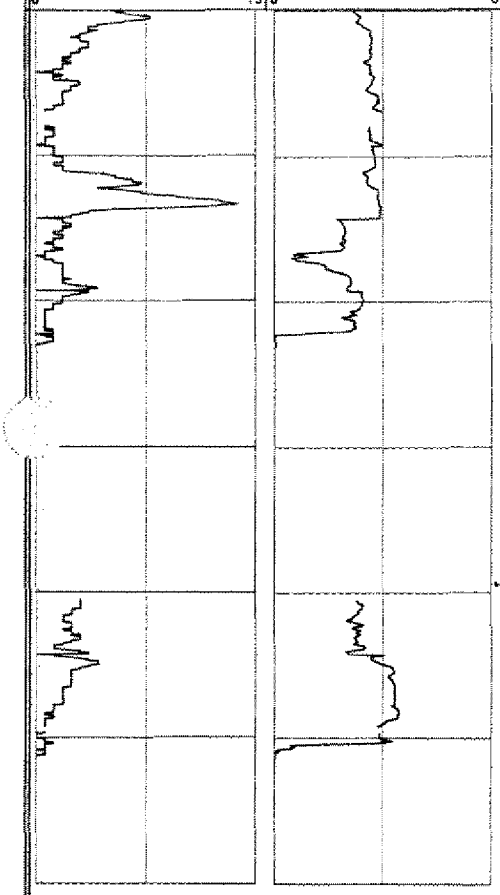
17-17 Route 208 North Fair Lawn, NJ 07401

P-31

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 5, 2004
JOB NUMBER:	4563001	END DATE:	January 24, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 451.5 ft Total depth of Boring: 440 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400	Poorly-graded SAND (medium to coarse); light brown to white	SP		No penetration rate or IK data from 407.0 to 408.0 ft due to leak in harness
410	Well-graded SAND (fine to coarse); light brown-white-orange	SW		
420	Well-graded SAND (fine to coarse) with little clay; light brown-white-orange	SC		Profiler refusal at 423.09. No penetration rate or IK data from 423.09 to 439.25 ft due to drilling activities
430	Poorly-graded SAND (medium to coarse) with trace clay; white-gray-tan	SP		
440				End of boring at 440 ft
				Profile data gap due to poor KPRO equilibriation
450				End of profile at 451.5 ft
460				
470				

Boring ID:

MALCOLM PIRNIE, INC.

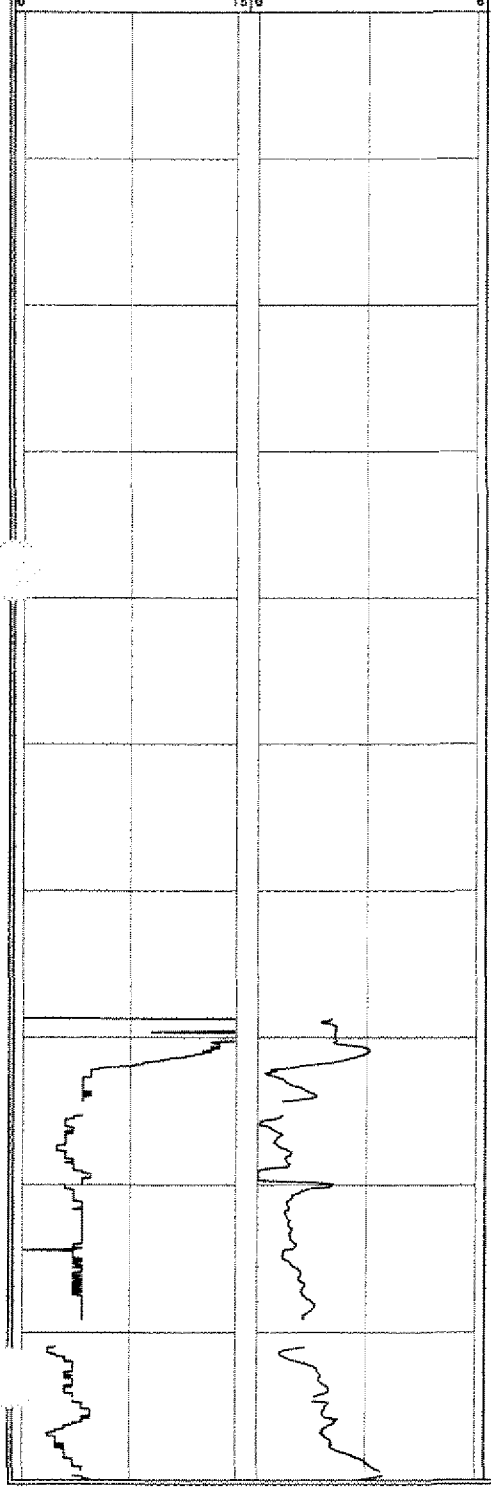
7 Route 208 North Fair Lawn, NJ 07401

P-32

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	February 9, 2004
JOB NUMBER:	4563001	END DATE:	February 19, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	J. Hilton, C. Sullivan, E. Mosier

Total depth of Profile: 492.58 Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to coarse) with trace gravel (fine); brown	SW		Hollow stem augers used from 0 to 15 ft
	Well-graded SAND (fine to coarse) with some gravel (fine to coarse); brown	SW		
10	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		Begin mud rotary drilling at 15 ft
20				
30	Poorly-graded SAND (medium to coarse) with little gravel (fine); tan to brown	SP		
40				
50	Poorly-graded SAND (fine to medium) and GRAVEL (fine); brown	SP-GP		
60	Poorly-graded SAND (fine to medium) with trace silt; light brown to white	SP		Begin profiling at 68.65 ft
70				Profile data gaps due to poor KPRO equilibriation
80				
90	Poorly-graded SAND (fine) with trace silt; light gray to brown	SP		Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

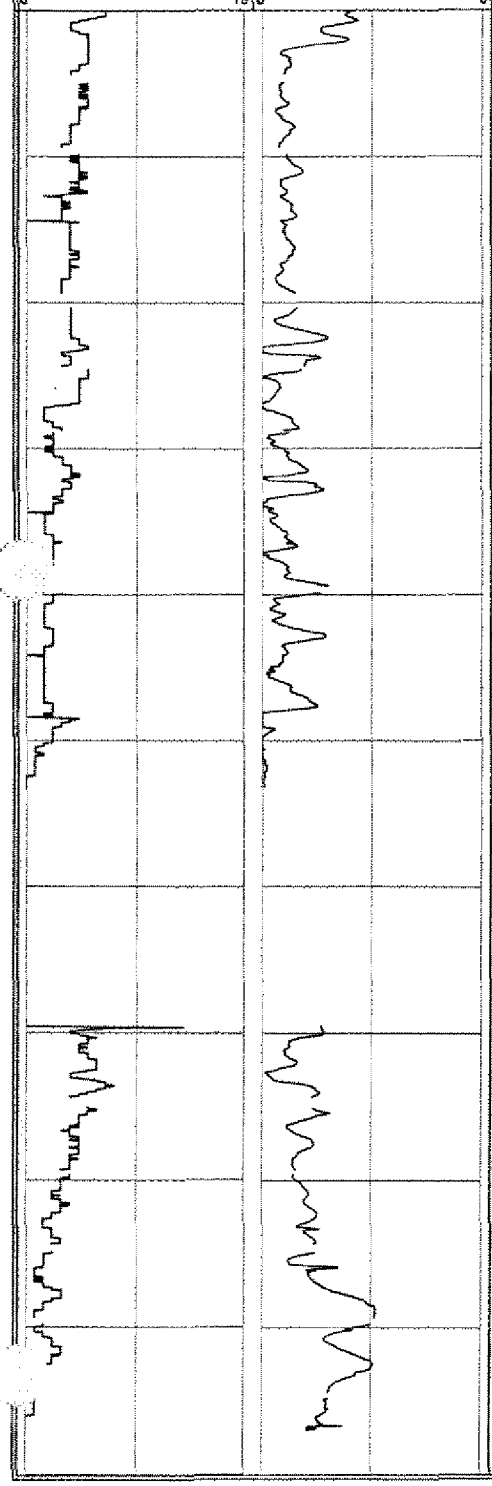
P-32

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	February 9, 2004
JOB NUMBER:	4563001	END DATE:	February 19, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	J. Hilton, C. Sullivan, E. Mosier

Total depth of Profile: 492.58

Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (fine) with trace silt; light gray to brown	SP		Profile data gaps due to poor KPRO equilibriation
110				
120				Profile data gaps due to poor KPRO equilibriation
130	Poorly-graded SAND (fine and coarse) with trace silt and clay; light gray to brown	SP		
140				Profile data gaps due to poor KPRO equilibriation
150				Profiler refusal at 153.23 ft. No penetration rate or IK data from 153.23 to 169.50 ft due to drilling activities
160	Poorly-graded SAND (fine) with silt; light tan to white	SM		
170				Profile data gaps due to poor KPRO equilibriation
180	Poorly-graded SAND (medium to coarse); light tan to brown	SP		Micaceous
190	Poorly-graded SAND (fine to medium); brown			Profiler refusal at 196.96 ft. No penetration rate or IK data from 196.96 to 219.38 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

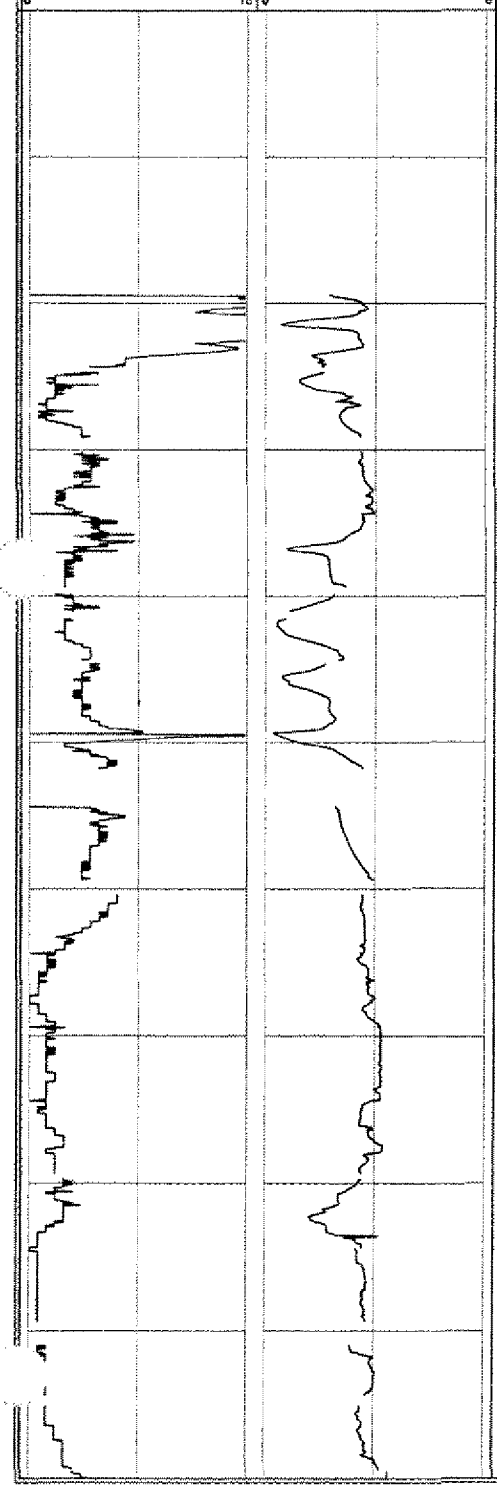
P-32

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	February 9, 2004
JOB NUMBER:	4563001	END DATE:	February 19, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	J. Hilton, C. Sullivan, E. Mosier

Total depth of Profile: 492.58

Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (fine) with little silt; olive brown to gray-white	SM		
210				
220				Profile data gaps due to poor KPRO equilibriation
230				
240				Profile data gaps due to poor KPRO equilibriation
	Poorly-graded SAND (fine) with little silt and clay; olive brown to gray-white	SM		
250	Poorly-graded SAND (fine) with little silt; light tan to white	SM		No penetration rate or IK data from 251.83 to 254.35 ft due to plugged KPRO line
260				Profile data gaps due to poor KPRO equilibriation
270				
280				Clay interbeds from 282 to 284 ft
290	Poorly-graded SAND (fine) with trace silt; light tan to white	SP		Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

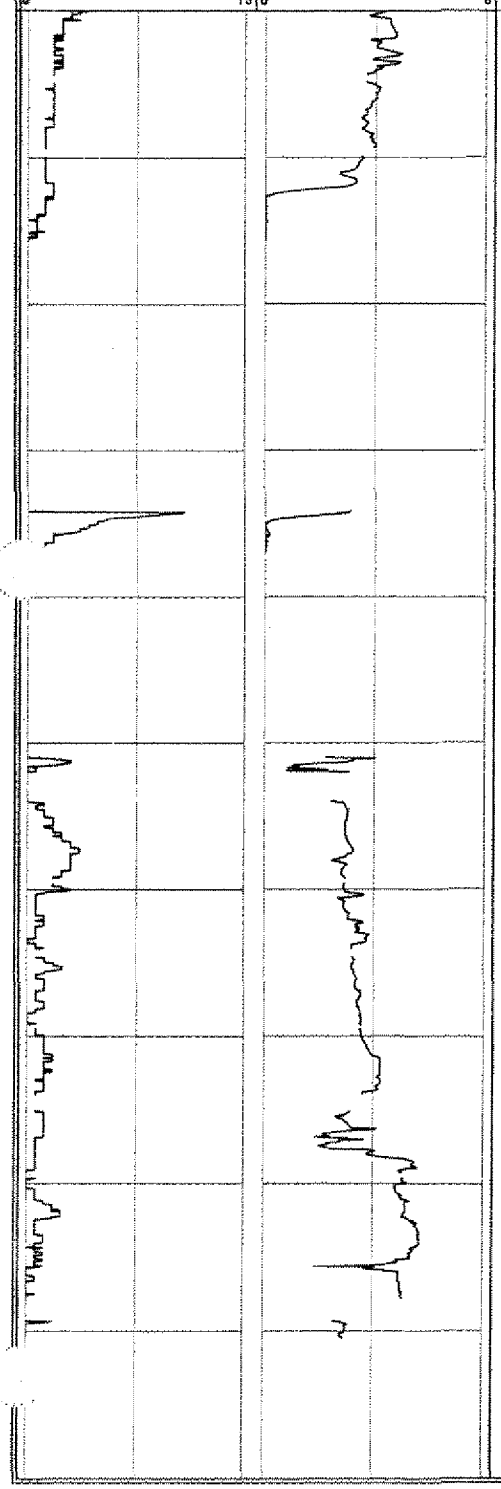
7 Route 208 North Fair Lawn, NJ 07401

P-32

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	February 9, 2004
JOB NUMBER:	4563001	END DATE:	February 19, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	J. Hilton, C. Sullivan, E. Mosier

Total depth of Profile: 492.58 Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (fine) with trace silt; light tan to white	SP		Profile data gaps due to poor KPRO equilibriation
310	SILT and CLAY; dark gray to brown	ML-CL		Thin bedded fine sand (< 2 ft)
				Profiler refusal at 315.0 ft. No penetration rate or IK data from 315.0 to 334.15 ft due to drilling activities
320				
330	CLAY with little silt, trace sand (fine), and trace lignite; dark gray to brown	CL		
				Profiler refusal at 336.93 ft. No penetration rate or IK data from 336.93 to 349.05 ft due to drilling activities
340				
	Poorly graded SAND (fine to medium); light brown to tan	SP		No penetration rate or IK data from 349.10 to 350.95 ft due to low pressure reading
350				No penetration rate or IK data from 352.00 to 353.96 ft due to computer malfunction
360				Profile data gaps due to poor KPRO equilibriation
370	Well-graded SAND (fine to coarse) with trace silt; light brown to white	SW		Profile data gaps due to poor KPRO equilibriation
380				Profiler refusal at 387.8 ft. No penetration rate or IK data from 387.8 to 389.25 ft due to drilling activities
390	Well-graded SAND (fine to coarse); gray-white to tan-white	SW		Profiler refusal at 390.1 ft. No penetration rate or IK data from 390.1 to 409.30 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

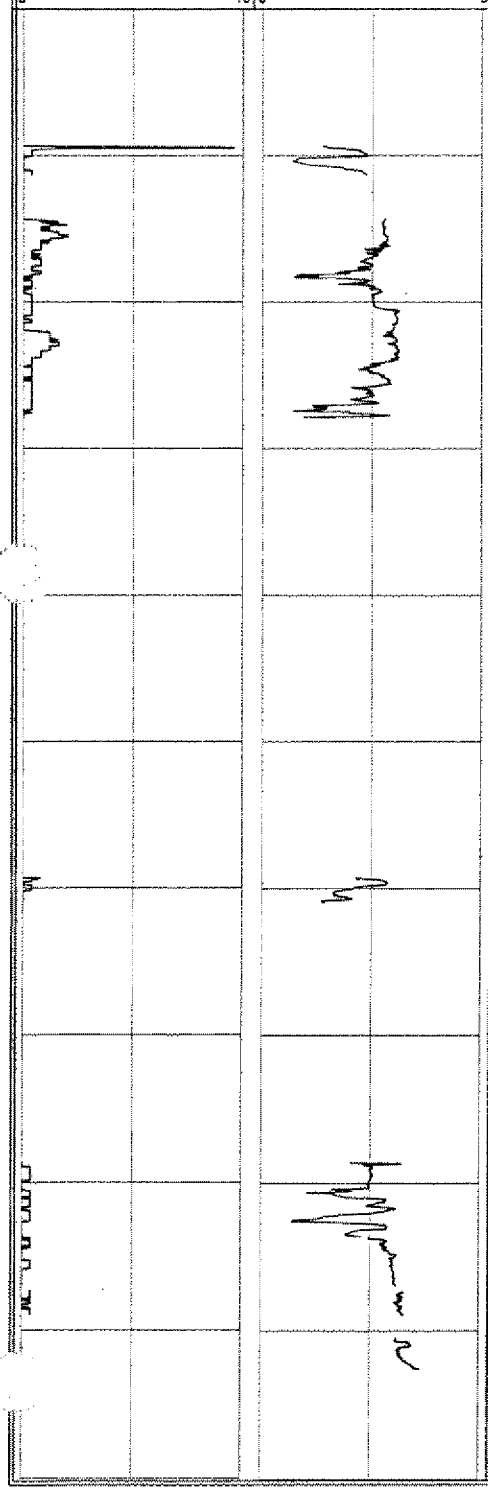
7 Route 208 North Fair Lawn, NJ 07401

P-32

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	February 9, 2004
JOB NUMBER:	4563001	END DATE:	February 19, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd., North of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	J. Hilton, C. Sullivan, E. Mosier

Total depth of Profile: 492.58 Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400	Well-graded SAND (fine to coarse); gray-white to tan-white	SW		
410	No Recovery			Lost circulation. No recovery of cuttings No penetration rate or IK data from 449.51 to 451.04 ft due to low pressure reading Profile data gaps due to poor KPRO equilibriation Profiler refusal at 427.7 ft. No penetration rate or IK data from 427.7 to 449.45 ft due to drilling activities
420				
430				
440				
450		CL		Rig response indicated interbedded silty sand and clay from 450 to 460 ft
460				
470				
480				End of boring at 480 ft
490				End of profile at 492.58 ft

Boring ID:

MALCOLM PIRNIE, INC.

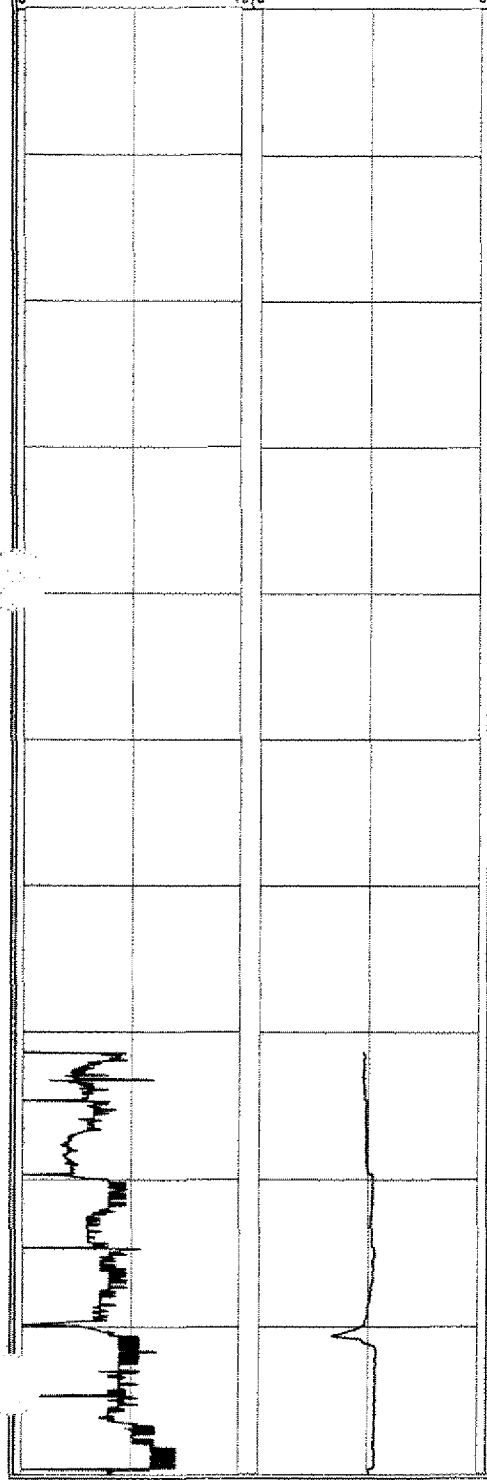
17 Route 206 North Fair Lawn, NJ 07401

P-33

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	December 5, 2003
JOB NUMBER:	4563001	END DATE:	December 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on North side of 140 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 500.1 ft Total depth of Boring: 500 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (fine to medium) with little gravel (fine); dark brown to orange	SP		
10				Auger to 15 ft bgs
	Poorly-graded SAND (medium) and GRAVEL (fine to coarse); brown	SP-GW		Begin mud rotary drilling at 15 ft
20				
30				
40	Poorly-graded SAND (medium to coarse) with little gravel (fine); white to light brown	SP		
50				
60				
70	Poorly-graded SAND (fine to medium) with trace gravel (fine); white to light brown	SP		Begin Profiling at 71.37 ft
80				
90				

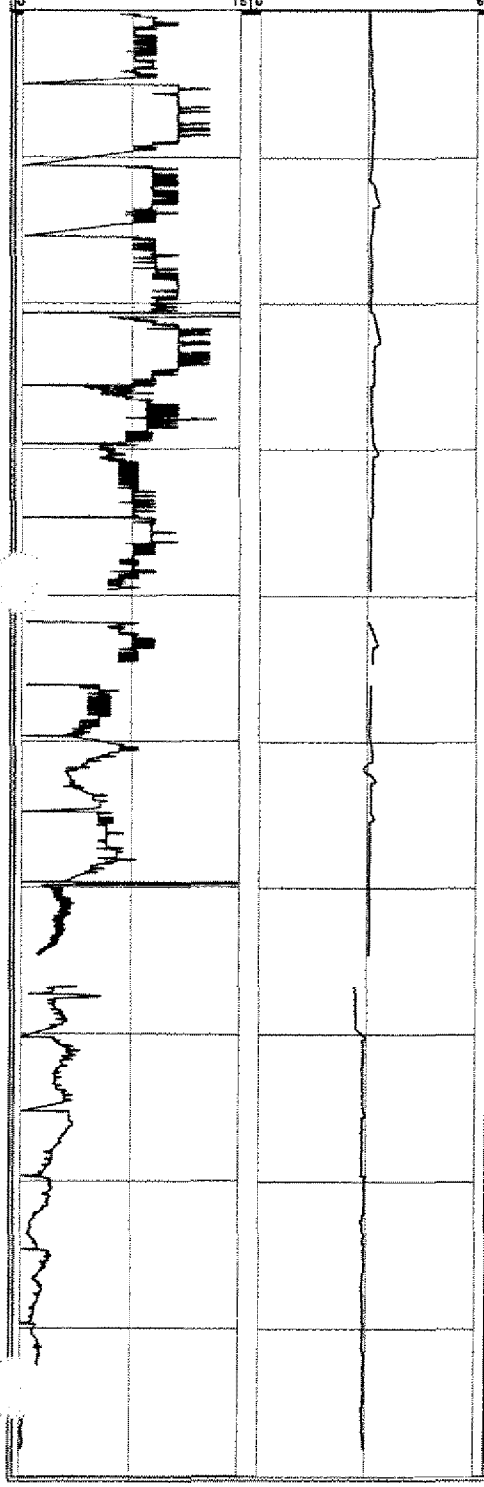
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-33

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	December 5, 2003
JOB NUMBER:	4563001	END DATE:	December 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on North side of 140 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Emilly Moshler

Total depth of Profile: 500.1 ft Total depth of Boring: 500 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				
120				
130	Poorly-graded SAND (fine to medium) with little gravel (fine); white	SP		
140				Profile data gaps due to poor KPRO equilibration
150	Poorly-graded SAND (fine to medium) and GRAVEL (fine); light brown to white	SP-GP		
160				Profile data gap due to poor KPRO equilibration
170	Well-graded SAND (fine to coarse) with some gravel (fine); light brown to white	SW		
180				
190				Refusal at 198.1 ft bgs

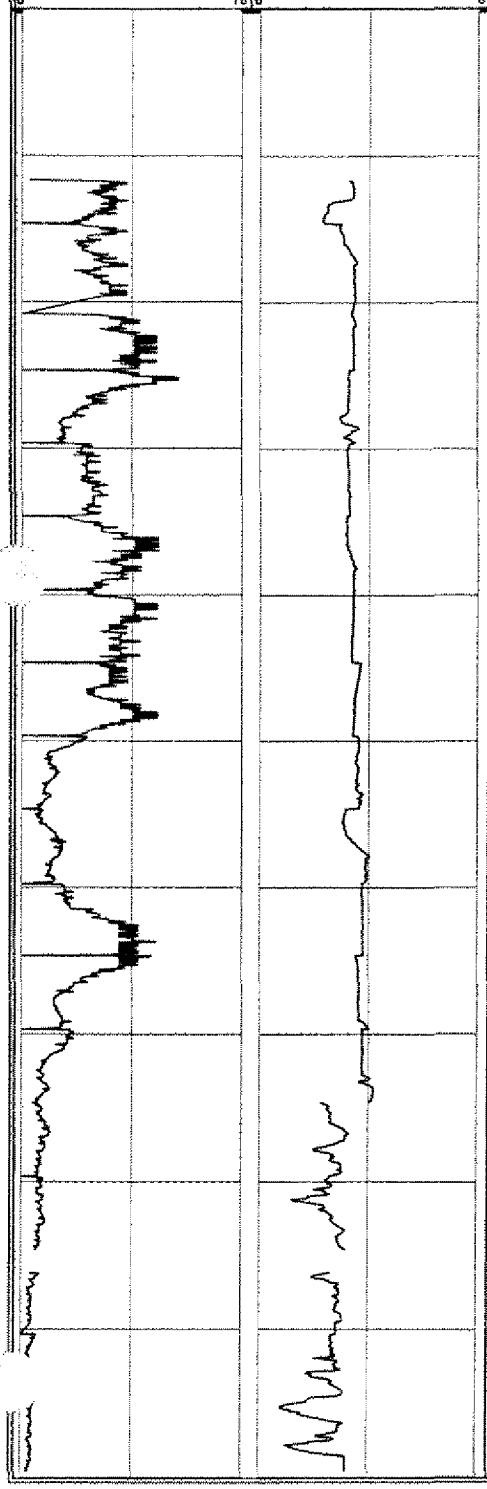
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-33

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	December 5, 2003
JOB NUMBER:	4563001	END DATE:	December 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on North side of 140 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 500.1 ft Total depth of Boring: 500 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SW		No penetration rate or IK data from 198.1 to 209.66 ft due to drilling activities, and from 209.66 to 211.61 due to blocked profiler ports
210	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown	SP		
220				
230	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
240				
250				
260	Poorly-graded SAND (medium) and GRAVEL (fine); light brown	SP-GP		
	Poorly-graded SAND (fine) with trace silt; light brown	SP		
270				
280				Profile data gaps due to poor KPRO equilibration
290				

Boring ID:

MALCOLM PIRNIE, INC.

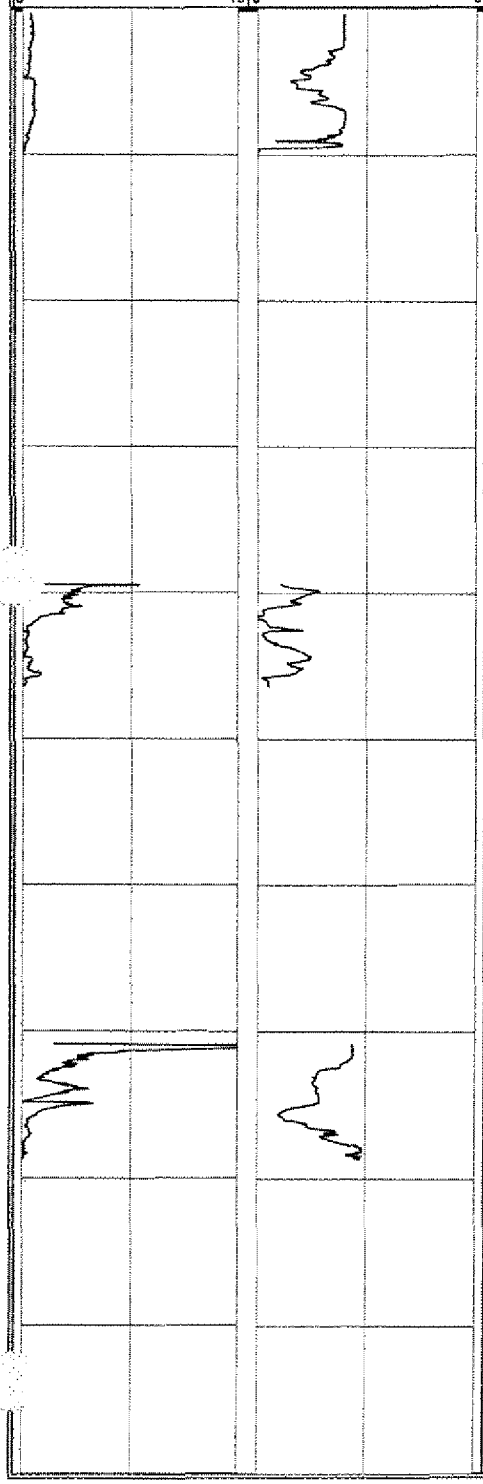
7 Route 208 North Fair Lawn, NJ 07401

P-33

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	December 5, 2003
JOB NUMBER:	4563001	END DATE:	December 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on North side of 140 building
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Larry Carlin	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 500.1 ft Total depth of Boring: 500 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	CLAY;gray	CL		
310				Profiler refusal at 309.83 ft, no penetration rate or IK data from 309.83 to 339.4 ft due to drilling activities
320				
330				
	SAND	SW		No recovery, description based on rig response
340	CLAY with some sand (fine); gray	CL		
350				Profiler refusal at 346.41 ft, no penetration rate or IK data from 346.41 to 370.88 ft due to drilling activities
360	SAND	SW		No recovery, description based on rig response
				4" clay layer at 363 ft bgs
370	Poorly-graded SAND (fine); white	SP		
380				Profiler refusal at 378.65 ft, no penetration rate or IK data from 378.65 to 409.3 ft due to drilling activities
390	Poorly-graded SAND (medium to coarse); light brown	SP		

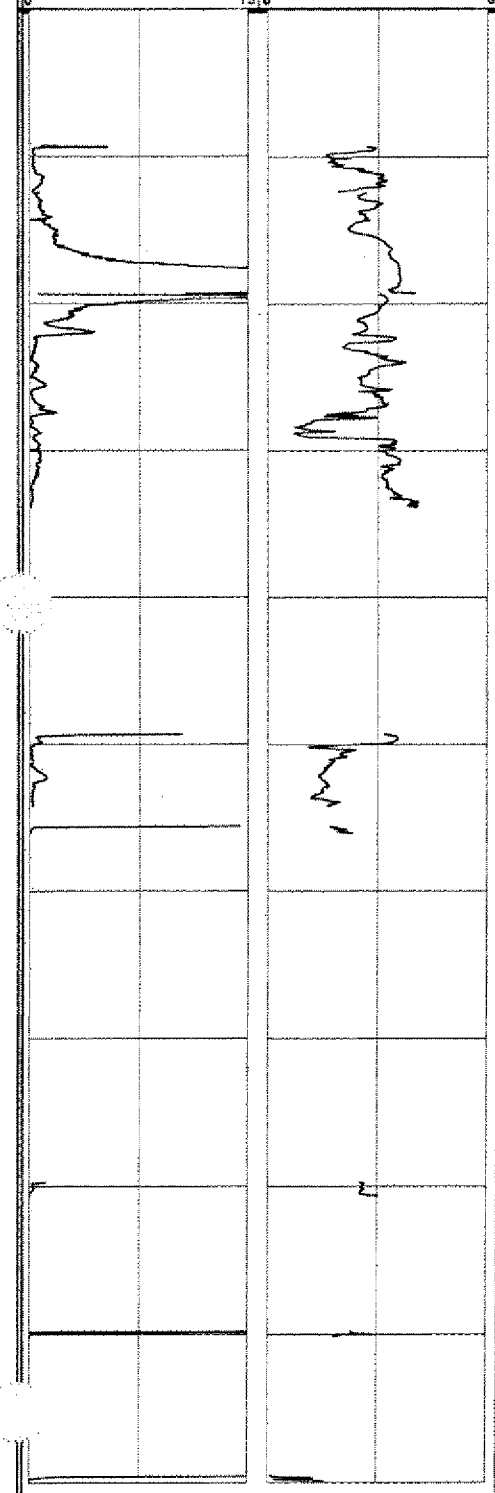
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-33

PROJECT NAME:	GTECSI-Hicksville	START DATE:	December 5, 2003
JOB NUMBER:	4563001	END DATE:	December 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on North side of 140 building
DRILLING METHOD:	Mud Rotary	DATUM:	Land Surface
DRILLER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier
HELPER:	Larry Carlin		

Total depth of Profile: 500.1 ft Total depth of Boring: 500 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400	Poorly-graded SAND (fine to medium); white	SP		
410	Poorly-graded SAND (fine); white	SP		No return of cuttings, description based on material in de-sander
420				
430				Profiler refusal at 433.9 ft, no penetration rate or IK data from 443.9 to 449.3 ft due to drilling activities
440				
450	No Recovery			Lost circulation, no return of cuttings Profile data gap due to poor KPRO equilibration Profiler refusal at 456.06 ft, no penetration rate or IK data from 456.06 to 479.76 ft due to drilling activities
460				
470				
480				Profiler refusal at 480.66 ft, no penetration rate or IK data from 480.66 to 489.8 ft due to drilling activities
490				Profiler refusal at 490.15 ft, no penetration rate or IK data from 490.75 to 499.55 ft due to drilling activities
500				Refusal at 500.1 ft, end of Profile

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

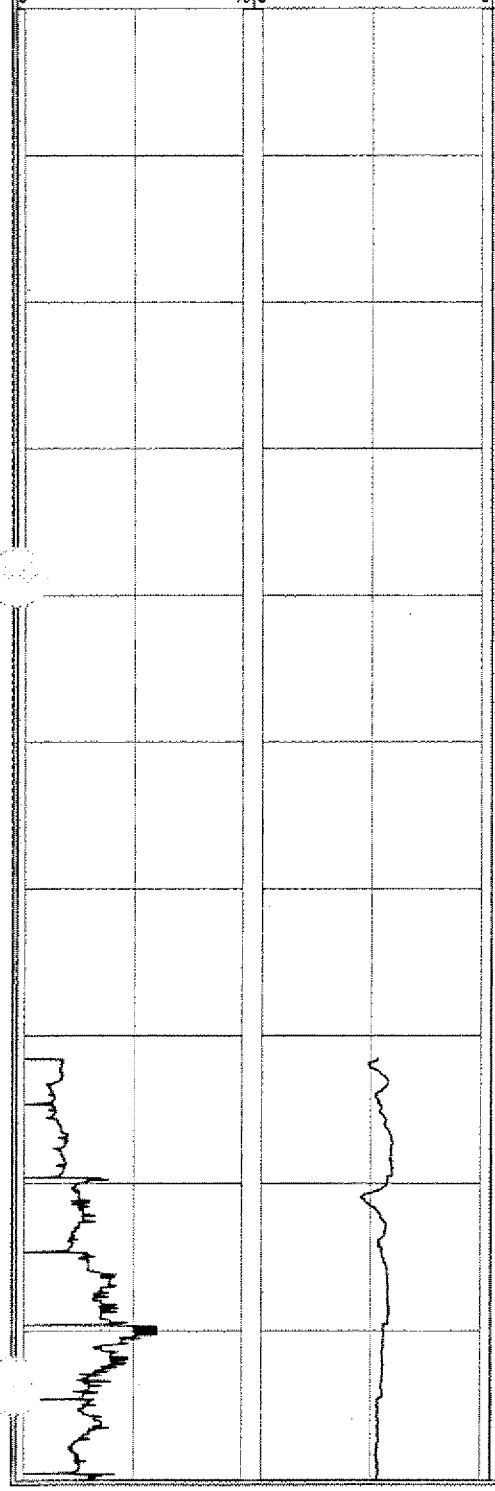
P-34

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 21, 2003
JOB NUMBER:	4563001	END DATE:	December 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near N-central edge of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Seicker	HYDROGEOLOGIST:	Collen Sullivan

Total depth of Profile: 401.58 ft

Total depth of Boring: 380 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL ; brown	SP-GP		Blacktop and concrete from 0 to 6 inches.
10				Hollow stem augers used to drill from 0 to 15 ft. Begin mud rotary drilling at 15 ft.
20				
30				
40				
50	Silty CLAY and SAND (fine to medium) with some gravel (fine); red-orange	CL- SC		
60	Poorly-graded SAND with some silty clay and some gravel (fine); reddish-brown	SP-SC		Begin profiling at 71.57 ft
70	Well-graded SAND with some silt and trace gravel; white-yellow	SW		
80				
90	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to yellow	SP-GP		

Boring ID:

MALCOLM PIRNIE, INC.

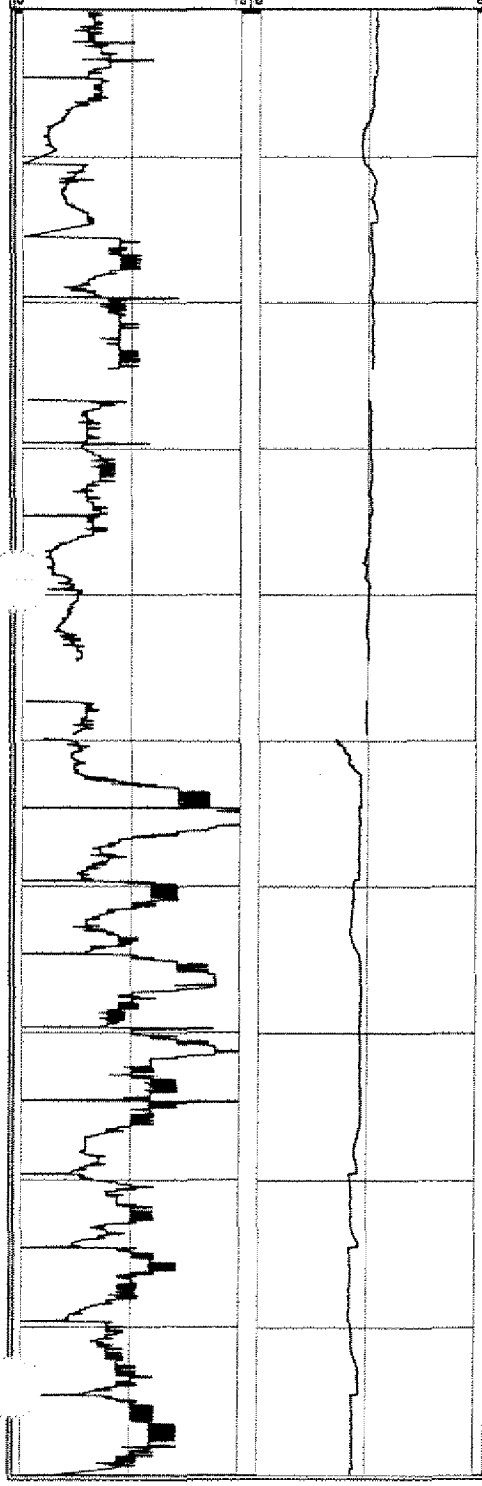
7 Route 208 North Fair Lawn, NJ 07401

P-34

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 21, 2003
JOB NUMBER:	4563001	END DATE:	December 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near N-central edge of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Seicker	HYDROGEOLOGIST:	Collen Sullivan

Total depth of Profile: 401.58 ft Total depth of Boring: 380 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse); light brown to yellow	SP		
110	Poorly-graded SAND (medium to coarse) and well-graded GRAVEL; white, yellow, brown, orange, pink	SP-GP		
120				Profile data gap due to poor KPRO flow equilibration
130				
140				Profile data gap due to poor KPRO flow equilibration
150				Profile data gap due to poor KPRO flow equilibration
160				
170				
180				
190				

Boring ID:

MALCOLM PIRNIE, INC.

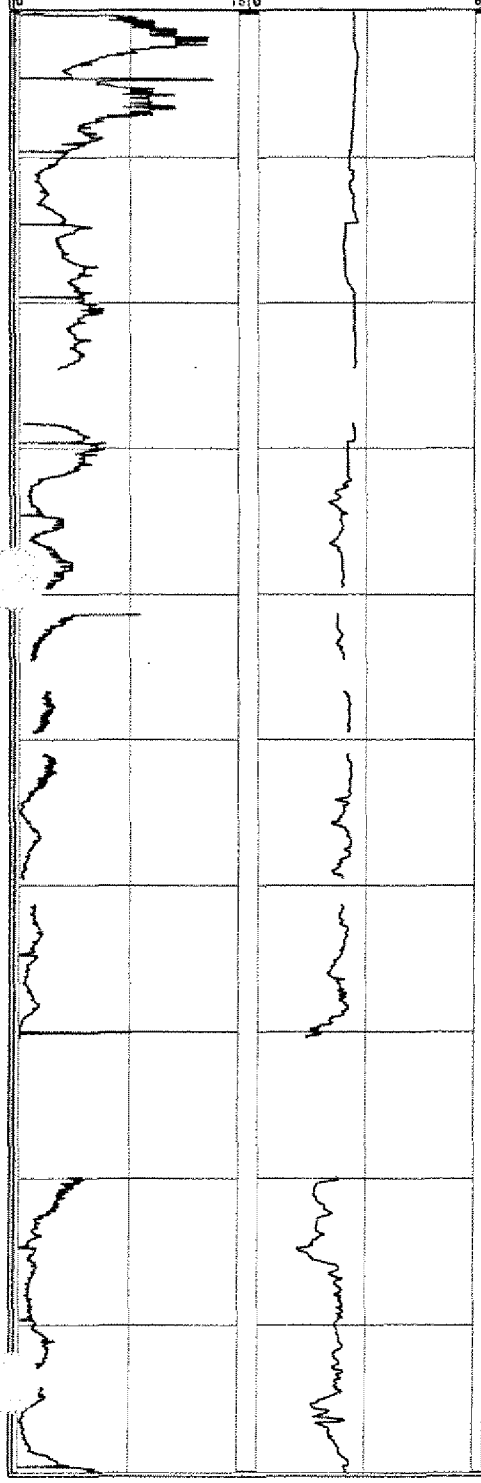
17 Route 208 North Fair Lawn, NJ 07401

P-34

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 21, 2003
JOB NUMBER:	4563001	END DATE:	December 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near N-central edge of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Seicker	HYDROGEOLOGIST:	Collen Sullivan

Total depth of Profile: 401.58 ft Total depth of Boring: 380 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SP-GP		
210				
220				No profile data from 224.6 to 228.26 ft due to plugged profile tip
230				
240				Profile data gaps due to poor KPRO flow equilibration from 224.6 to 228.26, 239.6 to 241.29, 244.6 to 246.64, 249.6 to 250.96, and 259.6 to 261.31 ft
250				
260				
270				Profiler refusal at 270.46 ft. No penetration rate or IK data from 270.46 to 279.85 ft due to drilling activities
280	Poorly-graded SAND with some gravel (fine); red-orange	SP		
290	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); red to light brown	SP-GP		

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

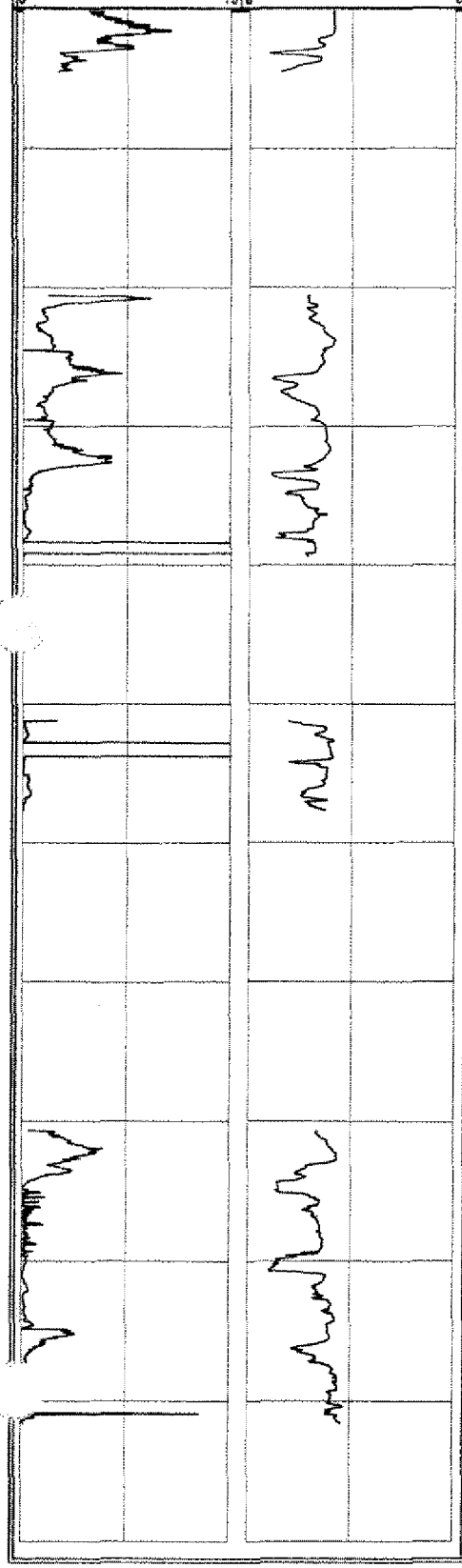
Boring ID: **P-34**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 21, 2003
JOB NUMBER:	4563001	END DATE:	December 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiague Rock Rd, near N-central edge of 140 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Seicker	HYDROGEOLOGIST:	Collen Sullivan

Total depth of Profile: 401.58 ft

Total depth of Boring: 380 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND with some clay and trace gravel (fine); light brown-red-black-gray	SP-SC		Pulled profiling equipment from 304.5 ft. No penetration rate or IK data from 304.5 to 320.52 ft due to drilling activities
310	Poorly-graded SAND (fine to medium) with trace clay; light brown to red	SP		
320	Poorly-graded SAND (medium to coarse) with trace clay; light brown to red	SP		
330	Poorly-graded SAND (medium to coarse); light brown-white-red-gray	SP		Profiler refusal at 339.37 ft. No penetration rate or IK data from 339.37 to 349.61 ft due to drilling activities or from 349.61 to 351.18 due to Profiler equipment problems
340	Well-graded SAND; gray to light brown	SW		
350	Poorly-graded SAND (medium to fine) and SILT; gray to light brown	SM-ML		Profiler refusal at 357.6 ft. No penetration rate or IK data from 357.6 to 379.4 ft due to drilling activities and from 379.4 to 380.62 due to Profiler equipment problems
360				
370				
380				
390				
400				Profiler refusal at 401.58 ft, End of profile.
410				

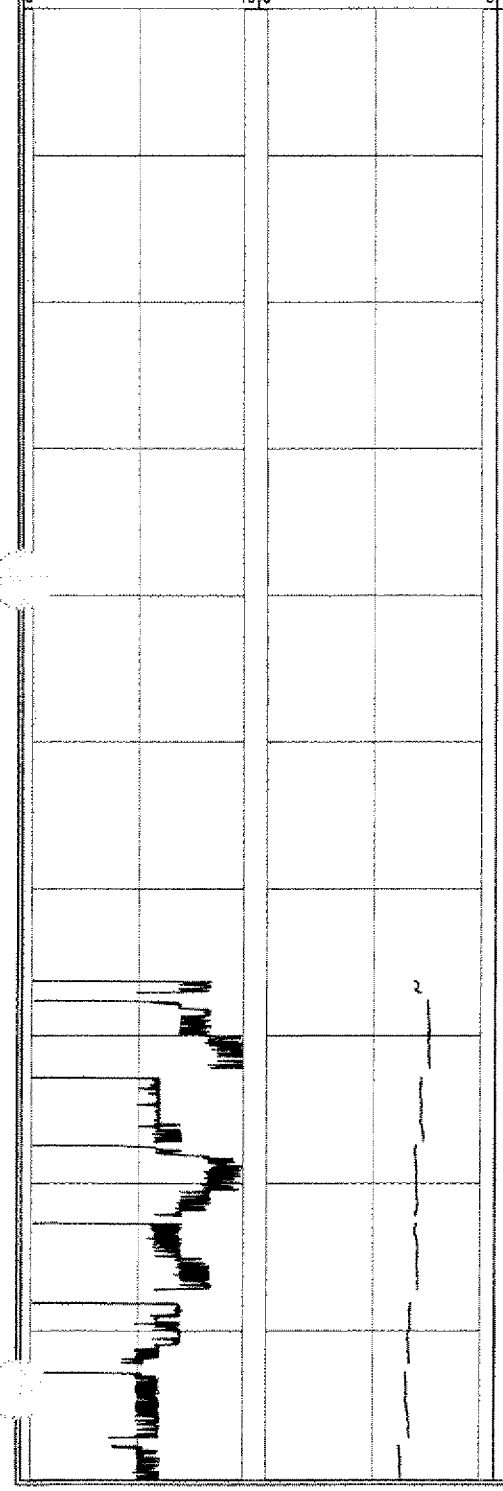
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-35

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 9, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Canitague Rock Rd.
DRILLING METHOD:	Mud Rotary	WEATHER:	North side of 70 building
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Kevin Wheeler

Total depth of Profile: 347.2 ft Total depth of boring: 340 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to medium) with some gravel (fine to coarse) and trace silt; dark brown	SP		Fill from 0 to 2.5 ft bgs
10				
20	Poorly-graded SAND (medium) and GRAVEL (fine); light brown	SP-GP		Hollow stem auger used from 0 to 20 ft. Begin mud rotary drilling at 20 ft.
	Poorly-graded SAND (medium to coarse); light brown	SP		
30				
40	Poorly-graded SAND (medium) and GRAVEL (fine); light brown	SP-GP		
50				
	Poorly-graded SAND (fine to medium) with little gravel (fine); light brown	SP		
60				Coarsens with depth
				Loss of circulation of drilling fluids. Begin Profiling at 62.88 ft
70				
80				Profile data gaps due to poor KPRO equilibration
90				
				Loss of circulation of drilling fluids

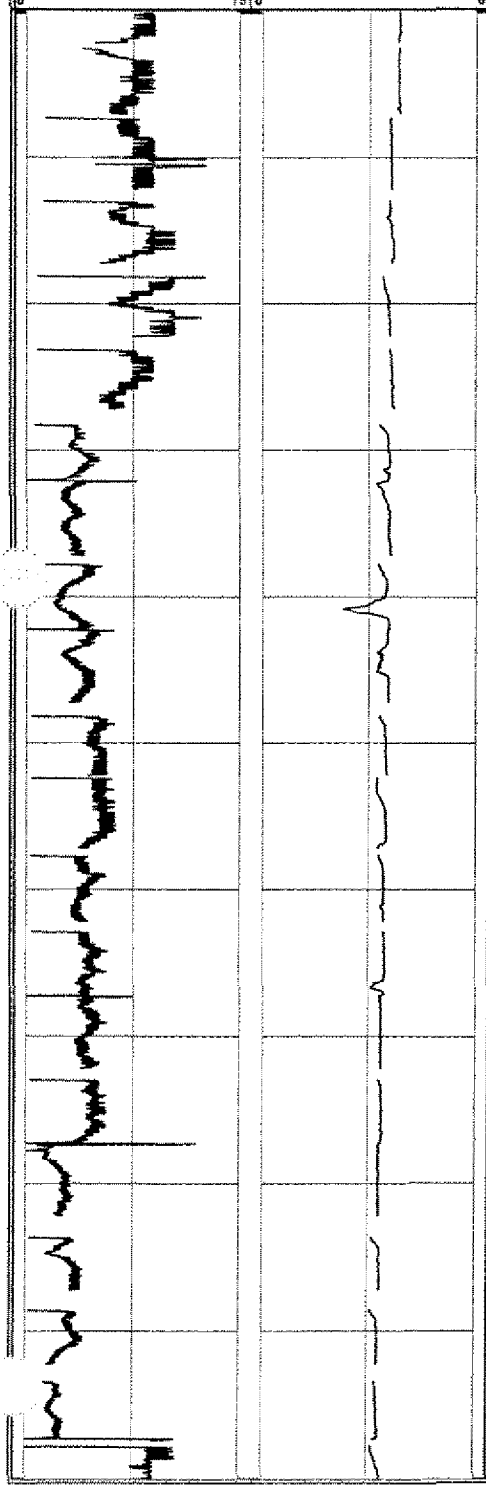
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-35

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 9, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Canitague Rock Rd.
DRILLING METHOD:	Mud Rotary	WEATHER:	North side of 70 building
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Kevin Wheeler

Total depth of Profile: 347.2 ft Total depth of boring: 348 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				Profile data gaps due to poor KPRO equilibration
120	Poorly-graded SAND (fine to medium) with little gravel (fine); brown	SP		
130	Poorly-graded SAND (fine to medium) with some gravel (fine) and little silt; brown	SM		Profile data gaps due to poor KPRO equilibration
140	Poorly-graded SAND (medium) with little gravel (fine); light brown to tan	SP		
150	Poorly-graded SAND (medium to coarse) with some gravel (fine); tan	SP		
160	Poorly-graded SAND (medium to coarse) with some gravel (fine); tan	SP		
170	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan	SW-GP		
180	Well-graded SAND (fine to coarse) and GRAVEL (fine); light brown	SW-GP		Profile data gaps due to poor KPRO equilibration
190	Poorly-graded SAND (medium) with trace gravel (fine); brown	SP		

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

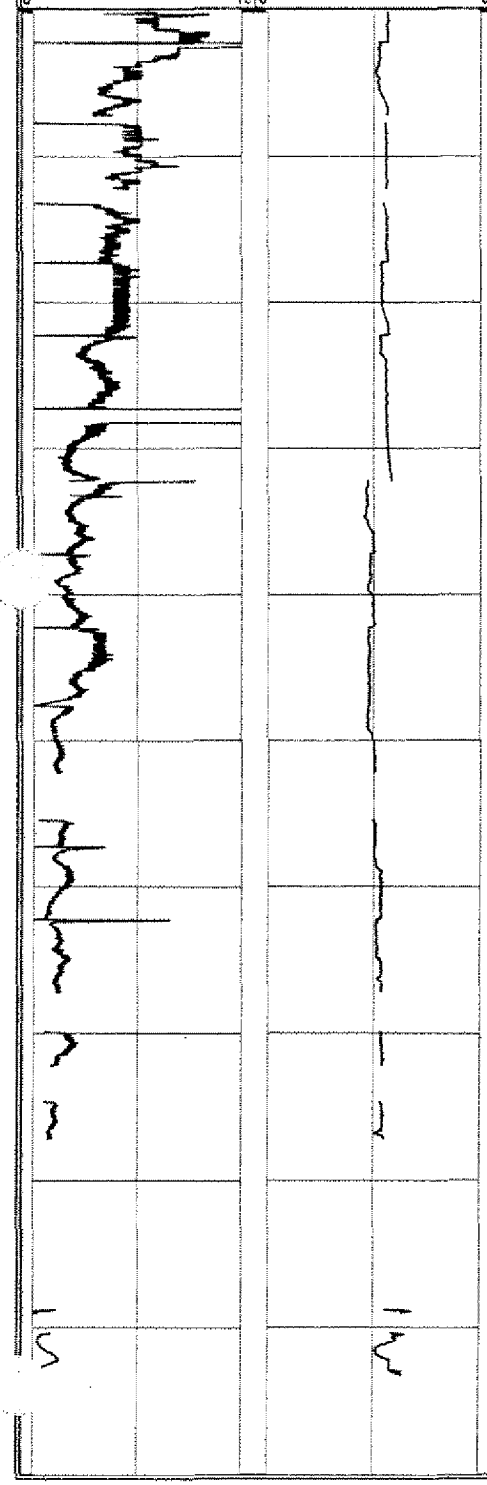
P-35

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 9, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Canitague Rock Rd.
DRILLING METHOD:	Mud Rotary	WEATHER:	North side of 70 building
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Kevin Wheeler

Total depth of Profile: 347.2 ft

Total depth of boring: 340 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200				
210	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
220				Some hardpan
230				Profile data gaps due to poor KPRO equilibration
240				
250	Poorly-graded SAND (fine to medium) and GRAVEL (fine); tan	SP-GP		Profile data gaps due to poor KPRO equilibration
260	Poorly-graded SAND (fine to medium) with trace gravel; tan	SP		Profile data gaps due to poor KPRO equilibration
270	Poorly-graded SAND (medium to coarse); tan	SP		
280	Well-graded SAND; tan	SW		Profiler refusal at 280 ft, no penetration rate or IK data from 277 to 291 ft due to malfunctioning Profiling equipment and drilling activities
290	Poorly-graded sand; orange	SP		Profiler refusal at 293.21ft

Boring ID:

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

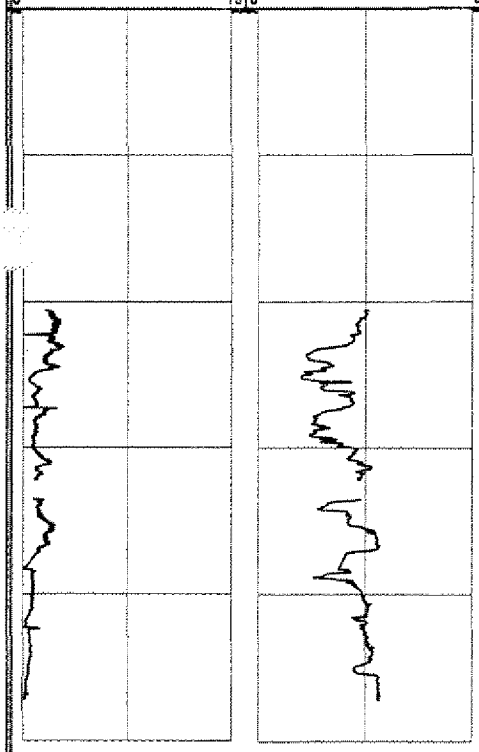
P-35

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 9, 2003
JOB NUMBER:	4563001	END DATE:	July 15, 2003
DRILLING FIRM:	CT&E	LOCATION:	East of Canitague Rock Rd.
DRILLING METHOD:	Mud Rotary	WEATHER:	North side of 70 building
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Kevin Wheeler

Total depth of Profile: 347.2 ft

Total depth of boring: 340 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (fine to medium); light brown	SP		No penetration rate or IK data from 293.21 to 319.3 ft due to drilling activities and from 319.3 to 320.6 ft due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium) with trace gravel, trace clay, and trace silt	SP		
310	SILT and CLAY; gray	ML- CL		
	Poorly-graded SAND (fine to medium); brown	SP		
320	SILT and SAND (fine to coarse); tan to gray	ML-SM		
330				Profile data gap due to poor KPRO equilibration
				End boring at 340 ft
340				End of profile at 347.2 ft
350				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

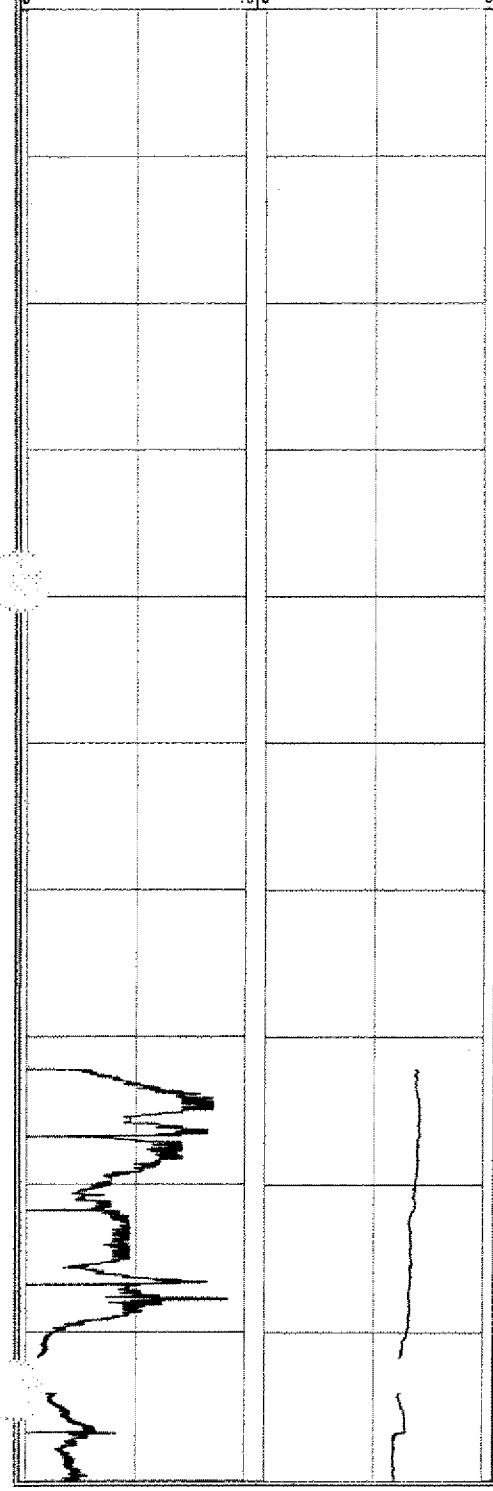
P-36

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	August 26, 2003
DRILLING FIRM:	CT&E	LOCATION:	On N edge of Property on S side of W John
DRILLING METHOD:	Mud Rotary	WEATHER:	St, across from BIT parking
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 373.02 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL with some to little cobbles; tan	SW-GW		
10				
20	Well-graded SAND and GRAVEL; tan	SW-GW		
30				
40				
50				
60	Well-graded SAND with trace gravel; tan	SW		6 in clay lens at ~65 ft
70	Poorly-graded SAND (medium to coarse) and GRAVEL (fine to medium); tan	SP-GP		Begin profiling at 72.21 ft
80				
90				Profile data gap due to poor KPRO equilibration
	CLAY and SAND (fine)	CL-SM		Gravel lens from 94 to 95 ft

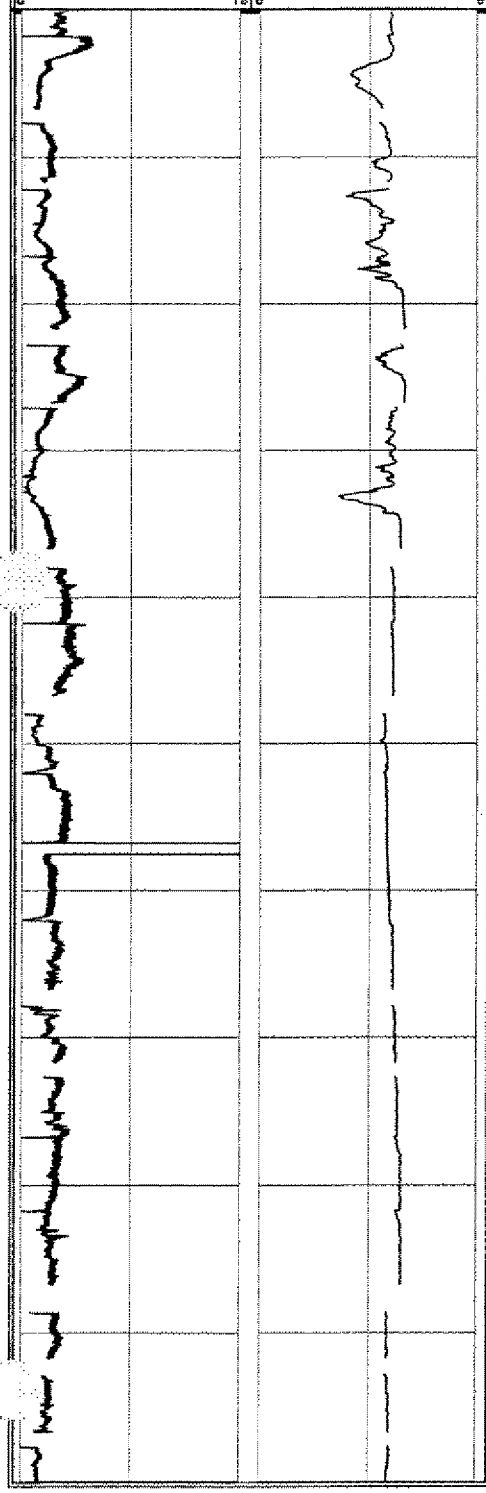
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-36

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	August 26, 2003
DRILLING FIRM:	CT&E	LOCATION:	On N edge of Property on S side of W John
DRILLING METHOD:	Mud Rotary	WEATHER:	St, across from BIT parking
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 373.02 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Well-graded clayey SAND with gravel; tan	SC		
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine to medium); tan	SP-GP		
110				Profile data gaps due to poor KPRO equilibration
				Much hardpan present from 105 to 195 ft
120				
130				
140				Profile data gaps due to poor KPRO equilibration
150				
160				
170				
180				
190				Profile data gaps due to poor KPRO equilibration
	Well-graded SAND and GRAVEL with trace silt and clay; tan	SW-GW		

Boring ID:

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17 Route 208 North Fair Lawn, NJ 07401

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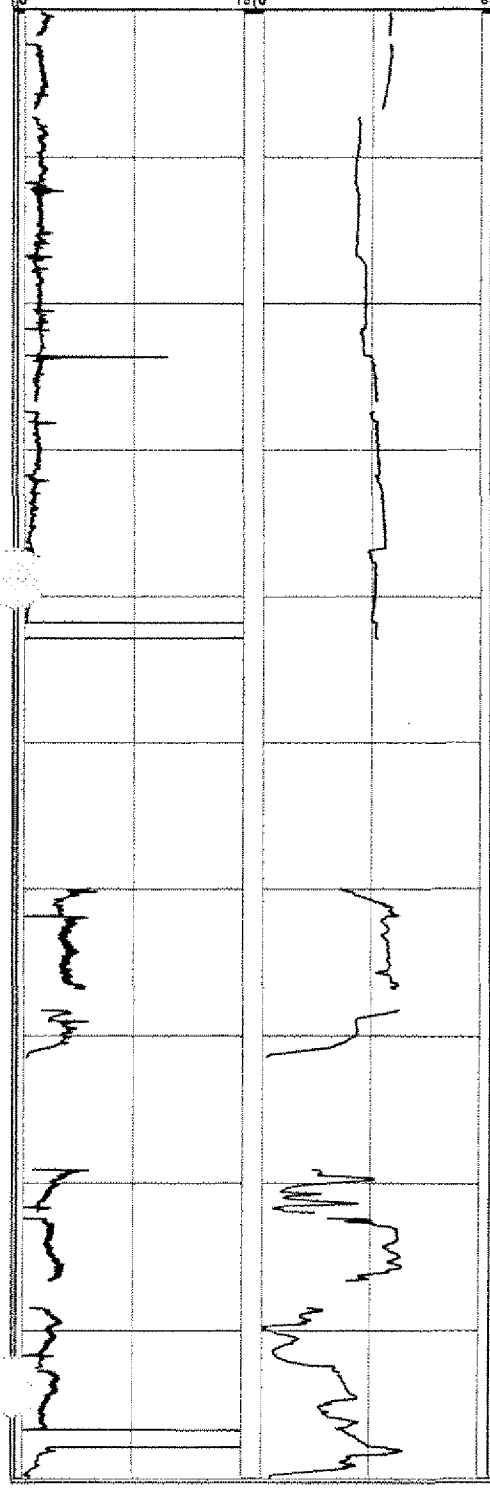
PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	August 26, 2003
DRILLING FIRM:	CT&E	LOCATION:	On N edge of Property on S side of W John
DRILLING METHOD:	Mud Rotary	WEATHER:	St, across from BIT parking
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 373.62 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SW-GW		Profile data gaps due to poor KPRO equilibration
	Silty SAND with some clay; tan to orange	SM		
210				Poor recovery of cuttings, most cutting pass through strainer, presumed interbedded silty sand and clay from 205 to 230 ft
220				
230	Silty SAND and CLAY; tan to white	SM-CL		Poor recovery of cuttings, most cutting pass through strainer from 230 to 255 ft
240	Silty CLAY with some sand; tan to white-gray	CL		Profiler refusal at 242 .9 ft. Profiling rods broke upon extraction. Profiling probe and ~65 ft of geoprobe rods abandoned in hole. Off-set drilling location and resumed.
250				
	Silty SAND with some to little clay; tan to gray	SM		No penetration rate or IK data from 242.9 to 259.98 ft due to drilling activity
260				Poor recovery of cuttings, most cutting pass through strainer, presumed interbedded silty sand and clay from 255 to 300 ft
270				Profiler refusal at 271.44 ft. No penetration rate or IK data from 271.44 to 279.06 ft due to drilling activities
280				Profile data gaps due to poor KPRO equilibration
290				

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

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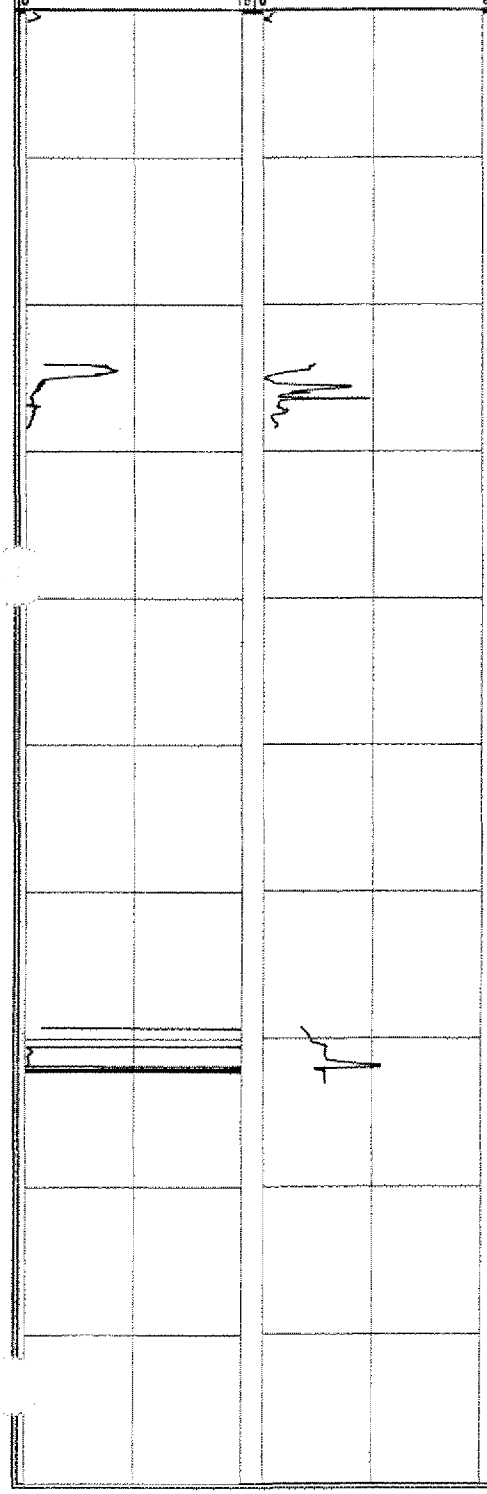
PROJECT NAME:	GTECSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	August 26, 2003
DRILLING FIRM:	CT&E	LOCATION:	On N edge of Property on S side of W John
DRILLING METHOD:	Mud Rotary	WEATHER:	St, across from BIT parking
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 373.02 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SM		Profiler refusal at 300.74 ft. No penetration rate or IK data from 300.74 to 324.06 ft due to drilling activities
	SILT with some sand (fine); gray	ML		
310				
	Silty SAND; tan	SM		
320	Poorly-graded SAND (coarse); tan	SP		Profiler drove from 324.06 to 328.4 ft. Profiler refusal at 328.4 ft. No penetration rate or IK data from 328.4 to 369.23 ft due to drilling activities.
	SILT with some sand and trace gravel; gray to white	ML		
330				
	Silty CLAY and silty SAND; gray to white	CL-SM-SC		Interbedded silty clays and silty sands from 335 to 365 ft. Sand fraction increases downward
340				
350				
360				
	SILT with some sand (fine); gray to white	ML-SM		
370	SILT with trace sand and clay; white to gray	ML		Profiler drove from 368 to 373.02 ft. Profiler refusal at 373.02 ft. Broken String potentiometer cable at ~371.25 ft. No penetration rate or IK data from 371.25 to 373.02 ft.
	SILT and CLAY with trace sand; gray to white	ML- CL		
380	CLAY with some sand; gray to white	CL		
	SILT with little sand and clay; gray	ML		
390				Poor/little recovery of cuttings from 375 to 470 ft. Most cuttings pass through strainer.
400				

Boring ID:

MALCOLM PIRNIE, INC.

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P-36

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	August 26, 2003
DRILLING FIRM:	CT&E	LOCATION:	On N edge of Property on S side of W John
DRILLING METHOD:	Mud Rotary	WEATHER:	St, across from BIT parking
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 373.02 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION

Penetration Rate (ft/min) 0–15	Index of Hyd. Conductivity 0–6	Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
			CLAY with some silt; white to gray	CL		No penetration rate or IK data from 373.02 to 467.3 ft due to drilling activities. Mud log indicates the occurrence of lithologies that disallow profiling.
		410				
			SILT with some sand and trace clay; gray to white	ML		
		420	Clay; white to red-orange	CL		
		430	SILT; gray	ML		No recovery from 430 to 435 ft, presumed silt
			CLAY; white, pink, red	CL		
		440				
		450				
			Silty CLAY; white	CL		
		460	Silty SAND with trace clay; white	SM		Attempted to drive profiler from 467.25 ft. Refused at 468.90.
			CLAY and silty SAND; white	CL-SM		Attempted to drive at 473.28, refused at 475.6 ft - end of Profile. End of boring at 470 ft.
		470				

Boring ID:

MALCOLM PIRNIE, INC.

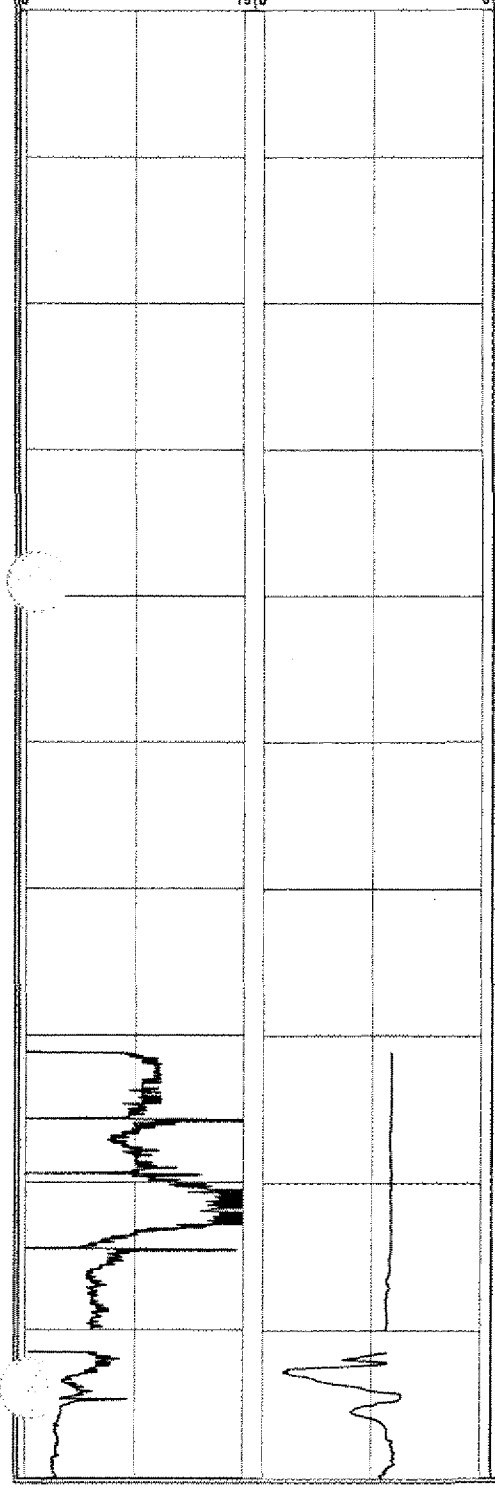
Route 208 North Fair Lawn, NJ 07401

P-37

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 18, 2003
JOB NUMBER:	4563001	END DATE:	August 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	NW corner of property on S side of W John St, just E of Cantigue Rock Rd
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 395.83 — Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (fine to medium) with some gravel (fine); light brown	SP		6 1/4 Hollow stem augers used from 0 to 15 ft
10				Begin mud rotary drilling at 15 ft
	Well-graded SAND with trace to little gravel (fine); light brown	SW		
20				
	Poorly-graded SAND (medium); light brown	SP		
30				
	Poorly-graded SAND (coarse); light brown	SP		
40				
50	Poorly-graded SAND (fine); light brown to white	SP		
60				Begin profiling at 71.16 ft
70	Well-graded SAND with some gravel (fine); light tan to brown	SW		Gravel occurs as thin interbeds within the sand
80				Profile data gap due to poor KPRO equilibration
90				Lost tricone roller bit and wire line assembly at ~90 ft

Boring ID:

MALCOLM PIRNIE, INC.

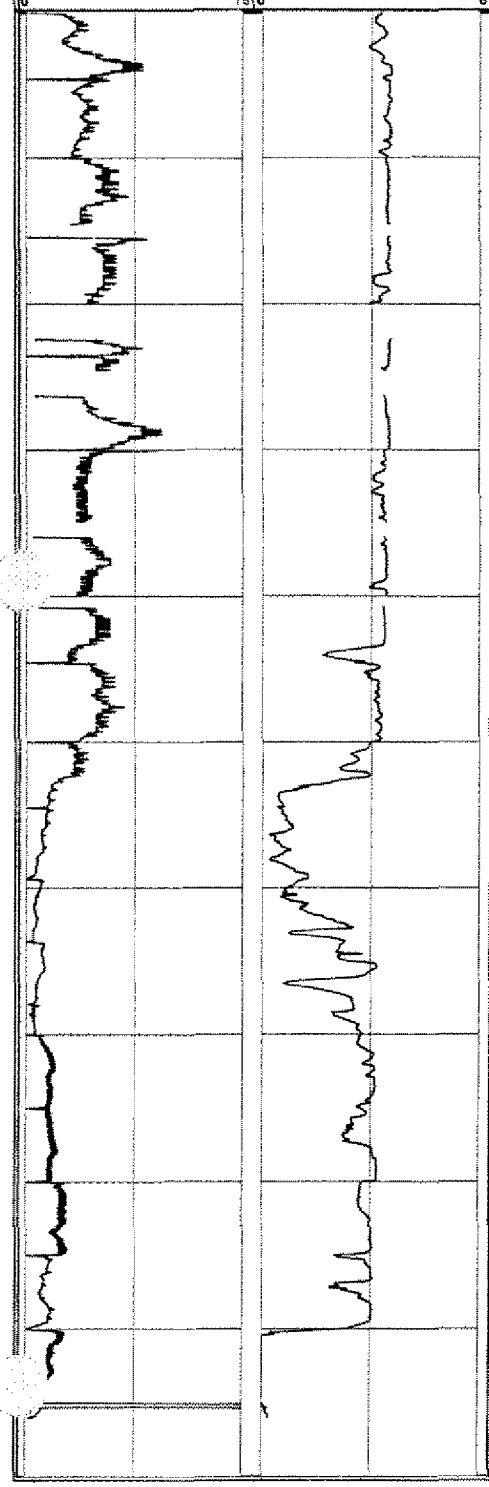
7 Route 208 North Fair Lawn, NJ 07401

P-37

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 18, 2003
JOB NUMBER:	4563001	END DATE:	August 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	NW corner of property on S side of W John St, just E of Cantigue Rock Rd
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 395.83 Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (fine) with trace gravel (fine); light tan to white	SP		
110				
120				Profile data gaps due to poor KPRO equilibration
130				
140				
150	SAND (fine) and SILT with trace medium to coarse sand; orange to brown	SM-ML		
160				
170	Silty SAND	SM		No recovery of cuttings from 170 to 220 ft. Drilling characteristics indicative of silty sand
180				
190				Profiler refusal at 196.02 ft, no penetration rate or IK data from 196.02 to 219.65 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

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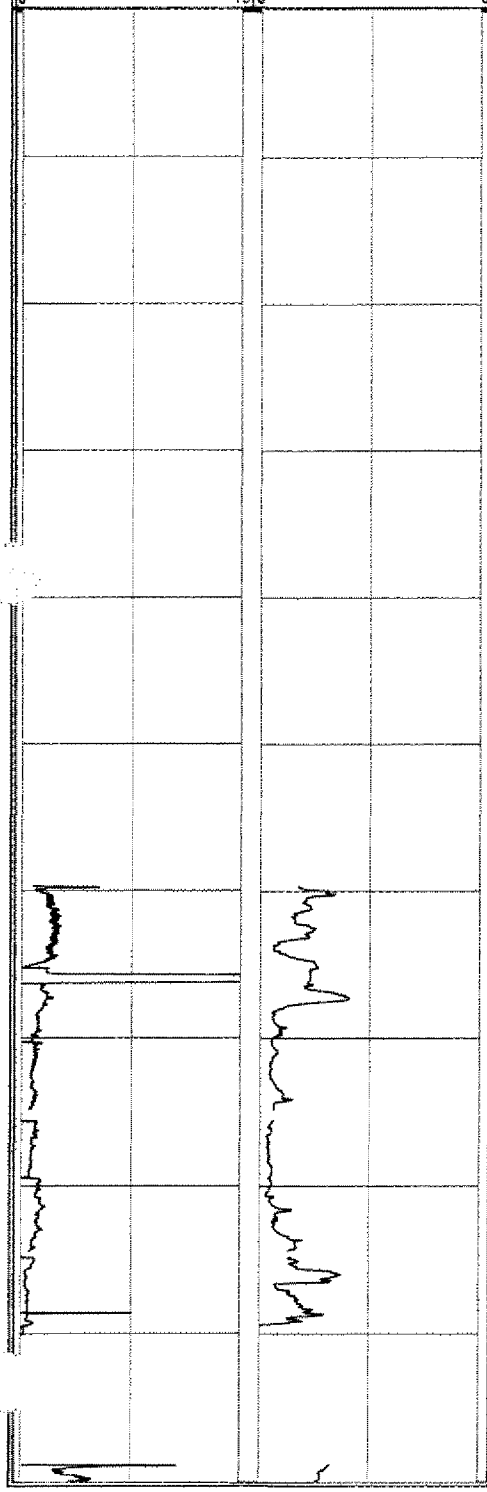
P-37

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 18, 2003
JOB NUMBER:	4563001	END DATE:	August 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	NW corner of property on S side of W John St, just E of Cantigue Rock Rd
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 298.83 Total depth of Boring: 395 ft

GEOLOGIC INFORMATION

Penetration Rate (ft/min) 0–15; Index of Hyd. Conductivity 0–6



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SM		
210				No penetration rate or IK data from 219.65 to 234.75 ft due to Profiler malfunctions
220	Poorly-graded SAND (fine to medium) with some silt and clay; light gray	SM		
230				Profiler refusal at 234.75 ft
	CLAY and SILT with some sand (fine)	CL- ML		Interbedded clay and silt with some fine sand stringers. Lignite seam from 235 to 237 ft
240				
250				No penetration rate or IK data from 234.75 to 259.7 ft due to drilling activities
	Silty SAND to poorly-graded SAND (fine) with silt; light gray to white	SM-SP		
260				Some lignite present in cuttings
270				Profile data gap due to poor KPRO equilibration
280				
290	Poorly-graded SAND (fine) with some silt; light gray to white	SM-SP		Profiler refusal at 290.09 ft, no penetration rate or IK data from 290.09 to 298.81 ft due to drilling activities

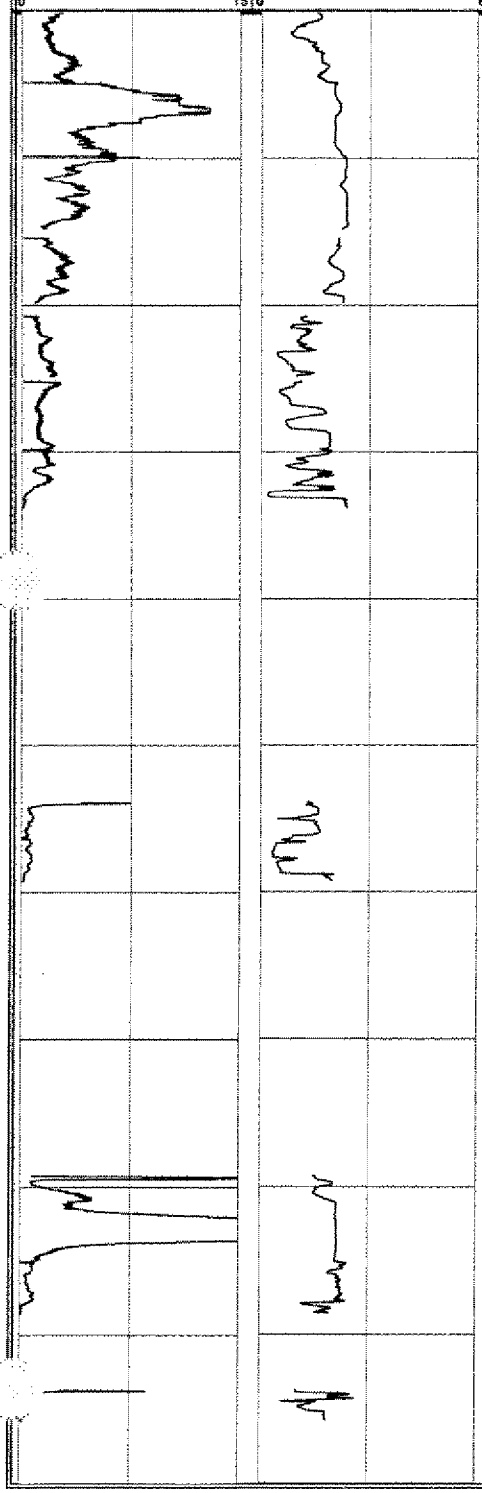
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-37

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 18, 2003
JOB NUMBER:	4563001	END DATE:	August 27, 2003
DRILLING FIRM:	CT&E	LOCATION:	NW corner of property on S side of W John St, just E of Cantigue Rock Rd
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 395.83 — Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				Mud rotary casing refused at ~290 ft. Thought to be on top of lost bit and line assembly. 10 ft of casing broke off in hole, abandoned bore hole and resumed drilling in offset location
310				Silt fraction increases with depth
320				Profile data gap due to poor KPRO equilibration
330				Profiler refusal at 333.8 ft, no penetration rate or IK data from 333.8 to 353.91 ft due to drilling activities
	SAND (fine to medium) and SILT with few clay; light gray to white	SM-ML		
340				Poor recovery of cuttings from 335 to 355 ft
350				
	Well-graded SAND with trace to little silt and trace clay; gray to white	SW		Profiler refusal at 359.27 ft, no penetration rate or IK data from 359.27 to 379.26 ft due to drilling activities
360				
370				
380				Profiler refusal at 388.52 ft, no penetration rate or IK data from 388.52 to 393.72 ft due to drilling activities.
390				
				End of profile at 395.83 ft bgs. End of boring at 395 ft.

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

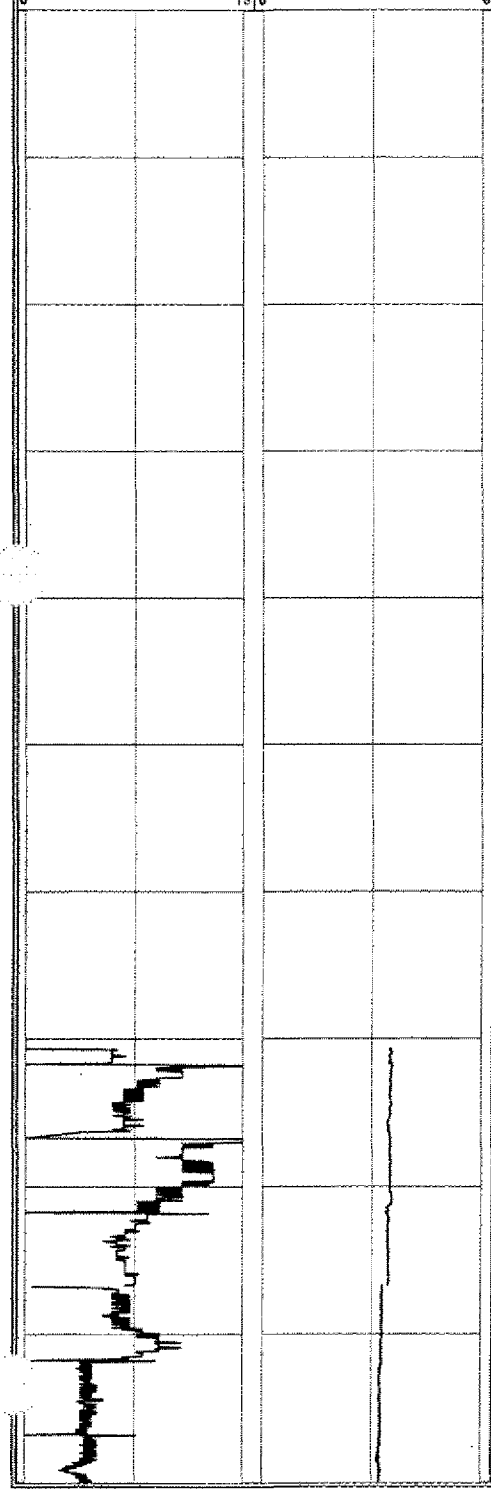
P-38

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On NE corner of property on S side of W
DRILLING METHOD:	Mud Rotary	WEATHER:	John St, W of Cantiague Ln
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Ken Heinz, Brian Seicker	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 400.69 ft

Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND with gravel (fine to coarse) and trace cobbles; brown	SW		7 1/4 hollow stem auger used to drill from 0 to 20 ft.
10				
20	Well-graded SAND; light brown	SW		Begin mud rotary drilling at 20 ft
30	Poorly-graded GRAVEL with trace sand (coarse); very pale brown	GP		
40	Poorly-graded GRAVEL (fine) with trace sand (coarse); very pale brown	GP		
50	Poorly-graded SAND (fine to medium); very pale brown	SP		
60				
70				Begin profiling at 69.45 ft
80	Poorly-graded GRAVEL and SAND; very pale brown	GP-SP		
	Well-graded SAND with trace gravel (fine); very pale brown	SW		Profile data gap due to poor KPRO equilibration
90				

Boring ID:

MALCOLM PIRNIE, INC.

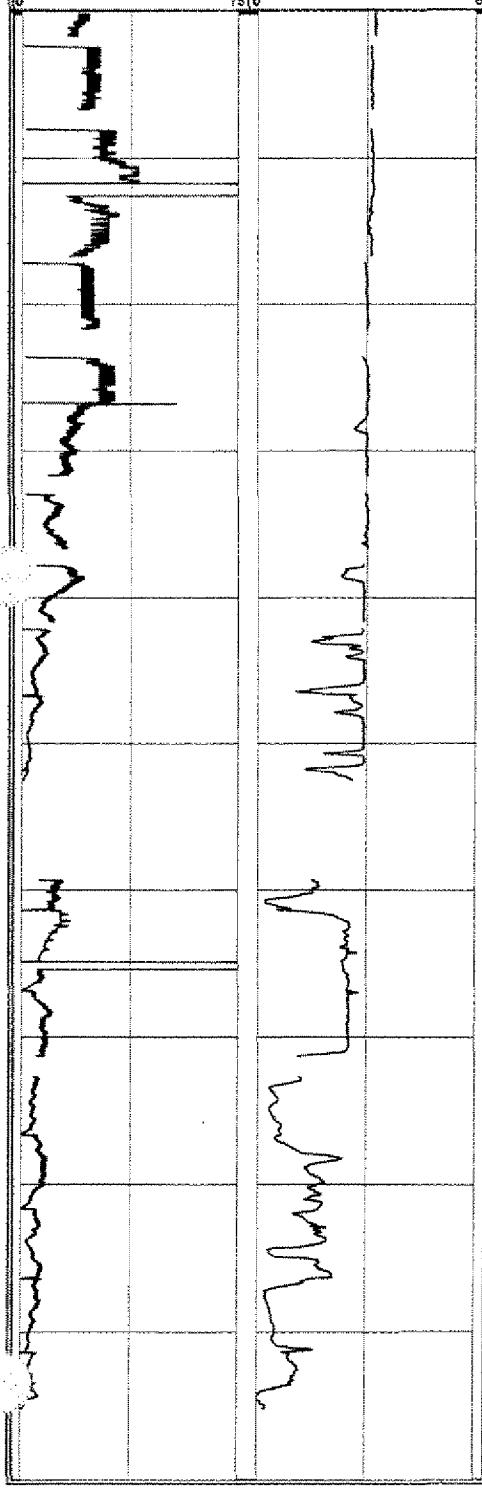
17 Route 208 North Fair Lawn, NJ 07401

P-38

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On NE corner of property on S side of W
DRILLING METHOD:	Mud Rotary	WEATHER:	John St, W of Cantlague Ln
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Ken Heinz, Brian Seicker	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 400.69 ft Total depth of Boring: 366 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SW		Profile data gaps due to poor KPRO equilibration
110				
120				
130				
140	Poorly-graded SAND (fine to medium); very pale brown	SP		
150	Well-graded SAND with little silt and trace gravel (fine); orange/light brown	SW		Profiler refusal at 152.52 ft. No penetration rate or IK data from 152.52 to 159.31 ft due to drilling activities
160				
170	Poorly-graded SAND (fine); orange/light brown	SP		
180				
	Poorly-graded SAND (fine to medium); pale yellow-orange	SP		Profiler refusal at 195.18 ft. No penetration rate or IK data from 195.18 to 199.48 ft due to drilling activities. No data from 199.48 to 201.3 due to bad profiler connection.
190				
	SILT and GRAVEL (fine); orange/light brown	ML-GM		

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

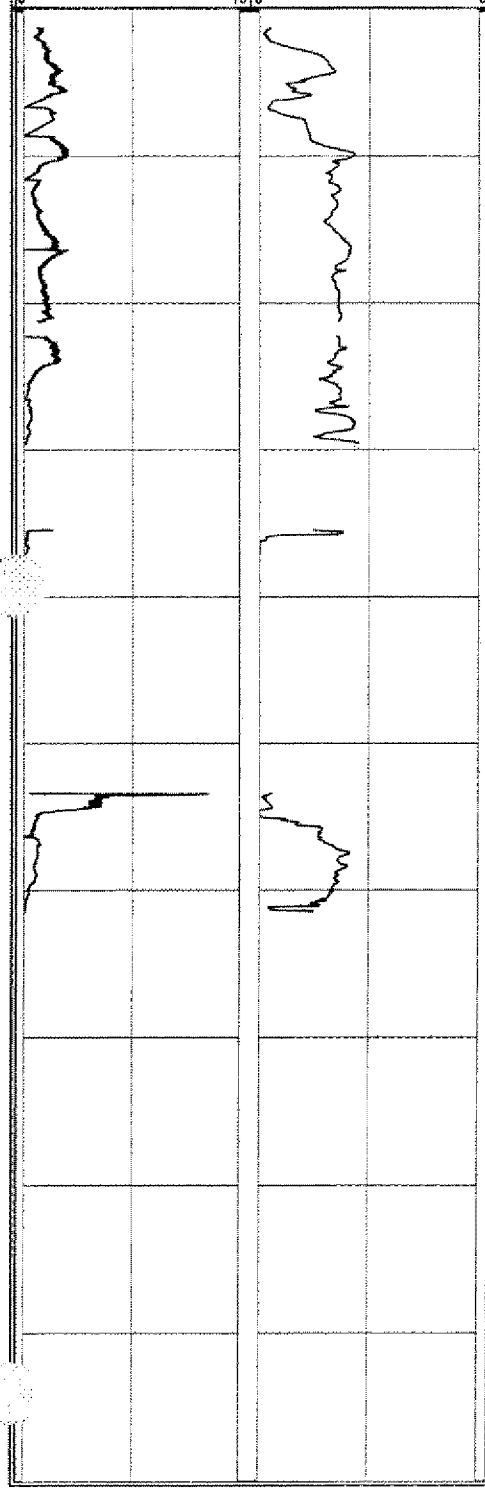
P-38

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On NE corner of property on S side of W
DRILLING METHOD:	Mud Rotary	WEATHER:	John St, W of Cantiague Ln
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Ken Heinz, Brian Seicker	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 400.69 ft

Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND with some silt and gravel; pale yellow-orange	SW		
	SILT with trace sand and gravel; pale yellow-orange	ML		
210	SILT with trace sand; yellow-orange	ML		
220				Profile data gaps due to poor KPRO equilibration
	SILT and SAND (fine); orange/light brown	ML SM		Profiler refusal at 229.61 ft. No penetration rate or IK data from 229.61 to 234.48 ft due to drilling activities.
230	Well-graded SAND (fine); orange/ light brown	SW		
	CLAY; pale yellow-brown	CL		Profiler refusal at 237.1 ft. No penetration rate or IK data from 237.1 to 253.41 ft due to drilling activities.
240				Some lignite fragments in the cuttings
250	Well-graded SAND and GRAVEL (fine); yellow orange to very pale brown	SW-GP		
260				Profiler refusal at 261.43 ft. No penetration rate or IK data from 261.43 to 309.51 ft due to drilling activities.
270				
280				
	CLAY with some sand; light brownish gray	CL		
290				

Boring ID:

MALCOLM PIRNIE, INC.

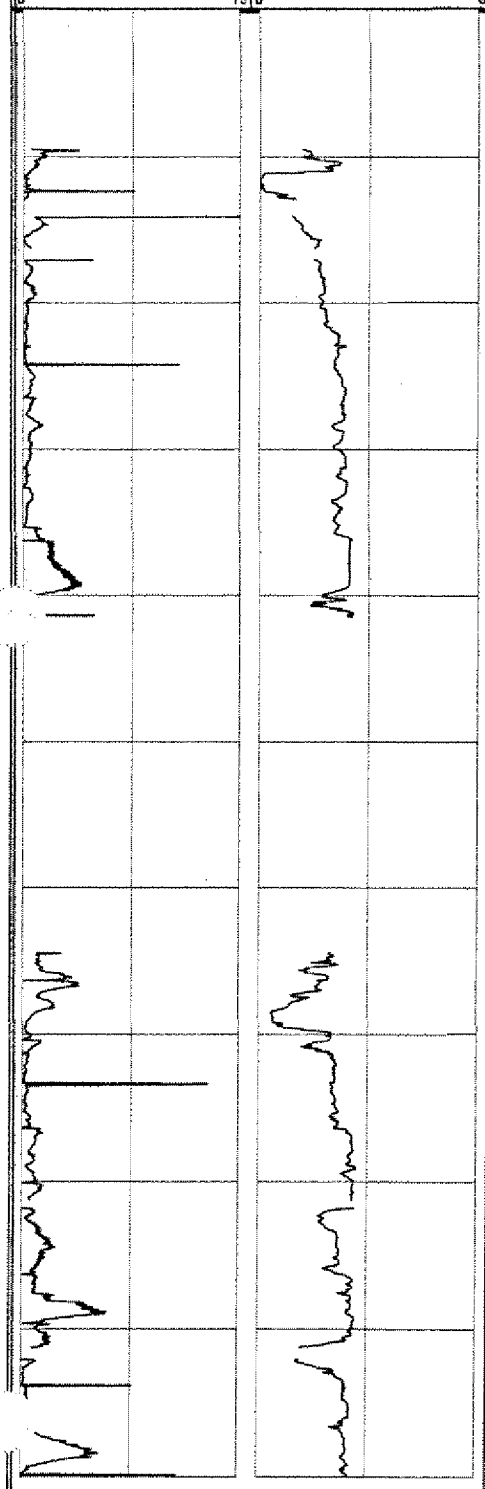
17-17 Route 208 North Fair Lawn, NJ 07401

P-38

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 16, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	On NE corner of property on S side of W
DRILLING METHOD:	Mud Rotary	WEATHER:	John St, W of Cantiague Ln
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Ken Heinz, Brian Seicker	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 400.69 ft Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		CL		
	Well-graded SAND; light brownish gray	SW		
310	CLAY with some sand	CL		
	Poorly-graded GRAVEL with trace clay	GP		Profile data gaps due to poor KPRO equilibration
320				
	Well-graded SAND with trace gravel (fine) and trace clay	SW		
330				
340				Profiler refusal at 341.51 ft. No penetration rate or IK data from 341.51 to 364.45 ft due to drilling activities.
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine)	SP-GP		
350				
360				End of Boring at 365 ft
370				
380				Profile data gap due to poor KPRO equilibration
390				
400				Profiler refusal at 400.69 ft. End of Profile

Boring ID:

MALCOLM PIRNIE, INC.

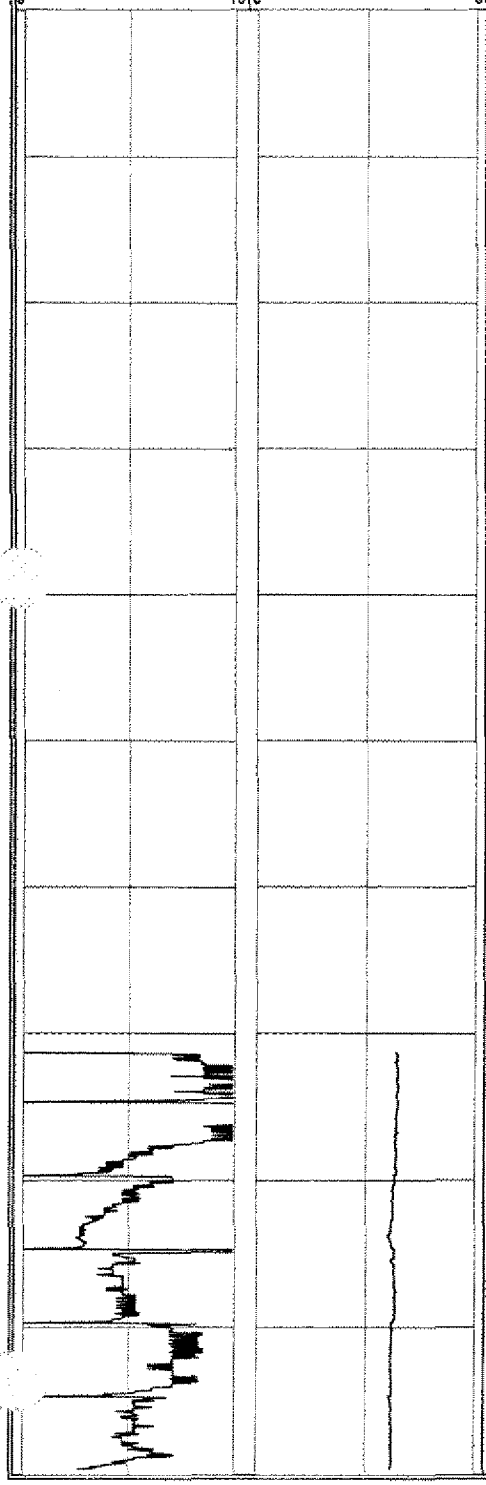
7 Route 208 North Fair Lawn, NJ 07401

P-42

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 22, 2003
JOB NUMBER:	4563001	END DATE:	July 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	in SE corner of property, S of W John St, W of Charlotte St, and N of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie, Garret Furguson

Total depth of Profile: 441.27 ft Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL (fine to medium) with few silt; brown	SW-GP		Hollow stem augers used from 0 to 15 ft
10				
	Well-graded SAND with little gravel (fine); white and tan	SW		Begin mud rotary drilling at 15 ft
20				
30				
40				
50				
60				
70				Begin profiling at 69.75 ft
80				
90				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

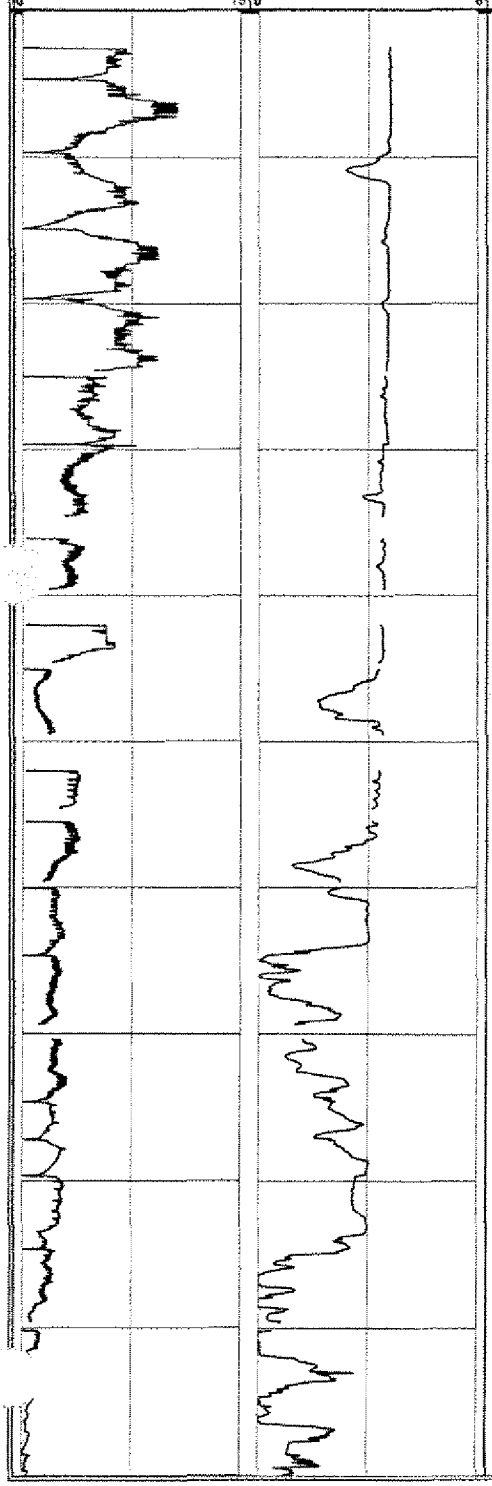
P-42

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 22, 2003
JOB NUMBER:	4563001	END DATE:	July 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	In SE corner of property, S of W John St, W of Charlotte St, and N of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie, Garret Furguson

Total depth of Profile: 441.27 ft

Total depth of boring: 426 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SW		Profile data gap due to poor KPRO equilibration
110				
120				
130				
140				Profile data gaps due to poor KPRO equilibration
150	Silty SAND with trace gravel (fine); gray, white, tan	SM		
	Well-graded SAND with some gravel (fine); gray, white, tan	SW		Profile data gaps due to poor KPRO equilibration
160				
170				Profile data gaps due to poor KPRO equilibration
180				
	Sandy CLAY; white, gray	CL		
190				Profile data gaps due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

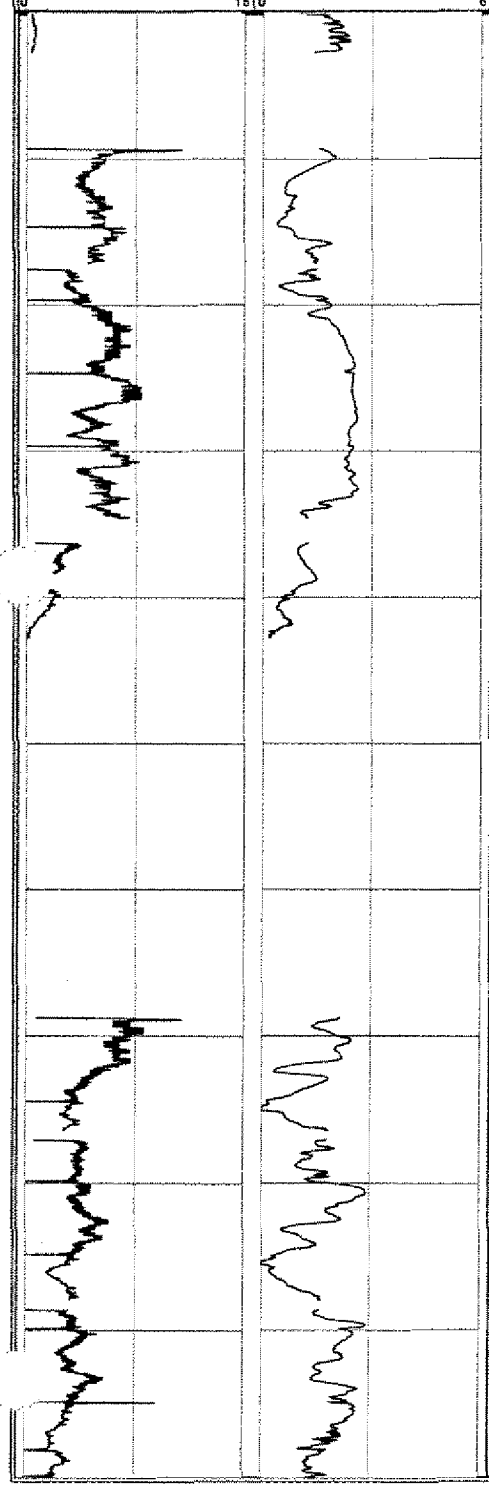
P-42

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 22, 2003
JOB NUMBER:	4563001	END DATE:	July 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	In SE corner of property, S of W John St, W of Charlotte St, and N of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie, Garret Furguson

Total depth of Profile: 441.27 ft

Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		CL		
	Well-graded SAND with trace gravel (fine); white, tan	SW		Profiler refusal at 202.76 ft. No penetration rate or IK data from 202.76 to 209.31 ft due to drilling activities.
210				
220				
230				Profile data gap due to poor KPRO equilibration
240				Profiler refusal at 242.78 ft. No penetration rate or IK data from 242.78 to 268.76 ft due to drilling activities.
	Sandy, silty CLAY; gray, white	CL		
250				
260				
	Poorly-graded SAND (fine to medium) with trace silt; tan, gray, white	SP		
270				
280				Profile data gaps due to poor KPRO equilibration
290	Silty SAND (fine); tan	SM		

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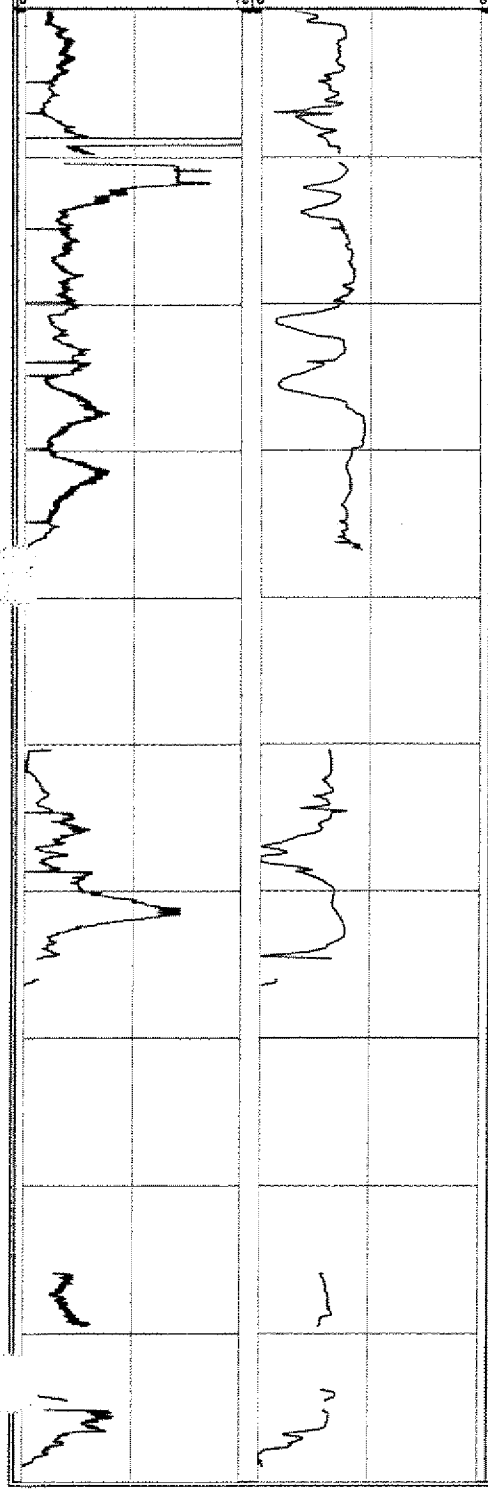
Boring ID:
P-42

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 22, 2003
JOB NUMBER:	4563001	END DATE:	July 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	In SE corner of property, S of W John St, W of Charlotte St, and N of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie, Garret Furguson

Total depth of Profile: 441.27 ft Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SM		
310				Profile data gap due to poor KPRO equilibration
320				
330	Poorly-graded SAND (fine to medium); tan	SP		Profiler refusal at 336.82 ft. No penetration rate or IK data from 336.82 to 350.41 ft due to drilling activities.
340	Poorly-graded SAND (fine) with trace clay; tan	SP		Clay lens from 338 to 338.5 ft
350	Poorly-graded SAND with trace gravel (fine); tan, white	SP		
360				
370	CLAY with few sand; gray	CL		Profiler refusal at 366.46 ft. No penetration rate or IK data from 366.46 to 385.88 ft due to drilling activities.
380	Poorly-graded SAND (fine to medium); gray	SP		
390				Profiler refusals at 389.5 and 398.94 ft. No penetration rate or IK data from 389.5 to 393.78 ft and from 398.94 to 405.85 ft due to drilling activities.

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17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:

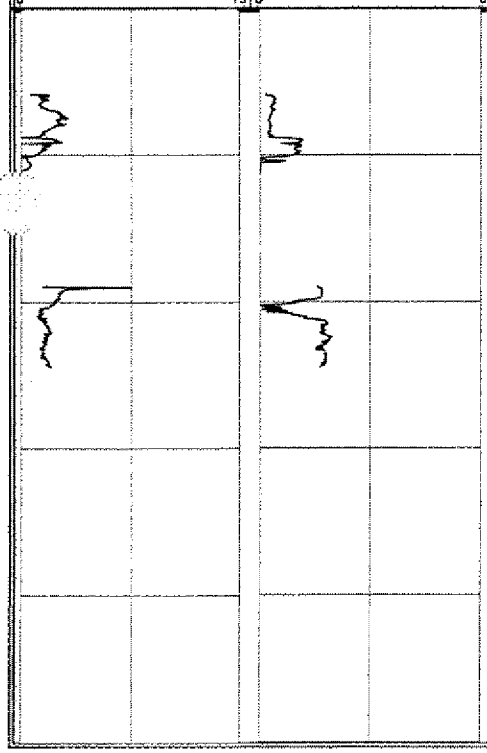
P-42

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 22, 2003
JOB NUMBER:	4563001	END DATE:	July 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	In SE corner of property, S of W John St, W of Charlotte St, and N of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carly	HYDROGEOLOGIST:	Jeff Dekoskie, Garret Furguson

Total depth of Profile: 441.27 ft

Total depth of boring: 420 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SP		
410				Profiler refusal at 411.17 ft. No penetration rate or IK data from 411.17 to 418.95 ft due to drilling activities. End of boring at 420 ft
420				Profile data gap from 424.5 to 441.27 ft due to equipment malfunction
430				
440				Profiler refusal at 441.27 ft. End of profile

Boring ID:

MALCOLM PIRNIE, INC.

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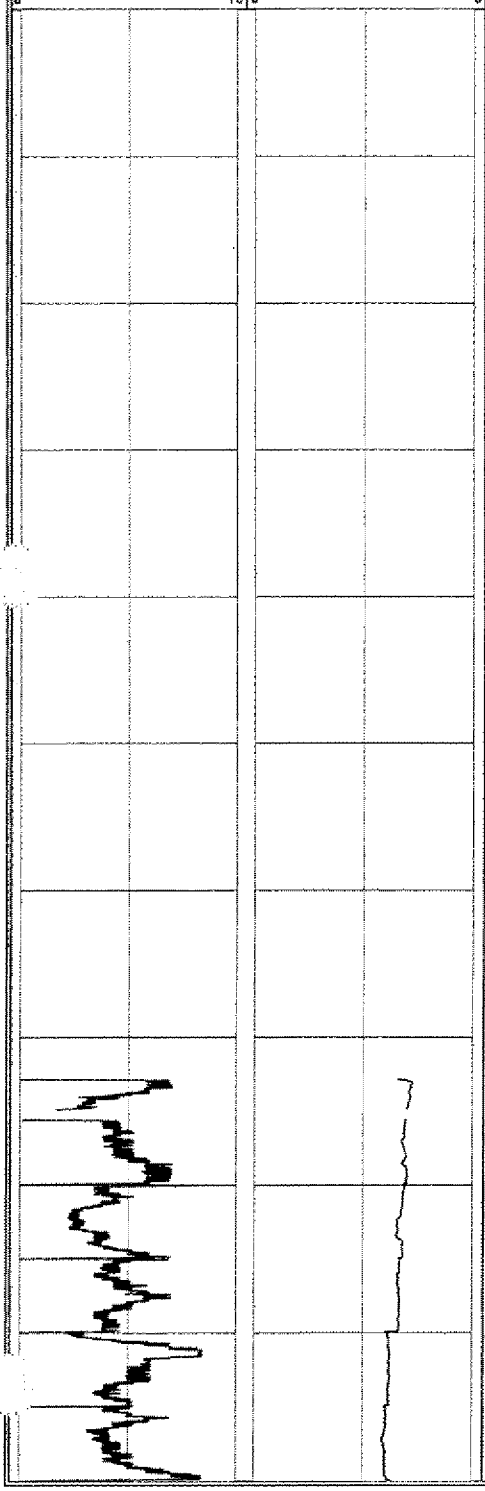
P-43

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 8, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-42
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carly	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 324 ft Total depth of Boring: 260 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	SAND (medium to coarse) and GRAVEL (fine); brown to dark brown	SP-GP		Hollow stem augers used from 0 to 15 ft
10				Begin mud rotary drilling at 15 ft
20				
30	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown	SP		
40	Well-graded GRAVEL and SAND (coarse); light brown	GW-SP		
	Poorly-graded SAND (medium to coarse) with little to some gravel (fine); light brown	SP		
50				
60				
70				Begin profiling at 72.84 ft
	Poorly-graded SAND (medium to coarse); light brown to white	SP		
80				
90				

Boring ID:

MALCOLM PIRNIE, INC.

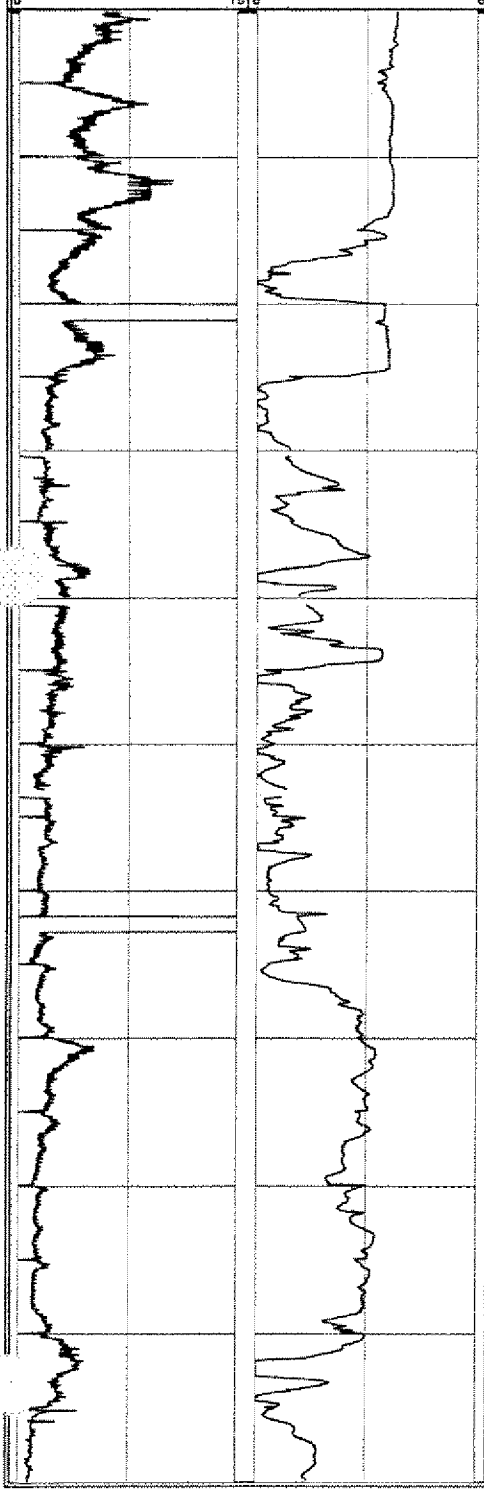
7 Route 208 North Fair Lawn, NJ 07401

P-43

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 8, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-42
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carly	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 324 ft Total depth of Boring: 250 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to white	SP-GP		
110	Well-graded SAND with little gravel and trace silt and clay; light brown to white	SW		
120				Gravel fraction increases with depth
130				
140	Clayey SILT; yellow-orange-white	ML- CL		Profile data gap due to poor KPRO equilibration
150				Profile data gap due to poor KPRO equilibration
160	Poorly-graded SAND with trace clay; brown to gray	SP		
170				
180				
190				

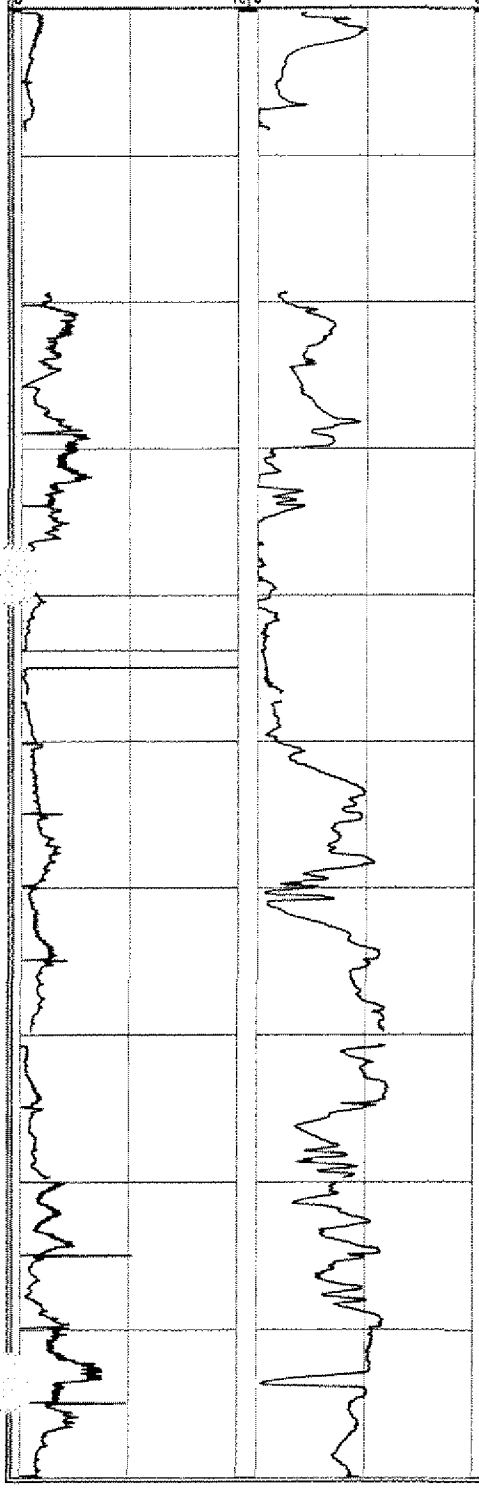
MALCOLM PIRNIE, INC.
17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-43

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 8, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-42
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carly	DATUM:	Land Surface
HELPER:	Steve Sonionski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 324 ft Total depth of Boring: 250 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium) with trace gravel (fine); brown to gray	SP		
				Clay lens from 207 to 208 ft
				Profiler refusal at 208.25 ft. No penetration rate or IK data from 208.25 to 219.32 ft due to drilling activities
210				
220				
				Loss of circulation of drilling fluid at 210 ft. No recovery of cuttings below 210 ft.
230				
240				
				End of boring at 250 ft
				Profile data gap due to poor KPRO equilibration
250				
260				
270				Profile data gap due to poor KPRO equilibration
280				
290				

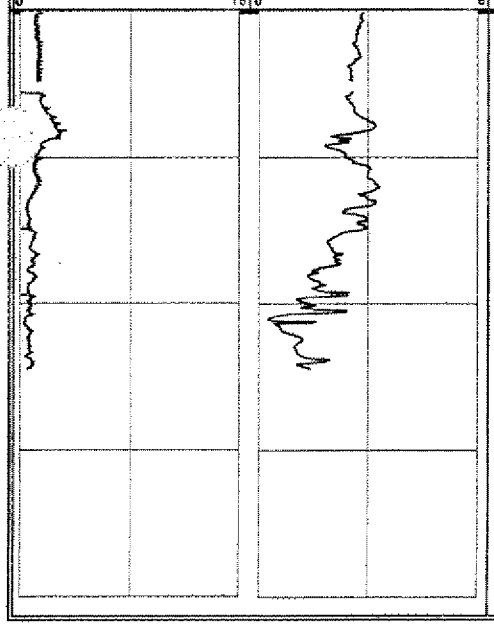
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-43

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 8, 2003
JOB NUMBER:	4563001	END DATE:	September 24, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-42
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carly	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 324 ft Total depth of Boring: 250 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				
				Profile data gap due to poor KPRO equilibration
310				
				Problems with profiling equipment, and heave within mud rotary casing from 309 to 338 ft.
320				
330				
				No Profile data available below 324.45 ft, end of Profile
340				

Boring ID:

MALCOLM PIRNIE, INC.

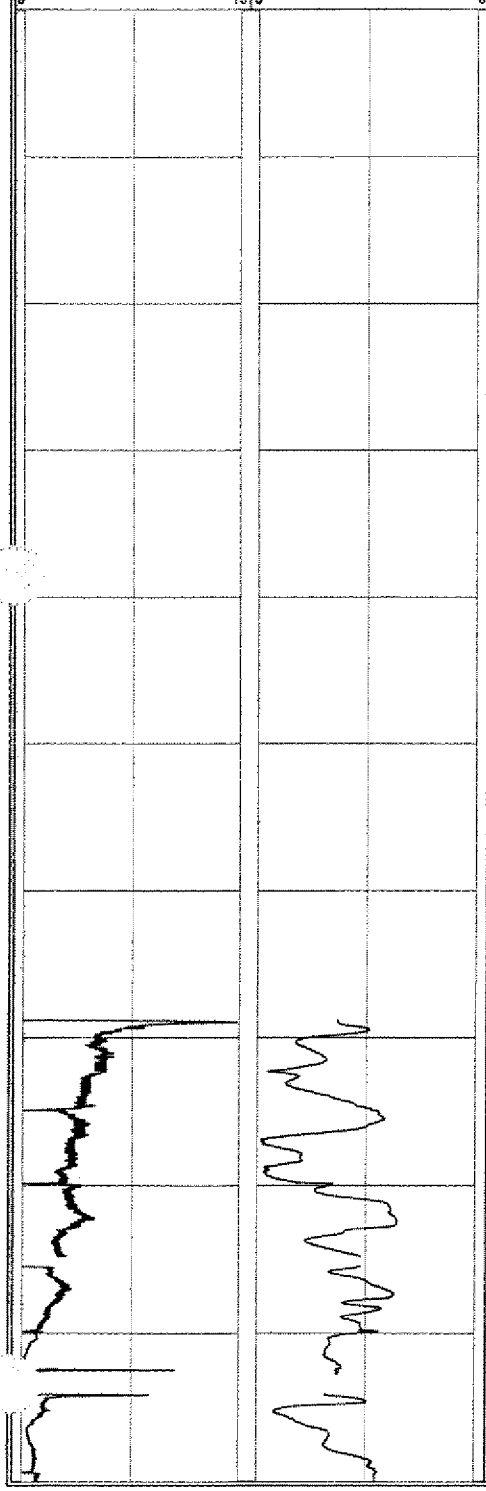
7 Route 208 North Fair Lawn, NJ 07401

P-44

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-43
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	J. Hilton, J. Ifkovits, K. Wheeler

Total depth of Profile: Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL (fine); medium to light brown	SW		6 1/4 hollow stem auger used from 0 to 14 ft.
10	Well-graded SAND with some gravel; light brown	SW		Begin mud rotary drilling at 14 ft.
20				
30				
40				Gravel occurs as interbeds <2 ft thick from 30 to 60 ft.
50				
60	SAND (fine to medium) with some silt; medium brown	SM		Begin profiling at 68.82 ft
70	Poorly-graded SAND (fine); light brown	SP		
80	Silty SAND; light orange-brown to medium gray-brown	SM		Profiler refusal at 92.78 ft. No penetration rate or IK data from 92.78 to 94.05 ft due to drilling activities.
90				
	SILT with trace sand (fine); medium to dark gray	ML		

Boring ID:

MALCOLM PIRNIE, INC.

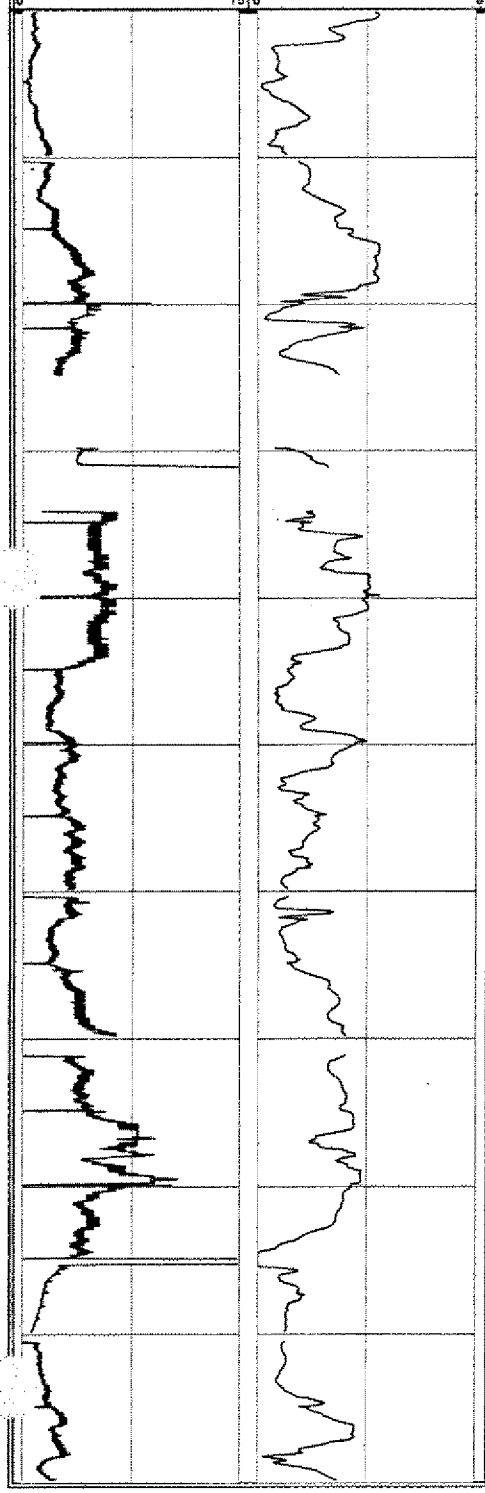
7 Route 208 North Fair Lawn, NJ 07401

P-44

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-43
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	J. Hilton, J. Ifkovits, K. Wheeler

Total depth of Profile: Total depth of Boring: 366 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (fine) with some to little silt and clay; light tan to brown	SM-SC		
110				
	SILT and SAND (fine); light orange	ML-SM		
120	Poorly-graded SAND (fine) with some silt and clay; light gray to white	SM-SC		Profile data gap due to equipment malfunction
130				Profile data gap due to poor KPRO equilibration
140	SILT and SAND (fine) with trace clay; tan to brown	ML-SM		
150				
160				Profile data gaps due to poor KPRO equilibration
170	SAND (fine to medium) and SILT; tan to light brown	SM-ML		
180	SILT and SAND; tan to reddish-brown	ML-SM		
190	Poorly-graded SAND (fine to medium) with some silt; tan to light brown	SM		

Boring ID:

MALCOLM PIRNIE, INC.

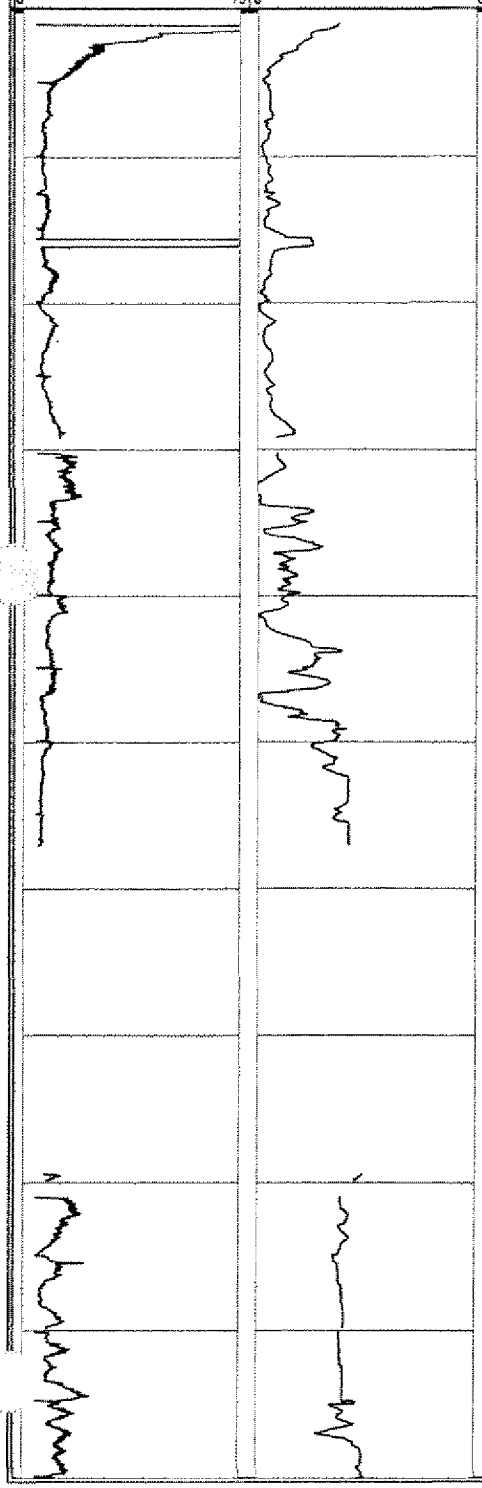
7 Route 208 North Fair Lawn, NJ 07401

P-44

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-43
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	J. Hilton, J. Ifkovits, K. Wheeler

Total depth of Profile: Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Clayey SILT; light brown to light gray	ML-CL		Profile data gap due to poor KPRO equilibration
210	CLAY with some silt and trace sand; gray	CL		
220				
230				
240	SAND and SILT with little clay and trace gravel (fine); light brown	SM-ML		
250				Profiler refusal at 257.06 ft, no penetration rate or IK data from 257.06 to 279.42 ft due to drilling activities
260	Clayey SILT; light brown	ML- CL		
270	Poorly-graded SAND (fine to medium) with little clayey silt; light brown	SP-SM		
280				No recovery of cuttings from 275 to 290 ft.
290	Poorly-graded SAND (fine to medium) with some silt and little gravel; tan	SP		

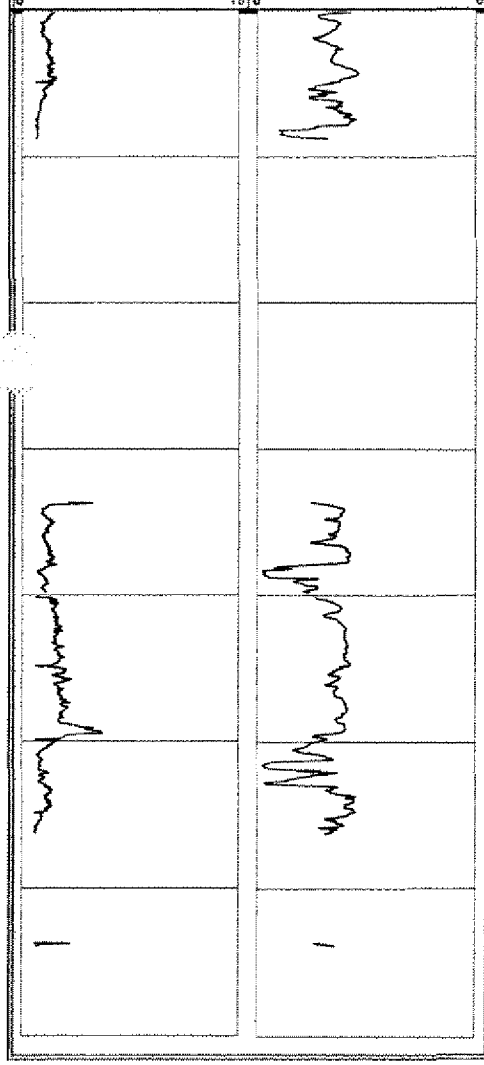
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-44

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 10, 2003
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, W of Charlotte St, S of W John St, W of P-43
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Siecker	HYDROGEOLOGIST:	J. Hilton, J. Ifkovits, K. Wheeler

Total depth of Profile: Total depth of Boring: 365 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SP		
	Poorly-graded GRAVEL (fine) with trace clay; gray to white			
310	CLAY with little sand; gray	CL		Profiler refusal at 308.75 ft, no penetration rate or IK data from 308.75 to 333.66 ft due to drilling activities
320				
	Poorly-graded SAND (fine to medium); light gray	SP		
330				Sand coarsens with depth
340	Poorly-graded SAND (medium) with trace gravel (fine); light gray to light brown	SP		
350	Well-graded SAND with trace sandy clay; light gray	SW		
				Profile data gap due to drilling activities
360				End of profile at 363 ft
				End of boring at 365 ft
370				

Boring ID:

MALCOLM PIRNIE, INC.

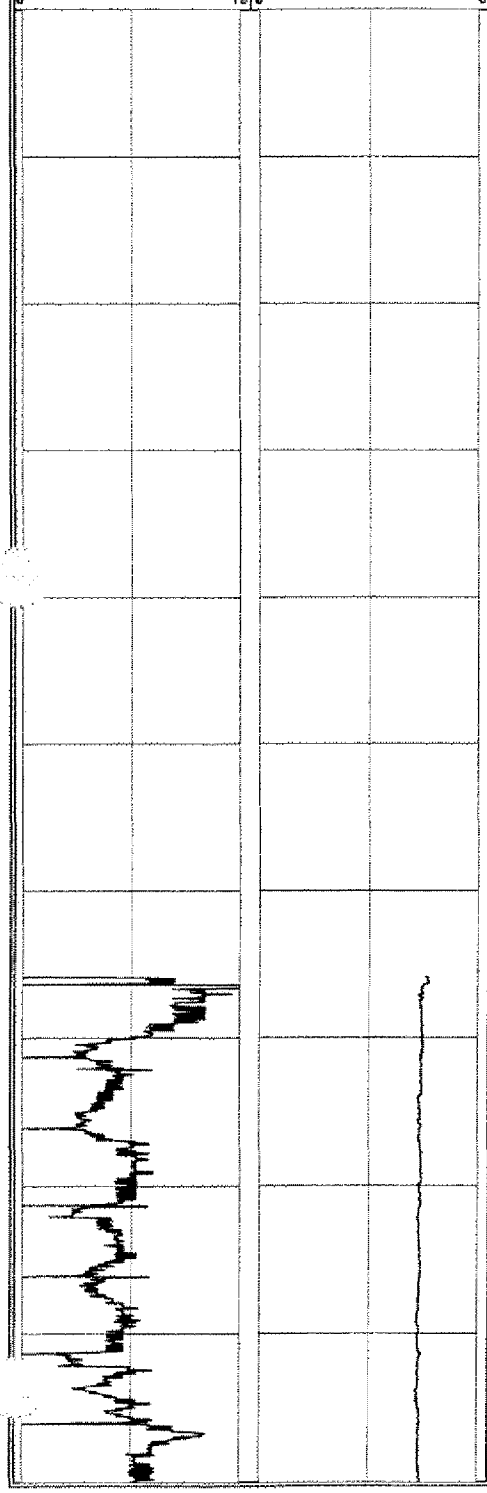
7 Route 208 North Fair Lawn, NJ 07401

P-45

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	SE corner of intersection of Centisque Rock Rd. and W John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 390.37 ft Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
10				Hollow stem auger used from 0 to 18 ft. Begin mud rotary drilling at 18 ft.
	Well-graded SAND with some gravel; tan	SW		
20				
30				
	Well-graded SAND and GRAVEL; tan	SW-GW		
40				
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine) with trace clay; light brown	SP-GP		
	Poorly-graded SAND (fine to medium); tan	SP		
50				
	Poorly-graded SAND (medium to coarse) with trace gravel (fine to coarse); tan	SP		
	Well-graded GRAVEL and SAND; tan	GW-SW		
60				
	Well-graded SAND; tan	SW		Begin Profiling at 65.85 ft
	Well-graded SAND with trace gravel (fine); tan	SW		
70				
80				
	Well-graded SAND; tan	SW		
90	Well-graded SAND; tan	SW		
	Well-graded SAND with trace gravel (fine); tan	SW		
	Well-graded SAND with some silt,	SW		

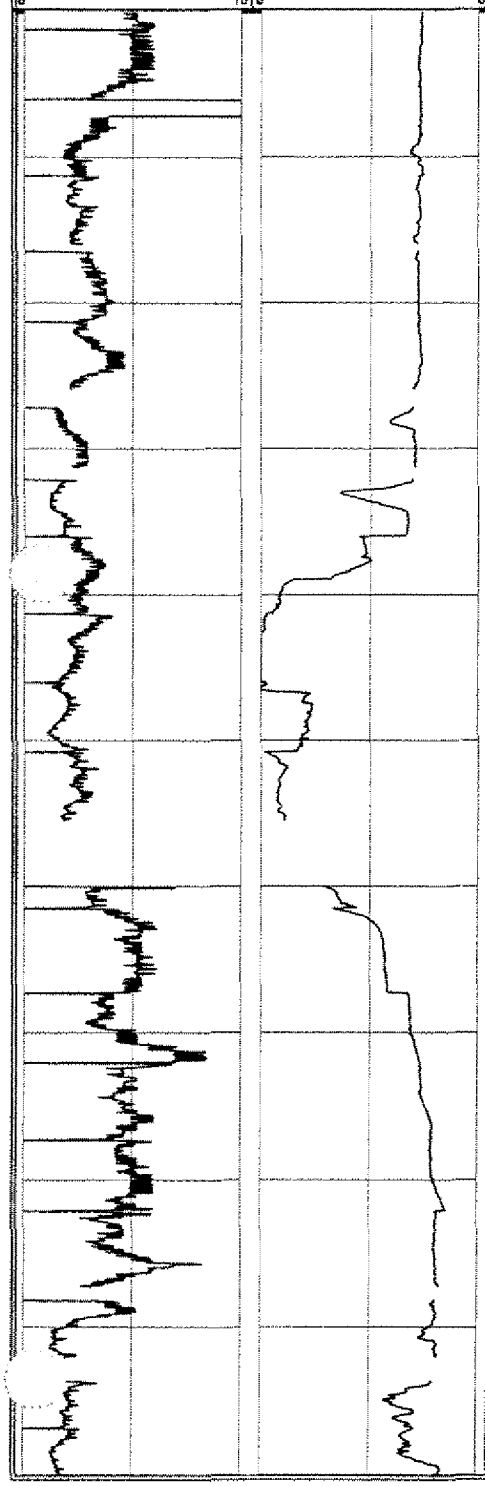
MALCOLM PIRNIE, INC.
Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-45**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	SE corner of intersection of Cantiague Rock Rd. and W John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 390.37 ft Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	trace gravel and trace clay; tan	SW		
	Poorly-graded SAND (coarse) and GRAVEL (fine); tan	SP-GP		
110	Poorly-graded SAND (fine to medium); tan	SP		
120	Well-graded SAND; tan	SW		
	Well-graded SAND and GRAVEL (fine); tan	SW-GP		Profile data gaps to poor KPRO equilibration
130	Well-graded SAND with trace gravel (fine); tan	SW		
	Well-graded SAND (fine to coarse) with some silt; tan	SM		
140	Well-graded SAND with some silt, some gravel; tan	SM		
150	Well -graded SAND with trace gravel (fine) and trace clay; tan	SW		Sampler ports clogged from 155.55 to 159.99 ft. Pulled sampler to unclog.
	Poorly-graded SAND (coarse) and GRAVEL (fine); tan	SP-GP		
160	Well-graded SAND and GRAVEL; tan	SW		
170	Poorly-graded SAND (medium to coarse and GRAVEL (fine); tan	SP-GP		
	Poorly-graded SAND (med to crs);tan	SP		
180	Poorly-graded SAND (med to crs);tan	SP		
	Poorly-graded SAND (coarse) and GRAVEL (fine); tan	SP-GP		
190	Well-graded SAND with some silt and some clay; tan	SM		Profile data gaps to poor KPRO equilibration
	Well-graded SAND and CLAY; orange-tan	SC- CL		
	SILT and CLAY with some sand	ML- CL		

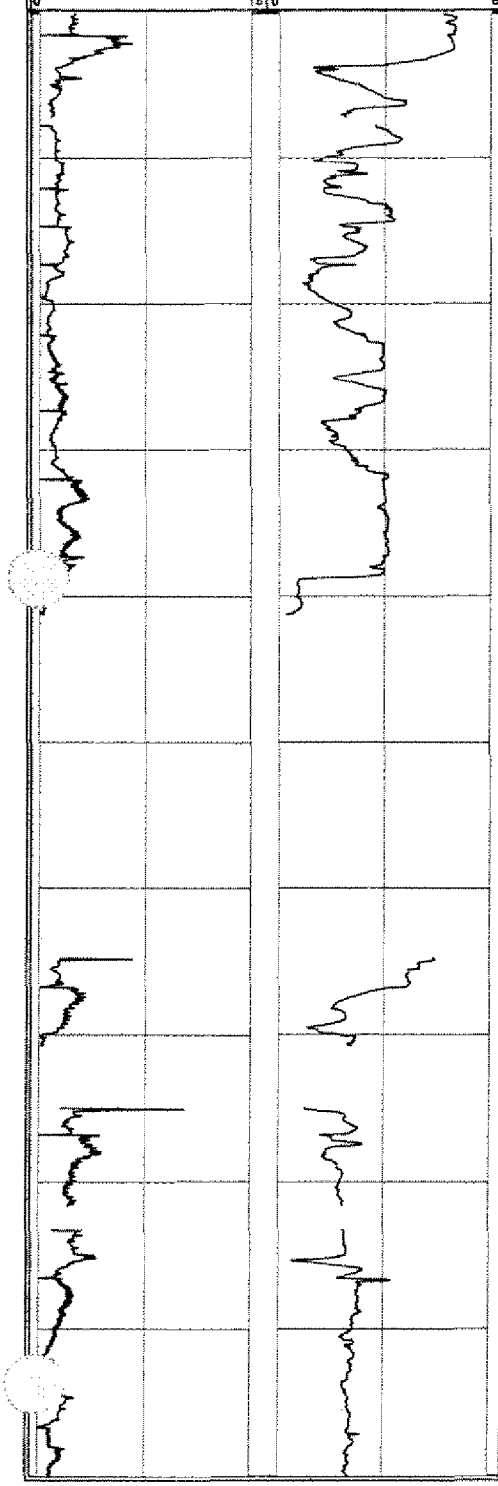
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-45**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	SE corner of intersection of Cantlague Rock Rd. and W John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 390.37 ft Total depth of Boring: 396 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	(fine to medium); tan to orange	ML- CL		
	Poorly-graded SAND (fine to medium) and CLAY; tan	SC- CL		
210	Poorly graded SAND (fine) and SILT with some clay; tan-orange	SM-ML		Profile data gap to poor KPRO equilibration
220	SILT and SAND (fine) with trace clay; tan	ML-SM		
230	Poorly-graded SAND (fine) and CLAY with some silt; tan	SC- CL		
240	Poorly-graded SAND (fine) and CLAY, with some lignite; gray to black	SC- CL		Profiler refusal at 241.26 ft. No penetration rate or IK data from 241.26 to 264.79 ft due to drilling activities.
250	SILT and CLAY with some lignite; gray	ML- CL		
	SILT and CLAY with trace sand (fine) and trace gravel (fine); gray	ML- CL		
	CLAY; gray to white	CL		
260	Poorly-graded SAND (fine to medium) and SILT; gray	SM-ML		
	CLAY with some lignite; gray to white	CL		
270	Poorly-graded SAND (fine) with some silt and trace gravel; tan	SM		Profiler refusal at 270.76 ft. No penetration rate or IK data from 270.76 to 275.01 ft due to drilling activities.
	Poorly-graded SAND (coarse) and GRAVEL (fine); tan	SP-GP		
280	Well-graded GRAVEL with some sand (fine to coarse) and little silt; tan	GW		3-inch casing broke off. Move to alternate location (P-45B). Approximately 10 ft south
	Well-graded GRAVEL with some sand; tan	GW		Profile data gap to poor KPRO equilibration
	Poorly-graded SAND (medium to coarse) and CLAY with trace gravel (medium); gray	SC- CL		
290	CLAY and LIGNITE with some sand (medium) and trace gravel (fine);gray	CL-PT		
	Poorly-graded SAND (coarse) and CLAY with trace gravel (fine); gray	SC- CL		

ALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:

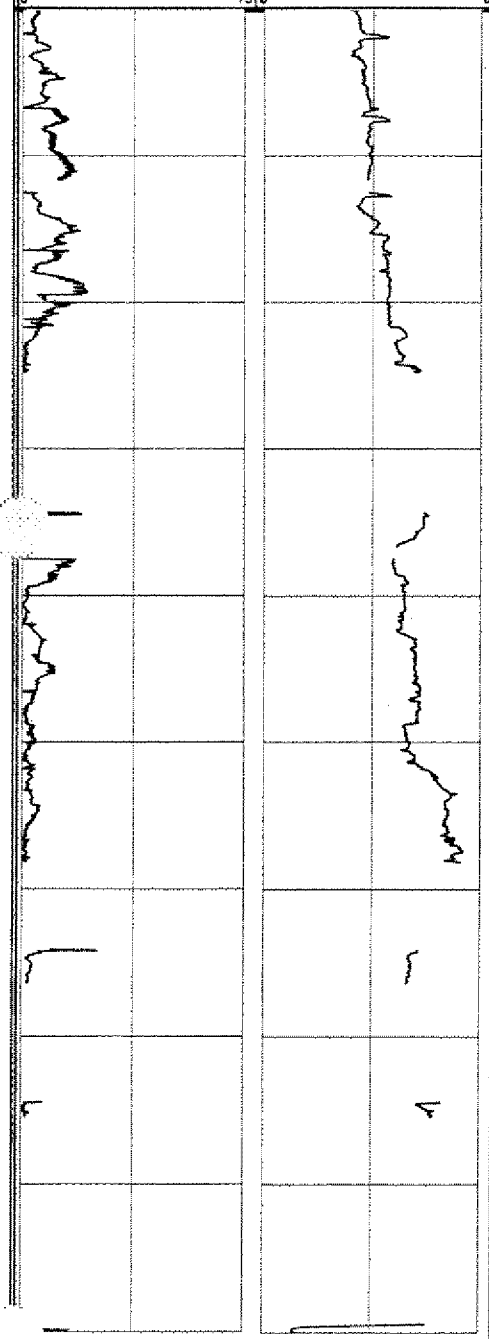
P-45

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 4, 2003
JOB NUMBER:	4563001	END DATE:	August 14, 2003
DRILLING FIRM:	CT&E	LOCATION:	SE corner of intersection of Cantiague Rock Rd. and W John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jon Turk

Total depth of Profile: 390.37 ft

Total depth of Boring: 395 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (coarse) and CLAY with some gravel (fine); tan to gray	SC- CL		
310	Poorly-graded SAND (medium to coarse) with trace gravel (fine) and trace clay; tan	SP		Profile data gap to poor KPRO equilibration
	Well-graded SAND with trace gravel (fine) and trace clay; gray	SW		Profiler refusal at 324.77 ft. No penetration rate or IK data from 324.77 to 334.36 ft due to drilling activities.
320	CLAY with some sand (medium to coarse) and trace lignite; gray	CL		
	No recovery			Lost circulation of drilling fluids from 325 to 395 ft
330				
				Profile data gap to poor KPRO equilibration
340				
350				
				Profiler rod broke at 358 ft. Pulled rods to fix problem
360				
				Profile rod broken between 364.78 and 366.4 ft bgs. Was not noticed until profiler was pulled at 375.46. Probably caused the inability to drive the profiler
370				
				Profiler refusals at 366.4 ft and 375.46 ft, no penetration rate or IK data due to drilling activities
380				
				Profiler refusal at 390.37 ft, end of profile
390				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

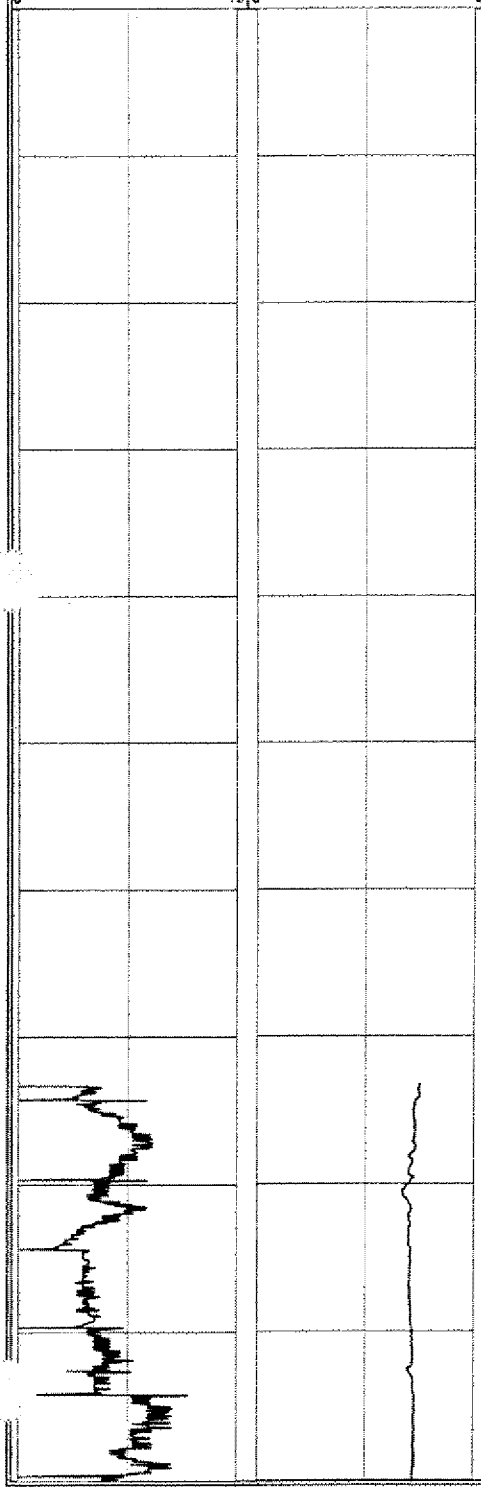
P-46

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	September 8, 2003
DRILLING FIRM:	CT&E	LOCATION:	On S side of W John St, between Cantiague Ln and Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carley	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 600.07 ft

Total depth of Boring: 465 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND with trace to little gravel (fine to coarse); brown	SP		
10				
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		Hollow stem auger used from 0 to 15 ft. Begin mud rotary drilling at 15 ft.
20				
30				
40	Poorly-graded SAND (medium to coarse); light brown	SP		
50	Poorly-graded SAND (coarse) with some gravel (fine); light brown to yellow	SP		
60	Poorly-graded SAND (medium to coarse) with some silt and trace clay and gravel; yellowish-brown	SM		
70	Poorly-graded SAND (medium); light brown	SP		Begin Profiling at 73.29 ft
80				Micaceous
90	Poorly-graded SAND (medium to coarse); light brown	SP		

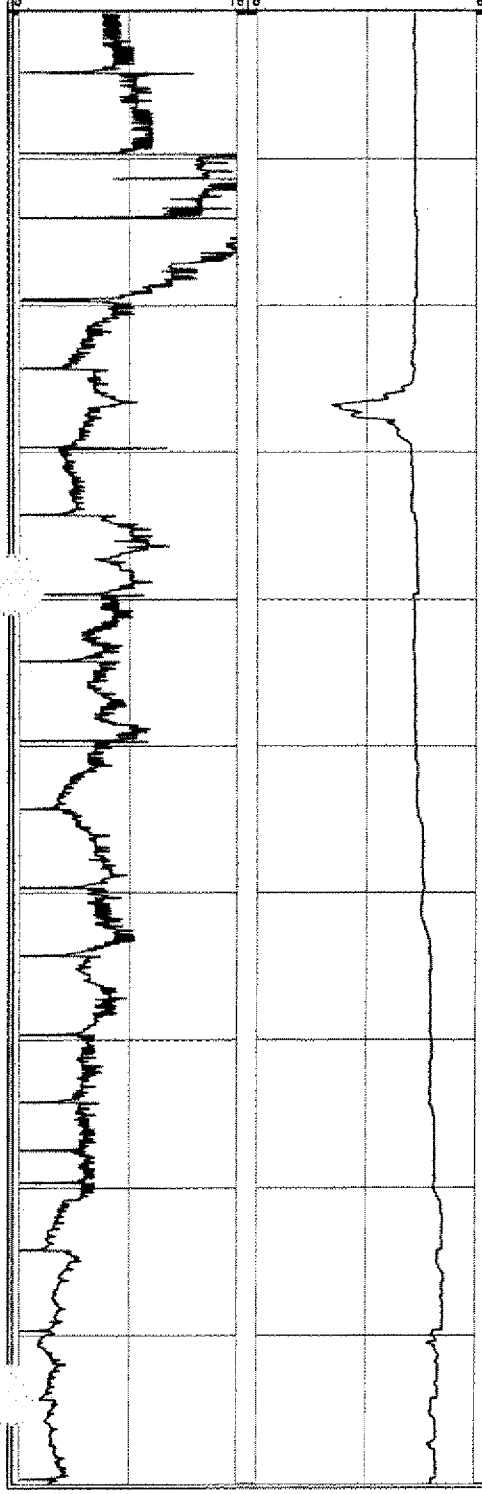
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-46**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	September 8, 2003
DRILLING FIRM:	CT&E	LOCATION:	On S side of W John St, between Cantiague Ln and Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carley	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 500.07 ft Total depth of Boring: 465 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse) with trace gravel (fine); white-yellow-tan	SP		
110	Poorly-graded SAND (medium to coarse) with some gravel (fine to coarse); light brown	SP		
120	Poorly-graded SAND (medium to coarse) with trace silt ; light brown	SP		
130	Poorly-graded SAND (medium to coarse) with little gravel (fine); light brown to tan	SP		
140				
150	Poorly-graded SAND (medium to coarse); light brown to gray	SP		
160	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown to gray	SP		
170				
180	Poorly-graded SAND (medium to coarse) with little gravel (fine) and trace lignite; light brown to gray	SP		
190	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to gray	SP-GP		

Boring ID:

MALCOLM PIRNIE, INC.

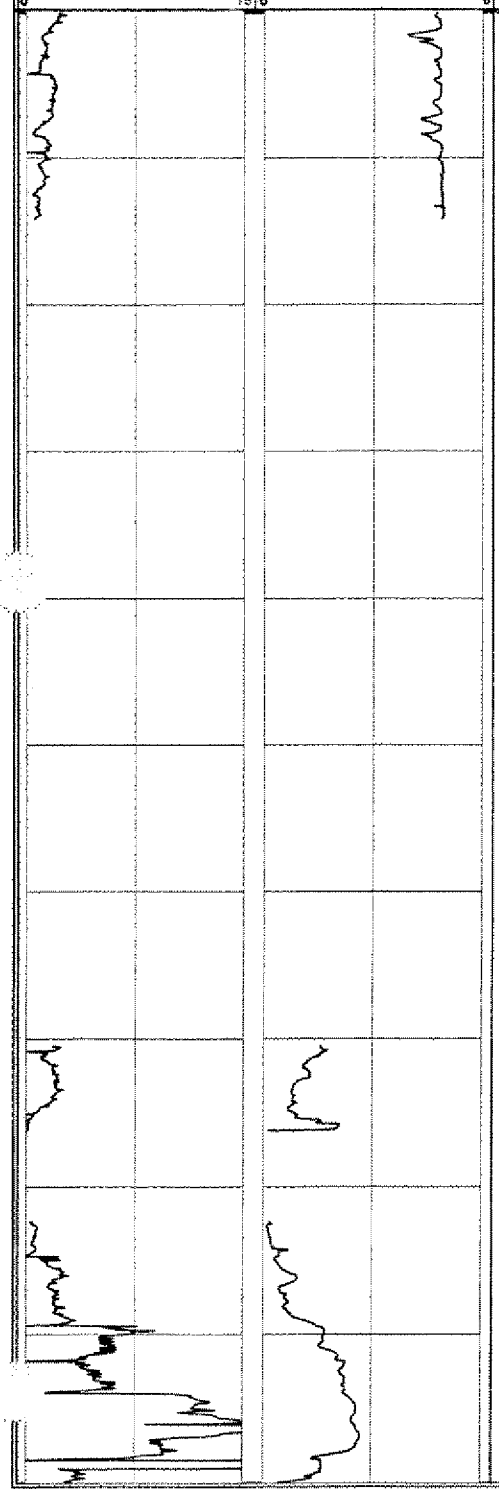
7 Route 208 North Fair Lawn, NJ 07401

P-46

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	September 8, 2003
DRILLING FIRM:	CT&E	LOCATION:	On S side of W John St, between Cantiague Ln and Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carley	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 500.07 ft Total depth of Boring: 466 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light reddish-brown	SP		
210	Poorly-graded SAND (medium); light reddish-brown	SP		Profiler refusal 214.19 ft, no penetration rate or IK data from 214.19 to 270.5 ft due to drilling activities
	Well-graded SAND with some silt and trace clay; light brown to red	SM		
220	Well-graded SAND with some silt, some clay, and trace lignite; light brown to red	SM		
230	Poorly-graded SAND (fine) and CLAY with trace lignite; white-gray-yellow	SC- CL		
240	CLAY and SILT with some sand (fine) and some lignite; white-yellow-gray	CL- ML		Micaceous
250	CLAY and LIGNITE with some sand (fine to medium); dark gray	CL-PT		
260	Poorly-graded SAND (fine to medium) with some lignite; light brown	SP		
270	Poorly-graded SAND (fine to medium) with some silt; light brown to gray	SM		Micaceous Profiler refusal at 276.22 ft, no penetration rate or IK data from 276.22 to 282.36 ft due to drilling activities
280				
290	Poorly-graded SAND (medium); light tan	SP		

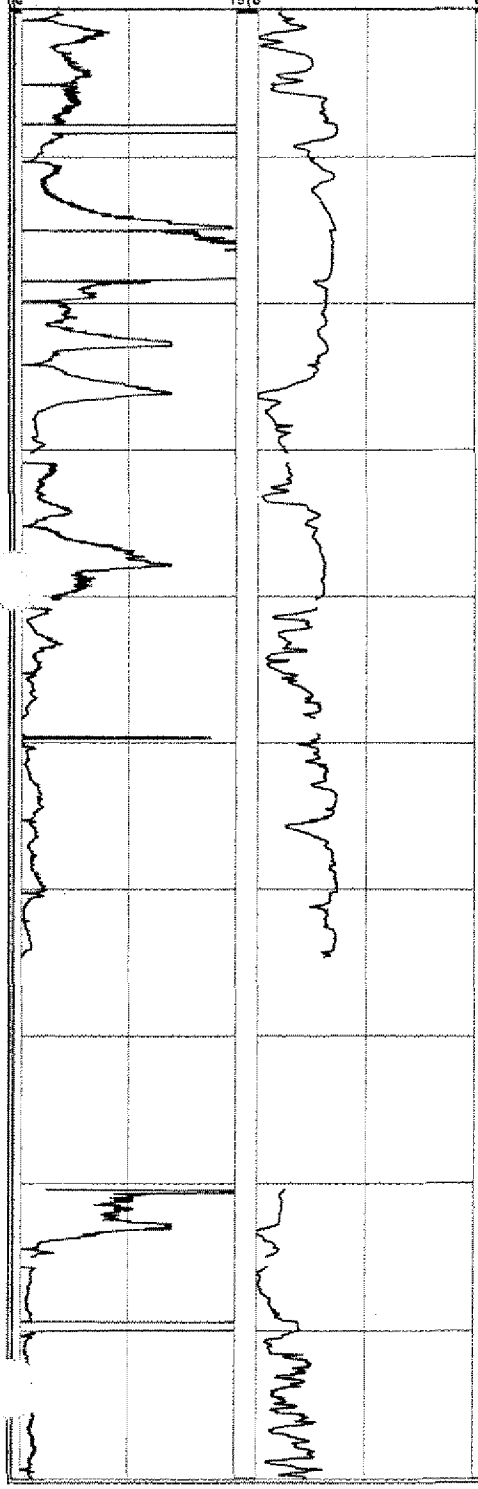
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-46

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	September 8, 2003
DRILLING FIRM:	CT&E	LOCATION:	On S side of W John St, between Cantiague Ln and Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carley	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 500.07 ft Total depth of Boring: 466 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SP		
310	Poorly-graded SAND (medium to coarse) with trace clay; tan-pink	SP		
320	Poorly-graded SAND (fine to medium) with trace clay; light gray to brown	SP		
330	Poorly-graded SAND (fine to medium); light gray	SW		Micaceous Profile data gaps due to poor KPRO equilibration
340				
350				
360	Poorly-graded SAND (fine to medium) with trace clay; light gray	SP		Profiler refusal at 364.63 ft, no penetration rate or IK data from 364.63 to 380.43 ft due to drilling activities
370	Poorly-graded SAND (fine to medium) with trace gravel (fine); light gray	SP		
	Poorly-graded SAND (fine to medium); light gray	SP		
380	No Recovery of Cuttings			Lost circulation of drilling fluids from 380 to 410 ft. No recovery of cuttings. Profile data gap due to poor KPRO equilibration
390				

Boring ID:

MALCOLM PIRNIE, INC.

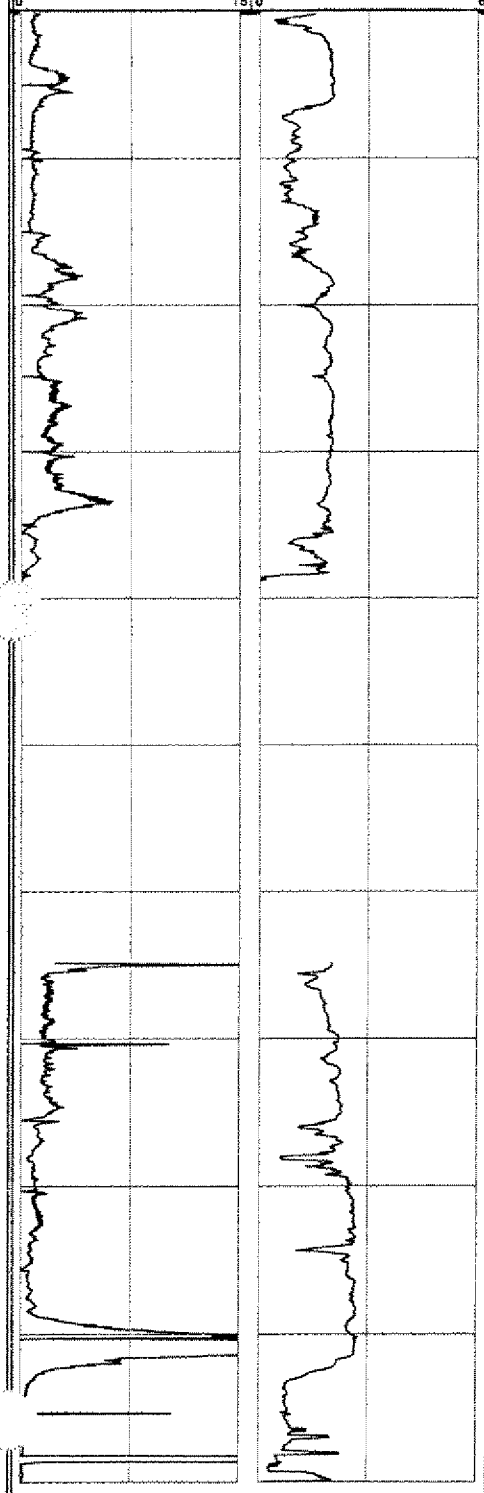
17-17 Route 208 North Fair Lawn, NJ 07401

P-46

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	August 19, 2003
JOB NUMBER:	4563001	END DATE:	September 8, 2003
DRILLING FIRM:	CT&E	LOCATION:	On S side of W John St, between Cantiague Ln and Charlotte St
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karri Carley	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 500.07 ft Total depth of Boring: 465 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400				
410	Poorly-graded SAND (fine); gray	SP		
420				
430	Poorly-graded SAND (medium to coarse); red	SP		Clay lens at ~438 ft
440	SILT and CLAY	ML- CL		Profiler refusal at 438.81 ft, no penetration rate or IK data from 438.81 to 464.87 ft due to drilling activities
	Poorly-graded SAND (fine to medium); gray	SP		Little recovery of cuttings
450	Poorly-graded SAND (fine) and SILT, trace clay, trace lignite; gray	SM-ML		
460	Poorly-graded SAND (fine to medium); gray	SP		End of boring at 465 ft
470				
480				
490				
500				Profiler refusal at 500.07 ft, end of Profile

Boring ID:

MALCOLM PIRNIE, INC.

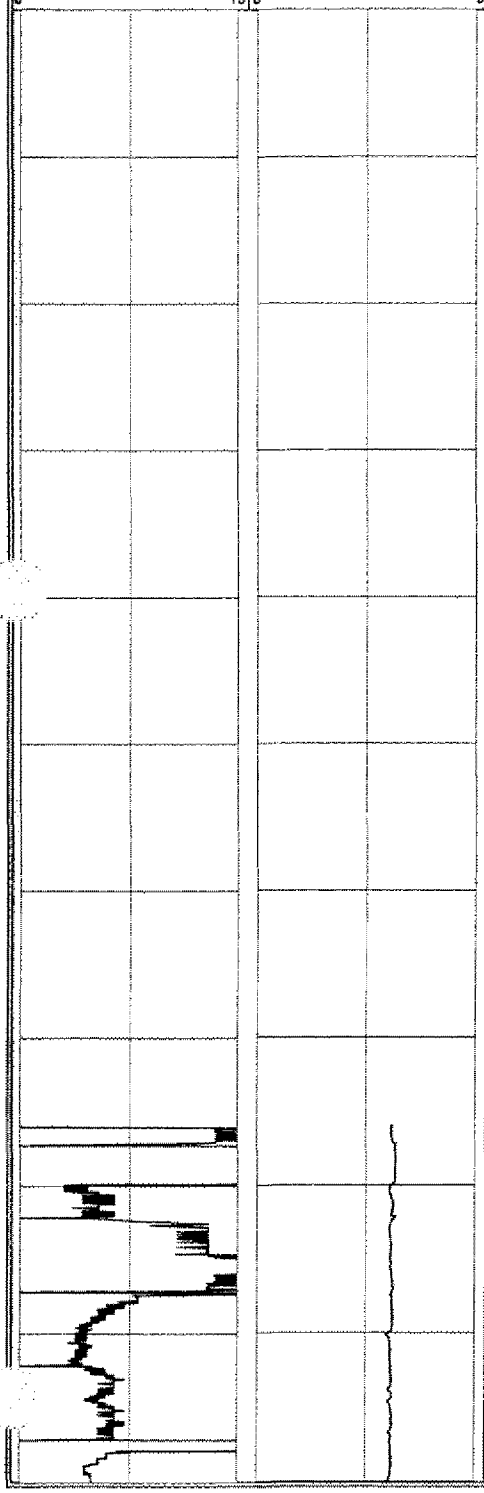
P-47

17 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 11, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of W John St,
DRILLING METHOD:	Mud Rotary	WEATHER:	Cantiague Rock Rd. and Cantigue Ln
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 397 ft Total depth of Boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
10	Poorly-graded SAND (medium to coarse) with little gravel (fine); light brown	SP		Hollow stem auger used from 0 to 20 ft. Begin mud rotary drilling at 20 ft.
20	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white and tan	SP-GP		
30				
40				
	Poorly-graded SAND (medium to coarse) with little gravel (fine); white and tan	SP		
50				
60				
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white and tan	SP-GP		Micaceous
70				Begin profiling at 76.01 ft.
80				
90				

Boring ID:

MALCOLM PIRNIE, INC.

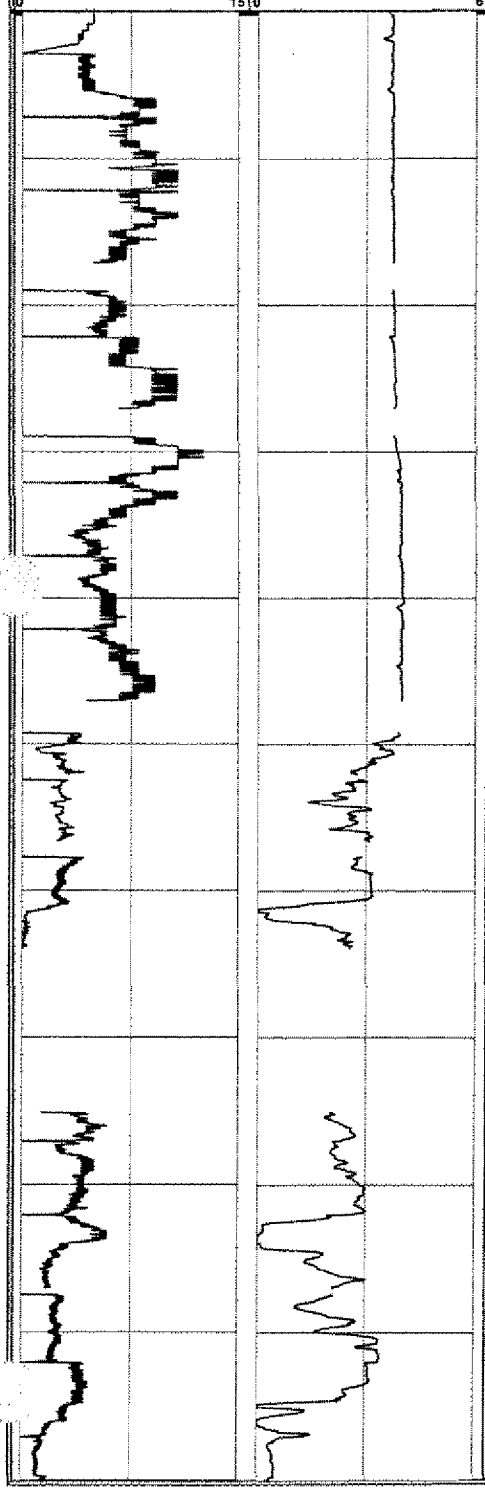
17 Route 208 North Fair Lawn, NJ 07401

P-47

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 11, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of W John St, Cantiague Rock Rd, and Cantigue Ln
DRILLING METHOD:	Mud Rotary	WEATHER:	
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 397 ft Total depth of Boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP-GP		
110	Well-graded SAND and GRAVEL (fine); white and tan	SW-GP		
120				Profile data gaps due to poor KPRO equilibration
130				
140				
	Poorly-graded SAND (medium to coarse) with little gravel (fine); white-tan	SP		
150				Profile data gaps due to poor KPRO equilibration
160				
	Poorly-graded GRAVEL (fine) and CLAY with some silt; white-tan	GC-CL		Profiler refusal at 163.96 ft, no penetration rate or IK data from 163.96 to 175.12 ft due to drilling activities
170	Poorly-graded SAND (medium to coarse) with trace gravel (fine); white-tan	SP		
	Poorly-graded SAND (medium to coarse) with trace gravel (fine) and trace silt; white and tan	SP		Micaceous
180				
	Poorly-graded SAND (medium to coarse) with little gravel (fine); white and tan	SP		Micaceous Profile data gaps due to poor KPRO equilibration
190				

Boring ID:

MALCOLM PIRNIE, INC.

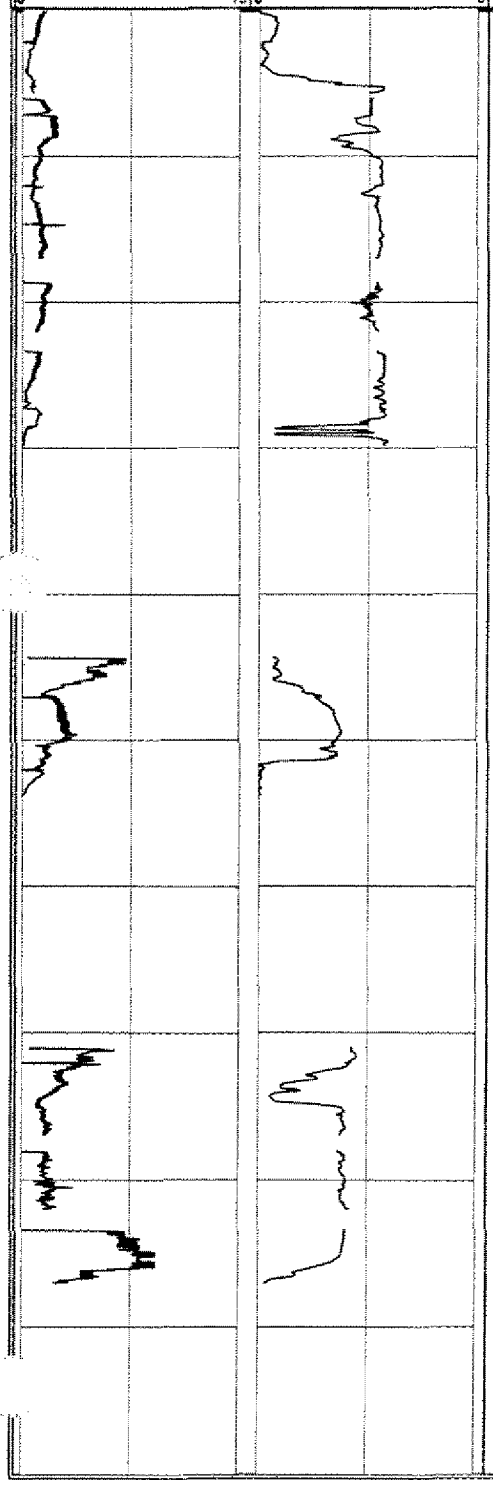
7 Route 208 North Fair Lawn, NJ 07401

P-47

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 11, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of W John St,
DRILLING METHOD:	Mud Rotary	WEATHER:	Cantiague Rock Rd, and Cantigue Ln
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 397 ft Total depth of Boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SP		
	Silty SAND with some gravel, and trace clay; white-gray	SM		Micaceous
210				
220	Well-graded SAND and GRAVEL (fine) with some silt; white and gray	SM-GM		Profile data gaps due to poor KPRO equilibration
230	Silty SAND and CLAY with some gravel (fine); white to gray.	SM-CL		Interbedded clay Profiler refusal at 229.82 ft, no penetration rate or IK data from 229.82 to 244.35 ft due to drilling activities
240	Poorly-graded SAND (medium) with trace gravel (fine); white to tan	SP		
	CLAY with some silt; gray	CL		
250	CLAY and LIGNITE with some silt;	CL-PT		
	Poorly-graded GRAVEL (fine) with some silt and trace sand; dark gray	GM		Profiler refusal at 253.81 ft, no penetration rate or IK data from 253.81 to 271.05 ft due to drilling activities
260				
270	Poorly-graded SAND (medium) and GRAVEL (fine); white and tan	SP		Profile data gaps due to poor KPRO equilibration
280	PEAT with trace gravel (fine); brown	PT		Brown wood chips
	SILT and CLAY with trace sand (fine); gray	ML- CL		Micaceous Profiler refusal at 287 ft, no penetration rate or IK data from 287 to 304.61 ft due to drilling activities
290				

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

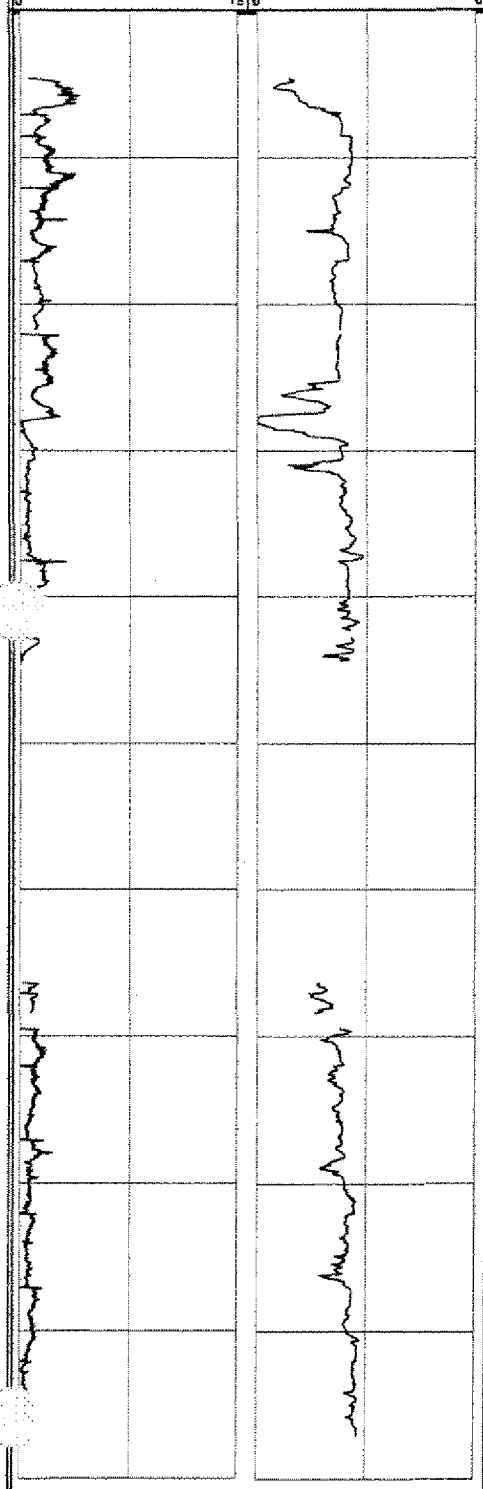
Boring ID: **P-47**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	September 2, 2003
JOB NUMBER:	4563001	END DATE:	September 11, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of W John St,
DRILLING METHOD:	Mud Rotary	WEATHER:	Cantlague Rock Rd, and Cantigue Ln
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 397 ft

Total depth of Boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		ML- CL		
	Poorly-graded SAND (medium) and GRAVEL (fine); white and tan	SP		
310				
320				Profile data gap due to poor KPRO equilibration
330				
340				Profiler refusal at 344.35 ft, no penetration rate or IK data from 344.35 to 366.38 ft due to drilling activities
350	SILT and SAND (fine to medium); white and tan	ML-SM		Interbedded silt and sand
	Poorly-graded SAND (medium to coarse) with some gravel (fine); white and tan	SP		
360				End of boring at 370 ft
370				Profile data gap to to equipment malfunctions
380				
390				End of profile at 397.0 ft
400				

Boring ID:

MALCOLM PIRNIE, INC.

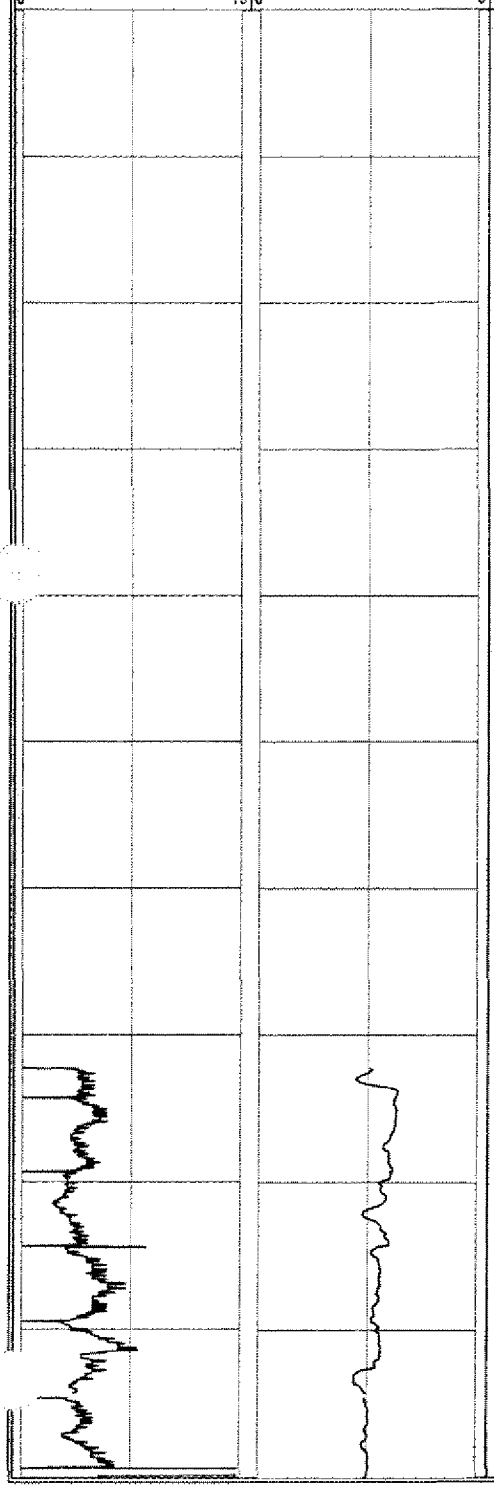
7 Route 208 North Fair Lawn, NJ 07401

P-49

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	On W side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 465.6 ft Total depth of Boring: 460 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to coarse) and GRAVEL (fine to coarse); dark brown	SW-GW		
10				Hollow stem auger used to drill for 0 to 15 ft, begin mud rotary drilling at 15 ft
	Poorly-graded GRAVEL (fine); light brown	GP		
20				
30	Poorly-graded SAND (coarse) with some gravel (fine); light brown	SP		
40				
50				
60				Begin profiling at 72.27 ft
70	Poorly-graded SAND (medium to coarse) and SILT; light brown	SM-ML		
	Poorly-graded SAND (fine) with trace gravel (fine); light brown	SP		
80	Well-graded SAND (fine to coarse) with trace gravel (fine); light brown	SW		
90				

Boring ID:

MALCOLM PIRNIE, INC.

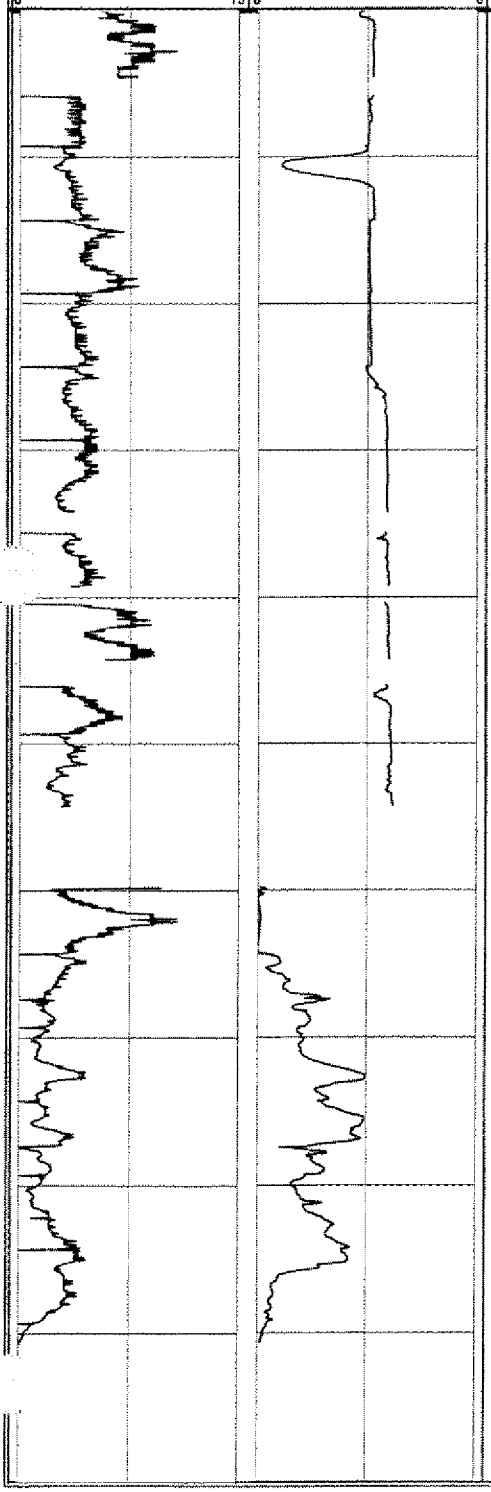
7 Route 208 North Fair Lawn, NJ 07401

P-49

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	On W side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 468.6 ft Total depth of Boring: 460 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SW		Profile data gap due to equipment malfunction
110				
120				
130	Well-graded GRAVEL (fine to coarse) with some sand (coarse); light brown	GW		Profile data gap due to equipment malfunction
140				Profile data gaps due to poor KPRO equilibration
150				No penetration rate or IK data from 154.34 to 159.81 ft due to drilling activities and malfunctioning Profiling equipment
160	Poorly-graded SAND (coarse) and GRAVEL (fine); brown	SP-GP		
170	CLAY and SAND (fine to medium); light brown	CL-SC		
180				
	CLAY and SAND (coarse); light brown	CL-SC		
190				Profiler refusal at 190.66 ft, no penetration rate or IK data form 190.66 to 220.56 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

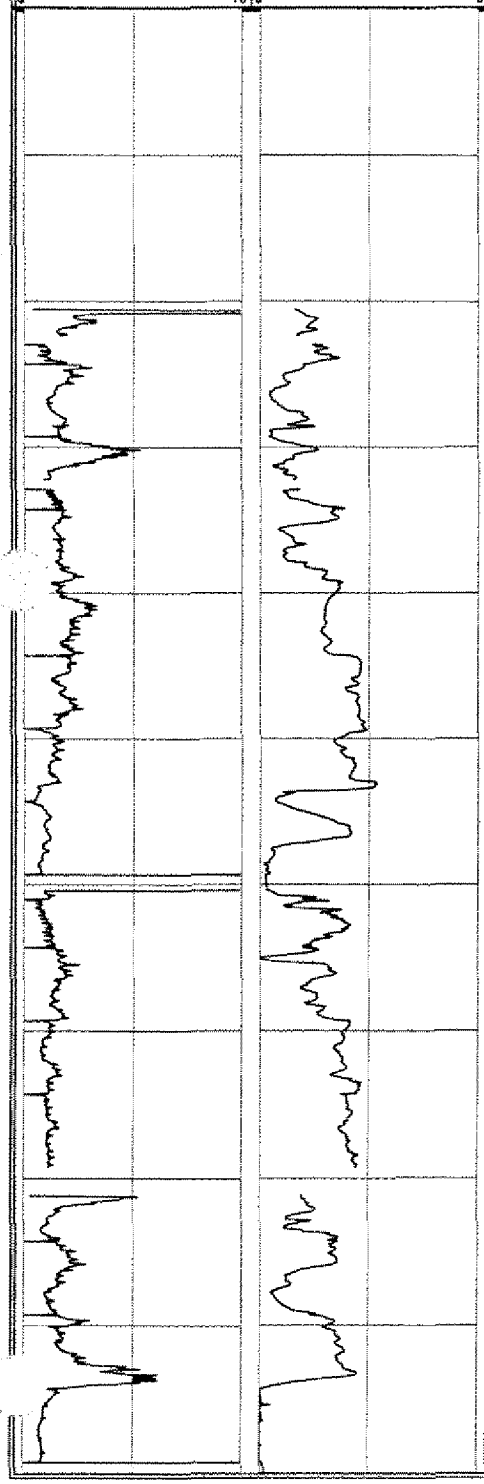
7 Route 208 North Fair Lawn, NJ 07401

P-49

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	On W side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karl Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 465.6 ft Total depth of Boring: 460 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND (fine to coarse) with some silt; brown	SM		
210				
	CLAY; white to gray	CL		
220	Poorly-graded SAND (fine to medium) and CLAY; light brown to white	SC-CL		Profile data gap due to poor KPRO equilibration
230				Profile data gap due to poor KPRO equilibration
240				
	Well-graded SAND (fine to coarse) and CLAY; light brown to white	SC-CL		
250				
260				
	Poorly-graded SAND (fine) and CLAY; light brown to white	SC-CL		
270				
	Poorly-graded SAND (fine); light brown	SP		
280	Poorly-graded SAND (medium) and CLAY; light brown to white	SC-CL		Profile data gap due to equipment malfunction
290				
	CLAY; light brown to white	CL		

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

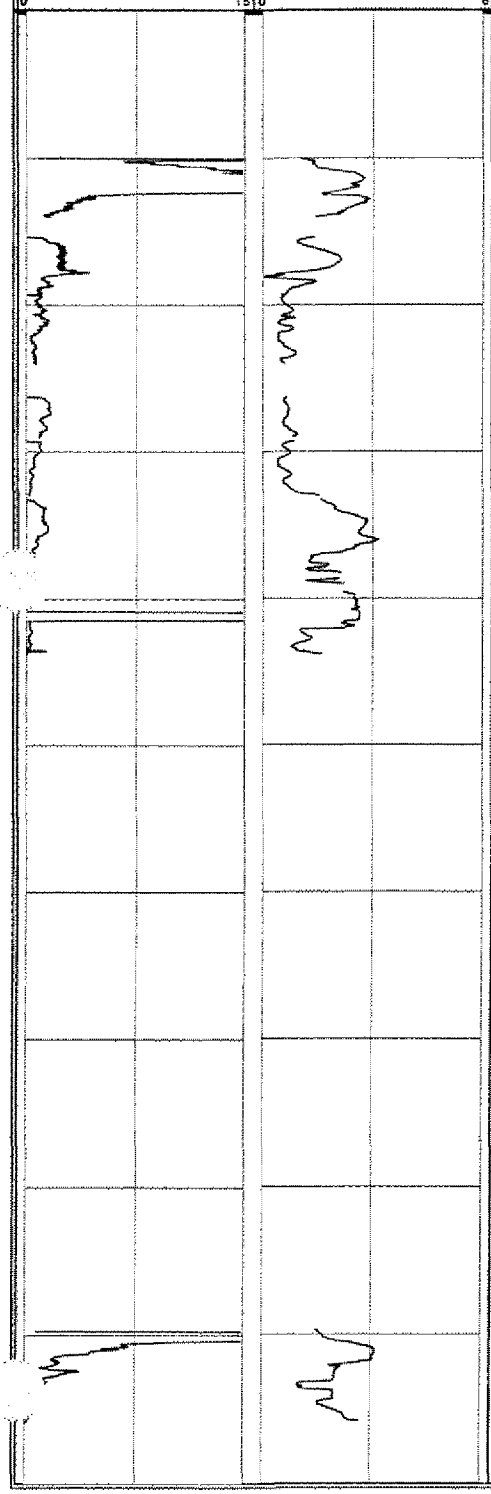
P-49

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	On W side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Mosher

Total depth of Profile: 468.6 ft

Total depth of Boring: 460 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (fine to medium) with some clay; brown	SC		Profiler refusal at 300.0 ft, no penetration rate or IK data from 300.0 to 309.98 ft due to drilling activities
310	Poorly-graded SAND (fine) with some silt; light brown to orange	SM		Profile data gaps due to poor KPRO equilibration
320				
330	Poorly-graded SAND (fine to medium) with trace silt; light brown	SP		
340	Poorly-graded SAND (fine to medium); white	SP		Profiler refusal at 343.79 ft, no penetration rate or IK data from 343.79 to 389.71 ft due to drilling activities
350				
360				
370				
380				
390	Poorly-graded SAND (medium to coarse); white	SP		Profiler efusal at 395.83 ft, no penetration rate or IK data from 395.83 to 419.66 ft due to drilling activities

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

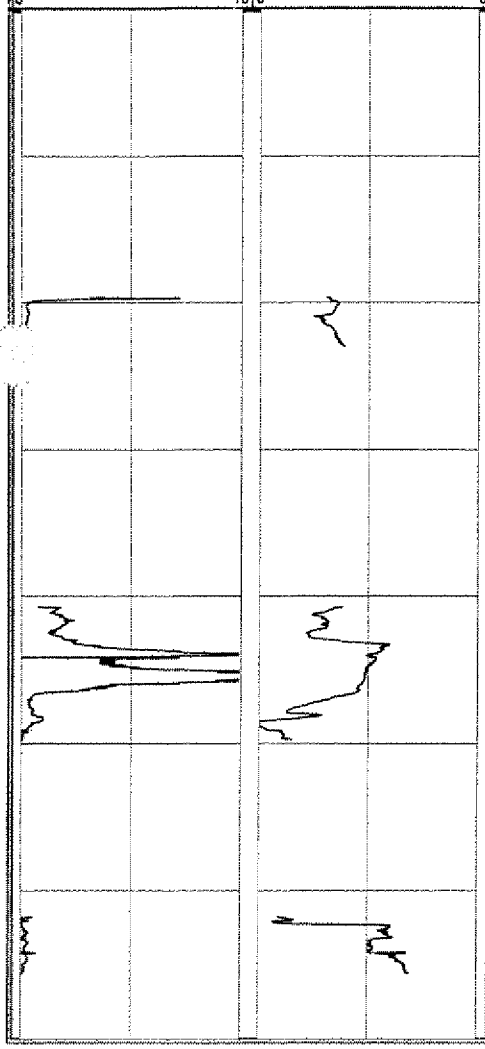
Boring ID: **P-49**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	On W side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier

Total depth of Profile: 465.6 ft

Total depth of Boring: 460 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SP		
410	Poorly-graded SAND (medium to coarse) with trace clay; white	SP		
420				Profiler refusal at 422.95 ft, no penetration rate or IK data from 422.95 to 440.72 ft due to drilling activities
430	Poorly-graded SAND (coarse), withtrace clay; orange	SP		
440	Well-graded SAND (fine to coarse) with trace clay; orange	SW		
450	CLAY	CL		Profiler refusal at 449.75 ft, no penetration rate or IK data from 449.75 to 461.77 ft due to drilling activities
	Poorly-graded SAND (fine)	SP		End of boring at 460 ft
460				Profiler refusal at 465.6 ft, end of Profile

Boring ID:

MALCOLM PIRNIE, INC.

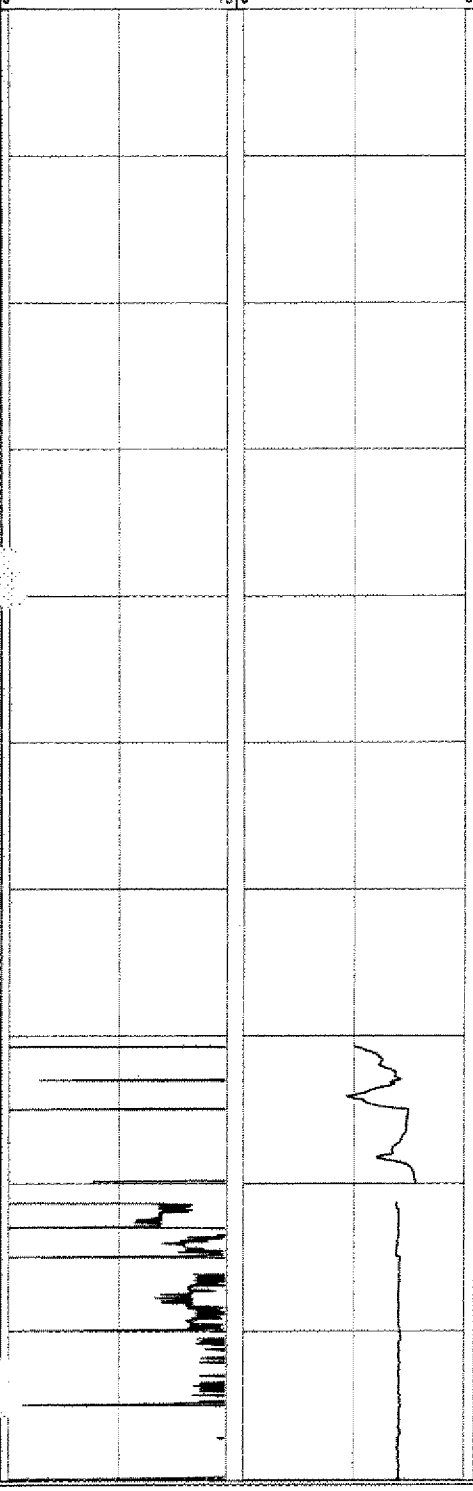
7 Route 208 North Fair Lawn, NJ 07401

P-50

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 29, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-51
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Colleen Sullivan, Arnas Nemikas

Total depth of Profile: 445.09 Total depth of Boring: 410

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium) with some gravel and brick fragments; dark brown	SP		Hollow stem augers used to drill from 0 to 15 ft.
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); brown	SP-GP		
10				Begin mud rotary drilling at 15 ft
20	Poorly-graded SAND (coarse); light brown to yellow-orange	SP		
30	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to yellow-white	SP-GP		
40	Poorly-graded SAND (medium to coarse); brown-white	SP		
50	Poorly-graded SAND (coarse) and GRAVEL (fine); light brown to yellow-white	SP-GP		
60	Poorly-graded GRAVEL (fine) with some sand (medium)	GP		Begin profiling at 69.38 ft, problems with equipment. Removed profiler at 69.9 ft.
70	Poorly-graded SAND (medium to coarse); light brown	SP		Resume profiling at 70.71 ft
80				Profile data gap due to poor KPRO equilibration
90				

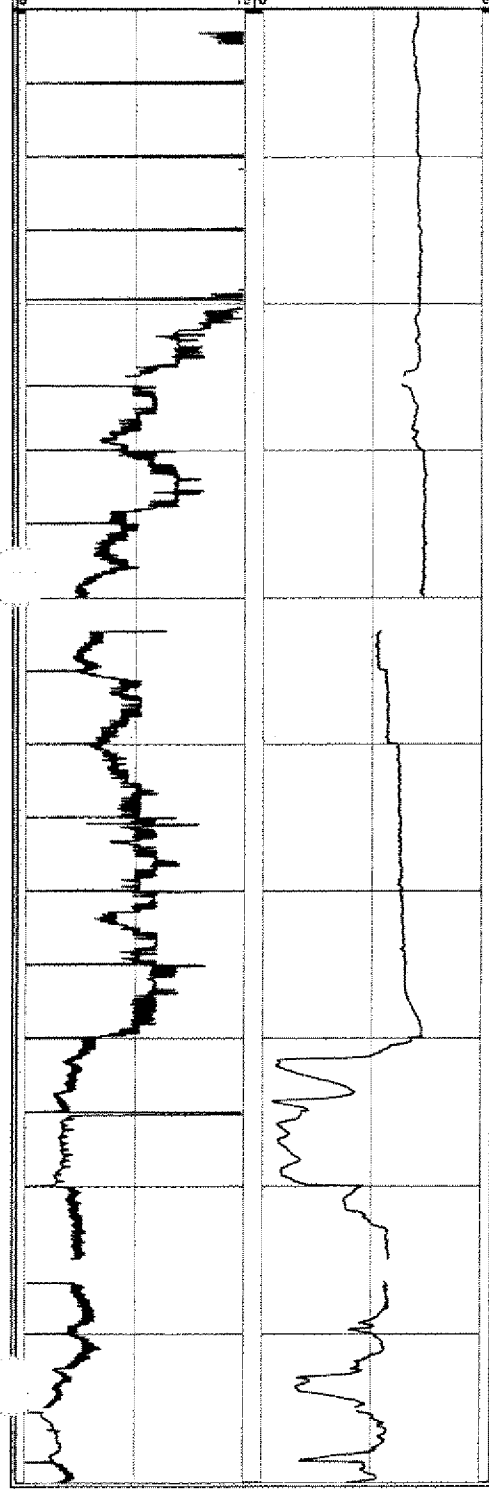
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-50**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 29, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-51
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Colleen Sullivan, Arnas Nemikas

Total depth of Profile: 445.09 Total depth of Boring: 410

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light brown	SP		
110	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to white	SP-GP		
120	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown	SP		
130	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown to yellowish-white	SP-GP		Profile data gaps due to poor KPRO equilibration
140				
150				
160				
170	Poorly-graded SAND (fine to medium) and SILT with trace clay; orange-brown	SM-ML		
180				
190				Profile data gaps due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

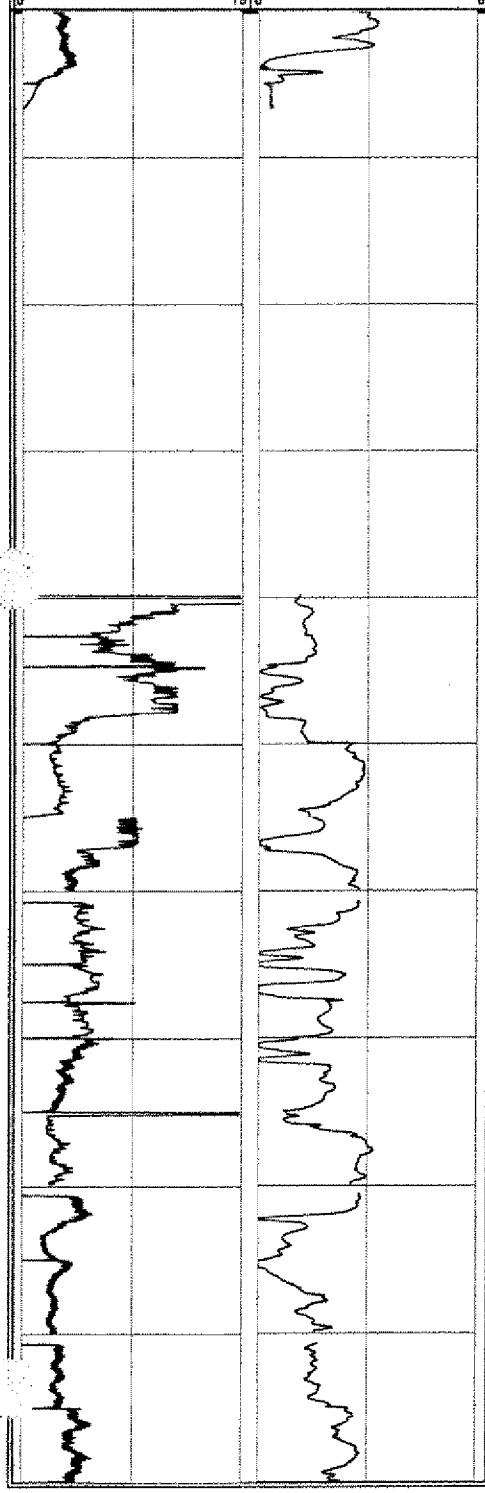
7 Route 208 North Fair Lawn, NJ 07401

P-50

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 29, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-51
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Colleen Sullivan, Arnas Nemikas

Total depth of Profile: 445.09 Total depth of Boring: 410

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	SILT and CLAY; orange-white-brown	ML- CL		Profiler refusal at 206.64 ft, no penetration rate or IK data from 206.64 to 239.81 ft due to drilling activities
210				
220	Poorly-graded SAND and SILT with some clay; orange-white	SM-ML		
230	Well-graded SAND; brown	SW		
240	Poorly-graded SAND with trace clay and silt; light brown	SP		
250				Lost circulation of drilling fluids from 250 to 270 ft. No recovery of cuttings.
260				Profile data gaps due to poor KPRO equilibration
270	Poorly-graded SAND (medium to coarse) with trace clay; white to light brown	SP		
280				Lost circulation of drilling fluids from 280 to 410 ft. No recovery of cuttings.
290				

Boring ID:

MALCOLM PIRNIE, INC.

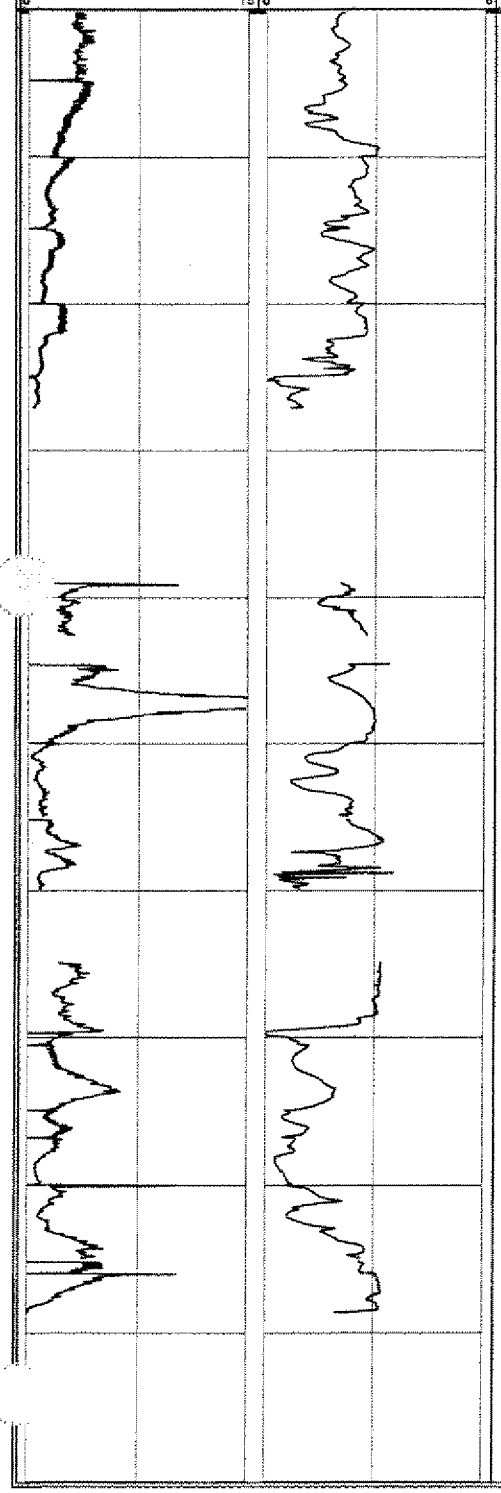
17 Route 208 North Fair Lawn, NJ 07401

P-50

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 29, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-51
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Colleen Sullivan, Arnas Nemikas

Total depth of Profile: 445.09 Total depth of Boring: 410

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				
310				
320				Drilling characteristics indicative of clay/silt layer at 323 ft
				Profiler refusal at 327.07 ft, no penetration rate or IK data from 327.07 to 339.02 ft due to drilling activities
330				
340				
350				
360				Profile data gap due to equipment malfunction
				Drilling characteristics indicative of clay/silt layer at 368 ft
370				
380				
				Drilling characteristics indicative of clay/silt layer at 388 ft. Profiler refusal at 388.61 ft, no penetration rate or IK data form 388.61 to 409.22 ft due to drilling activities
390				

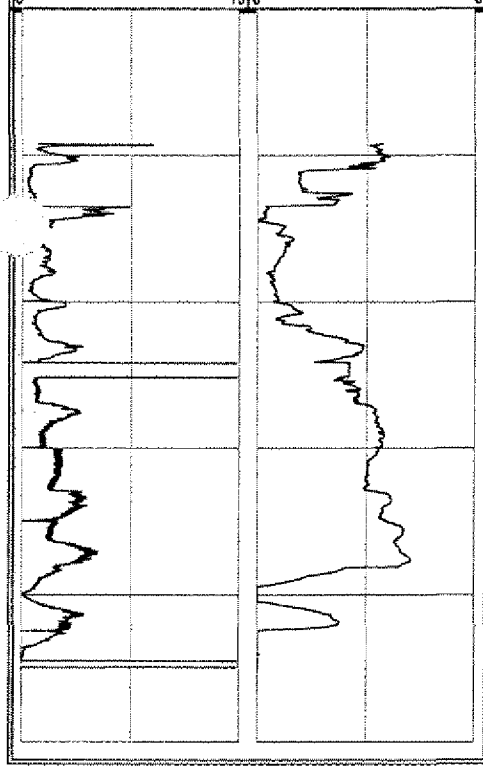
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-50

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 29, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, N of railroad tracks, and E of P-51
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Brian Sieker	HYDROGEOLOGIST:	Colleen Sullivan, Arnas Nemikas

Total depth of Profile: 445.09 Total depth of Boring: 410

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400				
410				End of boring at 410 ft
420				
430				
440				Profiler refusal at 445.09 ft end of profile
450				

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

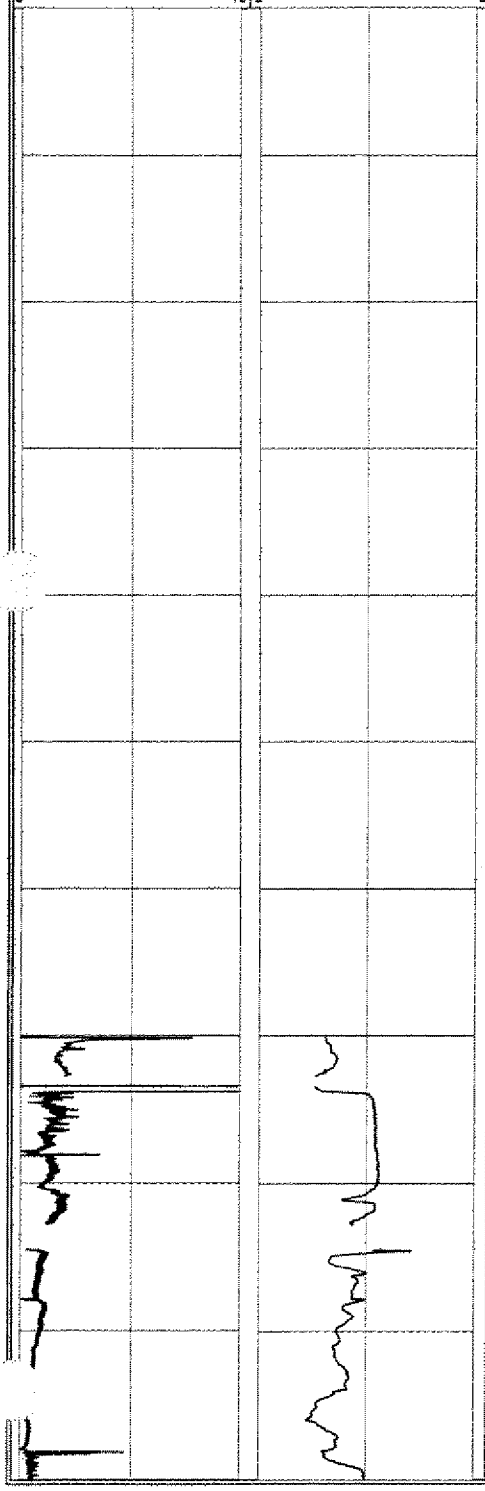
P-51

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 381.8 ft

Total depth of Boring: 360 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white to tan	SP-GP		Hollow stem auger used from 0 to 19 ft. Begin mud rotary drilling at 19 ft.
10				
20	Poorly-graded SAND (medium to coarse) with some silt; white to tan	SM		
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white to tan	SP-GP		
30				
40				
50				
60				
70	Poorly-graded SAND (medium to coarse) with some gravel (fine); white to tan	SP		Begin profiling at 70.13 ft
80	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white to tan	SP-GP		Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (medium to coarse) with little gravel (fine); white to tan	SP		
90	Poorly-graded SAND (medium to coarse) with trace gravel (fine); white to tan	SP		
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white to tan	SP-GP		

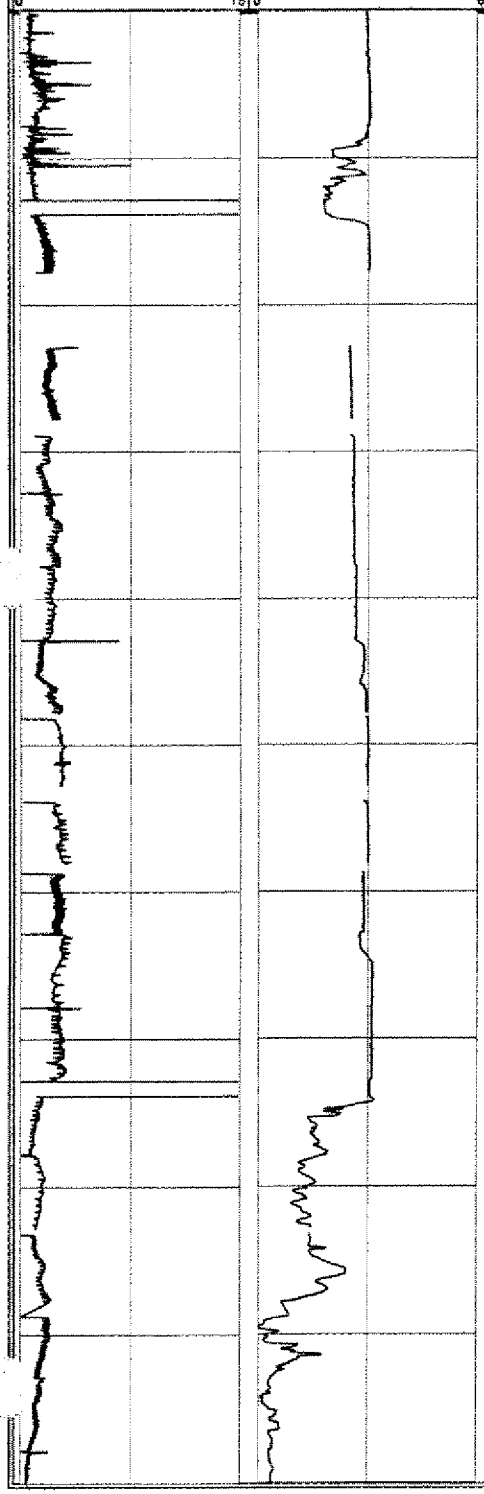
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-51

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 381.8 ft Total depth of Boring: 360 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse) with some gravel (fine); white to tan	SP		
110	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); white to tan	SP-GP		Profile data gap due to equipment malfunction
120				
	CLAY; gray to tan	CL		
130	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); brown to gray	SP-GP		Profile data gap due to poor KPRO equilibration
140	Poorly-graded SAND (medium to coarse) with little gravel (fine); brown to gray	SP		
150				Profile data gaps due to poor KPRO equilibration
160				
170				
	CLAY with some silt and trace sand (medium); gray to tan	CL		Micaceous
180	Poorly-graded SAND (fine to medium) with some silt; light brown	SM		Micaceous
190				

Boring ID:

MALCOLM PIRNIE, INC.

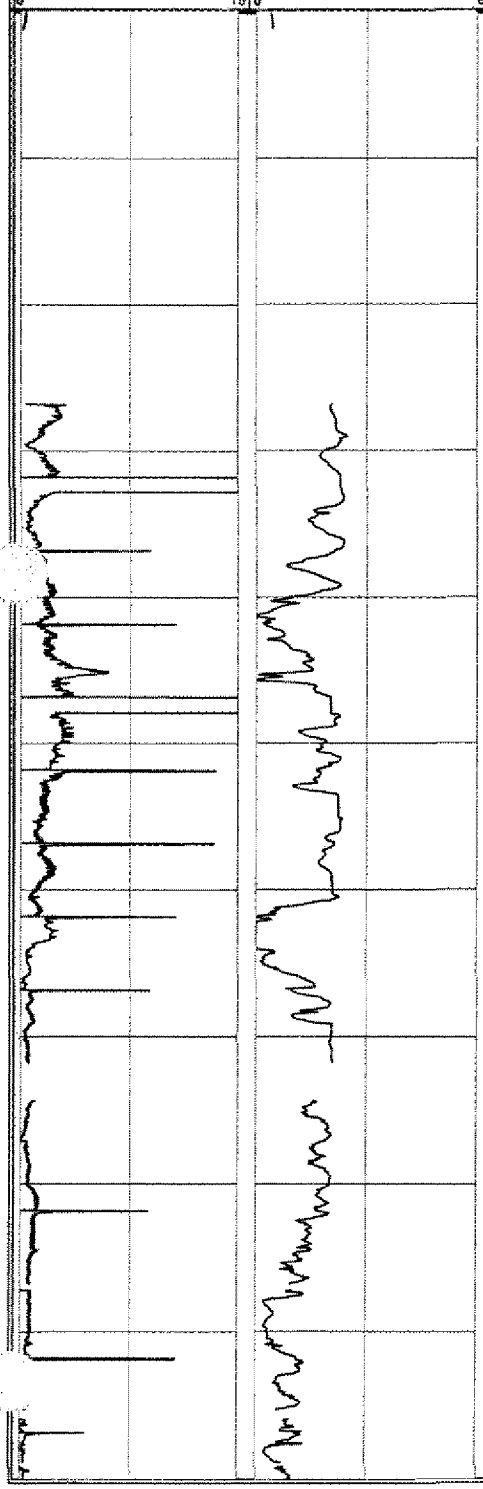
7 Route 208 North Fair Lawn, NJ 07401

P-51

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	October 21, 2003
JOB NUMBER:	4563001	END DATE:	October 31, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Jeff Dekoskie

Total depth of Profile: 381.8 ft Total depth of Boring: 360 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		SM		Profiler refusal at 201.2 ft, no penetration rate or IK data from 201.2 to 226.8 ft due to drilling activities
210				
	Poorly-graded SAND (fine); light brown	SP		
220	Poorly-graded SAND (fine to medium) with trace silt	SP		
230				
240				
	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); tan	SP-GP		
	Poorly-graded SAND (fine to medium) with some silt and trace gravel (fine); light tan	SM		
250				
260				
270				Profile data gap due to equipment malfunction
280	Poorly-graded SAND (fine to medium) with some silt; brown to tan	SM		
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light tan	SP		
290				Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium) with some silt and some lignite; light tan to brown	SM		

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

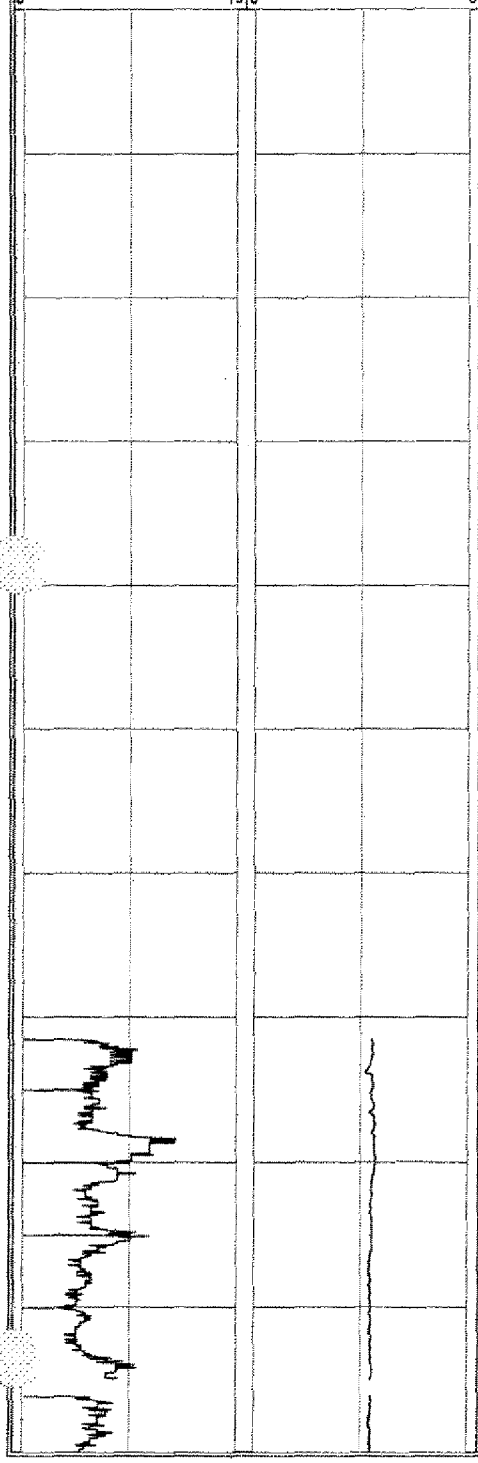
P-52

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 14, 2003
JOB NUMBER:	4563001	END DATE:	November 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karl Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier/Colleen Sullivan

Total depth of Profile: 486.06 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium) and GRAVEL (fine); brown	SP-GP		
10				Auger to 15 ft bgs
	Poorly-graded SAND (coarse) with some gravel (fine); brown	SP		Begin mud rotary drilling at 15 ft
20				
30	Poorly-graded SAND (medium) and GRAVEL (fine); brown	SP-GP		
40	Poorly-graded SAND (coarse) with little gravel (fine); brown	SP		
50	Poorly-graded SAND (coarse) with some gravel (fine); brown	SP		
60	Poorly-graded SAND (medium) and GRAVEL (fine); brown	SP-GP		
70	Poorly-graded SAND (fine to medium); light brown to white	SP		Begin Profiling at 71.93 ft
80				
90				Profile data gap due to poor KPRO equilibration

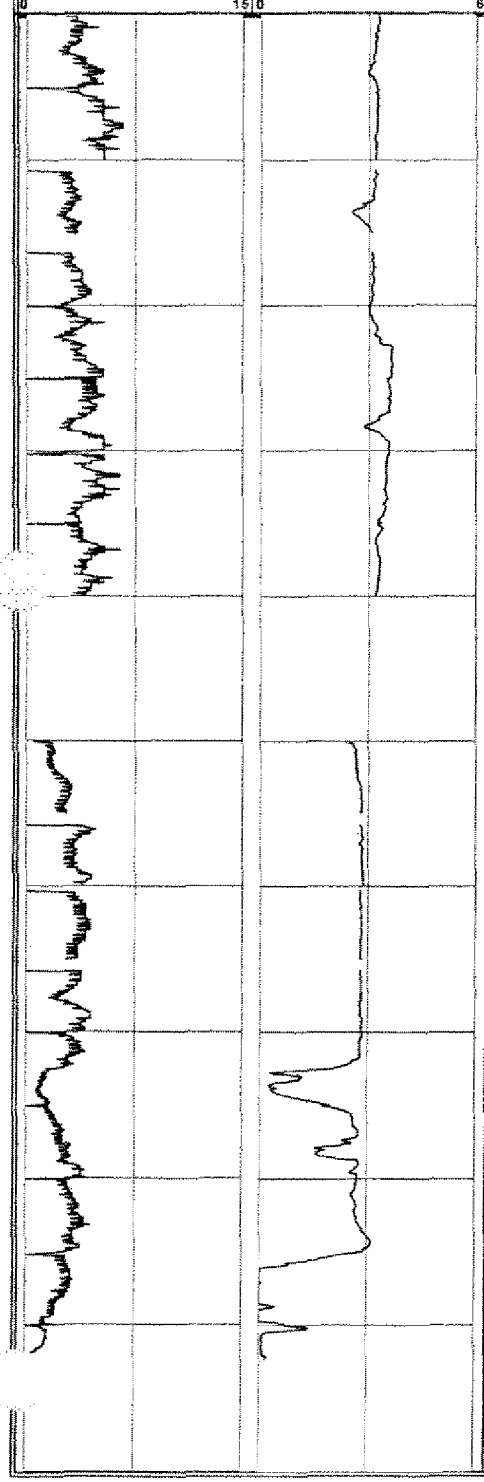
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-52

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 14, 2003
JOB NUMBER:	4563001	END DATE:	November 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier/Colleen Sullivan

Total depth of Profile: 486.06 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110	Poorly-graded SAND (fine to medium); light brown to white	SP		Profile data gaps due to poor KPRO equilibration
120				
130				
	Poorly-graded SAND (medium) with little gravel (fine); light brown to white	SP		
140				Profile data gap due to equipment malfunction
150				
160				Profile data gaps due to poor KPRO equilibration
170				
	Poorly-graded SAND (medium) with little gravel (fine) and trace silt; light brown	SP		
180				
	SILT; brown	ML		
190	Poorly-graded SAND (medium) with some clay; light brown	SC		Profiler refusal at 192.28 ft, no penetration rate or IK data form 192.28 to 219.45 ft due to drilling activities
	CLAY and LIGNITE; dark gray	CL-PT		

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

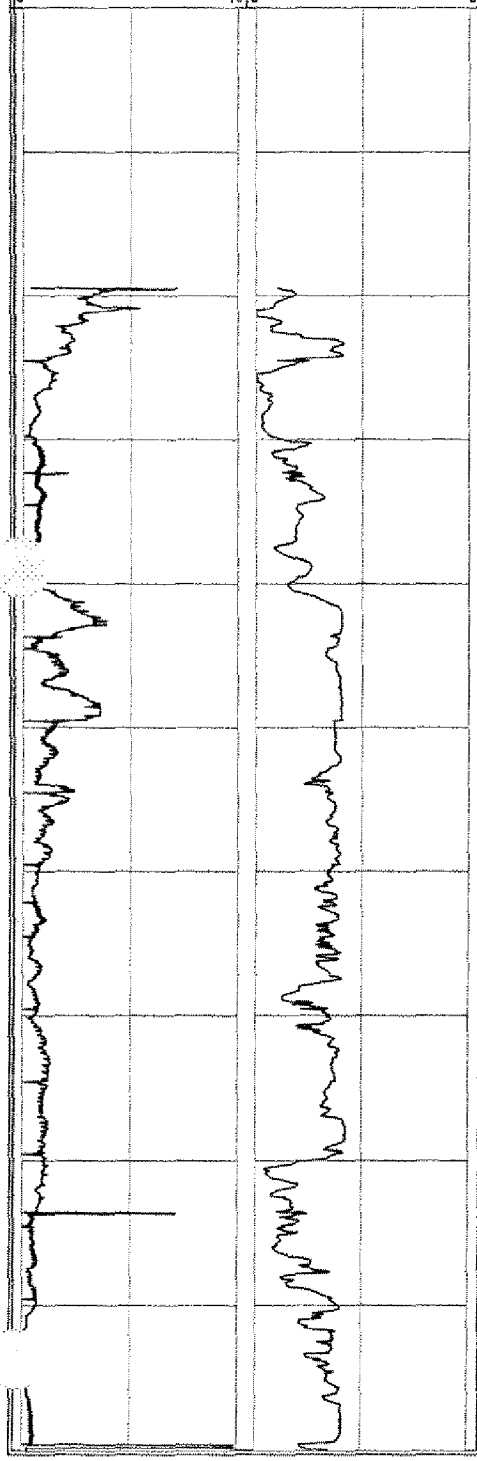
P-52

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 14, 2003
JOB NUMBER:	4563001	END DATE:	November 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Karl Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier/Colleen Sullivan

Total depth of Profile: 486.06 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium); light brown	SP		Interbedded clay
210	Poorly-graded SAND (fine to medium) with trace clay; light brown	SP		
220	Poorly-graded SAND (fine to medium) with little clay; brown	SC		Micaceous
230				
240				
250	Poorly-graded SAND (fine to medium); brown	SP		
260				
270	Well-graded SAND (fine to coarse); brown	SW		
280	Poorly-graded SAND (fine to medium) and GRAVEL (fine); brown	SP-GP		
290	Poorly-graded SAND (medium); light brown to white	SP		

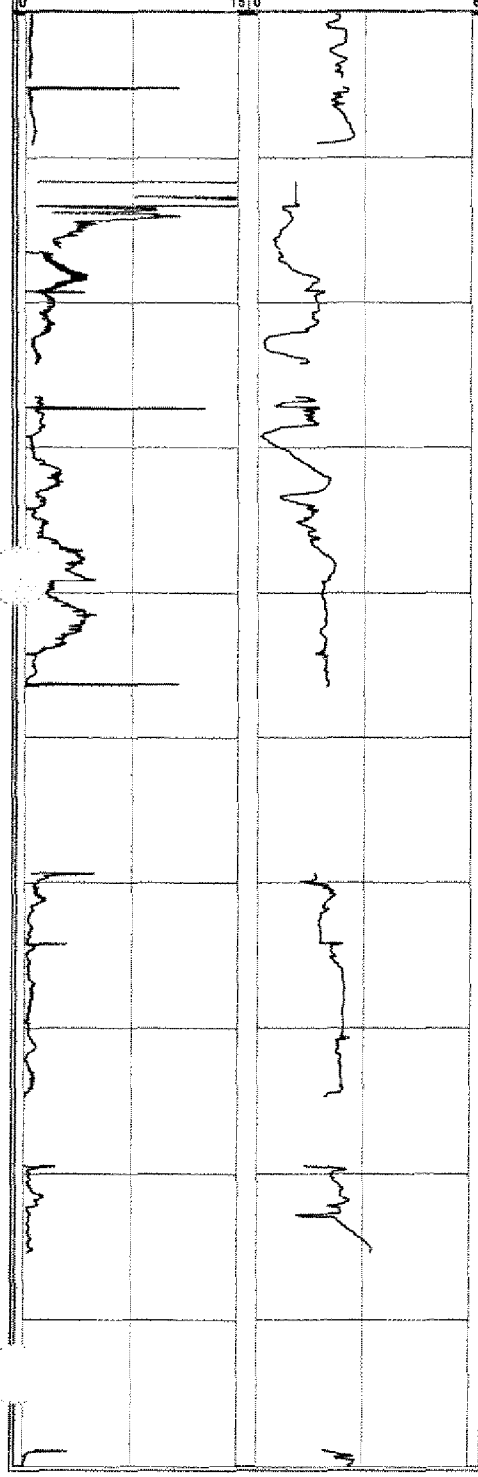
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-52

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 14, 2003
JOB NUMBER:	4563001	END DATE:	November 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier/Colleen Sullivan

Total depth of Profile: 486.06 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SP		Lignite and clay at 300 ft bgs Profile data gap due to poor KPRO equilibration
310				Profile data gap due to equipment malfunction
320	Poorly-graded SAND (fine to medium); with trace lignite; light brown	SP		Micaceous Profile data gap due to equipment malfunction
330				
340				
350				Profiler refusal at 346.48 ft, no penetration rate or IK data from 346.48 to 359.35 ft due to drilling activities
360	Poorly-graded SAND (medium) with trace gravel; white	SP		Micaceous
370				Profiler refusal at 374.65 ft, no penetration rate or IK data from 374.65 to 379.45 ft due to drilling activities
380				Profile data gap due to equipment malfuntion
390	Poorly-graded SAND (medium to coarse) with trace gravel (fine) and clay; white-gray	SP		Pulled profile rods at 395.4 ft bgs. End of work shift

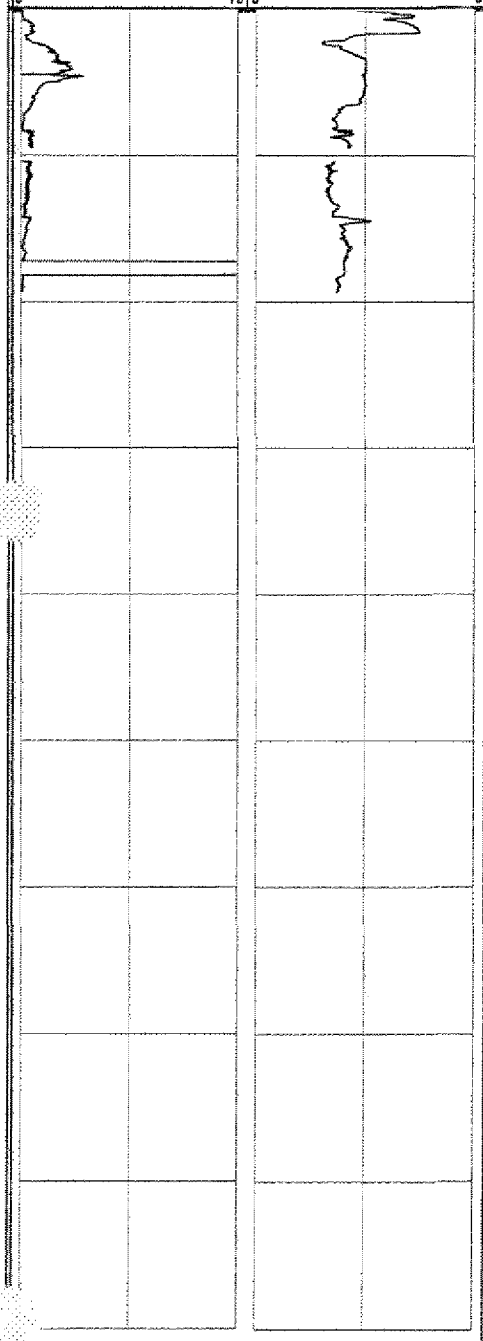
MALCOLM PIRNIE, INC.
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-52

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 14, 2003
JOB NUMBER:	4563001	END DATE:	November 20, 2003
DRILLING FIRM:	CT&E	LOCATION:	On E side of Charlotte St, S of W John St, and N of railroad tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Kari Carley	DATUM:	Land Surface
HELPER:	Larry Lynch	HYDROGEOLOGIST:	Emily Moshier/Colleen Sullivan

Total depth of Profile: 486.06 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SP		
410				Profile data gap due to poor KPRO equilibration
				Profiler refusal at 419.33 ft
420				
430				No profile dat from 419.33 to 486 ft due to equipment malfunction
440	Poorly-graded SAND (medium) with trace gravel (fine) and clay; white-gray	SP		Refusal at 447.8 ft bgs
450	Poorly-graded SAND (medium) and CLAY; white to gray	SC- CL		Micaceous
460	Poorly-graded SAND (medium) with trace clay; white	SP		Micaceous
470				End of boring at 470 ft bgs
480				
				Refusal at 486.06 ft bgs. End of profile
490				

Boring ID:

MALCOLM PIRNIE, INC.

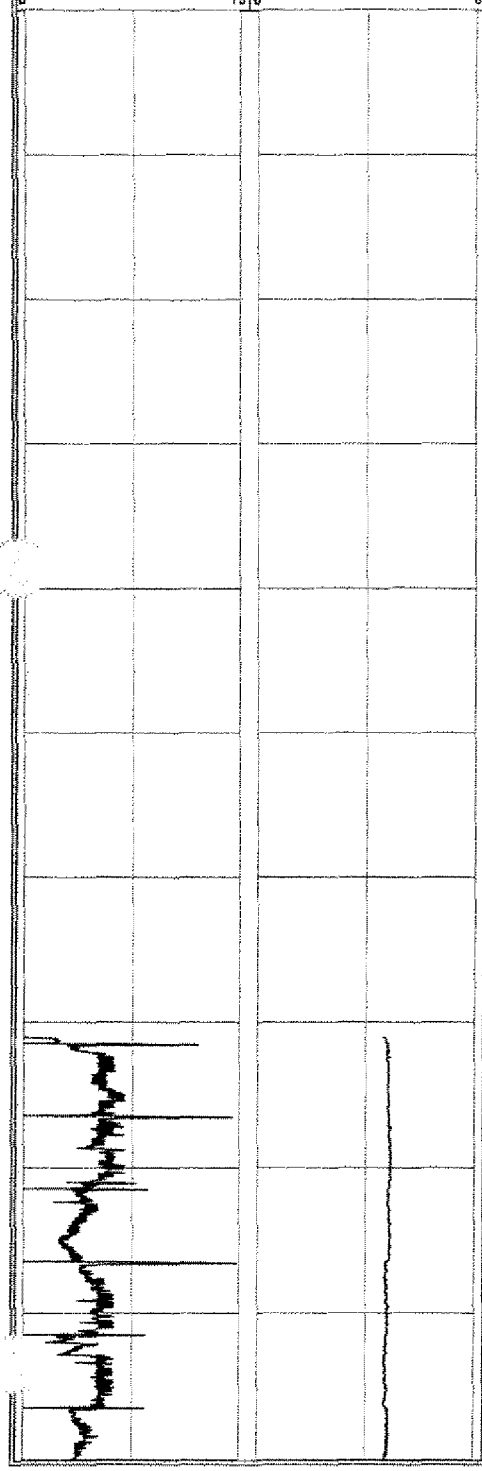
7 Route 208 North Fair Lawn, NJ 07401

P-53

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Chariotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton

Total depth of Profile: 534.5 ft Total depth of Boring: 530 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	SILT with trace sand (fine to medium) and gravel (fine); brown-yellow	ML		
	Well-graded SAND (fine to coarse) with some gravel (fine to coarse) and some silt; light brown	SM		
10				Auger to 20 ft bgs
20	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan to brown	SW-GP		Begin mud rotary drilling - 3 inch hole
30	Well-graded SAND (fine to coarse) with few gravel (fine); tan to brown	SW		
40				
	Well-graded GRAVEL (fine to coarse) and SAND (fine to coarse); tan to brown	GW-SW		
50	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		
60				
	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan to brown	SW-GP		
70	Poorly-graded SAND (medium to coarse) with trace gravel (fine); tan to brown	SP		Begin profiling at 71.06 ft
	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		
80	Well-graded SAND (fine to coarse) with trace gravel (fine); tan to brown	SW		
	Poorly-graded SAND (medium to coarse) with trace gravel (fine); tan to brown	SP		
90	Well-graded SAND (fine to coarse); tan to brown	SW		

Boring ID:

MALCOLM PIRNIE, INC.

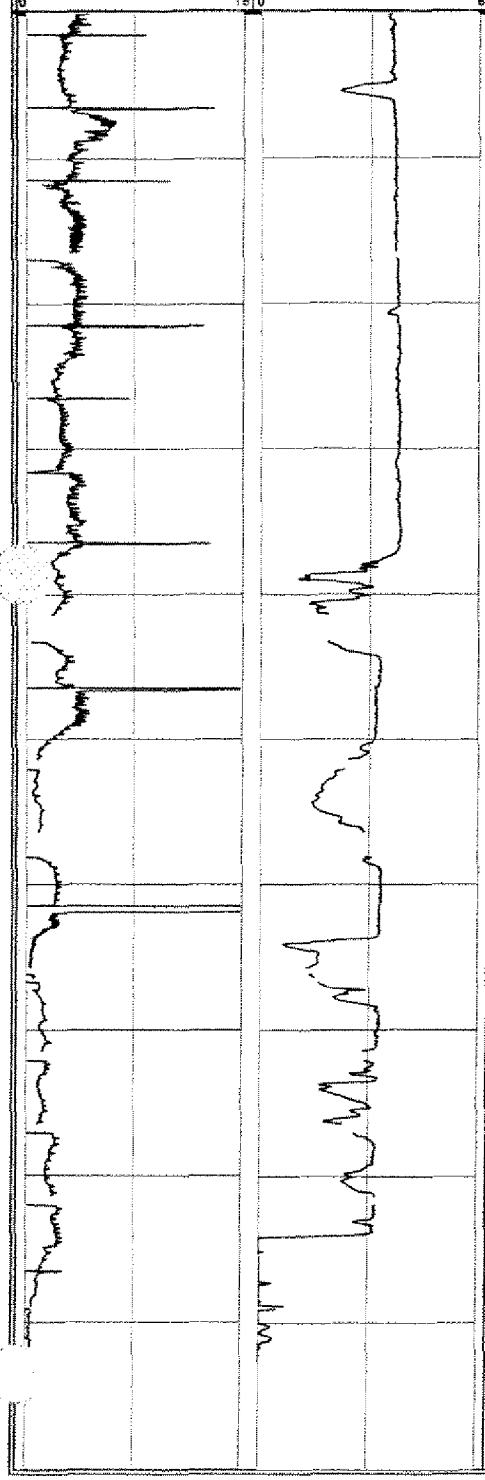
7 Route 208 North Fair Lawn, NJ 07401

P-53

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton

Total depth of Profile: 534.5 ft Total depth of Boring: 530 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		
110	Well-graded SAND (fine to coarse) with trace gravel (fine); tan to brown	SW		
	Poorly-graded GRAVEL (fine) with little sand (fine to coarse); brown to tan	GP		Profile data gap due to poor KPRO equilibration
120	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		
130				
	Poorly-graded GRAVEL (fine) with little sand (fine to medium); brown to tan	GP		
140				Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium) with little gravel (fine); tan to brown	SP		
150	Poorly-graded GRAVEL (fine) with some sand (fine to coarse); brown to tan	GP		Profile data gaps due to poor KPRO equilibration
160				
	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan to brown	SW-GP		
170	Well-graded SAND (fine to coarse) with some silt and little gravel (fine); brown	SM		Profile data gaps due to poor KPRO equilibration
180	Poorly-graded SAND (fine to medium) with some silt and trace gravel (fine); tan	SP		
	CLAY with trace sand (fine to medium); tan-white	CL		
190	CLAY with some silt and sand (fine to coarse); tan-white	CL		Profiler refusal at 192.52 ft, no penetration rate or IK data from 192.52 to 210.15 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

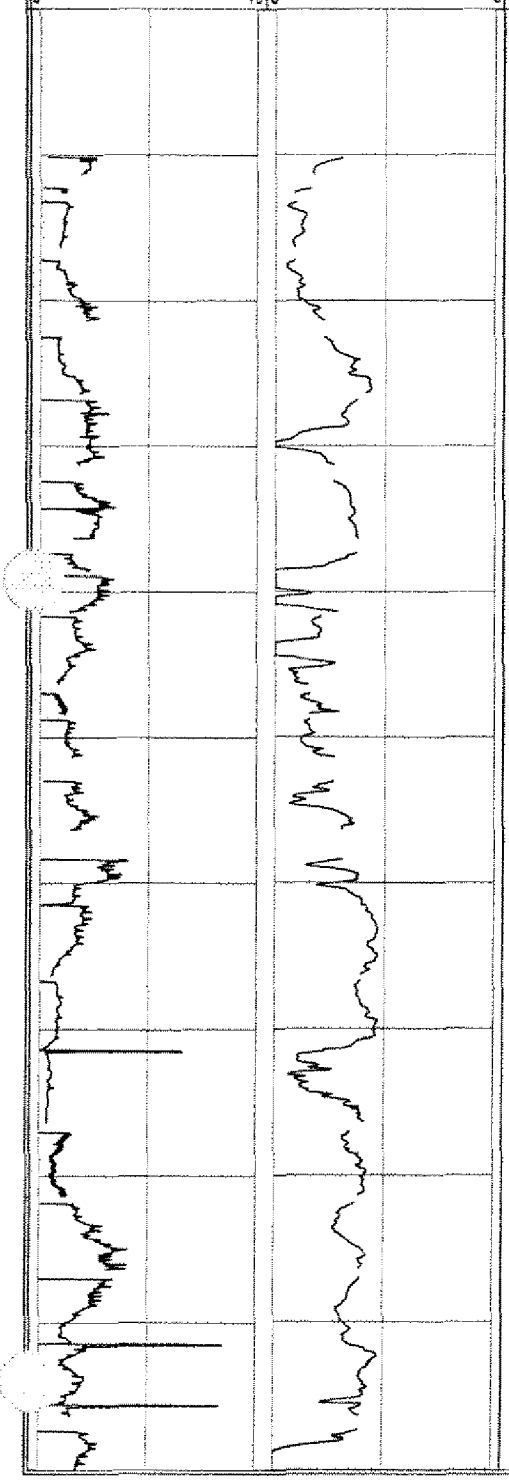
7 Route 208 North Fair Lawn, NJ 07401

P-53

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton

Total depth of Profile: 534.6 ft Total depth of Boring: 530 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		CL		
	Poorly-graded SAND (fine to medium) with some clay and silt; gray	SC		
210	Well-graded SAND (fine to coarse) with some clay and silt and little gravel (fine); gray	SC		Profile data gaps due to poor KPRO equilibration
220				
230				
	Poorly-graded SAND (fine) with some silt; gray	SM		Micaceous
240	SILT with some sand (fine to coarse) and trace gravel (fine); gray	ML		Clay Interbeds
				Micaceous
250				Profile data gaps due to poor KPRO equilibration
260				
270				
280				Profile data gaps due to poor KPRO equilibration
290	Poorly-graded SAND (fine); gray	SP		

Boring ID:

MALCOLM PIRNIE, INC.

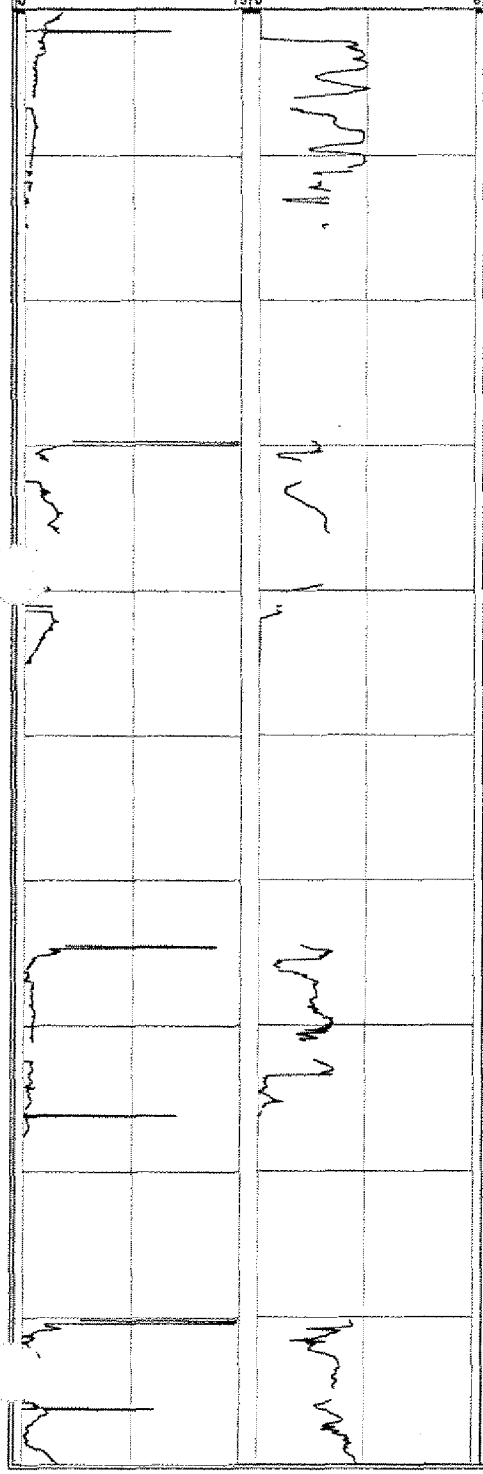
7 Route 208 North Fair Lawn, NJ 07401

P-53

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton

Total depth of Profile: 534.5 ft Total depth of Boring: 530 ft

GEOLOGIC INFORMATION



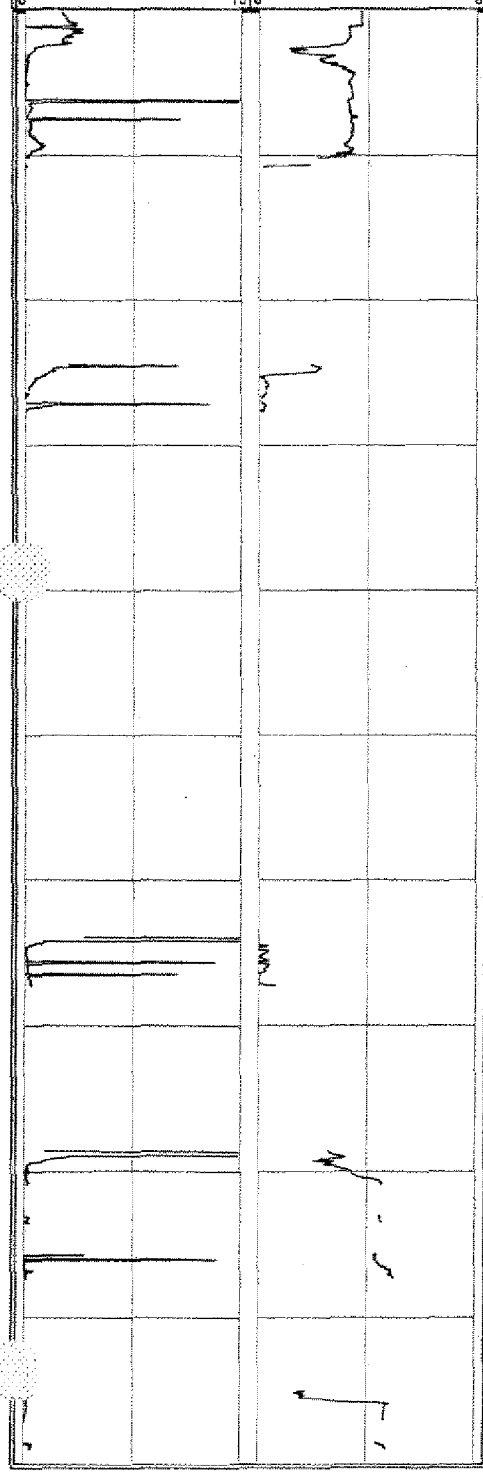
Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	CLAY with some silt; gray	CL		
	SILT with some clay and little sand (fine); gray	ML		
310	Poorly-graded SAND (fine) with some silt; gray	SM		Profiler refusal at 314.96 ft, no penetration rate or IK data from 314.96 to 329.7 ft due to drilling activities
320				
330	Poorly-graded SAND (fine); gray	SP		Profile data gaps due to poor KPRO equilibration
340	SILT and CLAY, trace sand (fine); gray	ML-CL		
	CLAY with trace silt; gray	CL		Profiler refusal at 345.10 ft, no penetration rate or IK data from 345.10 to 364.5 ft due to drilling activities
350	SILT and CLAY, some sand (fine); gray	ML-CL		
	SILT and SAND (medium); gray to tan	ML-SM		
360	Poorly-graded SAND (medium); gray to tan	SP		
	SAND and GRAVEL; white to gray	SW-GW		Based on rig response Profile data gap due to poor KPRO equilibration
370				
	SILT with some clay and trace sand (medium); gray to white	ML		Micaceous Profiler refusal at 377.57 ft, no penetration rate or IK data form 377.57 to 390.15 ft due to drilling activities
380				
	Poorly-graded SAND (coarse) with some silt; gray	SM		
	Poorly-graded SAND (medium to coarse) with trace silt; gray to tan	SP		
390				Profile data gap due to poor KPRO equilibration

MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-53**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton
Total depth of Profile:	534.5 ft	Total depth of Boring:	530 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SP		Refusal at 405.21 ft bgs. Tried to pull rod back 3 feet and drive again. Refused again at 410.81 ft bgs. No penetration rate or IK data from 410.81 to 424.86 ft due to drilling activities
410	Poorly-graded SAND (medium to coarse) and GRAVEL; gray to tan	SP-GW		
420	Poorly-graded SAND (fine to medium) with some gravel (fine); gray to tan	SP		
	Poorly-graded GRAVEL (fine) with some silt, little sand, and little lignite; tan to white	GM		Profiler refusal at 427.72 ft, no penetration rate or IK data from 427.72 to 463.93 ft due to drilling activities
430	Poorly-graded SAND (fine to medium), some gravel (fine) and some silt; tan to white	SM		
440	SILT with some clay and little gravel (fine); gray to tan;	ML		
	Poorly-graded SAND (fine to medium) and LIGNITE with trace	SP-PT		
	Poorly-graded GRAVEL (fine) and SAND (fine to coarse); tan to red	GP-SW		
450	CLAY; gray	CL		
	Well-graded SAND (fine to coarse) with some gravel; tan to white	SW		
460	Poorly-graded SAND (fine to medium) with trace silt; gray	SP		Micaceous
	CLAY with some silt and sand (fine) and trace lignite; gray	CL		
470	Well-graded SAND (fine to coarse) and CLAY with some silt; gray	SC-CL		Gravel zone from 468 to 469 ft, based on rig response
	SILT and GRAVEL (fine) with some sand (fine); gray	ML-GM		Profiler refusal at 467.25 ft, no penetration rate or IK data from 467.25 to 478.61 ft due to drilling activities
	Poorly-graded SAND (fine to med.) with some gravel (fine); tan	SP		
480	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); tan	SP-GP		Profiler refusal at 487.31 ft, no penetration rate or IK data from 487.31 to 495.04 ft due to drilling activities
490	Poorly- graded SAND (fine to medium); tan to brown	SP		Clay layer from 493 to 493.5 ft
	Well-graded SAND (fine to coarse) with little gravel (fine); white to tan	SW		Micaceous

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

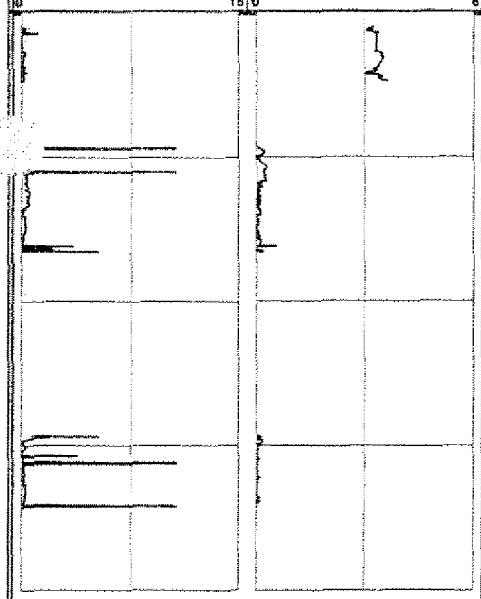
Boring ID:

P-53

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 19, 2003
JOB NUMBER:	4563001	END DATE:	December 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, John Hilton

Total depth of Profile: 534.8 ft Total depth of Boring: 530 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
500		SW		Profiler refusal at 504.8 ft, no penetration rate or IK data from 504.8 to 509.3 ft due to drilling activities
				2 inch clay seam at 512 ft
510				
	Well-graded SAND (fine to coarse) with some silt and some gravel (fine); tan to brown	SM		Profiler refusal at 516.6 ft, no penetration rate or IK data from 516.6 to 529.34 ft due to drilling activities
520				
	Poorly-graded SAND (medium to coarse) with some gravel, trace silt	SP		
530				End of boring at 530 ft
				End of profile at 534.5
540				

Boring ID:

MALCOLM PIRNIE, INC.

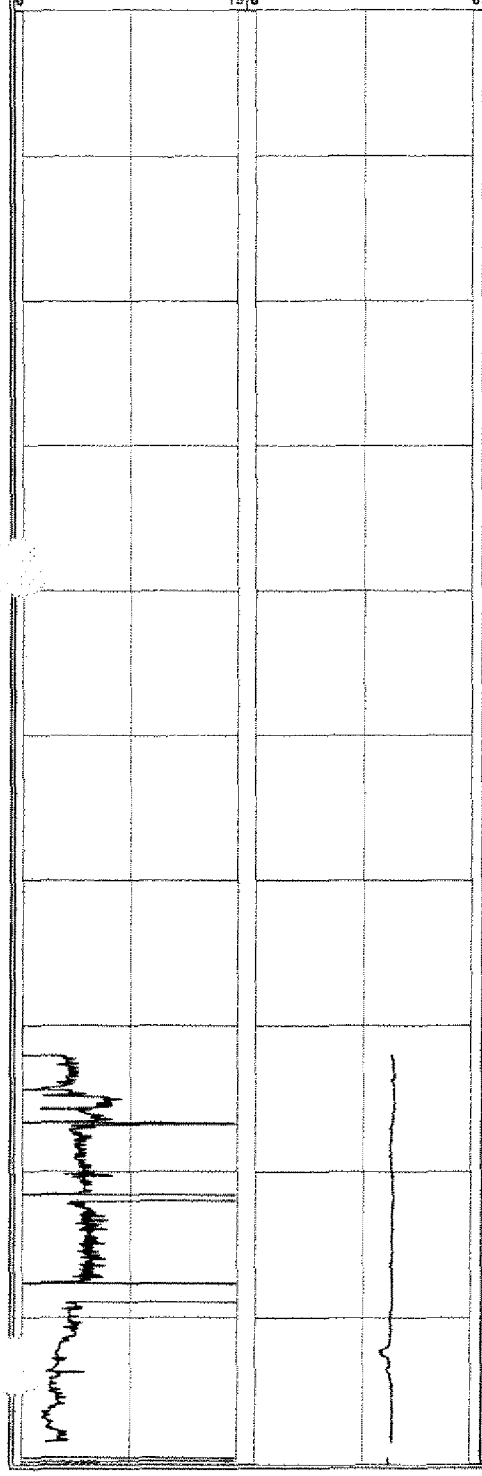
P-54

7 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, Jeff Dekoskie

Total depth of Profile: 437.5 ft Total depth of Boring: 415 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium) and GRAVEL (fine); brown	SP		
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown to tan	SP		
10				Hollow stem auger used to drill from 0 to 19 ft
20	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); tan to brown	SP-GP		Begin mud rotary drilling at 19 ft
30				
40				
	Poorly-graded SAND (medium to coarse) with some gravel (fine); tan to brown	SP		
50				
60				
	Poorly-graded SAND (medium to coarse) with little gravel (fine) and trace silt; tan to brown	SP		
70	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		Begin Profiling at 72.02 ft
	Well-graded SAND (fine to coarse) with some gravel (fine); tan to brown	SW		
80	Well-graded SAND (fine to coarse); tan to brown	SW		
	Well-graded SAND (fine to coarse) with trace gravel (fine); tan to brown	SW		
90	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan to brown	SW		No IK data from 98.5 to 99.57, string potentiometer disconnected from drill rig
	Well-graded SAND (fine to coarse) with few gravel (fine); tan to brown	SW		

MALCOLM PIRNIE, INC.

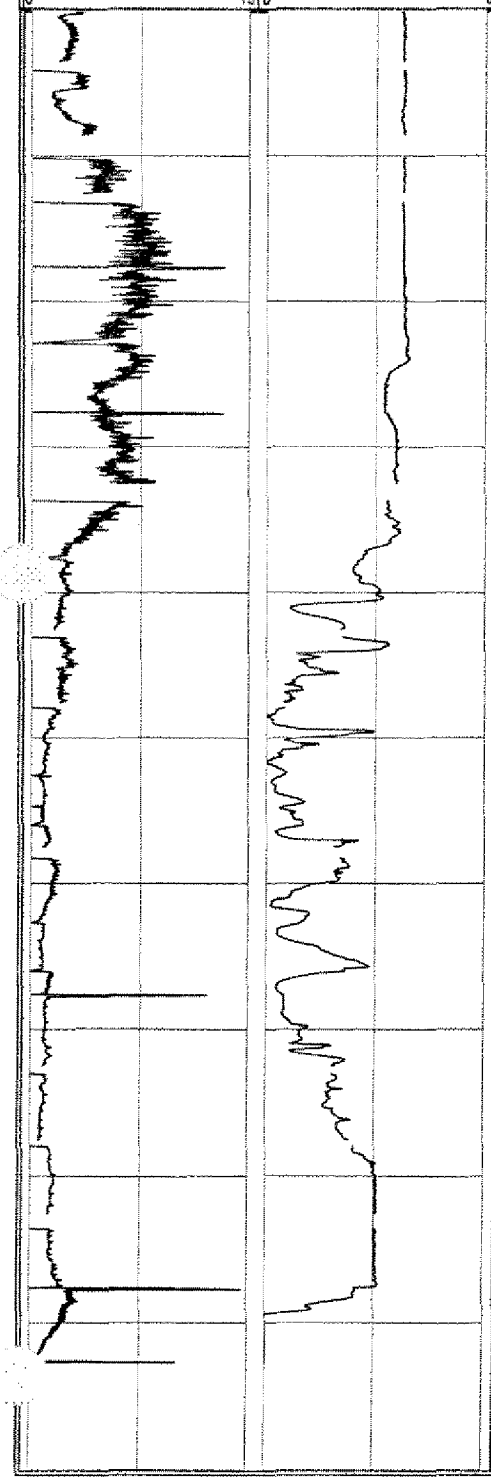
17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-54**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, Jeff Dekoskie

Total depth of Profile: 437.5 ft Total depth of Boring: 415 ft

GEOLOGIC INFORMATION



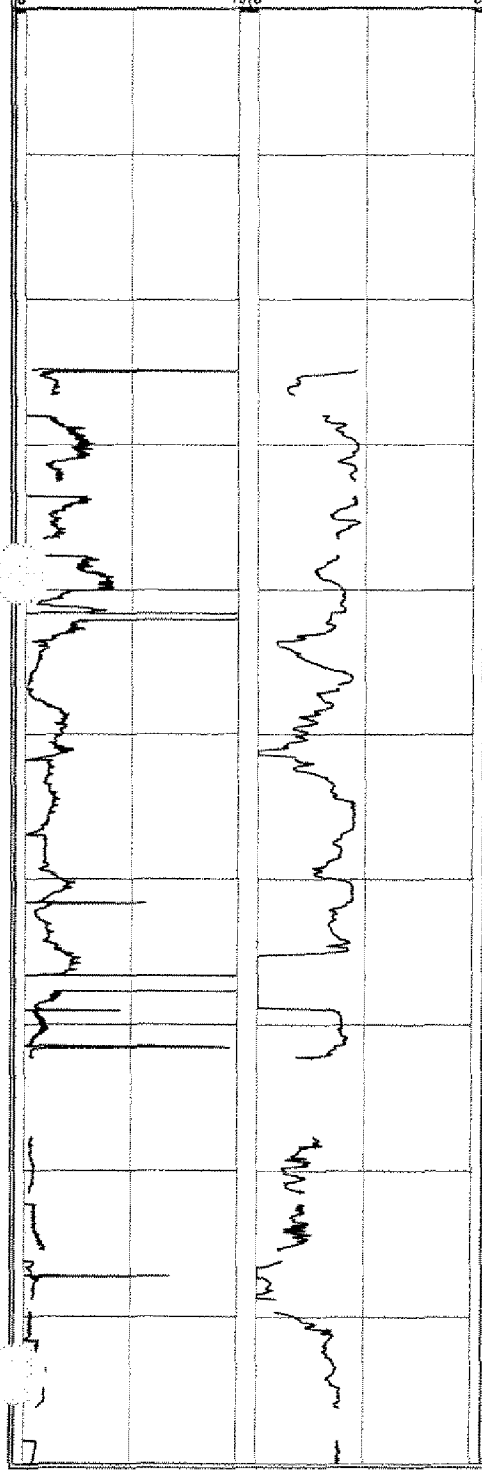
Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Well-graded SAND (fine to coarse) with little gravel (fine); tan to brown	SW		
	Well-graded SAND (fine to coarse); tan to brown	SW		Profile data gaps due to poor KPRO equilibration
110				
120	Well-graded GRAVEL (fine to coarse) with little sand (fine to medium); light tan to brown	GW		
	Poorly-graded SAND (fine to medium) with trace gravel (fine); tan to brown	SP		
130	SILT and SAND (fine to coarse) with trace gravel (fine); brown	ML-SM		
	SILT and SAND (fine to coarse) with some clay and trace gravel (fine); brown	ML-SM		Profile data gaps due to poor KPRO equilibration
140	SILT and SAND (fine) with some clay; brown	ML-SM		Thin clay layers at 145, 148, 150, and 153 ft bgs
	SILT and SAND (fine to coarse) with some clay and trace gravel (fine); brown	ML-SM		
150				Profile data gaps due to poor KPRO equilibration
160				
170				
	Well-graded SAND (fine to coarse) with some silt; brown	SM		
180	Well-graded SAND (fine to coarse) with some silt and trace gravel (fine); brown	SM		Profile data gaps due to poor KPRO equilibration
	Well-graded SAND (fine to coarse) and GRAVEL (fine to coarse); tan	SW-GW		
190	CLAY with some silt, some sand (fine to coarse) and gravel (fine) and little lignite; gray	CL		Profiler refusal at 192.76 ft, no penetration rate or IK data from 192.76 to 224.81 ft due to drilling activities

MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-54

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, Jeff Dekoskie
Total depth of Profile:	437.5 ft	Total depth of Boring:	415 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200		CL		
210				
220	Poorly-graded SAND (fine to medium) and GRAVEL (fine to coarse); tan	SP-GW		
	Well-graded GRAVEL (fine to coarse) with some sand (fine to coarse) and clay; light tan to brown	GC		
230	Poorly-graded SAND (fine to medium) and GRAVEL (fine to coarse); tan	SP-GW		Profile data gaps due to poor KPRO equilibration
240	Well-graded GRAVEL (fine to coarse) with some sand (fine to coarse) and silt; light tan	GM		
	Well-graded SAND (fine to coarse) with some gravel (fine) and silt; light tan	SM		
250	Poorly-graded GRAVEL (fine) with some sand (fine to coarse) and silt; light tan	GM		
	Well-graded SAND (fine to coarse) with some gravel (fine) and trace clay; tan to brown	SW		
260	Poorly-graded SAND (medium); brown	SP		
	CLAY with trace lignite	CL		
	Poorly-graded SAND (medium) with some clay and trace lignite; brown	SC		Profile data gaps due to poor KPRO equilibration
270	Poorly-graded GRAVEL (fine) with some sand (medium), some clay and some silt; light tan	GC		
	Poorly-graded SAND (fine to medium), some clay and silt; light tan	SC		Profile data gaps due to equipment malfunction
280	Well-graded SAND (fine to coarse) and CLAY, with some silt;	SC- CL		
	CLAY; white	CL		Based on rig response
290	Well-graded SAND (fine to coarse) and some gravel (fine); tan	SW		Profile data gaps due to poor KPRO equilibration
	Well-graded SAND (fine to coarse) and little gravel (fine); tan	SW		

Boring ID:

MALCOLM PIRNIE, INC.

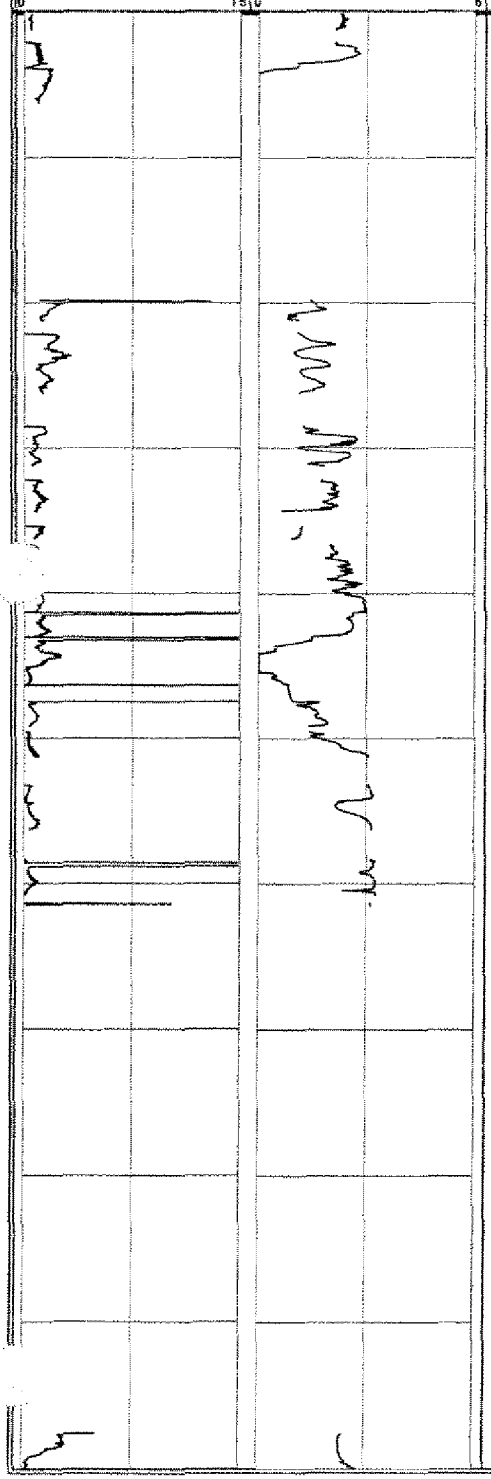
7 Route 208 North Fair Lawn, NJ 07401

P-54

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, Jeff Dekoskie

Total depth of Profile: 437.5 ft Total depth of Boring: 415 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SW		Clay layer 304 to 305 ft
	Poorly-graded SAND (fine) and CLAY; gray	SC- CL		
310	Poorly-graded SAND (fine) with little clay and trace gravel (fine); gray	SC		Profiler refusal at 306.25 ft, no penetration rate or IK data from 306.25 to 319.8 ft due to drilling activities
	Poorly-graded SAND (fine); tan	SP		
320	Poorly-graded SAND (fine) with some silt and trace gravel (fine); tan	SM		
	Well-graded SAND (fine to coarse) with some silt and trace gravel (fine); tan	SM		Profile data gap due to incorrect pressure setting
330	Poorly-graded SAND (fine) with some silt and gravel (fine); tan	SM		Profile data gaps due to poor KPRO equilibration
340				
350	Poorly-graded SAND (fine); tan	SP		Micaceous Profile data gaps due to poor KPRO equilibration
360	Poorly-graded SAND (fine), trace gravel (fine)	SP		Profiler refusal at 361.57 ft, no penetration rate or IK data form 361.57 to 397.61 ft due to drilling activities
	SILT and SAND (fine) with little clay; tan	ML-SM		
370				Micaceous
380				
390	Poorly-graded SAND (fine to medium) with trace gravel (fine); tan to brown	SP		

Boring ID:

MALCOLM PIRNIE, INC.

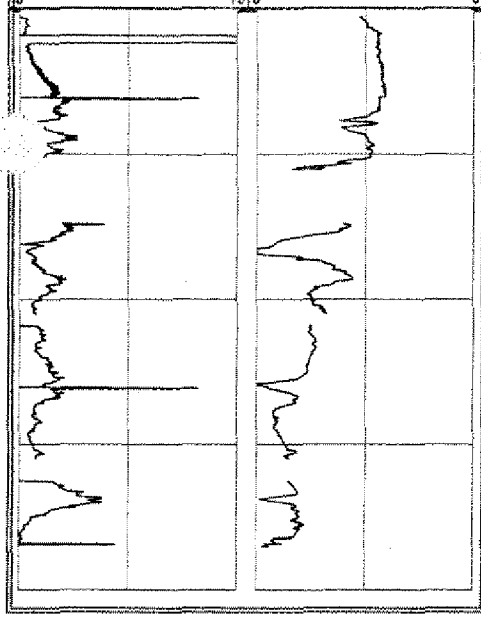
17-17 Route 208 North Fair Lawn, NJ 07401

P-54

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	South of W John St., West of Charlotte St., North of RR tracks
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Tony Alexander	HYDROGEOLOGIST:	Scott Niekamp, Jeff Dekoskie

Total depth of Profile: 437.5 ft Total depth of Boring: 415 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400		SP		
410	Well-graded SAND (fine to coarse) and GRAVEL (fine to coarse); tan	SW-GW		Profile data gap due to equipment malfunction End of boring at 415 ft
420				
430				Profile data gaps due to poor KPRO equilibration Profiler refusal at 437.5 ft, end of Profile
440				

Boring ID:

MALCOLM PIRNIE, INC.

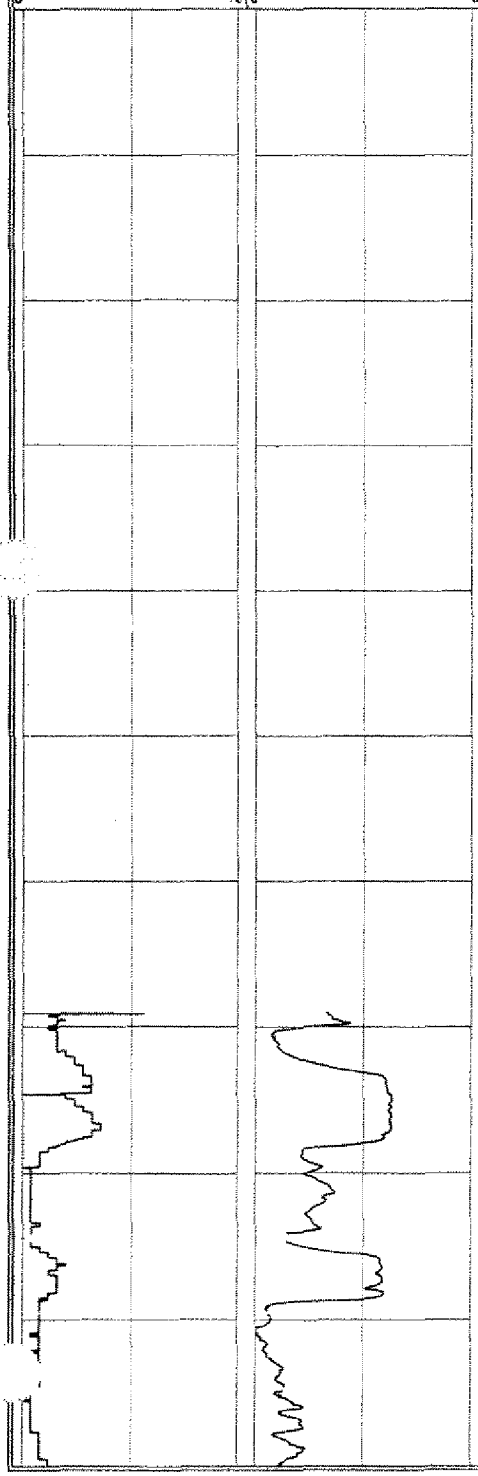
7 Route 208 North Fair Lawn, NJ 07401

P-55

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 10, 2004
JOB NUMBER:	4563001	END DATE:	February 6, 2004
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, Approx. 500 feet east of the Wantagh Pkwy.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Kern Carley	HYDROGEOLOGIST:	C. Sullivan, J. Ifkovits, K. Wheeler

Total depth of Profile: 480.73 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Sandy SILT with some gravel; dark brown	ML		
	Poorly-graded silty SAND (fine) with some gravel; brown	SM		6 1/4 hollow stem auger used from 0 to 20 ft
10				Begin mud rotary drilling at 20 ft
	Poorly-graded SAND (fine) with some gravel and little silt; light brown	SM		
20	Poorly-graded SAND (medium to coarse and GRAVEL (fine); light brown	SP-GP		
30				
	Well-graded SAND (fine to coarse) with trace gravel (fine); light brown	SW		
40	Poorly-graded SAND (fine) and GRAVEL (fine); brown	SP-GP		Some Iron oxides
	Sandy SILT with some gravel (fine to medium); brown	ML		
50				
	Poorly-graded SAND (fine) with little silt and little gravel; light brown	SM		
60				
	Poorly-graded SAND (fine to medium) with some clay; light brown to tan	SC		Begin Profiling at 69 ft
70	Poorly-graded SAND (fine) with little clay; tan	SC		
80	Poorly-graded SAND (fine to medium) with some clay and little gravel (fine); tan	SC		Profile data gap due to poor KPRO equilibriation
	Poorly-graded SAND (fine) with some clay and trace lignite; brown	SC		
90	Silty CLAY with little sand (fine) and little lignite; yellow to gray	CL		Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

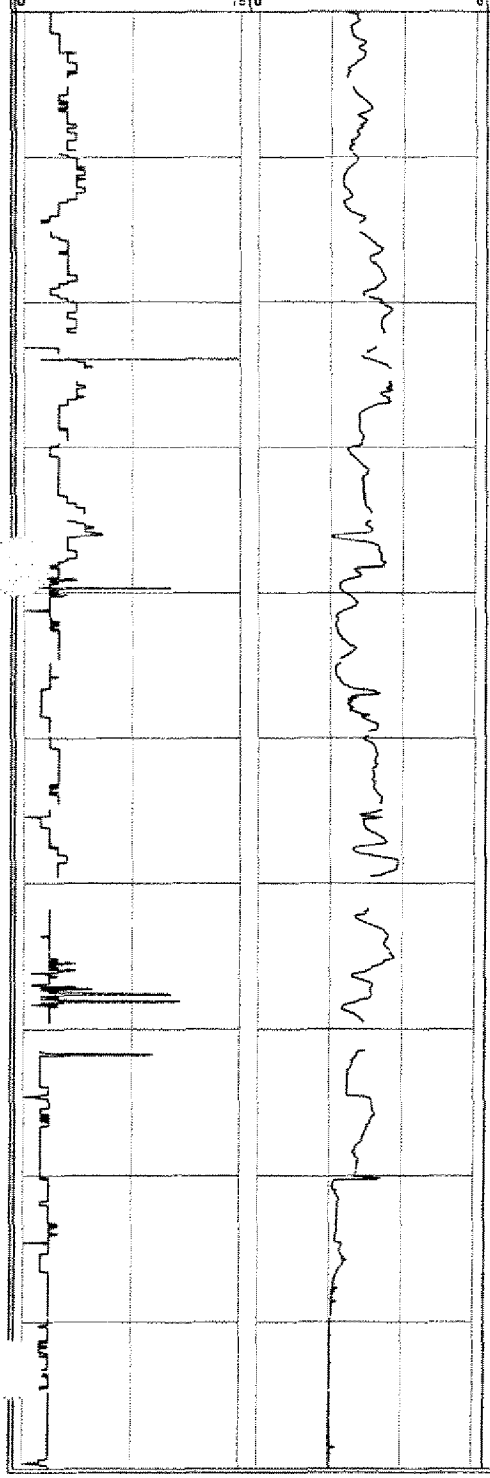
P-55

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 10, 2004
JOB NUMBER:	4563001	END DATE:	February 6, 2004
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, Approx. 500 feet east of the Wantagh Pkwy.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Kerri Carley	HYDROGEOLOGIST:	C. Sullivan, J. Ifkovits, K. Wheeler

Total depth of Profile: 480.73 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Sandy CLAY with trace lignite; tan	CL		Micaceous Profile data gap due to poor KPRO equilibriation
	Poorly-graded SAND (fine to medium) and CLAY with some gravel (fine); light brown	SC-CL		Iron oxides, Micaceous
110	Poorly-graded SAND (fine); light brown	SP		Poor Recovery of Cuttings Profile data gaps due to poor KPRO equilibriation
120				Temporary power losses. No penetration rate or IK data from 122.15 to 123.02 ft and 123.64 to 123.68 ft
	Poorly-graded SAND (fine to medium) with little gravel and trace clay; tan to light brown	SP		Micaceous Profile data gaps due to poor KPRO equilibriation
130	Poorly-graded SAND (fine) with some clay; tan	SC		Minor oxides
140				
	Sandy CLAY with some gravel (fine); tan to light brown	CL		Some Iron oxides Profile data gaps due to poor KPRO equilibriation
150				
160	Poorly-graded SAND (fine) with some gravel (fine) and little clay; orange to brown	SC		Some iron oxides Profile data gaps due to poor KPRO equilibriation
170				
	Sandy SILT with some clay, some lignite, and trace gravel (fine); brown	ML		Trace iron oxides
180				
	SILT with some clay and little lignite; brown	ML		Profile data gaps due to poor KPRO equilibriation
190				

Boring ID:

MALCOLM PIRNIE, INC.

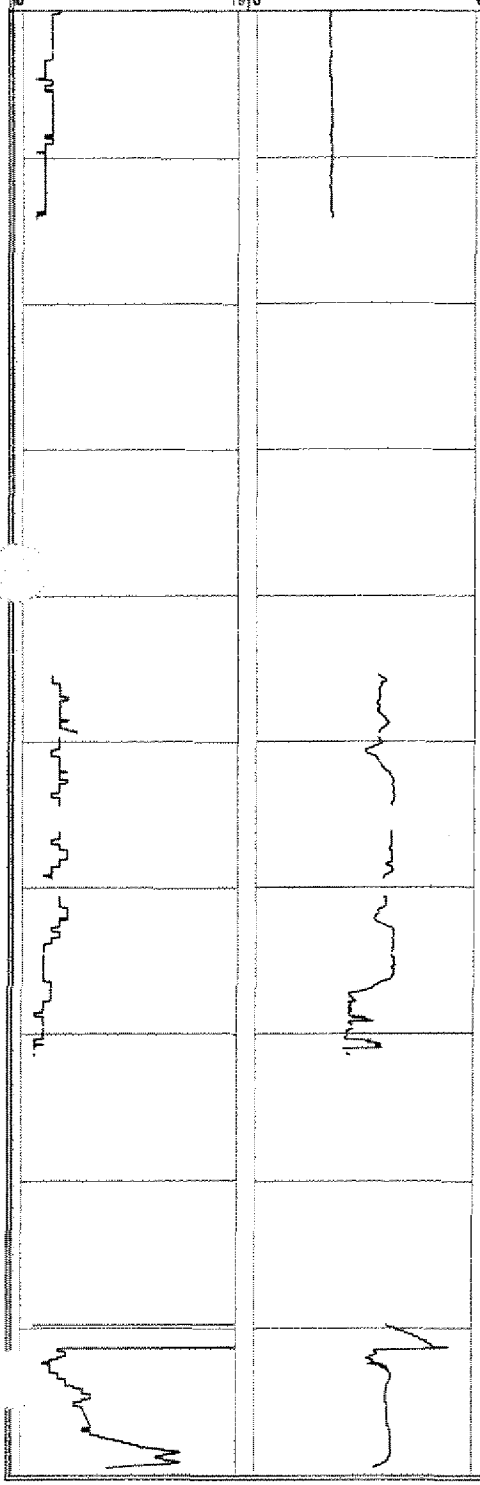
7 Route 208 North Fair Lawn, NJ 07401

P-55

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 10, 2004
JOB NUMBER:	4563001	END DATE:	February 6, 2004
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, Approx. 500 feet east of the Wantagh Pkwy.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Kerri Carley	HYDROGEOLOGIST:	C. Sullivan, J. Ifkovits, K. Wheeler

Total depth of Profile: 480.73 ft Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	SILT with some clay and little lignite; brown	ML		Temporary power losses. No penetration rate or IK data from 202.58 to 202.73.02 ft
	Poorly-graded GRAVEL (fine) with some some sand and clay and trace lignite; orange to brown	GC		
210	Silty CLAY; white	CL		Profiler refusal at 214.55 ft. No penetration rate or IK data from 214.55 to 238.85 due to drilling activities
220	CLAY; white to light gray	CL		210-220 ft, Interbedded sand lenses (<1 foot)
230	Poorly-graded SAND (medium); brown	SP		
240	Poorly-graded SAND (fine); tan to orange	SP		Micaceous No penetration rate or IK data from 238.85 to 244.40 ft due to frozen KPRO line. No penetration rate or IK data from 244.40 to 245.42 ft, profiler sock on during beginning of drive.
250	Poorly-graded SAND (fine) with little clay and trace gravel; brown-orange-tan	SC		Profile data gaps due to poor KPRO equilibriation
260	Poorly-graded SAND (fine) with trace clay; brown-tan to yellow	SP		Profile data gaps due to poor KPRO equilibriation
270	Poorly-graded SAND (fine to medium); tan	SP		Small gravel layer at 271 ft bgs Profiler refusal at 271.45 ft. No penetration rate or IK data from 271.45 to 289.65 due to drilling activities
	CLAY and SILT; white to gray	CL-ML		
280	Poorly-graded SAND (fine) with trace clay; tan-gray-white	SP		
290	Poorly-graded SAND (fine to medium) with little clay; tan-white-yellow	SC		Micaceous Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

P-55

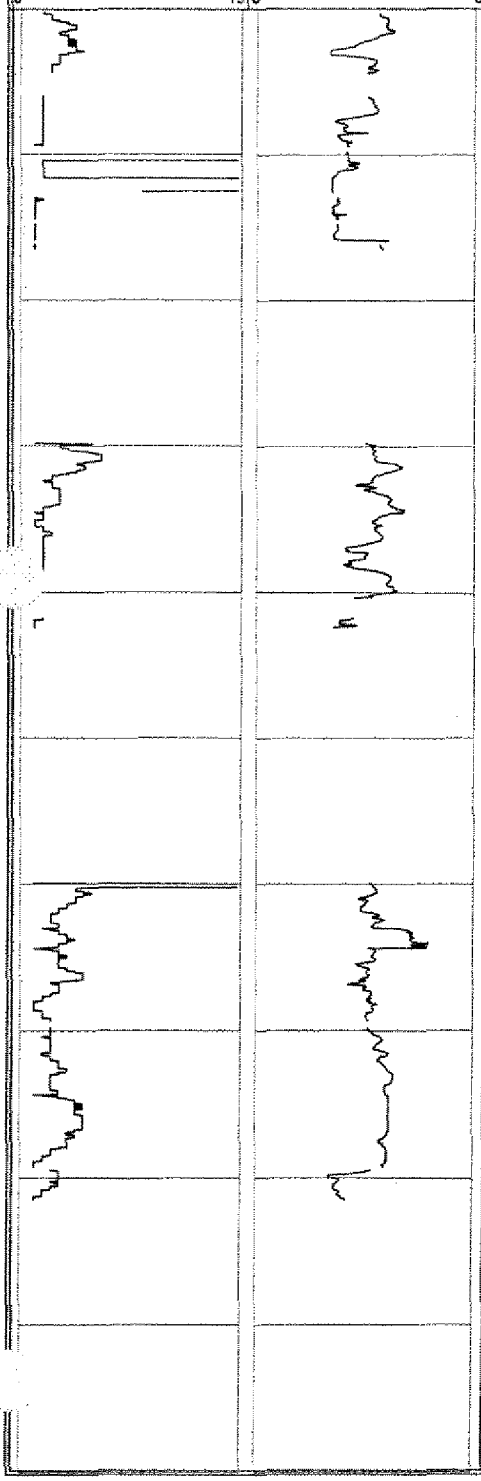
PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 10, 2004
JOB NUMBER:	4563001	END DATE:	February 6, 2004
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, Approx. 500 feet east of the Wantagh Pkwy.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Kerri Carley	HYDROGEOLOGIST:	C. Sullivan, J. Ifkovits, K. Wheeler

Total depth of Profile: 480.73 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION

Penetration Rate (ft/min) 0–15; Index of Hyd. Conductivity 0–6



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	Poorly-graded SAND (fine) with little silt and clay; tan to gray	SM		Profile data gaps due to poor KPRO equilibriation
310	Poorly-graded SAND (fine to medium) with little clay; tan-gray-white-yellow	SC		Profiler refusal at 316.5. No penetration rate or IK data from 316.5 to 329.75 due to drilling activities
320	Poorly-graded SAND (fine to medium) with trace clay and silt; tan-gray-white-yellow	SP		Micaceous
330	Poorly-graded SAND (fine to medium); tan to white	SP		Profile data gap due to poor KPRO equilibriation
340				Profiler refusal at 342.4 ft. No penetration rate or IK data from 342.4 to 359.89 due to drilling activities
350	Poorly-graded SAND (fine to medium) with trace silt; tan	SP		
360	Poorly-graded SAND (medium) with little clay; white to gray	SC		
370	Poorly-graded SAND (medium to coarse) with trace clay; tan-white-orange	SP		Profile data gaps due to poor KPRO equilibriation
380	Poorly-graded SAND (medium) and silty CLAY; tan-dark gray-white	SC-CL		Profiler refusal at 381.57 ft. No penetration rate or IK data from 381.57 to 400.2 ft due to drilling activities
390	Poorly-graded SAND (medium) and CLAY; orange to brown	SC-CL		Little recovery of cuttings

Boring ID:

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

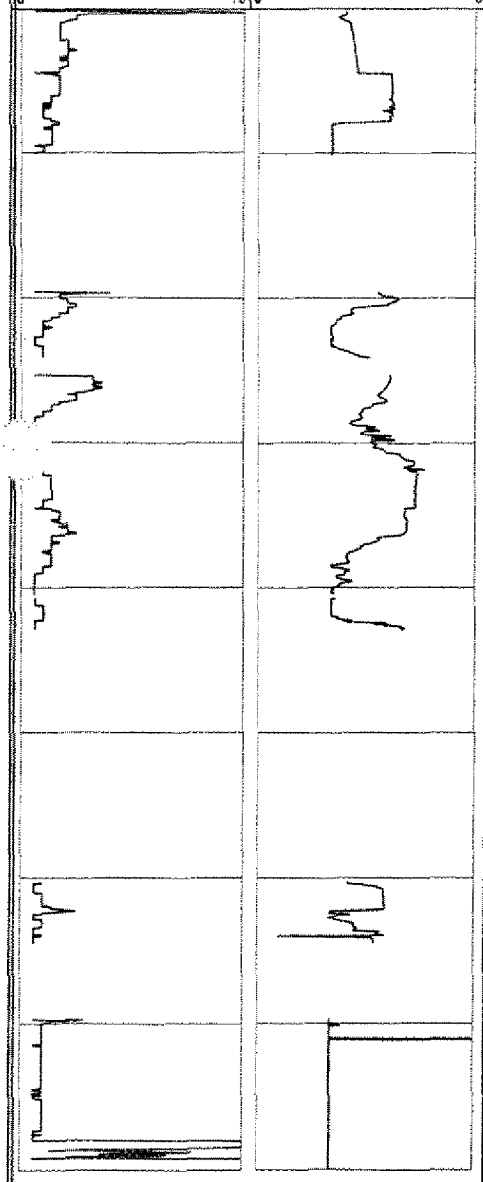
P-55

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 10, 2004
JOB NUMBER:	4563001	END DATE:	February 6, 2004
DRILLING FIRM:	CT&E	LOCATION:	Just N of RR tracks, Approx. 500 feet east of the Wantagh Pkwy.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Kerri Carley	HYDROGEOLOGIST:	C. Sullivan, J. Ifkovits, K. Wheeler

Total depth of Profile: 480.73 ft

Total depth of Boring: 470 ft

GEOLOGIC INFORMATION



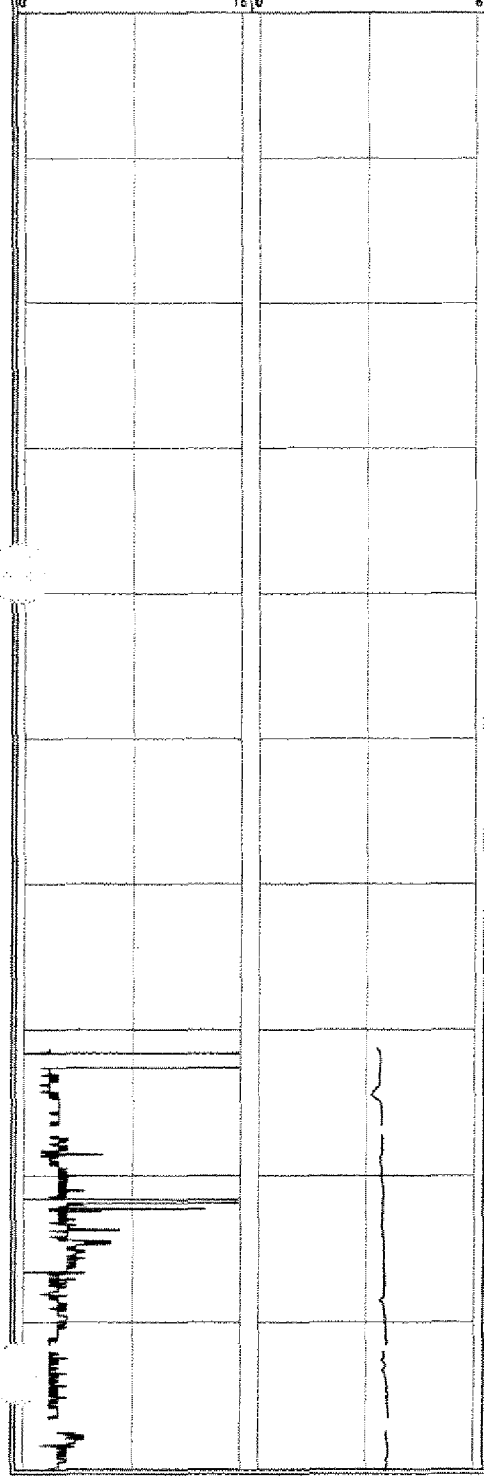
Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400	Poorly-graded SAND (medium to coarse); gray-white-light tan	SP		
				Silty clay layers at 408 ft
410	Poorly-graded SAND (fine to medium); tan to light brown	SP		Profiler refusal at 410.1 ft. No penetration rate or IK data from 410.1 to 419.6 ft due to drilling activities
420	No Recovery			No Recovery of cuttings from 420 to 450 ft
430				
				Profile data gap due to poor KPRO equilibriation
440				No penetration rate and IK data from 442.88 to 443.40 ft due to incorrect pressure reading
450	Poorly-graded SAND (fine); tan to gray	SP		Profiler refusal at 443.4 ft. No penetration rate or IK data from 443.4 to 460.36 ft due to drilling activities
460	No Recovery			No Recovery of Cuttings from 460 to 470 ft Profiler refusal at 464.45 ft. No penetration rate or IK data from 464.45 to 469.65 ft due to drilling activities
470				End of Boring at 470 ft
				End of Profile at 480.73 ft
480				

MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-56

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 20, 2004
JOB NUMBER:	4563001	END DATE:	January 30, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on Nassau County Golf Course Driving Range
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Karrey Carley	HYDROGEOLOGIST:	Garret Furgeson
Total depth of Profile:	390.15 ft	Total depth of Boring:	386 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND (fine to coarse) with some gravel (fine to coarse); brown	SW		Hollow stem augers used form 0 to 20 ft
	Well-graded SAND (fine to coarse) with some gravel (fine); brown to tan-brown	SW		
10				
				Begin mud rotary drilling at 20 ft
20	Poorly-graded SAND (medium to coarse with gravel (fine); brown	SP		
30				
40				
50	Well-graded SAND (fine to coarse) with gravel; brown	SW		
60				
				Begin profiling at 69.50 ft
70	Well-graded SAND (fine to coarse) with some gravel; brown	SW		
	Well-graded SAND (fine to coarse) with trace gravel and trace silt; tan to gray	SW		Profile data gaps due to poor KPRO equilibriation
80				
	Well-graded SAND (fine to coarse) with trace silt; tan	SW		
90				Profile data gaps due to poor KPRO equilibriation

Boring ID:

MALCOLM PIRNIE, INC.

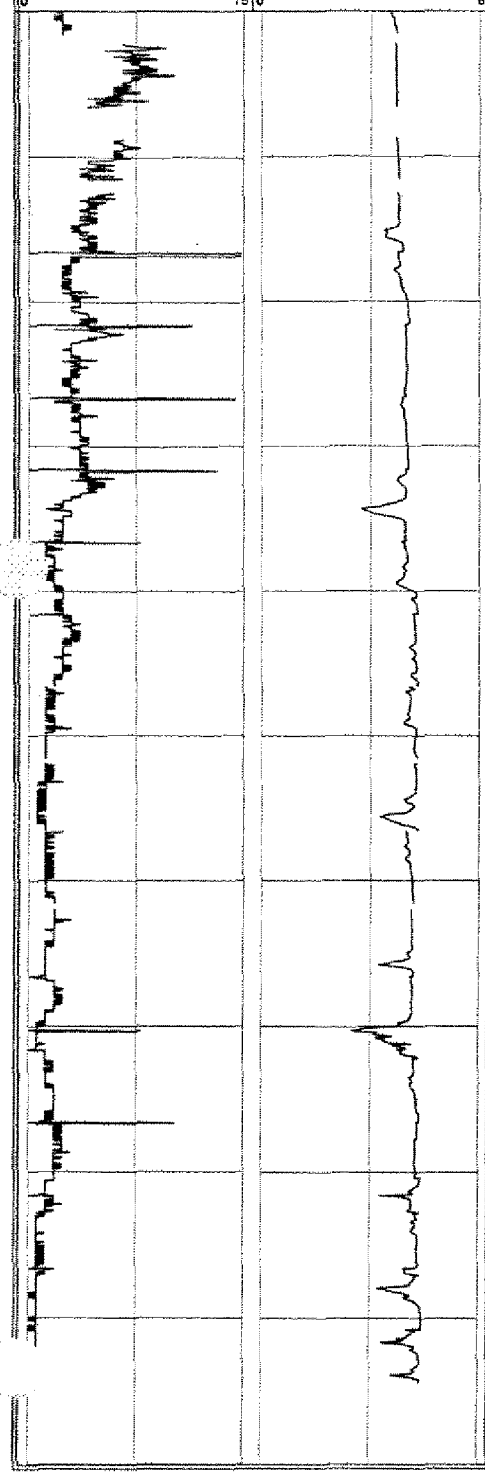
17 Route 208 North Fair Lawn, NJ 07401

P-56

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 20, 2004
JOB NUMBER:	4563001	END DATE:	January 30, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on Nassau County Golf Course Driving Range
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Karrey Carley	HYDROGEOLOGIST:	Garret Furgeson

Total depth of Profile: 399.15 ft Total depth of Boring: 386 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Well-graded SAND (fine to coarse) with trace silt; tan	SW		Profile data gaps due to poor KPRO equilibriation
	Poorly-graded SAND (fine to medium) with trace silt; tan	SP		
110				
	Poorly-graded SAND (fine to medium) with trace silt and trace gravel; tan	SP		
120	Poorly-graded SAND (fine to medium) with trace silt; tan	SP		Micaceous
130	Poorly-graded SAND (fine to medium) with trace silt and trace gravel; tan	SP		Micaceous
140	Poorly-graded SAND (fine to medium) with trace silt; tan	SP		Micaceous Profile data gaps due to poor KPRO equilibriation
150				
160				
170				
	Well-graded SAND (fine to coarse) with trace gravel (fine) and trace silt; tan	SW		Micaceous
180				
	Well-graded SAND (fine to coarse) with gravel (fine); tan	SW		Micaceous
190				Profiler refusal at 194.4 ft. No penetration rate or IK data from 194.4 to 204.35 due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

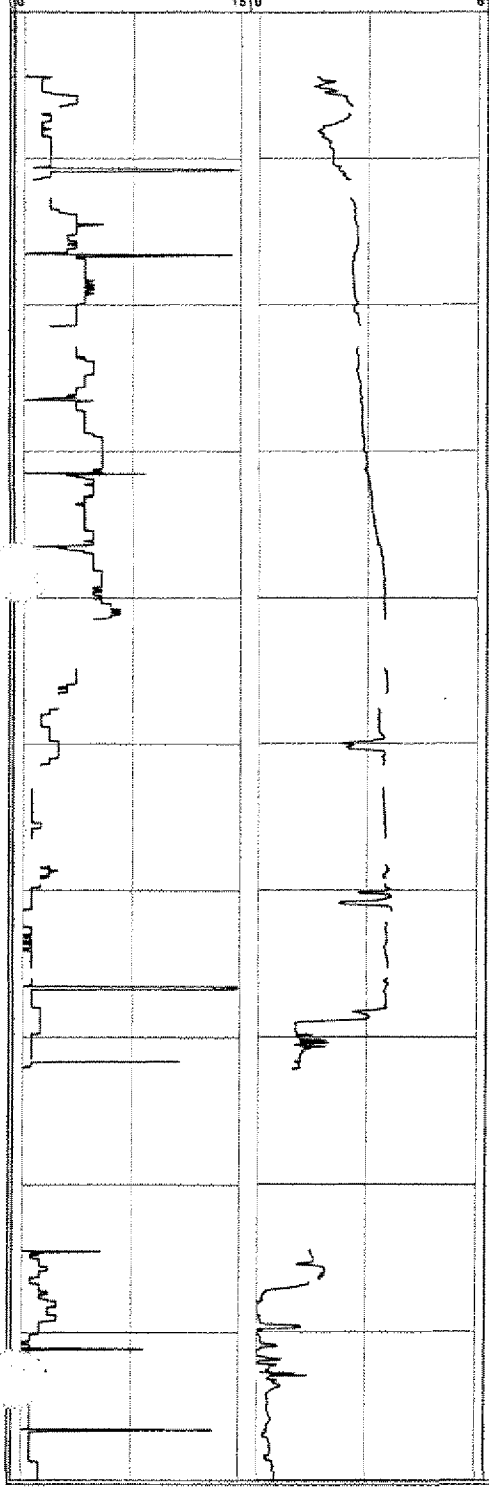
7 Route 206 North Fair Lawn, NJ 07401

P-56

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 20, 2004
JOB NUMBER:	4563001	END DATE:	January 30, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on Nassau County Golf Course Driving Range
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Karrey Carley	HYDROGEOLOGIST:	Garret Furgeson

Total depth of Profile: 390.15 ft Total depth of Boring: 388 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND (fine to coarse) with gravel (fine); tan	SW		Micaceous
	Poorly-graded SAND (fine to medium with some gravel (fine); tan	SP		Micaceous
210	Well-graded SAND (fine to coarse) with gravel (fine); tan	SW		Profile data gaps due to poor KPRO equilibriation
	Poorly-graded SAND (coarse) and GRAVEL (fine) with trace silt; tan	SP-GP		
220	Poorly-graded SAND (coarse) with gravel (fine) and trace silt	SP		
	Well-graded SAND (fine to coarse); dark red to white	SW		
230	Well-graded SAND (fine to coarse) with gravel (fine); dark red to white	SW		
240				
	Poorly-graded SAND (medium to coarse) with gravel (fine); tan-gray-white	SP		Profile data gaps due to poor KPRO equilibriation
250	Well-graded SAND (fine to coarse) with silt and clay and trace gravel; tan to gray	SW		
	No Recovery			Lost circulation, no return of cuttings
260				
270				Profiler refusal at 272.17 ft. No penetration rate or IK data from 272.17 to 284.40 due to drilling activities
280				Profile data gaps due to poor KPRO equilibriation
290				

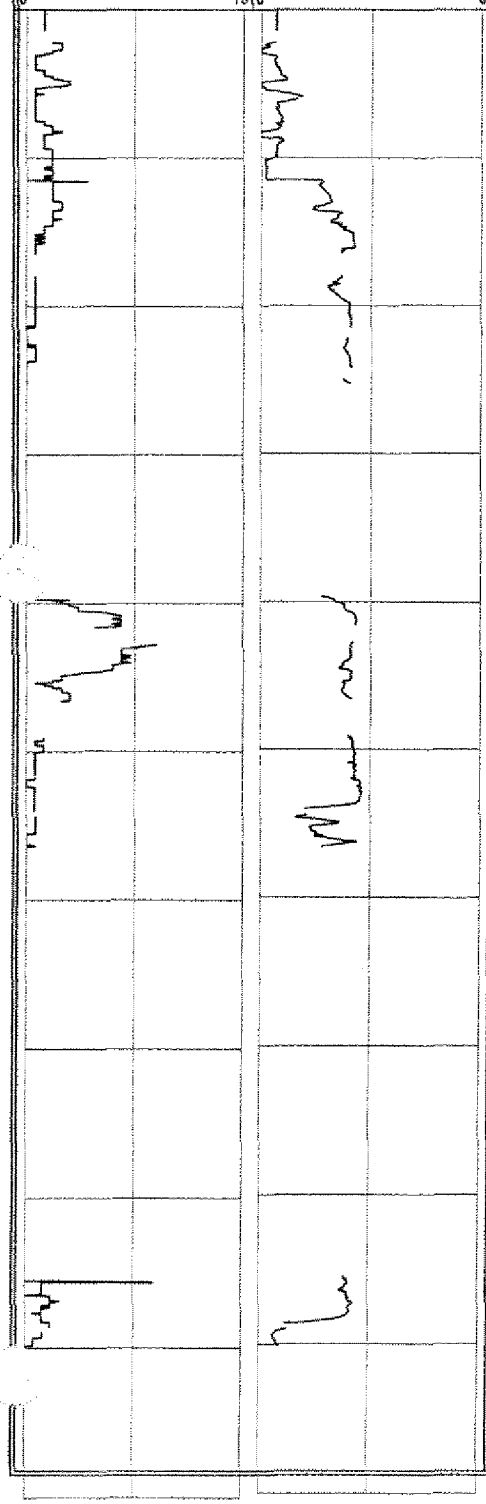
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-56**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	January 20, 2004
JOB NUMBER:	4563001	END DATE:	January 30, 2004
DRILLING FIRM:	CT&E	LOCATION:	East of Cantiage Rock Rd. on Nassau County Golf Course Driving Range
DRILLING METHOD:	Mud Rotary		
DRILLER:	Jim Lewis	DATUM:	Land Surface
HELPER:	Karrey Carley	HYDROGEOLOGIST:	Garret Furgeson

Total depth of Profile: 390.15 ft Total depth of Boring: 385 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300				
310				Profile data gaps due to poor KPRO equilibriation
320				No penetration rate or IK data at 324.93 ft. KPRO flow shut off prior to termination of data acquisition
				Profiler refusal at 325.24 ft. No penetration rate or IK data from 325.24 to 339.65 due to drilling activities
330				
340				Profile data gaps due to poor KPRO equilibriation
350				
				Profiler refusal at 356.60 ft. No penetration rate or IK data from 356.60 to 384.85 due to drilling activities
360				Profiler rods fell to 385.45. No penetration rate or IK data from 384.80 to 385.45
		CL		Rig response indicated clay at 374 ft
370		SM		Rig response indicated primarily sand with some clay from 375 to 385 ft
380				End of boring at 385 ft
				Profile data gap due to poor KPRO equilibriation
390				End of profile at 390.15

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

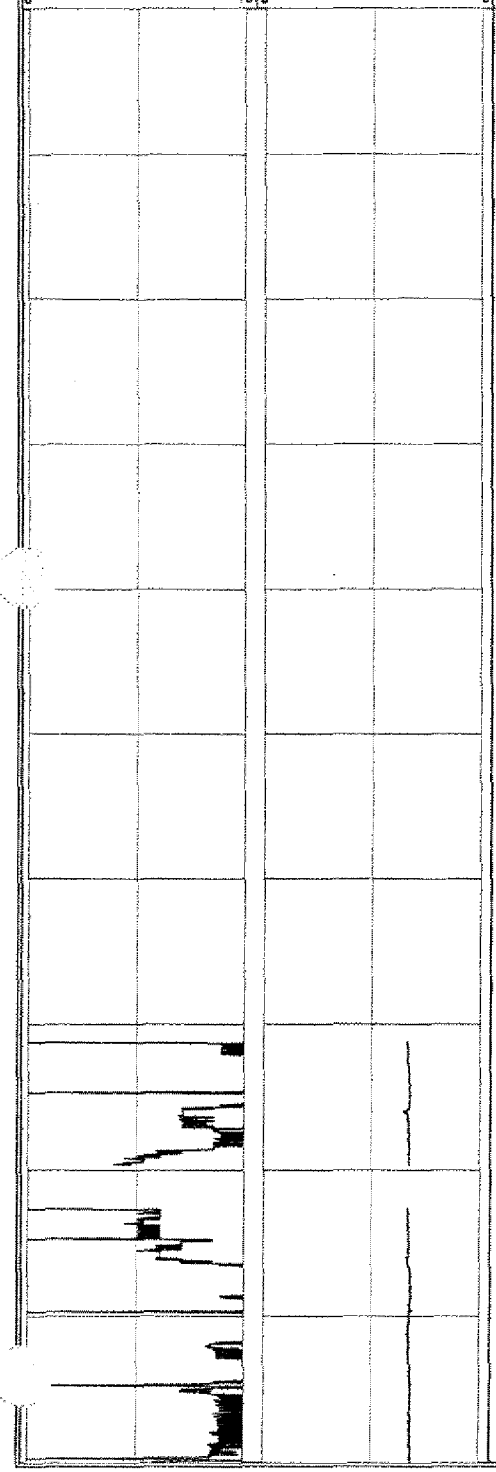
P-58

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of Charlotte St. and W. John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 510.94 ft

Total depth of Boring: 510 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL (fine to coarse); dark brown	SP-GW		
10	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		Hollow stem auger used from 0 to 15 ft, begin mud rotary drilling at 15 ft
	Poorly-graded GRAVEL (fine) and SAND (medium to coarse); light brown	GP-SP		Micaceous
20	Poorly-graded SAND (medium to coarse) and GRAVEL (coarse); light brown	SP-GP		
30				
40	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
50				
60				
70				Begin Profiling at 71.25 ft
80				Profile data gap due to poor KPRO equilibration
90	Poorly-graded SAND (coarse) and GRAVEL (fine to coarse); light brown	SP-GW		

Boring ID:

MALCOLM PIRNIE, INC.

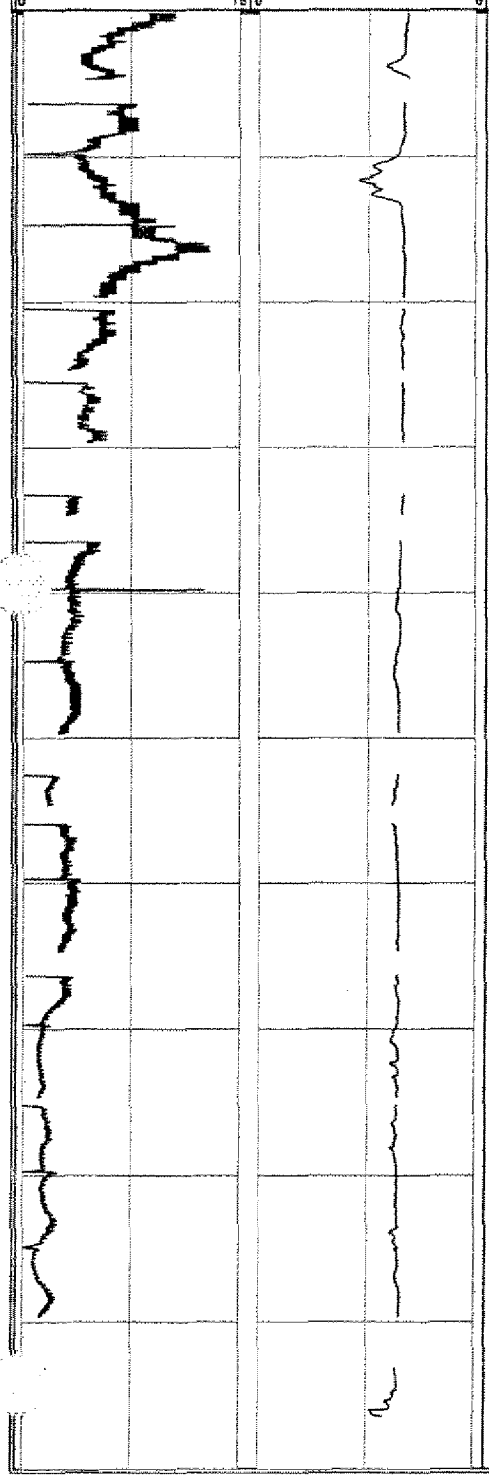
17 Route 208 North Fair Lawn, NJ 07401

P-58

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of Charlotte St. and W. John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 510.94 ft Total depth of Boring: 510 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Poorly-graded SAND (medium to coarse) with little gravel (fine to coarse) and trace lignite; light brown to gray	SP		Profile data gap due to poor KPRO equilibration
110	Poorly-graded SAND (medium to coarse) with some silt and clay and trace gravel (fine); brown to orange	SM		
120				
130	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		Profile data gaps due to poor KPRO equilibration
140	Poorly-graded SAND (coarse) and GRAVEL (fine); light brown	SP-GP		
150	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); light brown	SP-GP		
160	Poorly-graded SAND (medium to coarse) with little gravel (fine) and trace clay; light brown	SP		Profile data gaps due to poor KPRO equilibration
170	Poorly-graded SAND (medium to coarse) and GRAVEL (fine) and trace clay; light brown	SP-GP		
180				Profile data gaps due to poor KPRO equilibration
190	Poorly-graded SAND (medium to coarse) with some gravel (fine) and trace clay; light brown	SP		Profiler refusal at 196.42 ft, no penetration rate or IK data from 196.42 to 211.43 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

P-58

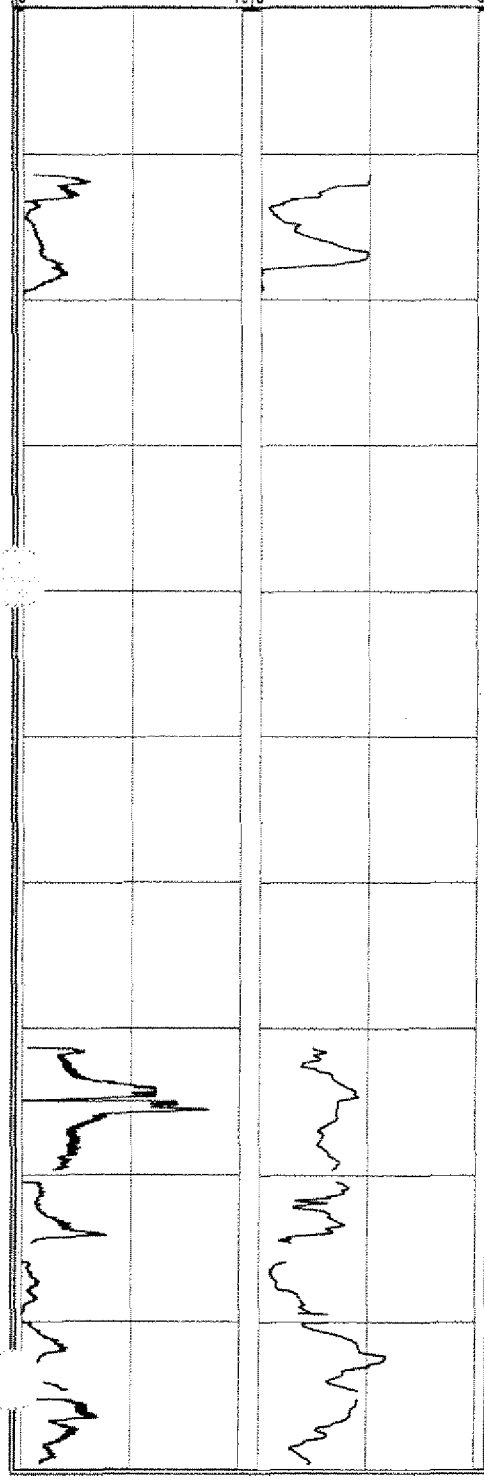
17 Route 208 North Fair Lawn, NJ 07401

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of Charlotte St. and W. John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 510.94 ft

Total depth of Boring: 510 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (coarse) and GRAVEL (fine); light brown	SP-GP		
210	Poorly-graded SAND (medium to coarse) with trace gravel; brown to red	SP		
220	CLAY and SAND (fine to medium); gray to white to yellow	CL-SC		Profiler refusal at 219.58 ft, no penetration rate or IK data from 219.58 to 271.32 ft
230	CLAY and SAND (fine) with some silt; white to gray	CL-SC		
240				
250	Poorly-graded SAND (fine) and SILT with some clay; white to gray	SM-ML		
260	Poorly-graded SAND (fine) and SILT with some clay; white to gray	SM-ML		
270	Poorly-graded SAND (fine to medium) with trace lignite; white	SP		
280	Poorly-graded SAND (fine) and SILT with some clay; white to gray	SM-ML		Profile data gaps due to poor KPRO equilibration
290				

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

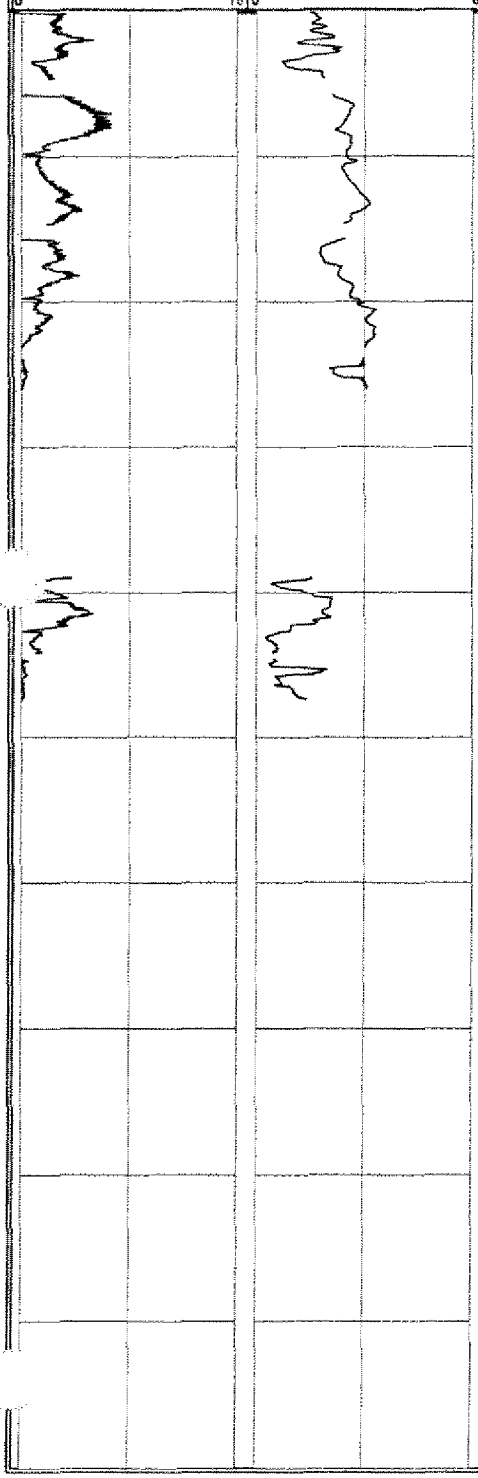
P-58

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of Charlotte St. and W. John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Steve Somenski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 510.84 ft

Total depth of Boring: 510 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	No Recovery			Lost circulation, no recovery of cuttings
310				Profile data gaps due to poor KPRO equilibration
320	Poorly-graded SAND (fine to medium); gray to white	SP		Much water lost to formation
330	SILT and SAND (fine); gray to white	ML-SM		Profiler refusal at 326.0 ft, no penetration rate or IK data from 326.0 to 338.93 ft due to drilling activities
340	Poorly-graded SAND (fine) and SILT; gray to white	SM-ML		
350				Profiler refusal at 347.33 ft, no penetration rate or IK data from 347.33 to 402.45
360	Poorly-graded SAND (fine to medium) and SILT; white to light	SM-ML		
	CLAY and SAND; white to light brown	CL-SC		
370	Well-graded SAND (fine to coarse); white to light brown	SW		Micaceous
380	Poorly-graded SAND (fine to medium); white to light brown	SP		Refusal at 381.28 ft bgs Clay at 381, 383, and 387 ft bgs
390	Poorly-graded SAND (fine) with trace clay; white	SP		

MALCOLM PIRNIE, INC.

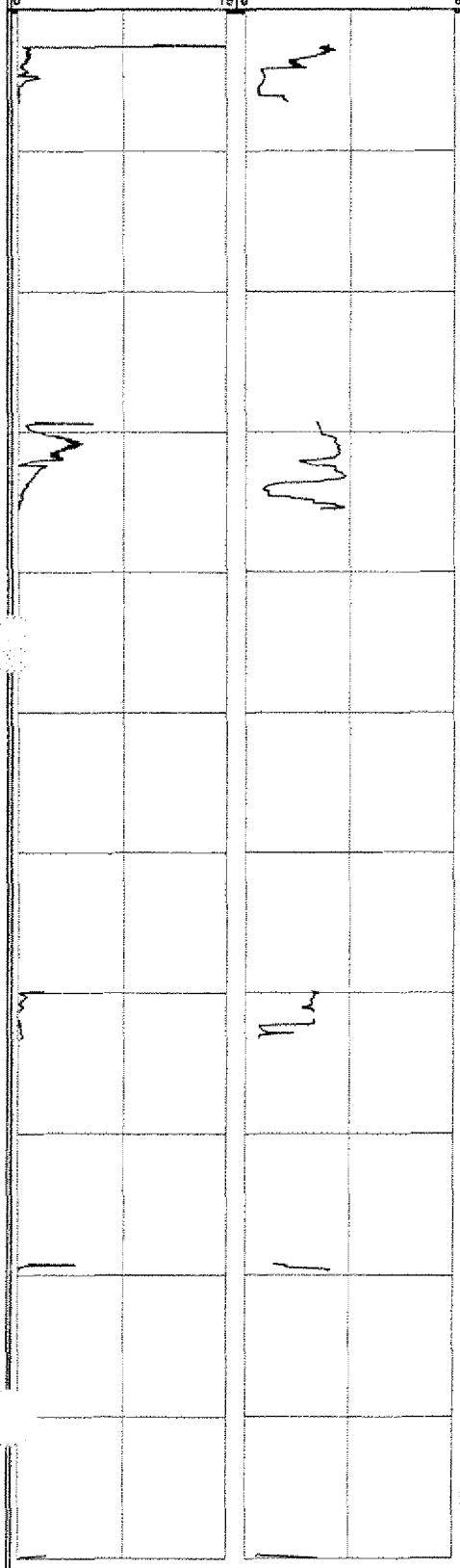
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-58**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	November 4, 2003
JOB NUMBER:	4563001	END DATE:	November 13, 2003
DRILLING FIRM:	CT&E	LOCATION:	SW corner of intersection of Charlotte St. and W. John St.
DRILLING METHOD:	Mud Rotary		
DRILLER:	Larry Lynch	DATUM:	Land Surface
HELPER:	Steve Somonski	HYDROGEOLOGIST:	Colleen Sullivan

Total depth of Profile: 510.94 ft Total depth of Boring: 510 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
400	Poorly-graded SAND (fine to medium) with some clay, silt, and lignite; gray to white	SC		Profiler refusal at 406.51 ft, no penetration rate or IK data from 406.51 to 429.3 ft due to drilling activities
410	Poorly-graded SAND (fine) and SILT with trace clay; gray to white	SM-ML		
420	Poorly-graded SAND (medium); white to gray	SP		
430	Poorly-graded SAND (medium to coarse) with little gravel (fine); white to gray	SP		Micaceous Profiler refusal at 435.5 ft, no penetration rate or IK data from 435.5 to 469.9 ft due to drilling activities
440	Poorly-graded SAND (medium to coarse and CLAY with some silt; white to gray	SC-CL		
450	Poorly-graded SAND (fine) and LIGNITE with some clay; dark gray	SC-PT		
460	Poorly-graded SAND (fine to medium) with little lignite and trace clay; white to gray	SP		Micaceous
470	SILT and SAND (fine to medium) with trace clay and lignite; gray to white	ML-SM		Profiler refusal at 473.25 ft, no penetration rate or IK data from 473.25 to 489.2 ft due to drilling activities
480	Poorly-graded SAND (fine to medium) with trace clay and lignite; white to gray	SP		Profiler refusal at 489.75, no penetration rate or IK data from 489.75 to 509.79 ft due to drilling activities
490	SILT with some sand (medium) and clay and trace lignite; white to gray	ML		
500	SILT with some sand (medium) and clay; white to gray	ML		End of boring at 510 ft bgs Refusal at 511.0 ft bgs. End of profile
510				

Boring ID:

MALCOLM PIRNIE, INC.

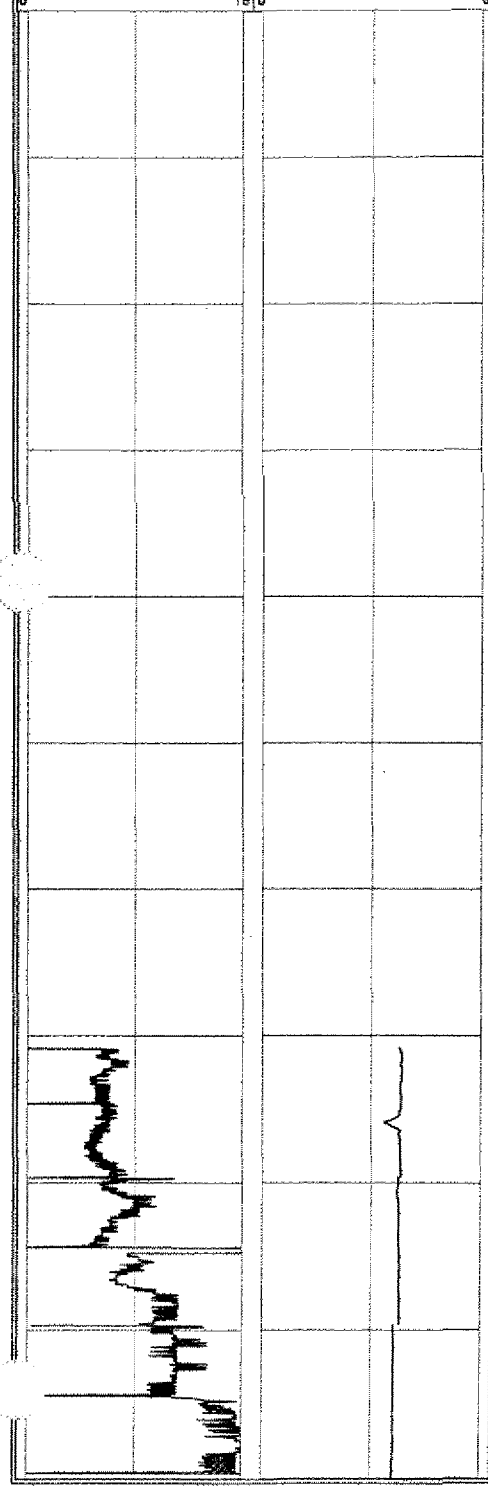
7 Route 208 North Fair Lawn, NJ 07401

P-C

PROJECT NAME:	GTECSI-Hicksville	START DATE:	June 9, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S of 70 Property, E of P-27
DRILLING METHOD:	Mud Rotary	DATUM:	Land Surface
DRILLER:	Wes Eicfeld	HYDROGEOLOGIST:	G. Ferguson/J. Hilton/J. Dekoskie
HELPER:	Karri Carley		

Total depth of Profile: 394.5 ft Total depth of Boring: 350 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND with some silt and clay; brown	SW		Hollow stem auger used from 0 to 10 ft
10				Begin mud rotary drilling at 10 ft
20	Well-graded SAND with some gravel; brown to tan	SW		Loss of ~200 gal drilling fluid.
30				Loss of ~200 gal drilling fluid.
40				
50				Loss of ~200 gal drilling fluid.
60				
70	Poorly-graded SAND (medium to coarse) with some gravel (fine); tan	SP		Begin profiling at 70.87 ft Trace mica
80				
90				

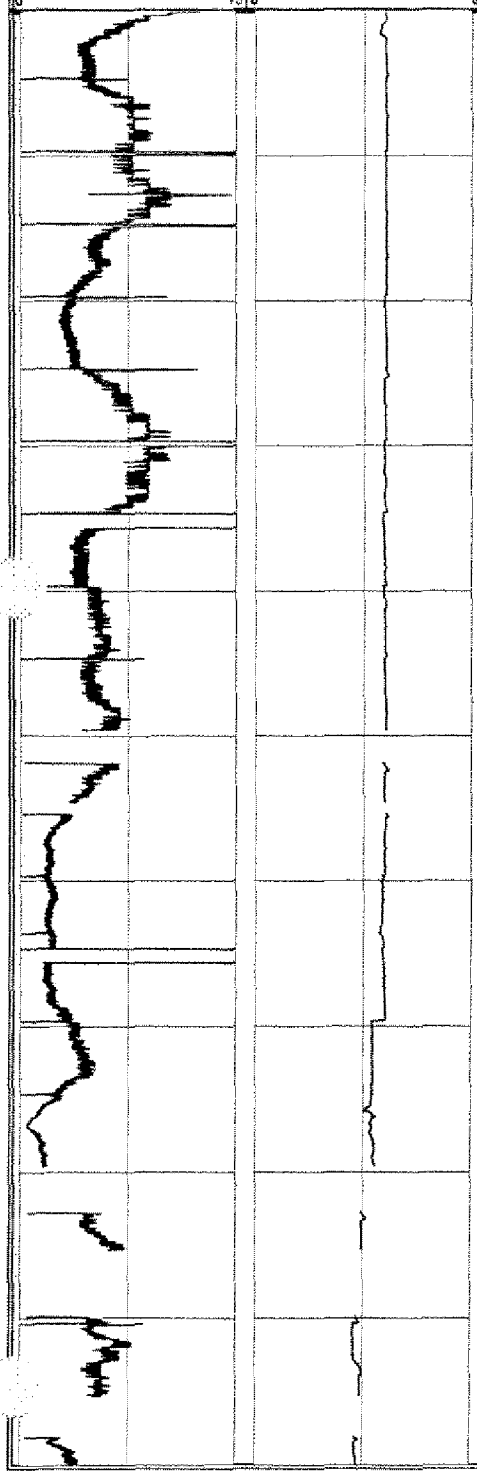
MALCOLM PIRNIE, INC.
17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-C**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 9, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S of 70 Property, E of P-27
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	G. Ferguson/J. Hilton/J. Dekoskie

Total depth of Profile: 394.5 ft Total depth of Boring: 350 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100	Well-graded SAND with trace gravel (fine); tan	SW		Trace lignite. Slight loss of drilling fluids
				Trace lignite
110				
120				Trace mica
				Gravel from 123 to 135 ft.
	Well-graded SAND and GRAVEL (fine); tan	SW-GP		
130				
140				
150				Profile data gaps due to poor KPRO equilibration
	Well-graded SAND with little gravel (fine); tan	SW		Trace mica
160				
170				
180				Profile data gap due to poor KPRO equilibration
	Poorly-graded GRAVEL (fine) with trace sand (medium); tan	GP		Profile data gap due to equipment problems
190				Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium) with trace gravel (fine); tan to brown	SP		Micaceous

Boring ID:

MALCOLM PIRNIE, INC.

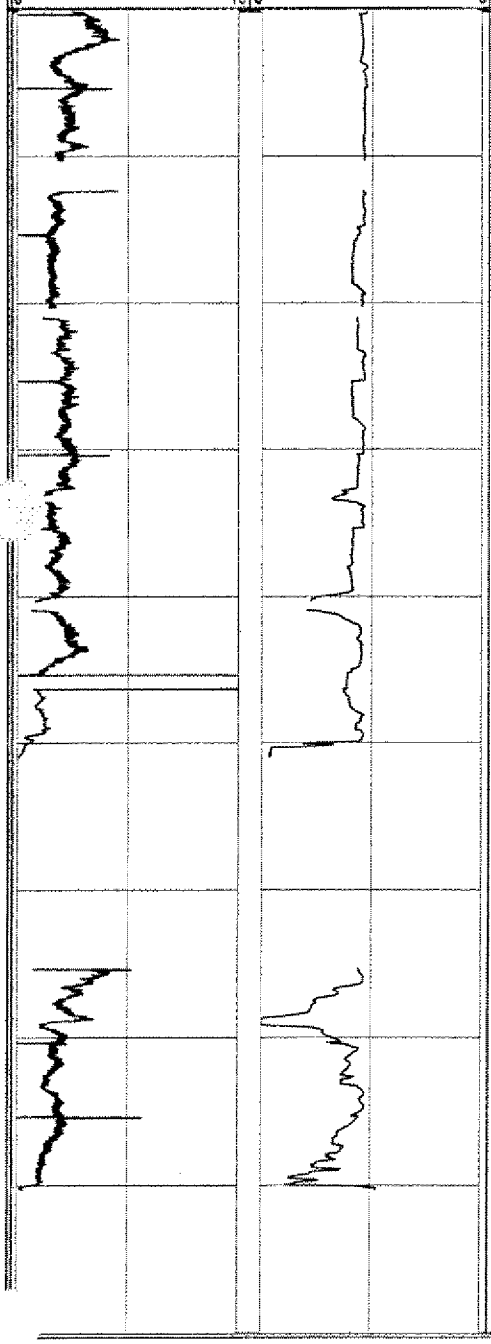
17-17 Route 208 North Fair Lawn, NJ 07401

P-C

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 9, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S of 70 Property, E of P-27
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	G. Ferguson/J. Hilton/J. Dekoskie

Total depth of Profile: 394.6 ft Total depth of Boring: 360 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200				
210				Profile data gap due to poor KPRO equilibration
220				
230				Micaceous
	Poorly-graded SAND (fine to medium); light tan, white, and yellow	SP		Iron stained sediments from 245 to 250 ft
240				Profile data gap due to poor KPRO equilibration
250	CLAY with silt; light gray to white	CL		Profiler refusal at 250.1 ft, no penetration rate or IK data from 250.95 to 265.36 ft due to drilling activities
	Poorly-graded SAND (fine) with silt and clay	SM		
260	Poorly-graded SAND (fine); light gray	SP		
	Poorly-graded SAND (fine) and SILT; light brown	SM		Iron stained sediments from 275 to 280 ft
270				Trace organic material
	Poorly-graded SAND (fine to medium); yellow brown	SP		
280	CLAY; whitish-gray to brown-gray	CL		Profiler refusal at 280.3 ft, no penetration rate or IK data from 280.3 to 304.75 ft due to drilling activities

MALCOLM PIRNIE, INC.

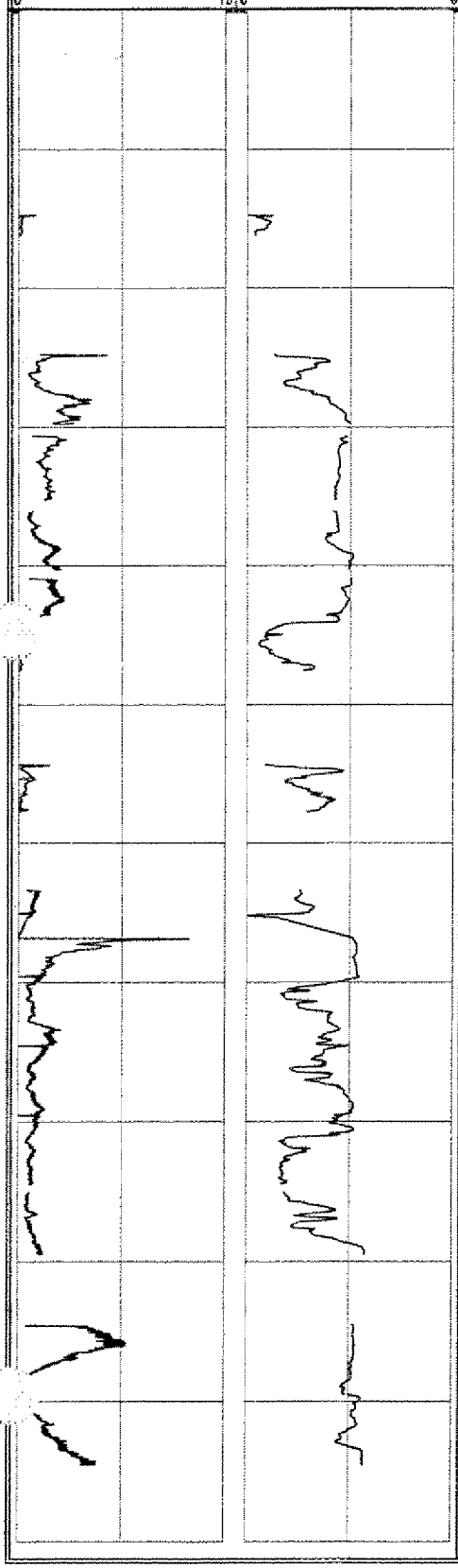
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-C**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	June 9, 2003
JOB NUMBER:	4563001	END DATE:	June 19, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S of 70 Property, E of P-27
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	G. Ferguson/J. Hilton/J. Dekoskie

Total depth of Profile: 394.5 ft Total depth of Boring: 350 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
290				
300	Poorly-graded SAND (fine); brown	SP		
	CLAY; dark brown	CL		Lignite and organic material
310	Poorly-graded SAND (fine to medium); white to gray	SP		Profiler refusal at 306.2 ft, no penetration rate or IK data from 306.2 to 314.76 ft due to drilling activities
320				
330	Well-graded SAND (fine to coarse) with trace gravel (fine); white to gray	SW		Profile data gap due to poor KPRO equilibration
	Well-graded SAND (fine to coarse) and GRAVEL (fine); white to gray	SW-GP		Profiler refusals at 337.56 ft and 347.72 ft, no penetration rate or IK data from 337.56 to 344.35 ft and from 347.72 to 353.4 ft due to drilling activities
340	Poorly-graded SAND (medium to coarse); white to gray	SP		
	Well-graded SAND (fine to coarse), trace gravel (fine); white to gray	SW		End of boring at 350 ft
350				
360				
370				
380				Profile data gap due to equipment problems
390				End of profile at 394.5 feet
400				

Boring ID:

MALCOLM PIRNIE, INC.

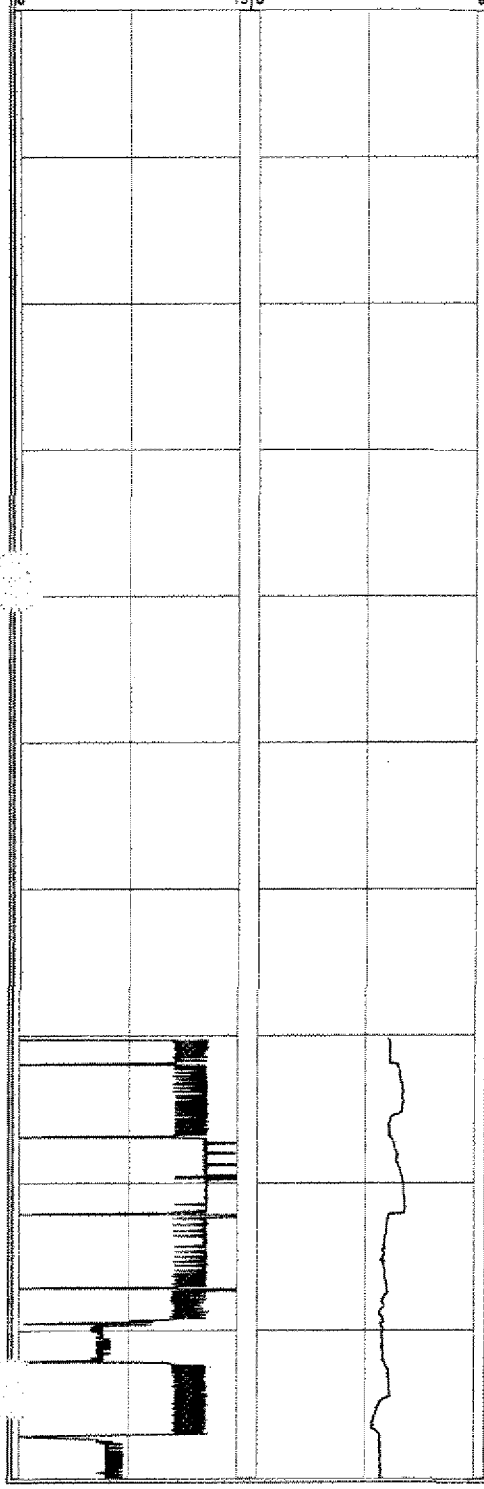
7 Route 208 North Fair Lawn, NJ 07401

P-D

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S
DRILLING METHOD:	Mud Rotary	WEATHER:	of 70 Property, E of P-11
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 351.95 ft Total depth of Boring: 316 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL	SW-GW		Hollow stem auger used from 0 to 8 ft. Begin mud rotary drilling at 8 ft.
10				
	Poorly-graded GRAVEL (fine) with some sand (fine to medium); brown	GP		
20				
	Poorly-graded GRAVEL (coarse)	GP		
30	Poorly-graded SAND (medium to coarse) with trace silt; light to medium brown	SP		
40				Lost circulation of drilling fluids from 45 to 65 ft, no recovery of cuttings, drilling character indicative of sand
50				
60				
	Poorly-graded SAND (medium to coarse), light brown	SP		
70				Begin Profiling at 70.2 ft
				Lost circulation of drilling fluids from 75 to 95 ft, no recovery of cuttings
80				
90				
	Poorly-graded SAND (fine to medium) with trace gravel; light tan to brown	SP		

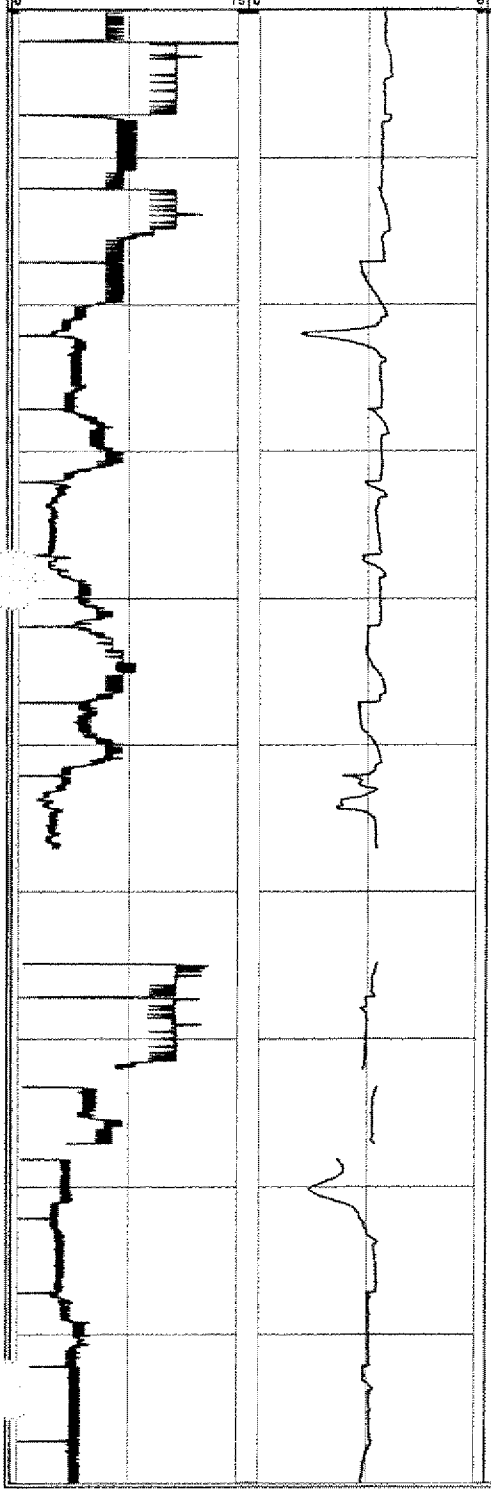
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID:
P-D

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S
DRILLING METHOD:	Mud Rotary	WEATHER:	of 70 Property, E of P-11
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 351.95 ft Total depth of Boring: 315 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		
110				Micaceous
120				
	Poorly-graded SAND (medium) with trace gravel (fine), light tan to white	SP		
130				
140				Bad IK and drive rate data 141 - 145 ft, malfunctioning reed valve
	Poorly-graded SAND (coarse) and GRAVEL (fine); white	SP-GP		
150	Poorly-graded SAND (medium) with some gravel; light tan to brown	SP		
160				No IK data 157.05 - 164.88 ft due to malfunctioning Profiling equipment Lost circulation of drilling fluids from 160 to 180 ft, no recovery of cuttings
170				Profile data gaps due to poor KPRO equilibration
180	Poorly-graded SAND (medium to coarse) with trace gravel (fine); light tan to brown	SP		
190				

Boring ID:

MALCOLM PIRNIE, INC.

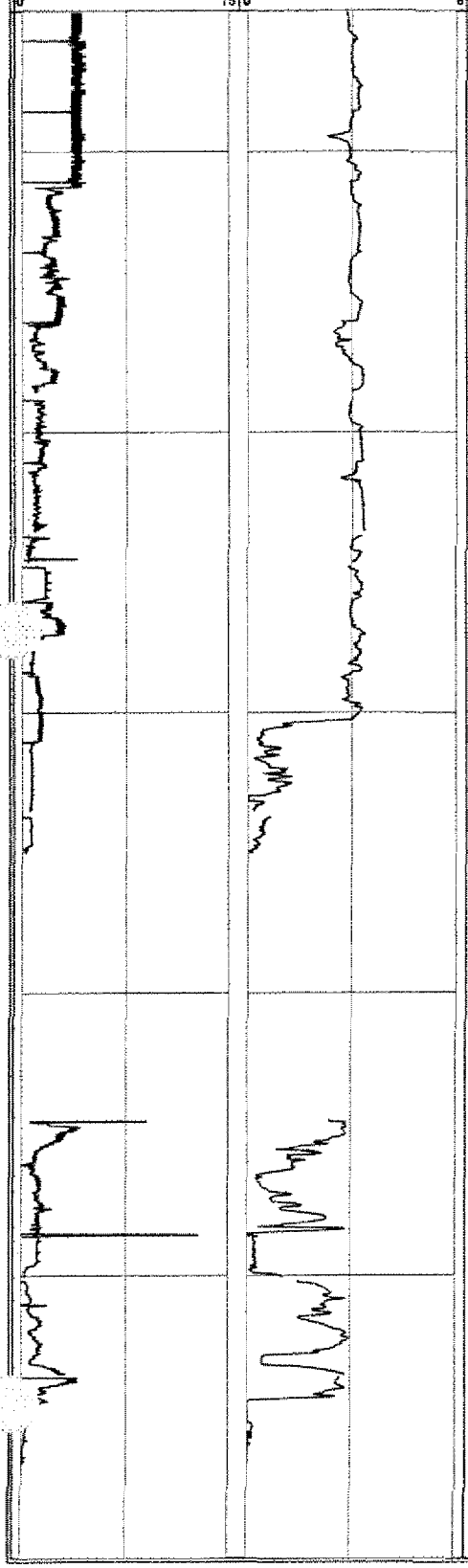
17-17 Route 208 North Fair Lawn, NJ 07401

P-D

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S
DRILLING METHOD:	Mud Rotary	WEATHER:	of 70 Property, E of P-11
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 351.95 ft Total depth of Boring: 315 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium to coarse) with little gravel (fine); light tan to white	SP		
210				
220	Poorly-graded SAND (fine to medium); light tan to white	SP		
230				
240				Profiler refusal at 238 ft Begin profiler advance at 239.5 ft
250	SAND and SILT	SM-ML		Lost circulation of drilling fluids, no recovery of cuttings from 250 to 280 ft. Log is based on drilling characteristics, penetration rate and IK data.
260	SAND and SILT with some clay	SM-ML		Profiler refusal at 259.97 ft, no penetration rate or IK data from 259.97 to 297.06 ft due to drilling activities
270				
280				
	CLAY and SILT with some sand	CL- ML		
290	SAND and SILT with some clay	SM-ML		
300	CLAY and SILT with some sand	CL- ML		Profiler refusal at 303.3 ft, no penetration rate or IK data from 303.3 to 313.91 ft due to drilling activities

Boring ID:

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

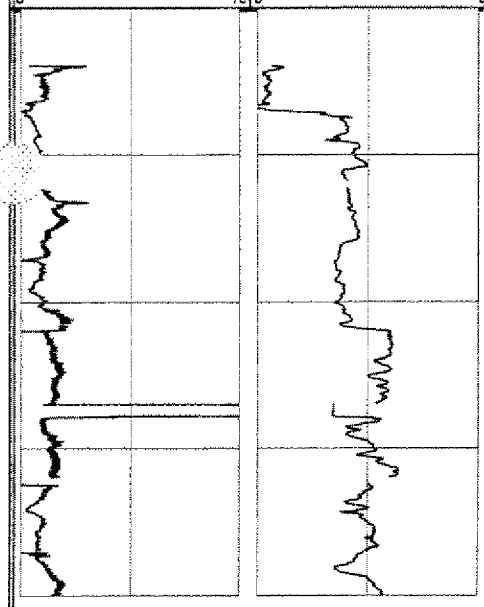
P-D

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 27, 2003
JOB NUMBER:	4563001	END DATE:	June 4, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, S
DRILLING METHOD:	Mud Rotary	WEATHER:	of 70 Property, E of P-11
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 351.95 ft

Total depth of Boring: 315 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
310	SILT and SAND	ML-SM		End of boring 315 ft
320				
330				
340				Profile data gap due to poor KPRO equilibration
350				End of profile at 351.95 ft bgs

Boring ID:

MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

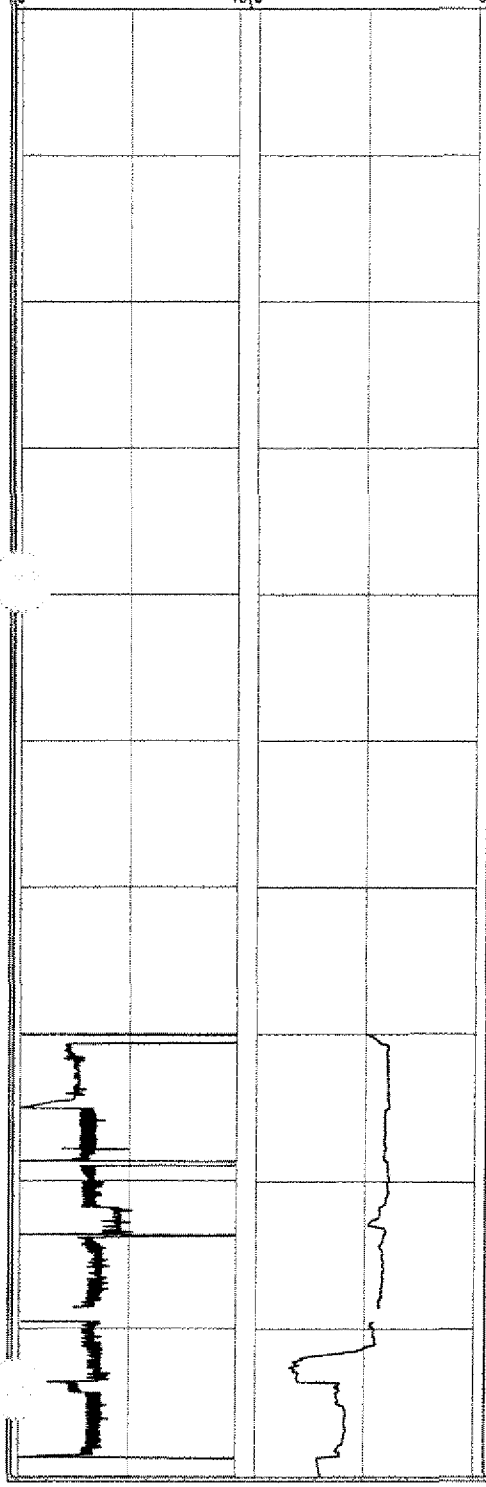
P-E

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 14, 2003
JOB NUMBER:	4563001	END DATE:	May 22, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, on E side of Cantiague Rock Rd, South of 70 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 332.85 ft

Total depth of Boring: 310 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (medium to coarse) and GRAVEL (fine to coarse); brown	SP-GP		
10	Poorly-graded SAND (medium to coarse) and GRAVEL (fine); brown	SP-GP		Hollow stem auger used from 0 to 10 ft. Begin mud rotary drilling at 10 ft.
20	Well-graded SAND with gravel (fine); brown	SW		Micaceous
30				
40				
50	Poorly-graded SAND (medium to coarse) with gravel (fine); brown	SP		
60				
70	Well-graded SAND with trace silt, clay, and gravel; brown to grayish brown	SW		Silt and clay fraction diminishes with depth
80				
	Poorly-graded SAND (fine) with trace silt; brown	SP		
90				Profile data gap due to poor KPRO equilibration
	Well-graded SAND with trace gravel (fine), and silt; brown	SP		Micaceous

Boring ID:

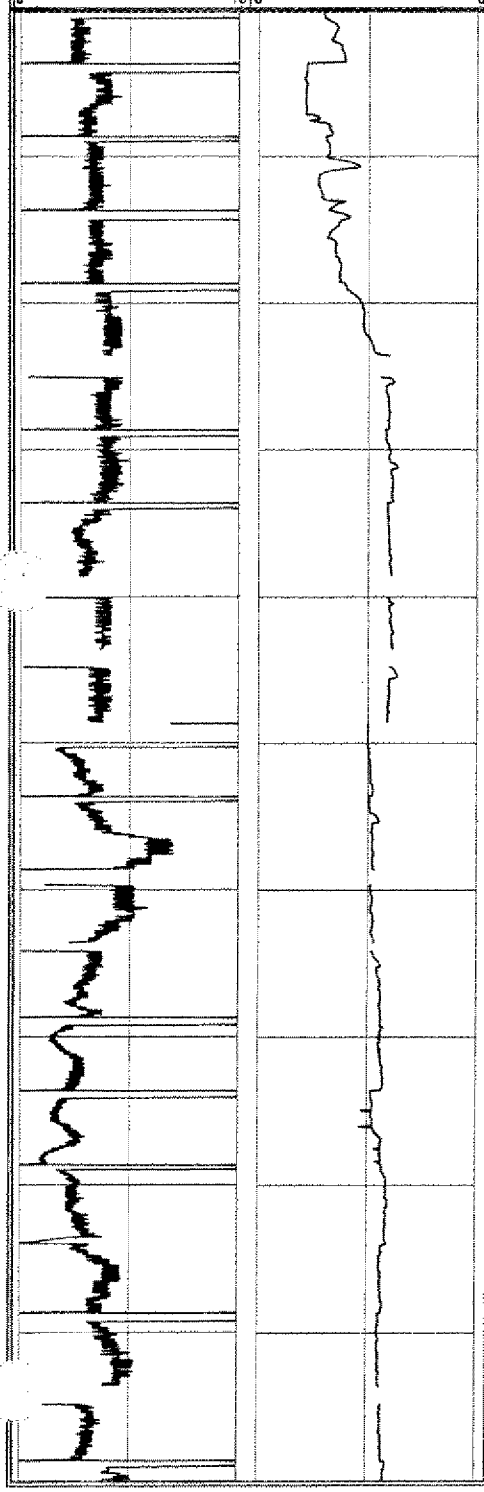
MALCOLM PIRNIE, INC.

7 Route 208 North Fair Lawn, NJ 07401

P-E

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 14, 2003
JOB NUMBER:	4563001	END DATE:	May 22, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, on E side of Cantiague Rock Rd, South of 70 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson
Total depth of Profile:	332.88 ft	Total depth of Boring:	310 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		Micaceous
110	Poorly-graded SAND (fine to medium); brown to grayish brown	SP		Trace mica
	Poorly-graded SAND (fine) with trace silt; brown to grayish brown	SP		Trace mica
120				Profile data gap due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium); brown	SP		Micaceous
130				
140				
	Well-graded SAND (fine to coarse); brown	SW		Profile data gaps due to poor KPRO equilibration
150	Well-graded SAND with trace gravel (fine); brown	SW		
160	Poorly-graded SAND (fine to medium); brown	SP		
170	Poorly-graded SAND (fine, trace medium and coarse) with trace gravel (fine); brown	SP		
180	Poorly-graded SAND (fine, trace medium to coarse); brown	SP		
	Well-graded SAND (fine to coarse); brown	SW		
190	Well-graded SAND with little gravel (fine); brown	SW		
	Well-graded SAND with trace gravel (fine); brown	SW		Profile data gap due to poor KPRO equilibration

Boring ID:

MALCOLM PIRNIE, INC.

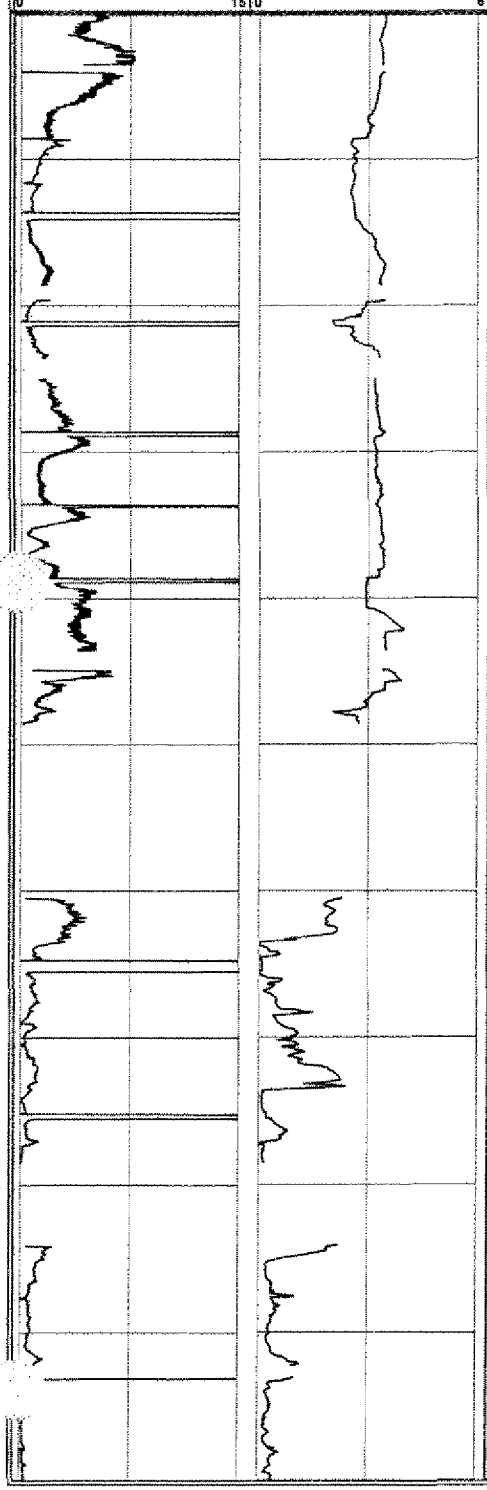
7 Route 208 North Fair Lawn, NJ 07401

P-E

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 14, 2003
JOB NUMBER:	4563001	END DATE:	May 22, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, on E side of Cantiague Rock Rd, South of 70 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 332.85 ft Total depth of Boring: 310 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Well-graded SAND (fine to coarse); brown	SW		
210				
	Poorly-graded SAND (fine) with trace gravel; brown	SP		
220	Poorly-graded SAND (fine to medium) with trace gravel (fine); brown to orange	SP		Profile data gaps due to poor KPRO equilibration
230	Poorly-graded SAND (fine); orange	SP		
	Poorly-graded SAND (fine to medium); orange	SP		
240	Poorly-graded SAND (fine to medium) with some clay; orange	SC		Profiler refusal at 248.57 ft, no penetration rate or IK data from 248.57 to 260.52 ft due to drilling activities
250	Well-graded SAND (fine to coarse) and CLAY; orange	SC- CL		
260	Poorly-graded SAND (fine to medium) and CLAY; gray to black	SC- CL		
270				Profiler refusal at 278.5 ft, no penetration rate or IK data from 278.5 to 284.12 ft due to drilling activities
280	Poorly-graded SAND (fine to medium) with some clay and silt; gray	SC		
290				

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

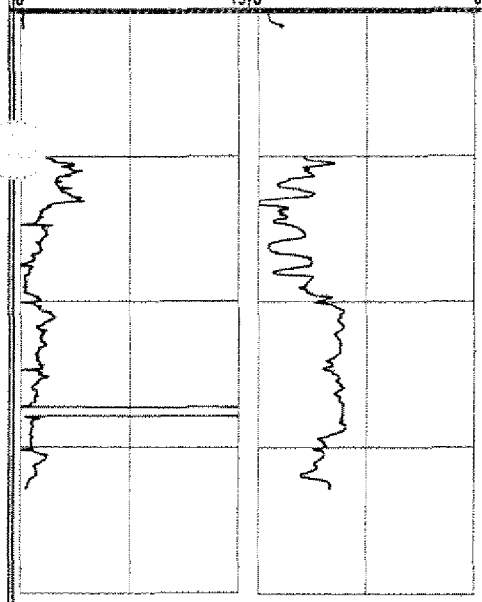
Boring ID: **P-E**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	May 14, 2003
JOB NUMBER:	4563001	END DATE:	May 22, 2003
DRILLING FIRM:	CT&E	LOCATION:	N of W John St, on E side of Cantiague Rock Rd, South of 70 Property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Wes Eicfeld	DATUM:	Land Surface
HELPER:	Karri Carley	HYDROGEOLOGIST:	Garrett Ferguson

Total depth of Profile: 332.85 ft

Total depth of Boring: 310 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300		SC		Profiler refusal at 301.23 ft, no penetration rate or IK data from 301.23 to 310.05 ft due to drilling activities End mud rotary boring at 310 ft
310				
320				
330				Profiler refusal at 332.85 ft End of profile at 332.85 ft
340				

Boring ID:

MALCOLM PIRNIE, INC.

17 Route 208 North Fair Lawn, NJ 07401

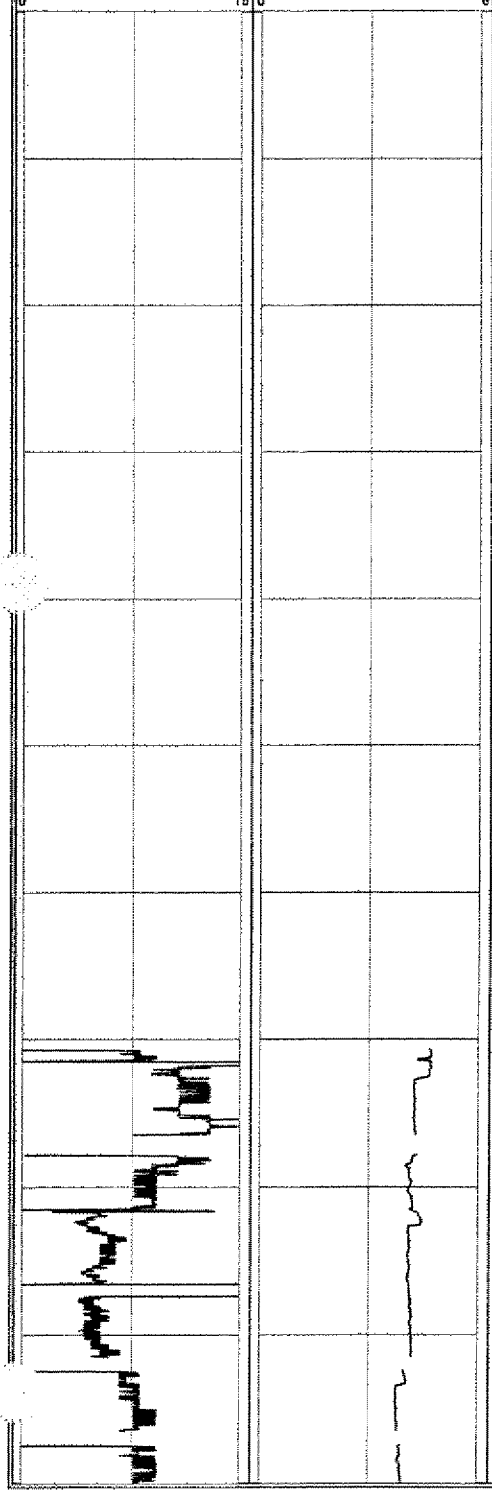
P-F

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	April 28, 2003
JOB NUMBER:	4563001	END DATE:	May 1, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 170.87 ft

Total depth of Boring: 176 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Well-graded SAND and GRAVEL; light brown to tan	SW-GW		
10				
20				
30				
40	Poorly-graded SAND (medium to coarse); brown	SP		
50				
60				
70				Begin Profiling at 70.71 ft Gravel bed 71 - 72 ft bgs
	Well-graded SAND with trace silt and gravel; light brown	SW		Gravel bed 77-78 ft bgs
80				Gravel bed 81-82 ft bgs Profile data gaps due to poor KPRO equilibration
90	No geologic description recorded			

MALCOLM PIRNIE, INC.

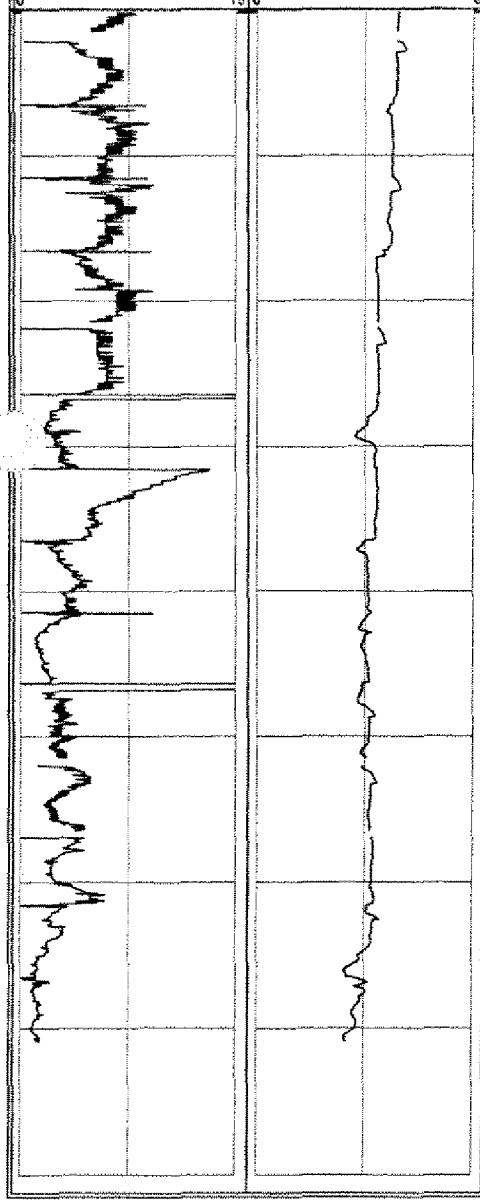
17-17 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-F**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	April 28, 2003
JOB NUMBER:	4563001	END DATE:	May 1, 2003
DRILLING FIRM:	CT&E	LOCATION:	E of Cantiague Rock Rd, N of W John St, on
DRILLING METHOD:	Mud Rotary	WEATHER:	Nassau Co driving range
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Ken Heinz	HYDROGEOLOGIST:	John Hilton

Total depth of Profile: 170.87 ft Total depth of Boring: 175 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100				Profile data gaps due to poor KPRO equilibration
110				
120				
	GRAVEL			Description based on drilling characteristics
130				
	No geologic description recorded			
140				
150				Profile data gaps due to poor KPRO equilibration
160				
170				End of profile at 170.87 ft. Profile rods broken, probe and some rods abandoned in hole.
				End of mud rotary boring at 175 ft
180				

Boring ID:

MALCOLM PIRNIE, INC.

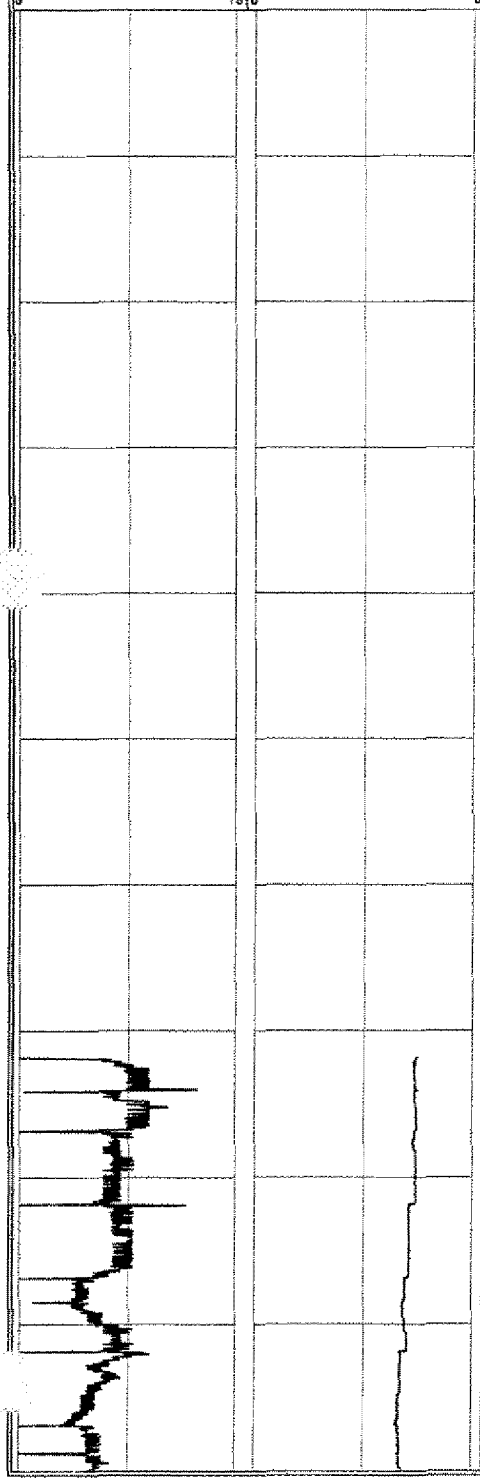
7 Route 208 North Fair Lawn, NJ 07401

P-H

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 21, 2003
JOB NUMBER:	4563001	END DATE:	July 28, 2003
DRILLING FIRM:	CT&E	LOCATION:	E side of Cantiague Rock Rd, N of W John St, S of 70 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Kenny Heinz	HYDROGEOLOGIST:	Kevin Wheeler, Jon Turk

Total depth of Profile: 404.15 ft Total depth of boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
0	Poorly-graded SAND (fine to medium) and GRAVEL (fine) with trace cobles; brown	SP-GP		
10				Hollow stem auger used from 0 to 14 ft. Begin mud rotary drilling at 14 ft.
	Poorly-graded SAND (fine to medium) with some gravel (fine)	SP		
20				
	Poorly-graded SAND (medium to coarse) with little gravel; light brown	SP		
30				Gravel fraction increases with depth
40				
	Poorly-graded SAND (fine to medium) and GRAVEL (fine); tan to light brown	SP-GP		
50				
	Poorly-graded SAND (fine to medium) with some to little gravel (fine); tan to light brown	SP		
60				
70	Poorly-graded SAND (medium to coarse) and GRAVEL (fine), trace clay; tan	SP-GP		Begin profiling at 71.86 ft
80	Poorly-graded SAND (fine to medium) with little clay; tan	SP		Thin brown clay lenses with lignite
90				

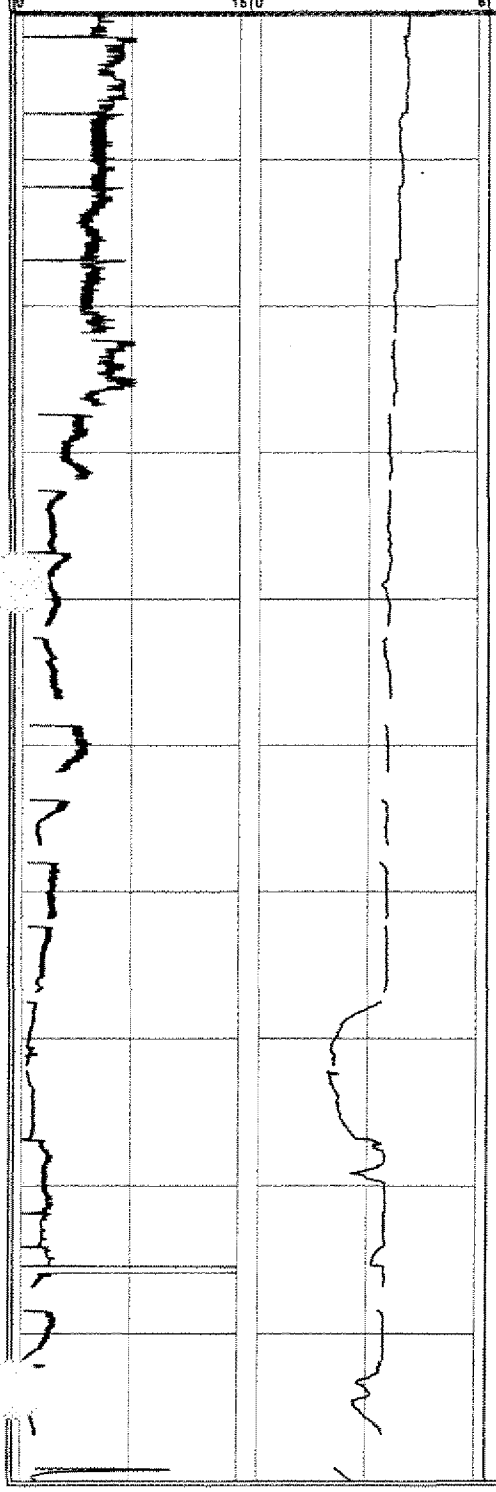
MALCOLM PIRNIE, INC.
7 Route 208 North Fair Lawn, NJ 07401

Boring ID: **P-H**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 21, 2003
JOB NUMBER:	4563001	END DATE:	July 28, 2003
DRILLING FIRM:	CT&E	LOCATION:	E side of Cantiague Rock Rd, N of W John St, S of 70 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Kenny Heinz	HYDROGEOLOGIST:	Kevin Wheeler, Jon Turk

Total depth of Profile: 404.15 ft Total depth of boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
100		SP		Thin brown clay lenses with lignite
110				
120	Well-graded SAND with some to little gravel (fine); tan	SW		Profile data gaps due to poor KPRO equilibration
130				
140				Profile data gaps due to poor KPRO equilibration
	Well-graded SAND (fine to coarse) and GRAVEL (fine); tan	SW-GP		
150				
	Poorly-graded SAND (medium to coarse) with some gravel (fine); light brown to tan	SP		
160				Profile data gaps due to poor KPRO equilibration
170	Poorly-graded SAND (fine to medium); light brown	SP		
180	Poorly-graded SAND (fine to medium); tan	SP		
190				Profile data gaps due to poor KPRO equilibration
	Well graded SAND (fine to coarse) with some gravel (fine); tan	SW		

Boring ID:

MALCOLM PIRNIE, INC.

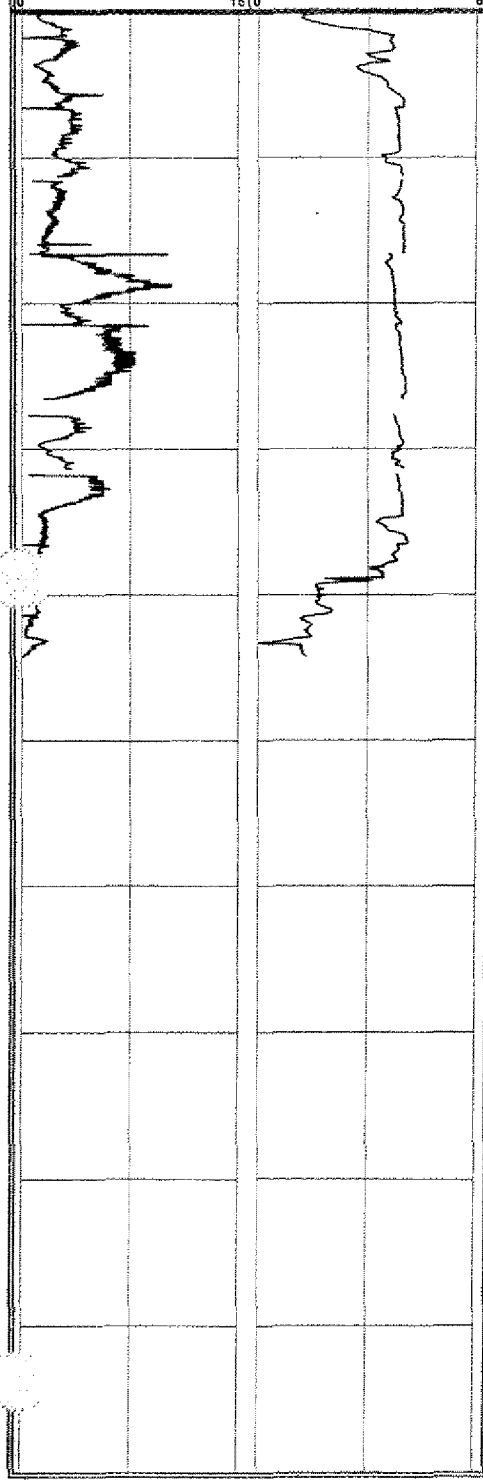
7 Route 208 North Fair Lawn, NJ 07401

P-H

PROJECT NAME:	GTECSI-Hicksville	START DATE:	July 21, 2003
JOB NUMBER:	4563001	END DATE:	July 28, 2003
DRILLING FIRM:	CT&E	LOCATION:	E side of Cantiague Rock Rd, N of W John St, S of 70 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Kenny Heinz	HYDROGEOLOGIST:	Kevin Wheeler, Jon Turk

Total depth of Profile: 404.15 ft Total depth of boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
200	Poorly-graded SAND (medium to coarse) with trace gravel (fine); tan	SP		Poor Recovery of Cuttings
	Poorly-graded SAND (medium to coarse); tan	SP		
210	Poorly-graded SAND (fine to medium); tan	SP		Trace mica
220				Profile data gaps due to poor KPRO equilibration
	Poorly-graded SAND (fine) and GRAVEL (fine); light brown	SP-GP		
230	Poorly-graded SAND (coarse); light brown to tan	SP		Profile data gaps due to poor KPRO equilibration
	Poorly-graded SAND (fine to medium); tan	SP		
240	Silty SAND (fine) with little clay and trace gravel (fine); tan	SM		Hardpan present in cuttings Profiler refusal at 244.25 ft, no penetration rate or IK data from 244.25 to 324.31 ft due to drilling activities
250				Low recovery, trace mica
260				Trace hardpan in cuttings
	SILT and CLAY with trace sand (medium); tan	ML- CL		
270				Most cuttings pass through the strainer
	Silty CLAY with trace sand (fine to medium); tan	CL- ML		
280	Poorly-graded SAND (fine) and CLAY, some silt; tan	SC- CL		
	Well-graded SAND (fine to coarse) with trace gravel (fine), trace clay; tan	SW		
290	SILT and SAND; tan	ML-SM		

MALCOLM PIRNIE, INC.

17-17 Route 208 North Fair Lawn, NJ 07401

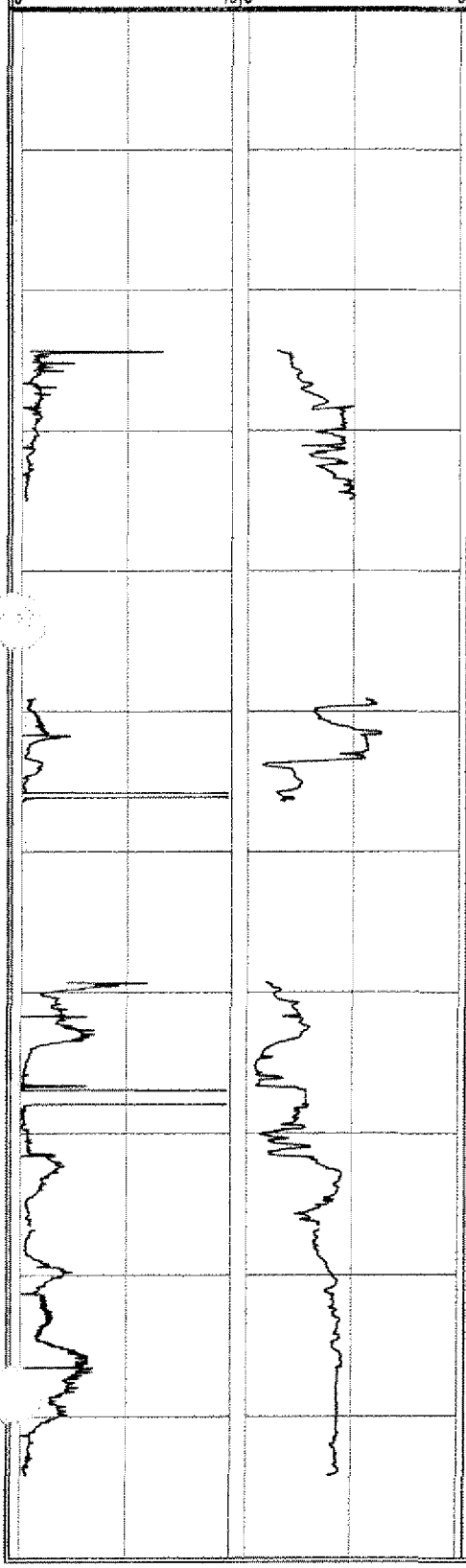
Boring ID: **P-H**

PROJECT NAME:	GTEOSI-Hicksville	START DATE:	July 21, 2003
NUMBER:	4563001	END DATE:	July 28, 2003
LING FIRM:	CT&E	LOCATION:	E side of Cantiague Rock Rd, N of W John St, S of 70 property
DRILLING METHOD:	Mud Rotary		
DRILLER:	Bill Petley	DATUM:	Land Surface
HELPER:	Kenny Heinz	HYDROGEOLOGIST:	Kevin Wheeler, Jon Turk

Total depth of Profile: 404.15 ft

Total depth of boring: 370 ft

GEOLOGIC INFORMATION



Depth (ft bgs)	USCS Description	USCS Symbol	Stratigraphic Column	REMARKS
300	CLAY with little silt; black	CL		Very firm, silt fraction increases with depth
310				
	CLAY and SAND (fine to coarse) with some gravel (fine); dark gray	CL- SP		
320	Poorly-graded GRAVEL (fine) with trace sand, trace clay	GP		
	Poorly-graded GRAVEL (fine) and CLAY, some silt and sand; black to gray	GC-CL		
330	CLAY with some sand (fine to medium); black to gray	CL		Most cuttings pass through the strainer Profiler refusal at 334.97 ft, no penetration rate or IK data from 334.97 to 349.11 ft due to drilling activities
340	Poorly-graded SAND (medium to coarse) and GRAVEL with some silt and clay	SM-GM		
	Poorly-graded SAND (medium to coarse) with trace gravel; tan	SP		
350				
	Poorly-graded SAND (fine) and CLAY, some silt; tan	SC- CL		Profiler refusal at 356.41 ft, no penetration rate or IK data from 356.41 to 369.3 ft due to drilling activities
360				
	Poorly-graded SAND (coarse) with trace gravel (fine); tan	SP		End of boring at 370 ft
370				
380				
390				
400				End of profile at 404.15 ft

Appendix D

Appendix D
Waterloo Profiler®

WATERLOO PROFILER®

The Waterloo Profiler® (Figure A-1) is capable of collecting groundwater samples in lower hydraulic conductivity settings; measuring hydraulic head (if the potentiometric surface is within the suction limit); measuring an index of hydraulic conductivity; and measuring physico-chemical properties such as pH, specific conductance, dissolved oxygen, oxidation/ reduction potential and temperature.

The current profiler tip is equipped with sixteen ports. The ports are arranged in four rows, resulting in an open interval of approximately 6 cm (2.4 inches) in length. This configuration increases the speed of sampling and minimizes the potential for the ports to become clogged while passing through geologic units with a high content of fine-grained sand, silt, and clay. To further minimize the potential for clogging, the screens are flush with the outer surface of the Profiler tip. This prevents the fine-grained material from entering the recessed ports and blocking groundwater flow into the unit. In addition, each port is fitted with a double screen: a coarse outer screen and a finer inner screen.

The stainless steel profiler tip is fitted with 1/4 inch outside diameter stainless steel tubing as shown on Figure A-1. The tube fits into the bottom of a gas drive pump and is sealed with "O"-rings. Water flows into the pump through the Viton reed valve, which prevents flow back out of the pump. Once the pump has filled with formation water, compressed nitrogen is pumped down the nitrogen line, forcing the water up the sample line to the surface. When the profiler is driven, the pump is filled with analyte free water and pressurized with nitrogen while water is pushed down the K-Pro line and out the ports on the profiler tip. Three sets of tubing are added in five-foot lengths using SwageLok couplings as the profiler is driven. The drive rod coupled to the profiler tip is 1.75-inch outside diameter direct push. This diameter is uniform along the length of the rod and profiler to minimize the potential for fluid movement along the rod to the tip.

The standard data acquisition configuration is shown in Figure A-2. This configuration includes the use of a peristaltic pump with in-line sample containers. These containers are standard glass Volatile Organic Analysis (VOA) sample bottles held in stainless steel bottle holders. The sample is collected directly into the bottles as it is pushed out of the downhole gas drive pump. The data is collected by a sophisticated data

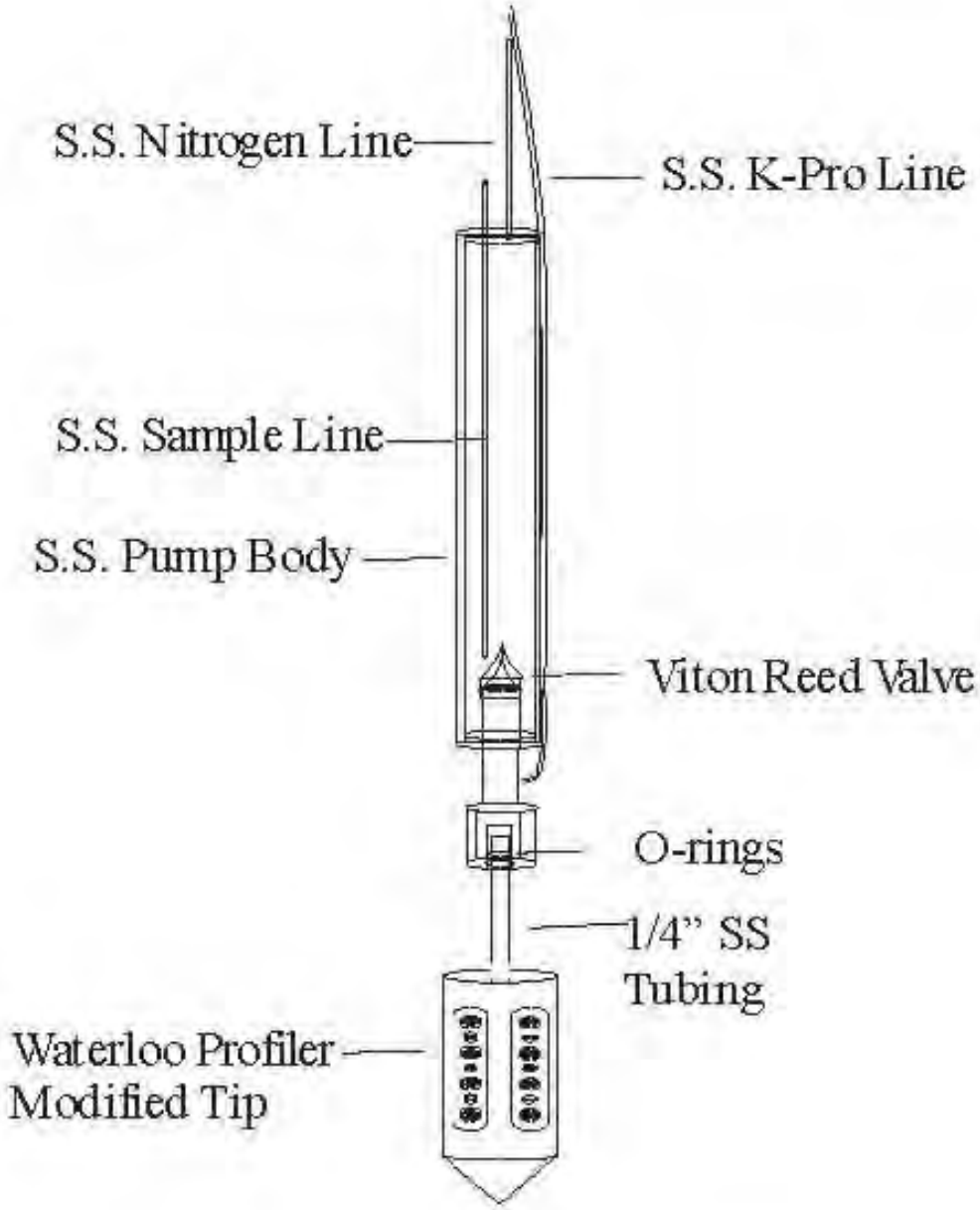
acquisition system. Various sensors are in the Profiler and are wired to a signal-conditioning device. The signal conditioning device outputs to a data acquisition board that in turn outputs to a Pentium notebook computer. Data are processed and viewed graphically in real time on the notebook computer screen and the data are written to files on disk.

At approximately every ten feet and based on the real-time index of hydraulic conductivity record, driving ceases and a sample is collected after purging sufficient volume of water for the physico-chemical parameters to equilibrate. This volume is typically between 500 to 2000 milliliters.

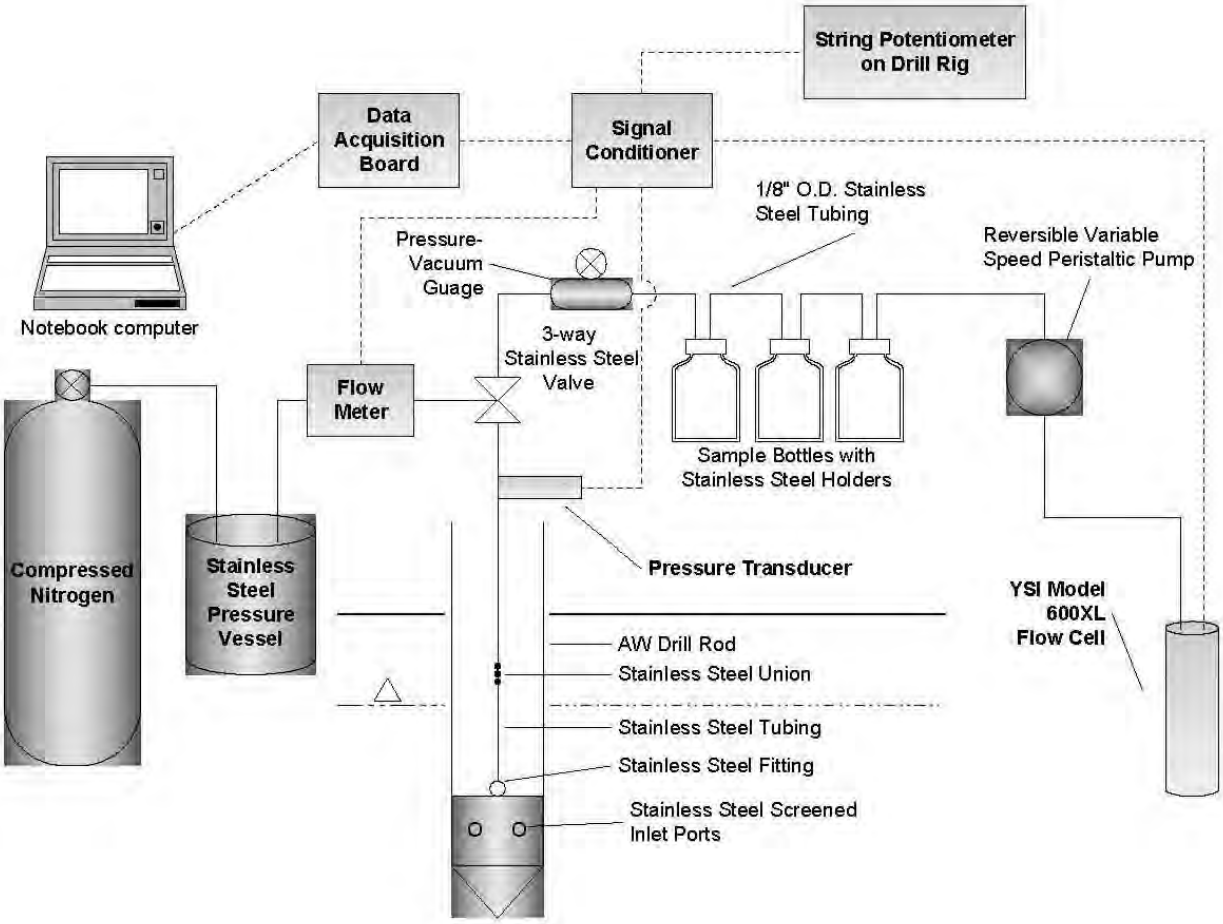
The index of hydraulic conductivity is collected continuously in every hole during the sampling push. This data helps to better understand the hydrostratigraphy across the site. The index of hydraulic conductivity (I_k) is a tool for assessing hydrostratigraphy while advancing the profiler. The index of hydraulic conductivity is the flow rate of water pushed through the profiler into the formation using a compressed nitrogen pressure source, divided by the corrected head (measured pressure less head loss due to friction). This value is not a hydraulic conductivity value, but it provides an excellent indication of the areas of relatively high and low hydraulic conductivity. The flow and pressure are measured using an electronic pressure transducer and flow meter at the ground surface as water is pumped into the formation during driving. This data is logged on disk in the notebook computer and are plotted versus depth on the notebook screen.

The rate of penetration shows stratigraphic changes that may affect contaminant transport or remedial design. Rate of penetration will be measured using a string potentiometer mounted on the direct push rig. This device electronically tracks the position of the hammer and the depth of the profiler tip. The depth is divided by elapsed time to provide a rate of penetration log, displayed in real time on the laptop computer.
Using flow cell parameters rather than a predetermined purge volume assures that formation water is sampled. In addition, the distribution of the flow cell parameters provides insight into the geochemical environment. A series of water quality probes in a YSI Model 600XL, equipped with a custom-built 50 mL volume flow cell, is placed in-line on the discharge side of the pump. This custom flow cell minimizes the volume of water that must be pumped to achieve equilibration of parameters. The YSI and flow cell

are integrated directly into the data acquisition system. These data are displayed on the notebook computer screen in the back of box truck. The YSI probes monitor pH, specific conductance, temperature, dissolved oxygen and oxidation/reduction potential. This data is used in real-time to determine when sufficient purging has occurred prior to sampling.



MALCOLM PIRNIE MALCOLM PIRNIE, INC FAIR LAWN, NJ	Waterloo Profiler®	GTE OSI Former Sylvania Electric Products Facility Hicksville, NY	Figure A-1



MALCOLM PIRNIE MALCOLM PIRNIE, INC FAIR LAWN, NJ	**Waterloo Profiler®** **Data Acquisition Configuration**	**GTEOSI** **Former Sylvania Electric Products Facility** **Hicksville, NY**	**Figure A-2**

Appendix E

Appendix E
Data Usability Summary Reports

REPORT

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Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products Incorporated facility in Hicksville, New York. Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for Volatile Organic Compound (VOC) analyses using United States Environmental Protection Agency (USEPA) guidance methods. The analytical data generated for this investigation were evaluated by URS using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the following references:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998;
- *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540-R-99-008, October 1999;
- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000), and
- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review*, SOP No. HW-6, Revision #11 (USEPA 1996a)

Professional judgement was used to qualify results as estimated (J or UJ) in some cases where the overall quality of data was suspected due to commonly accepted or standardized practices employed by the laboratory. Since the guidance documents used as a source of reference for the validation somewhat differ in the type of qualification applied to data, URS applied qualifiers generally as a conservative approach. Method non-conformances included exceedances of the relative percent standard deviation for the initial calibrations, the percent differences of the continuing calibrations, the percent recoveries of the system monitoring compounds, the internal standard values, and matrix spike/matrix spike duplicate percent recoveries. Affected data, however, were not rejected if other supporting quality control data indicated acceptable quality control results.

Additionally, most laboratory method blanks contained low level contamination from common laboratory contaminants such as acetone and methylene chloride. The presence of these contaminants affected many project samples and qualification of associated results was performed to show the relationship between the laboratory contamination and the uncertainty of the actual project sample result. Similarly, the project trip blanks and field blanks contained low-levels of some of the same contaminants as were seen in the laboratory method blanks. Again, URS qualified the affected data to show the potential impact on the final sample results.

Other quality issues requiring data validation qualification included removal of results from the database that exceeded the laboratory calibration range (i.e., qualified with a "E" by the laboratory), and qualification of all tentatively identified compounds. Results from these data sets are qualitative only, and not considered usable for quantitative assessments, in particular risk screening evaluations.

None of the exceedances of method non-conformances were significant enough to jeopardize the usability of the data. Most_analytical results summarized in Appendix A (with the exception of TIC results) are usable based on the findings listed in this Data Usability Summary Report (DUSR).

Overall, 100 percent of the VOC data retained in the database as final data, were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products Incorporated facility in Hicksville, New York (the Site). Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The SDG (laboratory package number), field identification, and laboratory identification of the samples that were submitted for data validation are presented in Table 1-1.

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J160194	DUP *Field Duplicate of MW-8*	F2J160194007	VOCs
	EB-101302 *Equipment Blank*	F2J160194014	VOCs
	MW-1	F2J160194010	VOCs
	MW-10	F2J160194005	VOCs
	MW-11	F2J160194011	VOCs
	MW-12	F2J160194006	VOCs
	MW-2	F2J160194008	VOCs
	MW-3	F2J160194001	VOCs
	MW-4	F2J160194002	VOCs
	MW-5	F2J160194012	VOCs
	MW-6	F2J160194009	VOCs
	MW-7	F2J160194013	VOCs
	MW-8	F2J160194003	VOCs
	MW-9	F2J160194004	VOCs
	TRIP BLANK *10-13-02*	F2J160194015	VOCs
F2J180121	P-1 (78.7)	F2J180121006	VOCs
	P-1 (98.7)	F2J180121008	VOCs
	P-2 (78.5)	F2J180121001	VOCs
	P-2 (98.8)	F2J180121009	VOCs
	P-2-DUP-01 *Field Duplicate of P-2 (78.5)*	F2J180121003	VOCs
	TRIP BLANK *10-16-02*	F2J180121011	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J220241	P-1 (299.14)	F2J220241033	VOCs
	TRIP BLANK *10-19-02*	F2J220241001	VOCs
F2J250192	P-1(301.16)	F2J250192012	VOCs
	TRIP BLANK *10-23-02*	F2J250192015	VOCs
	P-4 (106.8)	F2J300166005	VOCs
F2J300166	P-4 (77.5)	F2J300166003	VOCs
	P-4 (97.2)	F2J300166004	VOCs
	P-5 (107.5)	F2J300166006	VOCs
	P-5 (77.5)	F2J300166001	VOCs
	P-5 (97.5)	F2J300166002	VOCs
F2K010208	P-4 (197.65)	F2K010208036	VOCs
	P-5 (207.4)	F2K010208035	VOCs
	TRIP BLANK *10-30-02*	F2K010208011	VOCs
F2K050144	P-10 (198.15)	F2K050144003	VOCs
	P-10 (97.9)	F2K050144002	VOCs
	P-11 (107.4)	F2K050144001	VOCs
F2K060153	P-10 (107.95)	F2K060153007	VOCs
	P-10 (77.6)	F2K060153005	VOCs
	P-11 (167.4)	F2K060153008	VOCs
	P-11 (87)	F2K060153003	VOCs
	P-5 (292.4)	F2K060153001	VOCs
	P-5 (299.02)	F2K060153002	VOCs
	TRIP BLANK *11-03-02*	F2K060153009	VOCs
F2K080105	P-10 (264.5)	F2K080105003	VOCs
	P-11 (247.4)	F2K080105001	VOCs
	P-11 (281.13)	F2K080105004	VOCs
	TRIP BLANK *11-05-02*	F2K080105002	VOCs
F2K150247	P-12 (108)	F2K150247012	VOCs
	P-12 (78.85)	F2K150247011	VOCs
	P-12 (87.89)	F2K150247009	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2K150247	P-12 (97.92)	F2K150247005	VOCs
	P-6 (102.8)	F2K150247002	VOCs
	P-6 (122.8)	F2K150247013	VOCs
	P-6 (82.8)	F2K150247001	VOCs
	P-9 (102.61)	F2K150247015	VOCs
	P-9 (162.61)	F2K150247010	VOCs
	P-9 (82.61)	F2K150247008	VOCs
	TRIP BLANK *11-13-02*	F2K150247014	VOCs
F2K180219	P-9 (232.61)	F2K180219001	VOCs
	TRIP BLANK *11-15-02*	F2K180219003	VOCs
F2K190242	P-3 (107.40)	F2K190242004REA	VOCs*
	P-3 (87.40)	F2K190242001REA	VOCs*
	P-6 (252.4)	F2K190242007REA	VOCs*
	P-6 (291.5)	F2K190242008REA	VOCs*
	TRIP BLANK *11-18-02*	F2K190242009REA	VOCs*
F2K220291	P-12 (207.43)	F2K220291006	VOCs
	P-12 (287.42)	F2K220291009	VOCs
	P-12 (297.41)	F2K220291007	VOCs
	P-3 (167.40)	F2K220291005	VOCs
	P-3 (227.40)	F2K220291004	VOCs
	P-7 (102.4) -UNFILTERED	F2K220291010	VOCs
	P-7 (82.4)	F2K220291002	VOCs
	TRIP BLANK *11-19-02*	F2K220291008	VOCs
F2K230165	P-2 (258.14)	F2K230165002	VOCs
	P-3 (304.40)	F2K230165003	VOCs
	P-7 (242.4)	F2K230165001	VOCs
	TRIP BLANK *11-21-02*	F2K230165004	VOCs
F2L060132	P-7 (301)	F2L060132003	VOCs
	P-8 (77.55)	F2L060132001	VOCs
	P-8 (97.55)	F2L060132002	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2L060132	TRIP BLANK *12-04-02*	F2L060132004	VOCs
F2L070156	P-13 (76.6)	F2L070156006	VOCs
	P-13 (86.6)	F2L070156007	VOCs
	P-13 (96.6)	F2L070156008	VOCs
	P-14 (77.82)	F2L070156009	VOCs
	P-14 (85.82)	F2L070156010	VOCs
	P-14 (95.17)	F2L070156011	VOCs
	P-2 (302.05)	F2L070156003	VOCs
	P-8 (167.55)	F2L070156004	VOCs
	P-8 (247.55)	F2L070156005	VOCs
	TRIP BLANK *12-06-02*	F2L070156013	VOCs
F2L120248	P-13 (237.30)	F2L120248002	VOCs
	P-16 (181.00)	F2L120248003	VOCs
	P-16 (231.00)	F2L120248004	VOCs
	P-16 (251.00)	F2L120248005	VOCs
	TRIP Blank *12-10-02*	F2L120248001	VOCs
F2L120270	P-13 (116.6)	F2L120270006	VOCs
	P-13 (176.6)	F2L120270007	VOCs
	P-14 (115.14)	F2L120270003	VOCs
	P-14 (204.7)	F2L120270009	VOCs
	P-16 (101)	F2L120270024	VOCs
	P-16 (121)	F2L120270025	VOCs
	P-16 (81)	F2L120270021	VOCs
	P-16 (91)	F2L120270023	VOCs
	P-8 (297.55)	F2L120270004	VOCs
	P-8 (302.55)	F2L120270005	VOCs
	TRIP BLANK *12-07-02*	F2L120270008	VOCs

Table Notes:
*The laboratory inadvertently performed SW846 Method 1311 (i.e., Toxicity Characteristic Leaching Procedure) on these samples. The actual results are reported using laboratory reporting limits that are above required practical quantitation limits specified in the QAPP. Re-sampling and re-analysis for these locations was not performed.

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report summarizes the findings of the review and outlines any deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York.* Syracuse, New York.

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998.

- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000)

- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review*, SOP No. HW-6, Revision #11 (USEPA 1996a); and

- *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540-R-99-008, October 1999.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for volatile organic compound (VOC) analyses. The laboratory used the following USEPA guidance methods for the analyses:

- SW846 Method 5030B Purge/Trap Analysis
- SW846 Method 8260B Gas Chromatography/Mass Spectrometry plus Tentatively Identified Compounds (TICs)

The laboratory assigned a sample delivery group (SDG) number to a group of samples during the sample log-in process. The SDG number is the means by which the laboratory tracks samples and controls QC analyses. A total of 18 SDGs contained one or more groundwater samples submitted for analysis. The SDG, field identification and laboratory identification for each sample are summarized in Table 1-1.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. A summary of the findings associated with the validation and the specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data (EDD) is presented in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1.

URS performed a data review of all analytical results to assess data quality. A data review includes an assessment of sample handling protocols, supporting laboratory quality control (QC) parameters, and field QC. The following is a list of specific analytical information evaluated during the validation:

- Data package completeness review – per the NYSDEC ASP Category B or USEPA CLP deliverables requirements;
- Analytical methods performed and test method references;
- Sample condition - review of log-in records for cooler temperature, presence of headspace, chemical preservation, etc.;
- Holding times (comparison of collection, preparation, and analysis dates);
- Analytical results (units, values, significant figures, reporting limits, analyst, percent moisture);
- Sample traceability and comparison to raw data;
- Instrument tuning;
- Initial calibration – comparison to laboratory criteria;
- Continuing calibration – comparison to laboratory criteria;
- Method blank results and laboratory contamination;
- Laboratory control sample (LCS) results and comparison to laboratory control limits;
- Matrix spike/matrix spike duplicate (MS/MSD) results and comparison to laboratory control limits;
- Field replicate/duplicate results and comparison to data review criteria;
- Surrogate recoveries (where applicable) and comparison to laboratory control limits;
- Internal Standards (where applicable) and comparison to lab criteria;
- Tentatively Identified Compounds (TICs);
- Field QC sample (e.g., trip blanks, equipment blanks, etc.);
- Reporting limits and Dilutions; and
- Electronic Data Deliverables (EDDs) – comparison to the hardcopy analytical report (a 20% check of the data to confirm that the results in the hardcopy report matched the results in the electronic file).

The analytical reports were reviewed for completeness and the accompanying QC data were reviewed for acceptable performance. In case documentation was incomplete, the laboratory was required to provide the missing information. When QC results indicated poor performance, URS applied data qualifiers to the results to inform the data user of the possible performance problem. These qualifiers are in addition to or a revision of the qualifiers provided by the laboratory. A summary of the data qualifiers used for this review is presented in Section 2.2.

2.2. Data Qualifiers

The following qualifiers have been used by the laboratory:

"U" Non-detect result at the established laboratory reporting limit (adjusted for percent moisture, if applicable).

"B" Associated with a result if the compound was identified in the corresponding method blank.

"J" Indicates an estimated value or a value below the established reporting limit but above the method detection limit.

"E" This flag identifies compounds whose concentrations exceed the calibration range of the instrument for the specific analysis; data qualified with an "E" are qualitative only and not useable for quantitative purposes. All results qualified with an "E" were required to be re-analyzed using an applicable dilution and re-reported.

Laboratory qualifiers defined above, are retained in the final database unless revised during the data validation process to one of the following qualifiers:

"U" The chemical was not detected. Value shown is the reporting limit.

"J" Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

"UJ" The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes whether the QA/QC parameters specified in Section 2.1 met validation criteria. A summary of the individual components of the review are described in the following sections.

3.2. Review of Validation Criteria

3.2.1. Completeness Review

The laboratory provided the analytical report in the New York State Department of Environmental Conservation (NYSDEC) format. Nearly all necessary documents were included in the report package including a case narrative summarizing the QC issues associated with the project analyses. In just a few isolated cases, the laboratory was asked to provide missing documentation, which included a run-log and an initial calibration run. The laboratory provided all information requested by URS.

3.2.2. Test Methods

The laboratory performed the analyses for most analyses using the analytical test methods listed in Section 1.3. These included SW846 Method 5030B (aqueous sample purge/trap analysis) followed by Method 8260B (gas chromatography/mass spectrometry). Most samples were analyzed using a 25-mL purge volume which allows lower reporting limits for each compound.

For five project samples, however, the laboratory inadvertently performed SW846 Method 1311 (i.e., Toxicity Characteristic Leaching Procedure). The analysis was performed using a dilution (20x) which caused reporting limits to be raised above the practical quantitation limits specified in the QAPP (GTEOSI, 2002). Re-analysis was not performed since sample holding times had expired before the error was noticed. Re-sampling and re-analysis for these locations was not performed due to the identification of some target compounds within the matrix at levels above the PQLs. No qualification of the results was performed since batch QC analyses were acceptable. Qualification is also not required by the guidance methods for a result associated with a diluted analysis. The affected project samples include:

Table 3-1: *Samples Analyzed by an Inappropriate Test Method*

Package Identification	***Client ID***	***Laboratory ID***
F2K190242	P-3(107.40)	F2K190242004REA
	P-3(87.40)	F2K190242001REA
F2K190242	P-6(252.4)	F2K190242007REA
	P-6(291.5)	F2K190242008REA
	TRIP BLANK *11-18-02*	F2K190242009REA

REA – Indicates a laboratory reanalysis or an analysis performed with a diluted sample.

3.2.3. Sample Receipt

The laboratory received 103 aqueous samples for VOC analysis between October 13, 2002 and December 11, 2002. The sample temperatures at the time of receipt were within the recommended temperature range

of 4°C±2°C for all SDGs. Field and laboratory personnel completed the Chain-of-Custody (COC) documents correctly recording the signature, date, and time of custody transfer.

The laboratory recorded the condition of the samples at the time of receipt on a "Conditions Upon Receipt Form." This Form identifies whether the containers were received undamaged, within the proper temperature range, at the proper pH, in a container that is sealed with a custody seal on the exterior, and with a completed COC enclosed to identify all samples submitted to the laboratory. For most SDGs, this form was completed properly. For one SDG, F2K150247, the laboratory did not record sufficient information on the form to assess the proper sample condition upon receipt. (The laboratory only recorded the sample temperature and the presence of a custody seal on the container). No qualification of data was required for this error. However, the laboratory was informed that all log-in forms must be completed appropriately for all future investigations. The samples associated with this SDG are as follows: P-12 (108), P-12 (78.85), P-12 (78.85), P-12 (87.89), P-12 (87.89), P-12 (97.92), P-6 (102.8), P-6 (102.8), P-6 (122.8), P-6 (82.8), P-9 (102.61), P-9 (102.61), P-9 (162.61), P-9 (82.61), and TRIP BLANK (11-13-02). Additionally, the laboratory identified the presence of headspace in the VOC sample containers for one project sample. Headspace in a VOC container can negatively bias the VOC results due to the loss of VIC compounds within that headspace. The VIC results for P-12 (207.43) were qualified as estimated ("J" or "UJ") to indicate the potential bias.

Table 3-2. *Evaluation of Sample Headspace*

Package Identification	***Client ID***	***Laboratory ID***	***Action***
F2K220291	P-12 (207.43)	F2K220291006	UJ – all non-detect results J – all positive results above the laboratory reporting limit.

3.2.4. Holding Times

The laboratory performed most VOC analyses within EPA-recommended holding time of 14-days for acid preserved samples. The Trip Blank collected on November 5, 2002 contained acetone at a concentration that exceeded the laboratory's calibration range. The laboratory did not identify the exceedance until the hold time for the VOC analysis had passed. The VOC results associated with the reanalysis (F2K080105002REA) were qualified as estimated ("J" or "UJ") to indicate the potential bias. With the exception of the acetone result, the initial results for the November 5th Trip Blank were retained in the final data set.

Table 3-3. *Evaluation of Holding Times*

Package Identification	***Client ID***	***Laboratory ID***	***Action***
F2K080105	Trip Blank	F2K080105002REA	UJ – all non-detect results J – all positive results above the laboratory reporting limit

REA – Laboratory reanalysis of the sample.

3.2.5. Analytical Results

For each sample tested, the laboratory provided the analytical test information using the Contract Laboratory Program (CLP) format. This format requires the use of stylized forms to present critical information pertaining to the analyses performed. For all analytical results, the laboratory provided a Form I with the reported analytical results for the requested analyses. The Form I format shows the following information for organic analyses: the laboratory name; laboratory code; matrix; sample weight

per volume; the gas chromatography (GC) column identification; the sample identification; the laboratory file identification; the date the sample was received; the date the sample was analyzed; the dilution factor; the chemical abstract service (CAS) number; the units of measure; and the laboratory qualifier (if any). Additional CLP forms were provided (e.g., II, III, etc.) to report applicable QC information for the analyses performed. The laboratory provided all the appropriate forms for the VOC method.

3.2.6. Traceability to Raw Data

Traceability of the VOC analyses is established by Form V (Instrument Performance Check). These forms list the project samples analyzed per laboratory batch processed and the corresponding QC samples performed with the project samples. All project samples for all SDGs were included on the applicable forms.

3.2.7. Instrument Tuning

The GC/MS instrument performance [i.e., "tuning data," or a check of mass spectral ion intensities using bromofluorobenzene (BFB)] met method criteria. The instrument performance was checked prior to calibration and once every 12-hour shift for all analytical QC batches.

3.2.8. Initial Calibration

The initial calibrations (ICALs) met data validation criteria (i.e., relative response factors (RRFs) were greater than method criteria for the System Performance Check Compounds (SPCCs), and the relative percent standard deviations (%RSDs) were less than 15% for Calibration Check Compounds (CCCs)). Additionally, for all target compounds, method requirements recommend that RRFs be greater than 0.05 and that compounds be quantitated using the average relative response factor (avgRRF) only if the %RSD is less than 15%. The guidance method recommends that all compounds with a %RSD greater than 15% be quantitated with a calibration curve rather than the avgRRF. The laboratory does not prepare a calibration curve for compounds with a %RSD greater than 15% as recommended within the guidance method. Rather, the laboratory uses an alternate approach to the ICAL evaluation by evaluating the avgRRF (for all compounds calibrated). If their avgRRF is less than 15% (across all compounds) then the laboratory considers this to mean that they have met method criteria for the ICAL. Since this evaluation approach is not widely used, a conservative approach was used for the validation process and all results were qualified as estimated ("J" or "UJ") that were associated with the laboratory ICALs that had a %RSD greater than 15%. Table 3-4 shows the samples and results qualified as estimated.

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2J160194	DUP DUP (rea) EB-101302 MW-1 MW-10 MW-10 (rea) MW-11 MW-12 MW-2 MW-3 MW-3 (rea) MW-4 MW-4 (rea) MW-5 MW-6 MW-7 MW-7 (rea) MW-8 MW-9 MW-9 (rea) TRIP BLANK 10-13-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J180121	P-1 (78.7) P-1 (98.7) P-2 (78.5) P-2 (78.5) (rea) P-2 (98.8) P-2-DUP-01 P-2-DUP-01 (rea) TRIP BLANK 10-16-02	%RSD: acetone, methylene chloride, bromomethane, 4-methyl-2-pentanone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J220241	P-1 (299.14) TRIP BLANK 10-19-02	%RSD: acetone, methylene chloride, bromomethane RRF: 2-butanone, acetone, bromomethane, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J250192	P-1(301.16) TRIP BLANK 10-23-02	%RSD: methylene chloride, bromomethane RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J300166	P-4 (106.8) P-4 (77.5) P-4 (97.2) P-5 (107.5) P-5 (107.5) (rea) P-5 (77.5) P-5 (77.5) (rea) P-5 (97.5) P-5 (97.5) (rea)	%RSD: 2-butanone, acetone, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K010208	P-4 (197.65) P-5 (207.4) TRIP BLANK 10-30-02	%RSD: 2-butanone, acetone, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2K050144	P-10 (198.15) P-10 (198.15) (rea) P-10 (97.9) P-10 (97.9) (rea) P-11-107.4	%RSD: 2-butanone, acetone, methylene chloride, bromomethane RRF: 2-butanone, bromomethane, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K060153	P-10 (107.95) P-10 (107.95) (rea) P-10 (77.6) P-10 (77.6) (rea) P-11 (167.4) P-11 (87) P-5 (292.4) P-5 (299.02) P-5 (299.02) (rea) TRIP BLANK 11/03/02 TRIP BLANK 11/03/02 (rea)	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K080105	P-10 (264.5) P-11 (247.4) P-11 (281.13) TRIP BLANK 11-05-02 TRIP BLANK 11-05-02 (rea)	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K150247	P-12 (108) P-12 (78.85) P-12 (78.85) (rea) P-12 (87.89) P-12 (87.89) (rea) P-12 (97.92) P-6 (102.8) P-6 (102.8) (rea) P-6 (122.8) P-6 (82.8) P-9 (102.61) P-9 (102.61) (rea) P-9 (162.61) P-9 (82.61) TRIP BLANK 11-13-02	%RSD: 2-hexanone RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K180219	P-9 (232.61) TRIP BLANK 11-15-02	%RSD: bromomethane, chloroethane, methylene chloride, tetrachloroethene	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K190242	P-3 (107.40) P-3 (87.40) P-6 (252.4) P-6 (291.5) TRIP BLANK 11-18-02	%RSD: acetone, bromomethane, methylene chloride, chloromethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K220291	P-12 (207.43) P-12 (287.42) P-12 (287.42) (rea) P-12 (297.41) P-3 (167.40) P-3 (227.40) P-7 (102.4) –Unfiltered P-7 (82.4) TRIP BLANK 11-19-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2K230165	P-2 (258.14) P-3 (304.40) P-7 (242.4) TRIP BLANK 11-21-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55) TRIP BLANK 12-04-02	%RSD: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L070156	P-13 (76.6) P-13 (86.6) P-13 (96.6) P-14 (77.82) P-14 (77.82) (rea) P-14 (85.82) P-14 (85.82) (rea) P-14 (95.17) P-2 (302.05) P-8 (167.55) P-8 (247.55) TRIP BLANK 12-6-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120248	P-13 (237.30) P-13 (237.30) (rea) P-16 (181.00) P-16 (231.00) P-16 (251.00) Trip Blank 12-10-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120270	P-13 (116.6) P-13 (116.6) (rea) P-13 (176.6) P-14 (115.14) P-14 (204.7) P-16 (101) P-16 (101) (rea) P-16 (121) P-16 (81) P-16 (81) (rea) P-16 (91) P-16 (91) (rea) P-8 (297.55) P-8 (302.55) TRIP BLANK 12-07-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit

Notes:
*Not all compounds listed are affected by exceedances of %RSD and avgRRF. The final EDD shows the final qualifiers for the project.
rea – Indicates a laboratory reanalysis.

3.2.9. Continuing Calibration

The continuing calibration (CCAL) verification analyses were performed with a mid-level standard immediately following the tuning check at the beginning of each 12-hour analytical sequence. The CCAL verification analyses met data validation criteria (i.e., RRFs were <0.05 for the SPCCs, and the percent differences (%Ds) from the avgRRF were < 20% for the CCCs) for all analytical QC batches. For the target compounds, the %Ds were greater than 20% for multiple compounds. Although method criteria were met, as a conservative approach the results associated with a CCAL that exceeded 20%D were qualified as estimated ("J" or "UJ"). Table 3-5 shows a summary of the samples and qualified parameters.

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2J160194	DUP DUP (rea), EB-101302 MW-1 MW-10 MW-10 (rea) MW-11 MW-12 MW-2 MW-3 MW-3 (rea) MW-4 MW-4 (rea) MW-5 MW-6 MW-7 MW-7 (rea) MW-8 MW-9 MW-9 (rea) TRIP BLANK 10-13-02	2-butanone, 2-hexanone	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J220241	P-1 (299.14) TRIP BLANK 10-19-02	Acetone, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J250192	P-1(301.16) TRIP BLANK 10-23-02	2-hexanone, acetone, bromomethane, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J300166	P-4(106.8) P-4(77.5) P-4(97.2) P-5(107.5) P-5(107.5) (rea) P-5(77.5) P-5(77.5) (rea) P-5(97.5) P-5(97.5) (rea)	2-hexanone, methylene chloride, chloromethane, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K050144	P-10 (198.15), P-10 (198.15) (rea) P-10 (97.9) P-10 (97.9) (rea) P-11-107.4	2-hexanone, methylene chloride, chloromethane, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K060153	P-5 292.4	2-hexanone, methylene chloride, bromoform, 4-methyl-2-pentanone, bromomethane, chloroform	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K080105	P-10 (264.5) P-11 (247.4) P-11 (281.13) TRIP BLANK 11-05-02 TRIP BLANK 11-05-02 (rea)	2-hexanone, methylene chloride, 4-methyl-2-pentanone, bromomethane, chloroform	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2K150247	P-12 (108) P-12 (78.85) P-12 (78.85) (rea) P-12 (87.89) P-12 (87.89) (rea) P-12 (97.92) P-6 (102.8) P-6 (102.8) (rea) P-6 (122.8) P-6 (82.8) P-9 (102.61) P-9 (102.61) (rea) P-9 (162.61) P-9 (82.61) TRIP BLANK 11-13-02	Acetone, 2-hexanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K180219	P-9 (232.61') TRIP BLK 11-15-02	2-butanone, acetone, bromoform, chloromethane,	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K190242	P-3 (107.40) P-3 (87.40) P-6 (252.4) P-6 (291.5) TRIP BLANK 11-18-02	acetone, chloromethane,	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K220291	P-12 (207.43) P-12 (287.42) P-12 (287.42) P-12 (297.41) P-3 (167.40) P-3 (227.40) P-7 (102.4) –UNFILTERED P-7 (82.4) TRIP BLANK 11-19-02	2-hexanone, 4-methyl-2-pentanone, bromomethane, chloromethane, trans-1,3-dichloropropene	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K230165	P-2 (258.14) P-3 (304.40) P-7 (242.4) TRIP BLANK 11-21-02	2-hexanone, 4-methyl-2-pentanone, chloromethane, trans-1,3-dichloropropene	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55) TRIP BLANK 12-04-02	2-hexanone, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L070156	P-13 (76.6) P-13 (86.6) P-13 (96.6) P-14 (77.82) P-14 (77.82) P-14 (85.82) P-14 (85.82) P-14 (95.17) P-2 (302.05) P-8 (167.55) P-8 (247.55) TRIP BLANK 12-6-02	2-hexanone, methylene chloride, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2L120248	P-13 (237.30) P-13 (237.30) P-16 (181.00) P-16 (231.00) P-16 (251.00) Trip Blank 12-10-02	Carbon tetrachloride, acetone, bromomethane, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120270	P-13 (116.6) P-13 (116.6) P-13 (176.6) P-14 (115.14) P-14 (204.7) P-16 (101) P-16 (101) P-16 (121) P-16 (81) P-16 (81) P-16 (91) P-16 (91) P-8 (297.55) P-8 (302.55) TRIP BLANK 12-07-02	2-hexanone, acetone, carbon tetrachloride, 1,1-dichloroethane, 4-methyl-2-pentanone	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

*Not all compounds listed in column 3 affect all project samples shown. The attached EDD shows the final qualifiers assigned to the project sample results based on the validation criteria for all QC sample analyses.

3.2.10. Laboratory Method Blanks

In general, nearly all laboratory method blanks contained trace levels of one of more of laboratory contaminants including: acetone, methylene chloride, toluene, and chloromethane. The corresponding project sample results for the identified contaminants were revised to non-detect results if the associated sample results were less than 5 times the method blank results for laboratory contaminants in accordance with the QAPP (GTEOSI, 2002). Nearly all samples were affected by this qualification practice. A summary of the samples and compounds that were revised for the VOCs is presented in Table 3-6.

Table 3-6. *Evaluation of Laboratory Method Blank Results*

Package Identification	***Client ID***	***Laboratory ID***	***Action***
F2J160194	MW-4 (rea)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	MW-7	Acetone	Revise "B" qualifier to "U" to indicate non-detect result
F2J300166	P-4 (106.8) P-4 (77.5) P-4 (97.2) P-5 (77.5) P-5 (107.5) (rea) P-5 (97.5) (rea)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	P-5 (107.5)	Acetone, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	P-5 (77.5)	Acetone	Revise "B" qualifier to "U" to indicate non-detect result
F2K060153	P-10 (77.6)	Toluene	Revise "B" qualifier to "U" to indicate non-detect result
F2K050144	P-10 (97.9) (rea) P-10 (198.15) P-10 (198.15) (rea)	Acetone, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result

Table 3-6. *Evaluation of Laboratory Method Blank Results*

Package Identification	*Client ID*	*Laboratory ID*	*Action*
F2K150247	P-12 (87.89) P-12 (87.89) (rea) P-9 (82.61)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2K190242	P-3 (87.40) P-3 (107.4) P-6 (252.4) P-6 (291.5)	Carbon disulfide, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55)	Acetone, Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2L120248	P-13 (237.00) P-13 (237.00) (rea) P-16 (181.00) P-16 (231.00) P-16 (251.00)	Acetone	Revise "B" qualifier to "U" to indicate non-detect result

(rea) – Indicates a laboratory reanalysis of the sample.

3.2.11. Laboratory Control Sample Results

The laboratory analyzed a laboratory control sample (LCS) for all QC batches. The percent recoveries were within laboratory control limits for almost all QC batches. Where recoveries exceeded laboratory control limits, the associated data were qualified as estimated ("J" or "UJ") using the following validation guidance: 1) if the percent recovery was greater than the upper control limit, positive results were qualified as estimated; non-detects were not qualified; 2) if the percent recovery was below the lower control limit, both positive and non-detect results were qualified ("J" or "UJ"). Table 3-7 shows the samples that were qualified as estimated due to LCS percent recoveries exceeding laboratory control limits. All results associated with LCS recoveries above the laboratory control limits were non-detect, and therefore, did not require qualification. Consequently, these samples are not listed in Table 3-7.

Table 3-7. *Evaluation of Laboratory Control Sample Results*

Package Identification	*Client ID*	*Compound*	*Action*
F2K010208	P-4 (197.65) P-5 (207.4) TRIP BLANK 10-30-02	Bromomethane	"UJ" (low %R)
F2K080105	P-11 (247.4)	Methylene chloride	"UJ" (low %R)

3.2.12. Matrix Spike/Matrix Spike Duplicate Analyses

Multiple project samples were submitted for MS/MSD analyses. Where recoveries exceeded laboratory control limits, the associated data were qualified as estimated ("J" or "UJ") using the following validation guidance: 1) if the percent recovery was greater than the upper control limit, positive results were qualified as estimated; 2) if the percent recovery was below the lower control limit, both positive and non-detect results were qualified ("J" or "UJ"). No qualification of data is required when percent recoveries are above the upper control limit and the VOC results are non-detect. Table 3-8 shows the samples that were qualified as estimated due to MS/MSD percent recoveries exceeding criteria. Table 3-8 does not list cases where the MS/MSD percent recoveries were greater than the upper control limit and the results were non-detect.

Table 3-8. *Evaluation of Matrix Spike/Matrix Spike Duplicate Sample Results*

Package Identification	***Client ID***	***Compound***	***Action***
F2J180121	P-2 (78.5)	Tetrachloroethene	"J" (high %R)
F2K050144	P-10 (198.15)	Carbon disulfide	"J" (high %R)
F2K060153	P-10 (77.6)	Methylene chloride Trans-1,3-dichloropropene Trichloroethene Tetrachloroethene	"UJ" (low %R)
F2L120248	P-16 (181.00)	Chloroform	"J" (low %R)

3.2.13. Field Duplicate Analyses

Two project samples were submitted as field duplicates. An evaluation of the precision of the field sampling procedure (as well as the laboratory analysis procedure) was made based on the relative percent difference (RPD) calculated for the original and duplicate sample results. RPD calculations were made only when both results were above the laboratory reporting limits. The RPD values for all compounds were less than 30% (aqueous data evaluation criteria).

It should be noted that QAPP requirements (GTEOSI, 2002) specified that a field duplicate sample be collected at a rate of one sample for every ten samples (collection rate of 10%). Nine field duplicates were required to be collected for the project since a total of 87 project samples were submitted for analysis. Although the precision objective for the two field duplicates submitted was achieved, an appropriate number of field duplicate samples were not collected to adequately assess precision. Therefore, precision is considered unknown because of the limited number of field duplicate samples collected.

3.2.14. Trip Blanks and Equipment Blanks

Multiple trip blanks and one equipment blank were submitted for the groundwater sampling project. Two sample delivery groups were submitted to the laboratory without a trip blank (F2J300166 and F2K050144). The reason for the oversight was not identified by field personnel. No assessment of the affect of sample cross-contamination during the shipping process could be made for these SDGs. Many of the trip blanks that were submitted contained common contaminants, including acetone, methylene chloride, and toluene. The equipment blank also contained acetone, methylene chloride, and chloromethane. Revisions to the affected target compounds were based on trip blank and equipment blank contamination, in accordance with practices described in the validation guidance documents listed in Sections 1.2 and 3.2.10 (method blank contamination). It should be noted that the results for the trip blanks and the equipment blank were not revised but the original result and laboratory qualifiers were retained to show data users the presence and concentrations of contamination that was used to qualify the project sample results. The contamination in the trip blanks and equipment blank, like the project samples, is potentially attributable to contamination from laboratory processing of samples, cross-contamination from samples during shipment, or contamination during the preparation of these QC samples (at the laboratory). Table 3-9 shows the samples and compounds that were qualified as non-detect ("U") or as estimated ("J") due to QC sample contamination.

Table 3-9. *Evaluation of Trip Blank and Equipment Blank Results*

Package Identification	*Sample ID*	*Compound*	*Action*
F2J160194	DUP (rea) MW-1 MW-10 MW-12 MW-3	Acetone, methylene chloride	Revised result to "U" (non-detect)
	MW-10 (rea) MW-11 MW-2 MW-3 (rea) MW-5 MW-7 (rea)	Methylene chloride	Revised result to "U" (non-detect)
	MW-4 MW-6 MW-7	Acetone	Revised result to "U" (non-detect)
	MW-4 (rea) MW-9	Acetone, chloromethane, methylene chloride	Revised result to "U" (non-detect)
	MW-8	Acetone, chloromethane	Revised result to "U" (non-detect)
F2J220241	P-1 (299.14)	Acetone	Revised result to "U" (non-detect)
F2J250192	P-1 (301.16)	Acetone	Revised result to "U" (non-detect)
F2K180219	P-9 (232.61)	Toluene	Revised result to "U" (non-detect)
F2J180121	P-2 (78.5)	Methylene chloride	Revised result to "U" (non-detect)

rea – indicates a laboratory re-analysis

3.2.15. System Monitoring Compounds

The percent recoveries for the VOC surrogates were within laboratory control limits for most project samples. Several project samples had one of a total of three surrogate recoveries outside laboratory control limits. When one of three surrogate recoveries is either above or below laboratory control limits, qualification of VOC results is not required per USEPA guidance documents. For this dataset, no qualification was required based on exceedances of the surrogate percent recoveries.

3.2.16. Internal Standards

The responses of most internal standards associated with target compounds were within the range of 50-200% of the associated calibration verification for all project samples. All internal standard retention times were within ± 30 seconds from that of the most recent calibration for all analyses. Table 3-10 shows the samples and compounds that were qualified as estimated due to internal standard value exceedances.

Table 3-10. *Evaluation of Internal Standard Values*

Package Identification	*Sample ID*	*Compound*	*Action*
F2J160194	DUP	1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene	"UJ" – non-detects
	DUP (rea)	1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 2-hexanone, bromoform, chlorobenzene, ethylbenzene, styrene, tetrachloroethene, toluene, trans-1,3-dichloropropene, total xylenes	"J" – positive results "UJ" – non-detects

rea – indicates a laboratory re-analysis

3.2.17. Compound Identification and Quantitation of Results

The laboratory's evaluations of the gas chromatographs and mass spectra for the identified compounds were acceptable for most project samples with one exception. The laboratory identified carbon tetrachloride in sample P-7 (102.4)-Unfiltered, but the result was revised to non-detect by the laboratory after a secondary QA review. The validation found that the retention time for the peak identified as carbon tetrachloride was not within the daily retention time window established by the CCAL. A revised analytical report for this compound was issued by the laboratory. However, rather than reissue the EDD, URS agreed to revise the electronic database to show carbon tetrachloride as a non-detect result (qualified "U" at the laboratory reporting limit) in accordance with the laboratory's revised report.

Additionally, the laboratory performed analysis on several samples (including MW-2, MW-5, MW-12, P-6 (82.8), P-9 (102.61), P-11 (167.4), P-13 (76.6), P-13 (86.6), P-13 (96.6), and P-14 (95.14)) using a dilution. There were no undiluted analyses reported for these results. All reporting limits for the target compounds are elevated due to the dilutions. The laboratory narrated this information, as required by the guidance documents, but was also informed that for future investigations, samples should be analyzed without a dilution (or with a small dilution, whenever possible) to provide the lowest reporting limits for the compounds of concern.

Additionally, many project samples contained elevated concentrations of some target compounds that exceeded the calibration range for the VOC analysis. The laboratory reported and qualified these results with an "E" qualifier. As part of the laboratory's corrective action, the affected samples were reanalyzed at a dilution to obtain usable results within the established calibration curve range. In two cases, however, the re-analyses resulted in non-detect results for two parameters which were originally detected in the undiluted sample. The samples are P-16 (81) and P-15 (91) and the affected compounds are cis-1,2-dichloroethene and trichloroethene. Since "E" qualified data are not used for quantitative purposes, the re-analysis results were required to be reported ("U"-qualified results). The "U" qualified results had elevated reporting limits due to the diluted analysis. The data user should be aware of the presence of these two chemicals in the subject samples. A list of the re-analyzed samples and the affected parameters are listed in Table 3-11.

Table 3-11: *Summary of Laboratory Re-Analyses*

Package Identification	***Client ID***	***Laboratory ID***	***Compound Reported From Re-Analysis***
F2J160194	MW-10	F2J160194005REA	Tetrachlorethene
	MW-3	F2J160194001REA	Tetrachlorethene
	MW-4	F2J160194002REA	Tetrachlorethene
	MW-7	F2J160194013REA	Tetrachlorethene
F2J160194	MW-9	F2J160194004REA	Tetrachlorethene
F2J180121	P-2 (78.5)	F2J180121001REA	Tetrachlorethene
	P-2-DUP-01	F2J180121003REA	Tetrachlorethene
F2J300166	P-5 (107.5)	F2J300166006REA	Tetrachlorethene
	P-5 (77.5)	F2J300166001REA	Tetrachlorethene
	P-5 (97.5)	F2J300166002REA	Tetrachlorethene

Table 3-11: *Summary of Laboratory Re-Analyses*

Package Identification	***Client ID***	***Laboratory ID***	***Compound Reported From Re-Analysis***
F2K050144	P-10 (97.9)	F2K050144002REA	Tetrachlorethene
F2K060153	P-10 (107.95)	F2K060153007REA	Tetrachlorethene
	P-10 (77.6)	F2K060153005REA	Tetrachlorethene
F2K080105	TRIP BLANK 11-05-02	F2K080105002REA	Acetone
F2K150247	P-12 (78.85)	F2K150247011REA	Tetrachlorethene Trichloroethene
	P-12 (87.89)	F2K150247009REA	Tetrachlorethene
	P-6 (102.8)	F2K150247002REA	Tetrachlorethene
F2K150247	P-9 (102.61)	F2K150247015REA	Tetrachlorethene
F2L070156	P-14 (85.82)	F2L070156010REA	Tetrachlorethene
F2L120248	P-13 (237.30)	F2L120248002REA	Trichlorethene
F2L120270	P-13 (116.6)	F2L120270006REA	Tetrachlorethene
	P-16 (101)	F2L120270024REA	Tetrachlorethene
	P-16 (81)	F2L120270021REA	Tetrachlorethene Cis-1,3-dichloroethene* Trichloroethene*
	P-16 (91)	F2L120270023REA	Tetrachlorethene Cis-1,3-dichloroethene* Trichloroethene*

*Results detected in an undiluted analysis but qualified with an "E" by the laboratory due to exceedances of the calibration curve range. Because of the large dilution performed to obtain results for another target compound (tetrachloroethene), these two compounds were reported as non-detect ("U"- qualified) at an elevated reporting limit. The compounds are present in the sample; however, an accurate quantity was not reported by the laboratory.

3.2.18. Tentatively Identified Compounds (TICs)

The laboratory was required to perform a library search for Tentatively Identified Compounds (TICs) present in the sample and QC matrices for the VOC analyses. TICs were identified most frequently in the laboratory method blanks and only in a few project samples. Since the TIC evaluation provides only the identity of a possible compound in the matrix and not the actual concentration of a compound, all TIC data should be considered qualitative (i.e., not usable for quantitative purposes). The "J" qualifier was added to all TIC results to indicate to the data user that the data are estimated. The TICs identified in the project and laboratory QC samples are shown in Attachment A.

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 100 percent of the VOC data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated ("J" and "UJ") due to data validation QA/QC exceedances should be considered conditionally usable. TICs, qualified as "J," are not usable as there is only presumptive evidence of the compounds presence in the project sample.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration or detection limit of the chemical, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the VOC analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the VOC analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte identification and quantification are indicators of the representativeness of the analytical data. None of the VOC data were rejected due to representativeness non-conformances.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes that can be determined with a designated level of confidence. Sensitivity requirements were not met for several project samples due to the necessity of analyzing samples using significant dilutions. However, none of the VOC data were rejected due to sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for the majority of VOC analyses. See Section 3.2.4 for sample and parameters qualified due to hold time exceedances.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the VOC data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USEPA guidance methods be used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols (with some minor modifications) for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed most information provided in the data packages. In one instance, however, the laboratory result was revised to a non-detect result due to mis-identification during the evaluation of the chromatographic retention time.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The validation qualifiers were applied as required by validation guidelines listed in Section 1.

References

GTE Operations Support Incorporated. (GTEOSI) 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002

O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility Cantiague Rock Road, Hicksville, New York.* Syracuse, New York.

United States Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A),* 540/1-891002. Washington D.C.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, (SW846) USEPA, Final Update IIIA, April 1998;

USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, EPA 540-R-99-008, October 1999;

Analytical Services Protocol (ASP), New York State Department of Environmental Conservation (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000), and

United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review, SOP No. HW-6, Revision #11 (USEPA 1996a)

ATTACHMENT A

VALIDATED ELECTRONIC DATA DELIVERABLE

REPORT

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Attachment A Validated Data

Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by URS Corporation (URS) from October 13 through December 10, 2002.

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including gamma spectrometry and alpha spectrometry for isotopic thorium and isotopic uranium using United States Department of Energy (USDOE) Methods and laboratory standard operating procedures (SOP). The analytical data generated for this investigation were evaluated by URS using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the Science Applications International Corporation (SAIC) *Laboratory Data Validation Guidelines For Evaluating Radionuclide Analyses*, 143-ARCS-00.08, Revision 06, June 2000 and USDOE *Guidance For Radiochemical Data Validation*, Draft RD4, October 4, 1995.

The non-detect gamma spectrometry results for several samples were qualified as estimated (UJ) because the net negative results have uncertainties less than their absolute values. This may be an indication of improper blank subtraction, per the data validation guidelines, but the laboratory believes this is due to negative slopes in the regions of interest. The associated method blanks exhibited similar results. There were no target gamma radionuclide peaks detected in the groundwater samples, except for lead-214 in sample P-14 (77.82'). Since the groundwater samples are not expected to exhibit gamma radionuclide contamination, and the algorithms used to calculate the sample results are different from the algorithms used to calculate the detection limits or minimum detected concentrations (MDC), this non-conformance does not adversely affect the usabilty of the data. Therefore, the affected data were not rejected, instead, the affected sample results were qualified as estimated (UJ) using professional judgement.

Other method non-conformances requiring data validation qualification (J and UJ) include radionuclide identication and quantitation, blank contamination, and insufficient sample size. None of these non-conformances were significant enough to jeopardize the usability of the data.

Overall, 100 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 10, 2002.

The quantity and types of samples that were submitted for data validation are presented in Table 1-1.

Table 1-1. *Sample Cross-Reference List*

Package Identification	*Date Collected*	*Client ID*	*Laboratory ID*	*Analysis Requested*
F2J160194	10/13/02	MW-3	F2J160194001	Gamma
	10/13/02	MW-4	F2J160194002	Gamma
	10/13/02	MW-8	F2J160194003	Gamma
	10/13/02	MW-9	F2J160194004	Gamma
	10/13/02	MW-10	F2J160194005	Gamma
	10/13/02	MW-12	F2J160194006	Gamma
	10/13/02	MW-8-DUP*	F2J160194007	Gamma
	10/13/02	MW-2	F2J160194008	Gamma
	10/13/02	MW-6	F2J160194009	Gamma
	10/13/02	MW-1	F2J1601940010	Gamma
	10/13/02	MW-11	F2J1601940011	Gamma
	10/13/02	MW-5	F2J1601940012	Gamma
	10/13/02	MW-7, MS/MSD	F2J1601940013	Gamma
	10/13/02	EB-101302	F2J1601940014	Gamma
F2J180121	10/15/02	P-2 (78.5')	F2J180121001	Gamma, Alpha
	10/15/02	P-2 (78.5') Dissolved	F2J180121002	Gamma, Alpha
	10/15/02	P-1 (78.7')	F2J180121004	Gamma
F2J180121	10/15/02	P-1 (78.7') Dissolved	F2J180121005	Gamma
	10/16/02	P-1 (98.7')	F2J180121008	Gamma
	10/16/02	P-2 (98.8')	F2J180121009	Gamma, Alpha
	10/16/02	P-2 (98.8') Dissolved	F2J180121010	Gamma, Alpha
F2J300166	10/28/02	P-5 (77.5')	F2J300166001	Gamma

Table 1-1. *Sample Cross-Reference List*

Package Identification	*Date Collected*	*Client ID*	*Laboratory ID*	*Analysis Requested*
	10/28/02	P-5 (97.5')	F2J300166002	Gamma
	10/28/02	P-4 (77.5')	F2J300166003	Gamma
	10/28/02	P-4 (97.2')	F2J300166004	Gamma
F2K060153	11/03/02	P-11 (87')	F2K060153003	Gamma, Alpha
	11/03/02	P-11 (107.4')	F2K060153004	Gamma, Alpha
	11/03/02	P-10 (77.6')	F2K060153005	Gamma
	11/03/02	P-10 (97.9')	F2K060153006	Gamma
F2K150247	11/13/02	P-6 (82.8')	F2K150247001	Gamma, Alpha
	11/14/02	P-6 (102.8)-DUP*	F2K150247003	Gamma, Alpha
	11/13/02	P-12 (78.85')	F2K150247004	Gamma
	11/13/02	P-12 (97.92')	F2K150247005	Gamma
	11/14/02	P-6 (102.8')	F2K150247006	Gamma, Alpha
	11/13/02	P-9 (82.61')	F2K150247008	Gamma
	11/14/02	P-9 (162.61')	F2K150247010	Gamma
F2K190242	11/18/02	P-3 (87.4')	F2K190242002	Gamma
	11/18/02	P-3 (107.4')	F2K190242005	Gamma
	11/18/02	P-3 (107.4') Dissolved	F2K190242006	Gamma
F2K220291	11/19/02	P-7 (82.4')	F2K220291001	Gamma, Alpha
	11/19/02	P-7 (102.4') Dissolved	F2K220291002	Gamma, Alpha
	11/19/02	P-7 (102.4')	F2K220291010	Gamma, Alpha
F2L060132	12/03/02	P-8 (77.55')	F2L060132001	Gamma
	12/04/02	P-8 (97.55')	F2L060132002	Gamma
F2L070156	12/06/02	P-13 (96.6') Dissolved	F2L070156001	Gamma
	12/06/02	P-14 (77.82') Dissolved	F2L070156002	Gamma
	12/06/02	P-13 (76.6')	F2L070156006	Gamma
F2L070156	12/06/02	P-13 (96.6')	F2L070156008	Gamma
	12/06/02	P-14 (77.82')	F2L070156012	Gamma
F2L120270	12/07/02	P-14 (95.17')	F2L120270001	Gamma
	12/07/02	P-14 (95.17') Dissolved	F2L120270002	Gamma
	12/08/02	P-16 (81')	F2L120270021	Gamma

Table 1-1. *Sample Cross-Reference List*

Package Identification	***Date Collected***	***Client ID***	***Laboratory ID***	***Analysis Requested***
	12/08/02	P-16 (81') Dissolved	F2L120270022	Gamma
	12/09/02	P-16 (101')	F2L120270024	Gamma

Notes:
Gamma indicates Gamma Spectrometry.
Alpha indicates Alpha Spectrometry of thorium (isotopic) and uranium (isotopic).
DUP indicates field duplicate.
MS/MSD indicates Matrix Spike/Matrix Spike Duplicate.
* Indicates that field sampler identified blind field duplicate sample.

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report outlines deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- United States Department of Energy (USDOE). 1997. *Environmental Measurements Laboratory (EML) Procedures Manual, 28th Edition, Volume 1*. New York, New York.

Deviations from the QA/QC criteria were qualified based on guidance provided in the following documents:

- Science Applications International Corporation (SAIC). 2000. *Laboratory Data Validation Guidelines for Evaluating Radionuclide Analyzes*, 143-ARCS-00.08, Revision 06. Oak Ridge, Tennessee.

- USDOE. 1995. *Guidance for Radiochemical Data Validation*, Draft RD4. Gaithersburg, Maryland.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including gamma spectrometry (actinium-228, cesium-137, lead-212, lead-214, and potassium-40), and alpha spectrometry (thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238) using USDOE Methods and laboratory standard operating procedures (SOP). The methods used in this investigation are presented in Table 1-2.

Table 1-2. *Analytical Method References*

Parameter	***Method***	***Reference***
Gamma Spectrometry (Actinium-228, Cesium-137, Lead-212, Lead-214, Potassium-40)	Ga-01-R Modified	1
Alpha Spectrometry (Thorium-228, -230, -232 and Uranium-234, -235, -238)	RP-725 and Laboratory SOPs STL-RD-0201, STL-RD-0203, and STL-RC-0240	2, 3, 4, 5

Notes:
1. United States Department of Energy (USDOE). 1997. *Environmental Measurements Laboratory (EML) Procedures Manual (HASL-300),* 28th Edition, Volume 1. New York, New York.
2. USDOE. 1994. *Group Actinide Screening Using Extraction Chromatography (Eichrom)*, Draft RP725, Pacific Northwest Laboratory, Richland, Washington.
3. STL. 2002. *Daily Operations of an Alpha Spectroscopy System.* STL-RD-0201, Revision No. 3.
4. STL. 2001. *Calibration and Maintenance of an Alpha Spectroscopy System.* STL-RD-0203, Revision No. 1.
5. STL. 2002. *Isotopic Americium, Curium, Plutonium, Thorium and Uranium in Various Matrices by EiChromM® Separation Resins.* STL-RC-0240, Revision No. 2.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data are summarized in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1 herein.

The following QA/QC parameters were evaluated for the radiochemistry (gamma spectrometry, alpha spectrometry) analyses (where applicable):

- Holding times and sample preservation;
- Calibration;
- Blank analysis
- Tracer recovery (alpha spectrometry);
- Laboratory Control Sample (LCS);
- Duplicate analysis;
- Field duplicate analysis;
- Radionuclide quantitation and detection evaluation;
- Chemical separation specificity (alpha spectrometry);
- Target radionuclide list identification (gamma spectrometry);
- System performance; and
- Documentation completeness.

2.2. Data Validation Qualifiers

The following guidelines are used regarding the assignment of qualifiers and the use of qualified data:

- QA/QC exceedances which do not result in the qualification of an analyte, or which result in additional qualification of the analyte with the same qualifier, are not discussed.

- The use of estimated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following qualifiers have been used in this data validation.

"J" The associated numerical value in an estimated quantity, due to a QC or statistical exceedance.

"UJ" The associated non-detect value in an estimated quantity, due to a QC or statistical exceedance.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes which QA/QC parameters specified in Section 2.1 met validation criteria, and which QA/QC parameters did not meet validation criteria. Samples requiring qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records.

3.2. Gamma Spectrometry Analyses

3.2.1. Criteria

The QA/QC parameters presented in Section 2.1 were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Blank analysis;
- Laboratory Control Sample (LCS);
- Duplicate analysis;
- Field duplicate analysis;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.2.2. Radionuclide Quantitation and Detection Limits

The net negative results for several samples have uncertainties less than their absolute values. This may be an indication of improper blank subtraction, per SAIC data validation guidelines, but the laboratory believes this is due to negative slopes in the regions of interest. The associated method blanks exhibited the same results. There were no target gamma radionuclide peaks detected in the groundwater samples. Since the algorithms used to calculate the sample results are different from the algorithms used to calculate the detection limits, this non-conformance does not compromise minimum detected concentrations (MDC). Therefore, the affected data was not rejected. Instead, using professional judgement the affected sample results were qualified as estimated (UJ) at the MDC, as summarized in Table 3-1.

Table 3-1. *Evaluation of Negative Results versus Uncertainties for Gamma Spectrometry Analyses*

Sample ID	***Affected Radionuclide Results***	***Action***
MW-3, MW-8, MW-10, MW-5, P-1 (98.7'), P-5 (97.5'), P-12 (97.92'), P-14 (77.82') Dissolved, P-14 (77.82')	Cesium-137, Lead-212	UJ
MW-4	Actinium-228, Cesium-137, Lead-212, Lead-214, Potassium-40	UJ
MW-9, MW-2, P-1 (78.7') Dissolved, P-2 (98.8'), P-5 (77.5'), P-9 (102.61'), P-7 (82.4'), P-8 (77.55')	Cesium-137, Lead-212, Lead-214	UJ
MW-12, MW-8-DUP, MW-7, P-2 (98.8') Dissolved, P-11 (107.4'), P-6 (102.8')-DUP, P-9 (82.61'), P-7 (102.4') Dissolved, P-14 (95.17'), P-14 (95.17') Dissolved, P-16 (101')	Lead-212, Lead-214	UJ
MW-6, P-2 (78.5') Dissolved, P-10 (77.6'), P-6 (82.8')	Cesium-137, Lead-212, Lead-214, Potassium-40	UJ
MW-1	Lead-214, Potassium-40	UJ
MW-11	Lead-212, Potassium-40	UJ
P-2 (78.5'), P-1 (78.7'), P-4 (77.5'), P-4 (97.2'), P-3 (87.40'), P-3 (107.40'), P-13 (76.6'), P-13 (96.6'), P-16 (81') Dissolved	Lead-212	UJ
P-11 (87'), P-8 (97.55')	Lead-212, Lead-214, Potassium-40	UJ
P-10 (97.9'), P-16 (81')	Actinium-228, Lead-212, Lead-214	UJ
P-12 (78.85'), P-3 (107.40') Dissolved, P-7 (102.4')	Actinium-228, Lead-212	UJ
P-6 (102.8')	Actinium-228, Potassium-40	UJ

3.2.3. Target Radionuclide List Identification

For sample P-6 (82.8') and matrix duplicate, the laboratory identified the non-target radionuclide lead-210. The energy line for lead-210 is 46.5 keV. However, the laboratory does not routinely calibrate the instrument detectors down to 46.6 keV, instead, the calibration range is 59.5 keV (americium-241) to 1,836 keV (yittrium-88). It should be noted that "Certificate of Calibration" indicates that lead-210 is included in the calibration standards. Therefore, the lead-210 result for sample P-6 (82.8') and matrix duplicate should be considered estimated and have been qualified "J".

3.2.4. Tentatively Identified Radionuclides

Gamma spectrometry peaks in radionuclide analyses that are not isotopes are potentially identified radionuclides. These radionuclides are qualitatively identified by a radionuclide spectrometry library computer search and the identifications assessed by the data reviewer. Potentially identified radionuclides were not required in this investigation.

3.3. Alpha Spectrometry Analyses

3.3.1. Criteria

The QA/QC parameters presented in Section 2.1 for radiochemistry were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Tracer recovery;
- Laboratory Control Sample;
- Duplicate analysis;
- Chemical separation specificity;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.3.2. Blank Analysis

The blank results were evaluated using the following statistical approach: if the sample result ± uncertainty was less than ten times the associated blank result ± uncertainty, the qualifier "J" was applied to the associated sample result. The statistical evaluation of the blank results are summarized in Table 3-2. The QAPP requires method blanks to be less than 5 times the minimum detected concentrations (MDC) and the lowest sample activity. The method blanks were not always less than the lowest sample activity. The QAPP requires the laboratory to reanalyze the affected batch. This was not done by the laboratory.

Table 3-2. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F2J210000-280B	Thorium-230	0.80 ± 0.31	P-2 (78.5'), P-2 (78.5') Dissolved, P-2 (98.8')	J
F2K250000-134B	Thorium-230	0.21 ± 0.16	P-11 (87'), P-11 (107.4')	J
F2K250000-136B	Uranium-238	0.10 ± 0.12	P-11 (107.4')	J
F2L100000-150B	Thorium-230	0.37 ± 0.22	P-6 (82.8'), P-6 (102.8')-DUP, P-6 (102.8'), P-7 (82.4'), P-7 (102.4') Dissolved, P-7 (102.4')	J

Note:
pCi indicates picocurries
Uncertainty indicates total propagated uncertainty, which includes counting error and non-counting error.

3.3.3. Radionuclide Quantitation and Detection Evaluation

The net positive uranium-235 results for samples P-6 (82.8') and P-6 (102.8')-DUP were less than their uncertainties. This indicates that the sample counts were less than the critical values or less than 95% confidence of positive detection. The sample results were qualified as estimated (J), as summarized in Table 3-3.

Table 3-3. *Evaluation of Positive Results versus Uncertainties for Alpha Spectrometry Analyses*

Sample ID	Affected Radionuclide Results	Sample Concentration ± Uncertainty (pCi/L)	Action
P-6 (82.8')	Uranium-235	0.14 ± 0.16	J
P-6 (102.8')-DUP	Uranium-235	0.14 ± 0.16	J

Although the minimum sample size used to provide representative subsampling for alpha spectrometry is 0.5 liter for aqueous samples, the laboratory used slightly less than 0.5 liter for sample P-7 (82.4') due to insufficient sample volume available for thorium analysis. As a result of the smaller sample size, the results reported for sample P-7 (82.4') were qualified as estimated (J and UJ) as summarized in Table 3-4.

Table 3-4. *Sample Size Evaluation for Thorium Analyses.*

Sample ID	Affected Radionuclide Results	Sample Size	Action
P-7 (82.4')	Thorium-228 Thorium-230 Thorium-232	Less than 0.5 liter	UJ J UJ

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 100 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PSARCC) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the radiochemistry analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the radiochemistry analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte identification and quantification are indicators of the representativeness of the analytical data. None of the radiochemistry data were rejected due to representativeness non-conformances.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes that can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project, except for the following instances. The actinium-228 and potassium-40 sample MDCs for all samples were greater than the QAPP requirement (i.e., 20 pCi/L). The lead-214 MDC for samples MW-8, P-5 (97.5'), P-1 (78.7'), P-1 (98.7'), P-11 (87'), P-6 (102.8')-DUP, P-12 (78.85'), P-12 (97.92'), P-6 (102.8'), P-3 (87.40'), and P-3 (107.4') were slightly above 20 pCi/L. These gamma radionuclides typically have higher MDCs, but the laboratory modified the method (i.e., increased the sample count time to 2 hours) in order to achieve the reported MDCs. None of the radiochemistry data were rejected due to the sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for the radiochemistry analyses.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the radiochemistry data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USDOE methods are used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols (with some minor modifications) for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed information provided in the data packages.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The validation qualifiers were applied as required by validation guidelines as listed in Section 1

References

GTE Operations Support Incorporated. (GTEOSI). 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

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ATTACHMENT A

VALIDATED DATA

REPORT

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Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products Facility in Hicksville, New York (the Site). Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for metals analyses using United States Environmental Protection Agency (USEPA) guidance methods. The analytical data generated for this investigation were evaluated by URS using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the following references:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998;
- *CLP National Functional Guidelines for Inorganic Data Review*, EPA 540-R-01-008, July 2002;
- *United States Environmental Protection Agency Region II Evaluation of Metals Data for the CLP 3/90*, USEPA 1992, and
- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000).

Professional judgement was used to qualify results as estimated (UJ) in some cases where the overall quality of data was suspected due to commonly accepted or standardized practices employed by the laboratory. Since the guidance documents used as a source of reference for the validation somewhat differ in the type of qualification applied to data, URS applied qualifiers generally as a conservative approach. Affected data, however, were not rejected since other supporting quality control data indicated acceptable quality control results. Specifically, method non-conformances included only exceedances of the matrix spike/matrix spike duplicate percent recoveries or field duplicate relative percent difference values. All other QC analyses, including laboratory control samples, matrix spike analyses, serial dilution analysis, and interference check sample analyses, were acceptable for the samples.

A few laboratory method blanks (i.e., preparation blanks) and continuing calibration blanks (CCBs) contained low concentrations of the target elements. The presence of these elements in specific method blanks affected many project samples. Qualification of associated results was performed to show the relationship between the laboratory contamination and the uncertainty of the actual project sample results.

A review was also made of the "total metal" results versus the "dissolved metal" results to assess the accuracy of analytical tests for the groundwater matrix, as well as any impact the field filtration step may have had on the analysis. In several cases, the dissolved results were greater than the total results. Both sets of results were qualified as estimated due to highlight the uncertainty of the laboratory analysis, and/or the impact of the filtration step on the results.

The relative percent difference between field duplicate results were assessed, also. Several results were found to differ by more than 30% (validation criteria). None of the differences were significant enough to

reject data. Results were qualified as estimated to indicate the possibility of a non-homogenous sample matrix, laboratory imprecision during testing, and/or field imprecision during sampling.

None of the exceedances of method non-conformances were significant enough to jeopardize the usability of the data. All analytical results summarized in Appendix A are usable based on the findings listed in this Data Usability Summary Report (DUSR).

Overall, 100 percent of the metals data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated ("J" and "UJ") due to QC exceedances should be considered conditionally usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met for the metals database.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products Incorporated facility (the Site) in Hicksville, New York. Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The quantity and types of samples that were submitted for data validation are presented in Table 1-1.

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J160194	DUP *Field Duplicate of MW-8*	F2J160194007	Total Be, Cr, Cu, Ni, and Tl
	EB-101302 *Equipment Blank*	F2J160194014	Total Be, Cr, Cu, Ni, and Tl
	MW-1	F2J160194010	Total Be, Cr, Cu, Ni, and Tl
	MW-10	F2J160194005	Total Be, Cr, Cu, Ni, and Tl
	MW-11	F2J160194011	Total Be, Cr, Cu, Ni, and Tl
	MW-12	F2J160194006	Total Be, Cr, Cu, Ni, and Tl
	MW-2	F2J160194008	Total Be, Cr, Cu, Ni, and Tl
	MW-3	F2J160194001	Total Be, Cr, Cu, Ni, and Tl
	MW-4	F2J160194002	Total Be, Cr, Cu, Ni, and Tl
	MW-5	F2J160194012	Total Be, Cr, Cu, Ni, and Tl
	MW-6	F2J160194009	Total Be, Cr, Cu, Ni, and Tl
	MW-7	F2J160194013	Total Be, Cr, Cu, Ni, and Tl
	MW-8	F2J160194003	Total Be, Cr, Cu, Ni, and Tl
	MW-9	F2J160194004	Total Be, Cr, Cu, Ni, and Tl
F2J180121	P-1 (78.7)	F2J180121004	Total Be, Cr, Cu, Ni, and Tl
	P-1 (78.7) - Dissolved	F2J180121007	Dissolved Be, Cr, Cu, Ni, and Tl
	P-1 (98.7)	F2J180121008	Total Be, Cr, Cu, Ni, and Tl
	P-2 (78.5)	F2J180121001	Total Be, Cr, Cu, Ni, and Tl
	P-2 (78.5) - Dissolved	F2J180121002	Dissolved Be, Cr, Cu, Ni, and Tl
	P-2 (98.8)	F2J180121009	Total Be, Cr, Cu, Ni, and Tl
	P-2 (98.8) - Dissolved	F2J180121010	Dissolved Be, Cr, Cu, Ni, and Tl

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J300166	P-4 (77.5)	F2J300166003	Total Be, Cr, Cu, Ni, and Tl
	P-4 (97.2)	F2J300166004	Total Be, Cr, Cu, Ni, and Tl
	P-5 (77.5)	F2J300166001	Total Be, Cr, Cu, Ni, and Tl
	P-5 (97.5)	F2J300166002	Total Be, Cr, Cu, Ni, and Tl
F2K060153	P-10 (97.9)	F2K060153006	Total Be, Cr, Cu, Ni, and Tl
	P-10 (77.6)	F2K060153005	Total Be, Cr, Cu, Ni, and Tl
	P-11 (107.4)	F2K060153004	Total Be, Cr, Cu, Ni, and Tl
	P-11 (87)	F2K060153003	Total Be, Cr, Cu, Ni, and Tl
F2K150247	P-12 (78.85)	F2K150247004	Total Be, Cr, Cu, Ni, and Tl
	P-12 (78.85) DUP	F2K150247007	Total Be, Cr, Cu, Ni, and Tl
	P-12 (97.92)	F2K150247005	Total Be, Cr, Cu, Ni, and Tl
	P-6 (102.8)	F2K150247006	Total Be, Cr, Cu, Ni, and Tl
	P-6 (82.8)	F2K150247001	Total Be, Cr, Cu, Ni, and Tl
	P-9 (102.61)	F2K150247015	Total Be, Cr, Cu, Ni, and Tl
	P-9 (82.61)	F2K150247008	Total Be, Cr, Cu, Ni, and Tl
F2K190242	P-3 (107.40) – Dissolved	F2K190242006	Dissolved Be, Cr, Cu, Ni, and Tl
	P-3 (87.40) – Dissolved	F2K190242003	Dissolved Be, Cr, Cu, Ni, and Tl
	P-3 (107.40)	F2K190242005	Total Be, Cr, Cu, Ni, and Tl
	P-3 (87.40)	F2K190242002	Total Be, Cr, Cu, Ni, and Tl
F2K220291	P-7 (82.4)	F2K220291002	Total Be, Cr, Cu, Ni, and Tl
	P-7 (102.4) – Filtered	F2K220291003	Dissolved Be, Cr, Cu, Ni, and Tl
	P-7 (102.4) – Unfiltered	F2K220291010	Total Be, Cr, Cu, Ni, and Tl
F2L060132	P-8 (77.55)	F2L060132001	Total Be, Cr, Cu, Ni, and Tl
	P-8 (97.55)	F2L060132002	Total Be, Cr, Cu, Ni, and Tl
	P-8 (97.55) – Dup	F2L060132005	Total Be, Cr, Cu, Ni, and Tl
F2L070156	P-13 (76.6)	F2L070156006	Total Be, Cr, Cu, Ni, and Tl
	P-13 (96.6)	F2L070156008	Total Be, Cr, Cu, Ni, and Tl
	P-13 (96.6) – Dissolved	F2L070156001	Dissolved Be, Cr, Cu, Ni, and Tl
F2L070156	P-14 (77.82)	F2L070156012	Total Be, Cr, Cu, Ni, and Tl
	P-14 (77.82) - Dissolved	F2L070156002	Dissolved Be, Cr, Cu, Ni, and Tl

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2L120270	P-14 (95.17)	F2L120270001	Total Be, Cr, Cu, Ni, and Tl
	P-14 (95.17) - Filtered	F2L120270002	Dissolved Be, Cr, Cu, Ni, and Tl
	P-16 (101)	F2L120270024	Total Be, Cr, Cu, Ni, and Tl
	P-16 (81)	F2L120270021	Total Be, Cr, Cu, Ni, and Tl
	P-16 (81) - Filtered	F2L120270022	Dissolved Be, Cr, Cu, Ni, and Tl

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report summarizes the findings of the review and outlines any deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- O'Brien & Gere Engineers, Inc. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York.* Syracuse, New York, 2000.

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998;

- *United States Environmental Protection Agency Region II Evaluation of Metals Data for the CLP 3/90*, USEPA 1992,

- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000); and

- *CLP National Functional Guidelines for Inorganic Data Review*, EPA 540-R-01-008, July 2002.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for metals analyses. The laboratory used the following USEPA guidance methods for the analyses:

- SW846 Method 3010 Acid Digestion Preparation
- SW846 Method 6010B Inductively Coupled Plasma (ICP) Spectrometry by "Trace" Instrumentation

The laboratory assigned a sample delivery group (SDG) number to a group of samples during the sample log-in process. The SDG number is the means by which the laboratory tracks samples and controls QC analyses. A total of 10 SDGs composed the groundwater samples. The SDG, field identification and laboratory identification for each sample are summarized in Table 1-1.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. A summary of the findings associated with the validation and the specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data (EDD) is presented in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1.

URS performed a data review of all analytical results to assess data quality. A data review includes an assessment of sample handling protocols, supporting laboratory quality control (QC) parameters, and field QC. The following is a list of specific analytical information evaluated during the validation:

- Data package completeness review – per the NYSDEC ASP Category B or USEPA CLP deliverables requirements
- Analytical methods performed and test method references
- Sample condition - review of log-in records for cooler temperature, presence of headspace, chemical preservation, etc.
- Holding times (comparison of collection, preparation, and analysis dates)
- Analytical results (units, values, significant figures, reporting limits, analyst, percent moisture)
- Sample traceability and comparison to raw data
- Initial calibration – comparison to laboratory criteria
- Continuing calibration – comparison to laboratory criteria
- Method blank results and laboratory contamination
- Laboratory control sample (LCS) results and comparison to laboratory control limits
- Matrix spike/matrix spike duplicate (MS/MSD) results and comparison to laboratory control limits
- Interference Check Samples
- Field replicate/duplicate results and comparison to data review criteria
- Field QC sample (e.g., equipment blanks)
- Reporting limits and Dilutions
- Electronic Data Deliverables (EDDs) – comparison to the hardcopy analytical report (a 20% check of the data to confirm that the results in the hardcopy report matched the results in the electronic file).

The analytical reports were reviewed for completeness and the accompanying QC data were reviewed for acceptable performance. In case documentation was incomplete, the laboratory was required to provide the missing information. When QC results indicated poor performance, URS applied data qualifiers to the results to inform the data user of the possible performance problem. These qualifiers are in addition to or a revision of the qualifiers provided by the laboratory. A summary of the data qualifiers used for this review is presented in Section 2.2.

2.2. Data Validation Qualifiers

The following qualifiers have been used by the laboratory for the metals analyses:

"U" Non-detect result at the established laboratory reporting limit (adjusted for percent moisture, if applicable).

"B" Indicates an estimated value or a value below the established reporting limit but above the method detection limit. Note: All "B" qualifiers for the metals analyses were revised to "J" to provide consistency between the organics and inorganics databases.

Laboratory qualifiers defined above, are retained in the final database unless revised during the data validation process to one of the following qualifiers:

"U" The chemical was not detected. Value shown is the reporting limit.

"J" Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

"UJ" The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.

The laboratory qualifiers were revised by URS during the data review process to simplify the presentation of data in the final report per the USEPA Region 2 Guidance (USEPA, 2001). Generally, all codes used by the laboratory to indicate results associated with quality control/performance problems were replaced in the electronic database with a "J" qualifier. Per the NYSDEC guidance, the "J" qualifier indicates estimated data. In addition, results associated with laboratory QC analyses that were beyond established control limits were evaluated on a case-by-case basis.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data: blanks, calibration standards, calibration verifications, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes which QA/QC parameters specified in Section 2.1 met validation criteria, and which QA/QC parameters did not meet validation criteria. A summary of the individual components of the review are described in the following sections.

3.2. Review of Validation Criteria

3.2.1. Completeness Review

The laboratory provided the analytical report in the New York State Department of Environmental Conservation (NYSDEC) format. Nearly all necessary documents were included in the report package including a case narrative summarizing the QC issues associated with the project analyses. In just a few isolated cases (e.g., log-in form for SDG 2FK150247), the laboratory was asked to provide missing documentation. The laboratory provided all information that was requested by URS.

3.2.2. Test Methods

The laboratory performed the analyses for most analyses using the analytical test methods listed in Section 1.3. These included SW846 Method 3010B (digestion of aqueous samples) followed by Method 6010B (ICP). No method anomalies were noted.

3.2.3. Sample Receipt

The laboratory received 57 aqueous samples for metals analysis between October 13, 2002 and December 11, 2002. The sample temperatures at the time of receipt were within the recommended temperature range of 4°C±2°C for all SDGs. Field and laboratory personnel completed the COC correctly recording the signature, date, and time of custody transfer.

The laboratory recorded the condition of the samples at the time of receipt on a "Conditions Upon Receipt Form." This Form identifies whether the containers were received undamaged, within the proper temperature range, at the proper pH, in a container that is sealed with a custody seal on the exterior, and with a completed COC enclosed to identify all samples submitted to the laboratory. For most SDGs, this form was completed properly. For one SDG, F2K150247, the laboratory did not record sufficient information on the form to assess the proper sample condition upon receipt. (The laboratory only recorded the sample temperature and the presence of a custody seal on the container). When requested, the laboratory provided an updated form denoting the sample condition for this SDG. No anomalies were identified.

3.2.4. Holding Times

The laboratory performed all metals analyses within EPA-recommended holding time of 180-days for acid preserved samples.

3.2.5. Analytical Results

For each sample tested, the laboratory provided the analytical test information using a laboratory standard format which shows critical information pertaining to the analyses performed. The information provided includes the following: the laboratory name; the project name; the analysis type (total versus dissolved);

the laboratory sample ID; matrix; date sampled; date received; preparation batch ID; the result; the reporting limit; the method detection limit (MDL); the units of measure; the laboratory method; dilution factor; analysis time; preparation date; analysis date; work order number, and laboratory qualifiers (if any). The laboratory provided all the appropriate forms for the requested methods.

3.2.6. Traceability to Raw Data

Traceability of the metals analyses is established by the digestion logs. These forms list the project samples analyzed per laboratory batch processed and the corresponding QC samples (e.g., preparation blank and laboratory control sample) performed with the project samples. All project samples for all SDGs were included on the applicable forms.

3.2.7. Initial Calibration

The laboratory prepared an initial calibration (ICAL) curve for each element in accordance with method criteria. Initial calibration verifications (ICVs) were analyzed immediately after each ICAL, with recoveries within ±10% of the true values for all elements.

3.2.8. Continuing Calibration Verification

The continuing calibration verification (CCV) standards were analyzed after the ICALs and after every 10 project samples as required by the reference test method. The percent recoveries were within ± 10% of the true values for all elements.

3.2.9. Initial and Continuing Calibration Blanks

The initial calibration blank (ICB) and continuing calibration blanks (CCB) were analyzed after the ICALs and after every 10 project samples as required by the reference test method. In general, all initial and continuing calibration blank results were less than the laboratory reporting limit, but in a few cases were greater than the laboratory MDL. If an element was detected above the MDL but less than the laboratory reporting limit, the validation process qualified the result to indicate the potential contamination associated with the analysis system. A summary of the samples and elements that were revised due to laboratory contamination are presented in Table 3-1.

Table 3-1. *Evaluation of Laboratory Initial and Continuing Calibration Blanks*

Package Identification	*Client ID*	*Element*	*Action*
F2J160194	DUP *Field Duplicate of MW-8*	Chromium	Revise to "U" non-detect
	MW-1	Chromium	Revise to "U" non-detect
	MW-10	Chromium	Revise to "U" non-detect
	MW-11	Chromium	Revise to "U" non-detect
	MW-12	Chromium, thallium	Revise to "U" non-detect
	MW-2	Chromium	Revise to "U" non-detect
	MW-3	Chromium	Revise to "U" non-detect
	MW-4	Chromium	Revise to "U" non-detect
	MW-6	Chromium, thallium	Revise to "U" non-detect
	MW-7	Chromium	Revise to "U" non-detect

Table 3-1. *Evaluation of Laboratory Initial and Continuing Calibration Blanks*

Package Identification	Client ID	Element	Action
	MW-8	Chromium	Revise to "U" non-detect
	MW-9	Chromium	Revise to "U" non-detect
F2J180121	P-2 (78.5)	Beryllium	Revise to "U" non-detect
F2K060153	P-10 (97.9)	Beryllium	Revise to "U" non-detect
	P-11 (107.4)	Chromium	Revise to "U" non-detect
	P-11 (87)	Chromium	Revise to "U" non-detect
F2J300166	P-4 (97.2)	Chromium	Revise to "U" non-detect
F2K220291	P-7 (82.4)	Beryllium	Revise to "U" non-detect
	P-7 (102.4) – Filtered	Beryllium	Revise to "U" non-detect
	P-7 (102.4) – Unfiltered	Beryllium	Revise to "U" non-detect
F2L120270	P-14 (95.17)	Beryllium	Revise to "U" non-detect
	P-14 (95.17) – Filtered	Chromium, beryllium	Revise to "U" non-detect
	P-16 (101)	Chromium, beryllium	Revise to "U" non-detect
	P-16 (81)	Beryllium	Revise to "U" non-detect
	P-16 (81) – Filtered	Beryllium	Revise to "U" non-detect

3.2.10. Laboratory Method Blanks (Preparation Blanks)

In general, most preparation blanks did not contain contamination from laboratory systems. Only in a few cases were the elements of concern, in particular, beryllium, identified in the preparation blanks. When this occurred, the corresponding project sample results for the identified contaminants were revised to non-detect results if the associated sample results were less than 5 times the method blank results in accordance with the QAPP (GTEOSI, 2002). Additionally, in a few cases, the laboratory reported a negative value for an element (thallium) which could indicate a bias for both positive and non-detect results. If a negative value was identified (i.e., greater than the negative MDL), the affected result was qualified as "J" or "UJ." A summary of the samples and elements that were revised due to laboratory contamination are presented in Table 3-2.

Table 3-2. *Evaluation of Laboratory Method Blanks*

Package Identification	Client ID	Element	Action
F2J180121	P-2 (78.5)	Beryllium	Revise result to "U" non-detect
F2L070156	P-13 (76.6)	Beryllium	Revise result to "U" non-detect
	P-13 (96.6)	Beryllium	Revise result to "U" non-detect
	P-13 (96.6) – Dissolved	Beryllium	Revise result to "U" non-detect
	P-14 (77.82)	Beryllium	Revise result to "U" non-detect

Table 3-2. *Evaluation of Laboratory Method Blanks*

Package Identification	*Client ID*	*Element*	*Action*
	P-14 (77.82) - Dissolved	Beryllium	Revise result to "U" non-detect
F2L060132	P-8 (77.55)	Beryllium	Revise result to "U" non-detect
	P-8 (97.55) – Dup	Beryllium, thallium	Revise result to "U" non-detect
F2K220291	P-7 (82.4)	Thallium	Revise result to "U" non-detect
	P-7 (102.4) – Filtered	Thallium	Revise result to "U" non-detect
	P-7 (102.4) – Unfiltered	Thallium	Revise result to "U" non-detect
F2J300166	P-5 (77.5)	Beryllium	Revise result to "U" non-detect

3.2.11. Laboratory Control Sample Results

The laboratory analyzed a laboratory control sample (LCS) for all QC batches. The percent recoveries were within laboratory control limits for all QC batches.

3.2.12. Matrix Spike/Matrix Spike Duplicate Analyses

Multiple project samples were submitted for MS/MSD analyses. No qualification of data was required based on percent recoveries exceedances. The laboratory also performed interference check sample analyses for each SDG for the groundwater project. The percent recoveries for the results were within method criteria for all analyses.

3.2.13. Field Duplicate Analyses

Three project samples were submitted as field duplicates. An evaluation of the precision of the field sampling procedure (as well as the laboratory analysis procedure) was made based on the relative percent difference (RPD) calculated for the original and duplicate sample results. Calculations were made only when both results were above the laboratory reporting limits. The RPD values for most elements were less than 30% (aqueous data evaluation criteria).

It should be noted that QAPP requirements (GTEOSI, 2002) specified that a field duplicate sample be collected at a rate of one sample for every ten samples (collection rate of 10%). Six field duplicates were required to be collected for the project since a total of 57 project samples were submitted for analysis. Since an adequate number of field duplicate samples were not collected, the precision objective for the project (which was acceptable at 100% for the three field duplicates submitted), is potentially inaccurate because of the limited number of field duplicate samples collected.

Table 3-3. *Evaluation of Field Duplicate Samples*

Package Identification	*Client ID*	*Qualified Compounds*	*Action*
F2K150247	P-12 (78.85)	Chromium, copper, nickel	"J" (RPD>30%)
	P-12 (78.85) Dup	Chromium, copper, nickel	"J" (RPD>30%)
F2L060132	P-8 (97.55)	Chromium, copper	"J" (RPD>30%)
	P-8 (97.55) – Dup	Chromium, copper	"J" (RPD>30%)

3.2.14. Equipment Blanks

One equipment blank was submitted for the groundwater sampling project. The equipment blank did not contain any of the elements of concern for the project

3.2.15. Quantitation of Results

The laboratory reporting limits for the metals were in accordance with the NYSDEC requirements (i.e., reporting at the Practical Quantitation Limits specified in the QAPP). The laboratory reported estimated data below the laboratory reporting limit but above the laboratory MDL, and qualified the estimated data with a "B" qualifier. In the EDD, URS revised the "B" qualifier to a "J" qualifier to provide consistency in review of the database.

3.2.16. Total Versus Dissolved Results

An evaluation of the total versus dissolved results was made to assess whether field filtration and/or laboratory analysis was

Table 3-4. *Total Metal Results Versus Dissolved Metal Results*

Package Identification	***Client ID***	***Compound***	***Action***
F2J180121	P-1 (78.7)	Nickel	"J"
	P-1 (78.7) – Dissolved	Nickel	"J"
	P-2 (78.5)	Chromium, copper, nickel	"J"
	P-2 (78.5) – Dissolved	Chromium, copper, nickel	"J"

3.2.17. Electronic Data Deliverables

The results in electronic database matched results listed on the hardcopy analytical report including laboratory qualifiers. The qualifiers and results were revised based on quality control issues, and changes are listed in previous comments made in this data usability summary report.

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 100 percent of the metals data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated ("J" and "UJ") due to data validation QA/QC exceedances should be considered conditionally usable.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PSARCC) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the metals analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the metals analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte quantification are indicators of the representativeness of the analytical data. None of the metals data were rejected due to representativeness non-conformances.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of elements that can be determined with a designated level of confidence. None of the metals data were rejected due to sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for all the metal analyses were met.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the metals data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USEPA guidance methods be used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed all information provided in the data packages.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The laboratory qualifiers were revised and/or applied as required by validation guidelines listed in Section 1.

References

GTE Operations Support Incorporated. (GTEOSI). *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002

O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility Cantiague Rock Road, Hicksville, New York.* Syracuse, New York.

United States Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A),* 540/1-891002. Washington, D.C.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, (SW846) USEPA, Final Update IIIA, April 1998.

CLP National Functional Guidelines for Inorganic Data Review, EPA 540-R-01-008, July 2002

United States Environmental Protection Agency Region II Evaluation of Metals Data for the CLP [Contract Laboratory Program] 3/90, USEPA 1992.

Analytical Services Protocol (ASP), New York State Department of Environmental Conservation (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000).

ATTACHMENT A

VALIDATED DATA

REPORT

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Attachment A Validated Data

Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products Incorporated facility in Hicksville, New York. Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for Volatile Organic Compound (VOC) analyses using United States Environmental Protection Agency (USEPA) guidance methods. The analytical data generated for this investigation were evaluated by URS using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the following references:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998;
- *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540-R-99-008, October 1999;
- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000), and
- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review*, SOP No. HW-6, Revision #11 (USEPA 1996a)

Professional judgement was used to qualify results as estimated (J or UJ) in some cases where the overall quality of data was suspected due to commonly accepted or standardized practices employed by the laboratory. Since the guidance documents used as a source of reference for the validation somewhat differ in the type of qualification applied to data, URS applied qualifiers generally as a conservative approach. Method non-conformances included exceedances of the relative percent standard deviation for the initial calibrations, the percent differences of the continuing calibrations, the percent recoveries of the system monitoring compounds, the internal standard values, and matrix spike/matrix spike duplicate percent recoveries. Affected data, however, were not rejected if other supporting quality control data indicated acceptable quality control results.

Additionally, most laboratory method blanks contained low level contamination from common laboratory contaminants such as acetone and methylene chloride. The presence of these contaminants affected many project samples and qualification of associated results was performed to show the relationship between the laboratory contamination and the uncertainty of the actual project sample result. Similarly, the project trip blanks and field blanks contained low-levels of some of the same contaminants as were seen in the laboratory method blanks. Again, URS qualified the affected data to show the potential impact on the final sample results.

Other quality issues requiring data validation qualification included removal of results from the database that exceeded the laboratory calibration range (i.e., qualified with a "E" by the laboratory), and qualification of all tentatively identified compounds. Results from these data sets are qualitative only, and not considered usable for quantitative assessments, in particular risk screening evaluations.

None of the exceedances of method non-conformances were significant enough to jeopardize the usability of the data. Most analytical results summarized in Appendix A (with the exception of TIC results) are usable based on the findings listed in this Data Usability Summary Report (DUSR).

Overall, 100 percent of the VOC data retained in the database as final data, were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products Incorporated facility in Hicksville, New York (the Site). Sample collection activities were conducted by URS Corporation (URS) from October 13, 2002 through December 11, 2002.

The SDG (laboratory package number), field identification, and laboratory identification of the samples that were submitted for data validation are presented in Table 1-1.

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J160194	DUP *Field Duplicate of MW-8*	F2J160194007	VOCs
	EB-101302 *Equipment Blank*	F2J160194014	VOCs
	MW-1	F2J160194010	VOCs
	MW-10	F2J160194005	VOCs
	MW-11	F2J160194011	VOCs
	MW-12	F2J160194006	VOCs
	MW-2	F2J160194008	VOCs
	MW-3	F2J160194001	VOCs
	MW-4	F2J160194002	VOCs
	MW-5	F2J160194012	VOCs
	MW-6	F2J160194009	VOCs
	MW-7	F2J160194013	VOCs
	MW-8	F2J160194003	VOCs
	MW-9	F2J160194004	VOCs
	TRIP BLANK *10-13-02*	F2J160194015	VOCs
F2J180121	P-1 (78.7)	F2J180121006	VOCs
	P-1 (98.7)	F2J180121008	VOCs
	P-2 (78.5)	F2J180121001	VOCs
	P-2 (98.8)	F2J180121009	VOCs
	P-2-DUP-01 *Field Duplicate of P-2 (78.5)*	F2J180121003	VOCs
	TRIP BLANK *10-16-02*	F2J180121011	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2J220241	P-1 (299.14)	F2J220241033	VOCs
	TRIP BLANK *10-19-02*	F2J220241001	VOCs
F2J250192	P-1(301.16)	F2J250192012	VOCs
	TRIP BLANK *10-23-02*	F2J250192015	VOCs
	P-4 (106.8)	F2J300166005	VOCs
F2J300166	P-4 (77.5)	F2J300166003	VOCs
	P-4 (97.2)	F2J300166004	VOCs
	P-5 (107.5)	F2J300166006	VOCs
	P-5 (77.5)	F2J300166001	VOCs
	P-5 (97.5)	F2J300166002	VOCs
F2K010208	P-4 (197.65)	F2K010208036	VOCs
	P-5 (207.4)	F2K010208035	VOCs
	TRIP BLANK *10-30-02*	F2K010208011	VOCs
F2K050144	P-10 (198.15)	F2K050144003	VOCs
	P-10 (97.9)	F2K050144002	VOCs
	P-11 (107.4)	F2K050144001	VOCs
F2K060153	P-10 (107.95)	F2K060153007	VOCs
	P-10 (77.6)	F2K060153005	VOCs
	P-11 (167.4)	F2K060153008	VOCs
	P-11 (87)	F2K060153003	VOCs
	P-5 (292.4)	F2K060153001	VOCs
	P-5 (299.02)	F2K060153002	VOCs
	TRIP BLANK *11-03-02*	F2K060153009	VOCs
F2K080105	P-10 (264.5)	F2K080105003	VOCs
	P-11 (247.4)	F2K080105001	VOCs
	P-11 (281.13)	F2K080105004	VOCs
	TRIP BLANK *11-05-02*	F2K080105002	VOCs
F2K150247	P-12 (108)	F2K150247012	VOCs
	P-12 (78.85)	F2K150247011	VOCs
	P-12 (87.89)	F2K150247009	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2K150247	P-12 (97.92)	F2K150247005	VOCs
	P-6 (102.8)	F2K150247002	VOCs
	P-6 (122.8)	F2K150247013	VOCs
	P-6 (82.8)	F2K150247001	VOCs
	P-9 (102.61)	F2K150247015	VOCs
	P-9 (162.61)	F2K150247010	VOCs
	P-9 (82.61)	F2K150247008	VOCs
	TRIP BLANK *11-13-02*	F2K150247014	VOCs
F2K180219	P-9 (232.61)	F2K180219001	VOCs
	TRIP BLANK *11-15-02*	F2K180219003	VOCs
F2K190242	P-3 (107.40)	F2K190242004REA	VOCs*
	P-3 (87.40)	F2K190242001REA	VOCs*
	P-6 (252.4)	F2K190242007REA	VOCs*
	P-6 (291.5)	F2K190242008REA	VOCs*
	TRIP BLANK *11-18-02*	F2K190242009REA	VOCs*
F2K220291	P-12 (207.43)	F2K220291006	VOCs
	P-12 (287.42)	F2K220291009	VOCs
	P-12 (297.41)	F2K220291007	VOCs
	P-3 (167.40)	F2K220291005	VOCs
	P-3 (227.40)	F2K220291004	VOCs
	P-7 (102.4) -UNFILTERED	F2K220291010	VOCs
	P-7 (82.4)	F2K220291002	VOCs
	TRIP BLANK *11-19-02*	F2K220291008	VOCs
F2K230165	P-2 (258.14)	F2K230165002	VOCs
	P-3 (304.40)	F2K230165003	VOCs
	P-7 (242.4)	F2K230165001	VOCs
	TRIP BLANK *11-21-02*	F2K230165004	VOCs
F2L060132	P-7 (301)	F2L060132003	VOCs
	P-8 (77.55)	F2L060132001	VOCs
	P-8 (97.55)	F2L060132002	VOCs

Table 1-1: *Sample Cross-Reference List*

Package Identification	***Client ID***	***Laboratory ID***	***Analysis Requested***
F2L060132	TRIP BLANK *12-04-02*	F2L060132004	VOCs
F2L070156	P-13 (76.6)	F2L070156006	VOCs
	P-13 (86.6)	F2L070156007	VOCs
	P-13 (96.6)	F2L070156008	VOCs
	P-14 (77.82)	F2L070156009	VOCs
	P-14 (85.82)	F2L070156010	VOCs
	P-14 (95.17)	F2L070156011	VOCs
	P-2 (302.05)	F2L070156003	VOCs
	P-8 (167.55)	F2L070156004	VOCs
	P-8 (247.55)	F2L070156005	VOCs
	TRIP BLANK *12-06-02*	F2L070156013	VOCs
F2L120248	P-13 (237.30)	F2L120248002	VOCs
	P-16 (181.00)	F2L120248003	VOCs
	P-16 (231.00)	F2L120248004	VOCs
	P-16 (251.00)	F2L120248005	VOCs
	TRIP Blank *12-10-02*	F2L120248001	VOCs
F2L120270	P-13 (116.6)	F2L120270006	VOCs
	P-13 (176.6)	F2L120270007	VOCs
	P-14 (115.14)	F2L120270003	VOCs
	P-14 (204.7)	F2L120270009	VOCs
	P-16 (101)	F2L120270024	VOCs
	P-16 (121)	F2L120270025	VOCs
	P-16 (81)	F2L120270021	VOCs
	P-16 (91)	F2L120270023	VOCs
	P-8 (297.55)	F2L120270004	VOCs
	P-8 (302.55)	F2L120270005	VOCs
	TRIP BLANK *12-07-02*	F2L120270008	VOCs

Table Notes:
*The laboratory inadvertently performed SW846 Method 1311 (i.e., Toxicity Characteristic Leaching Procedure) on these samples. The actual results are reported using laboratory reporting limits that are above required practical quantitation limits specified in the QAPP. Re-sampling and re-analysis for these locations was not performed.

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report summarizes the findings of the review and outlines any deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York.* Syracuse, New York.

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* (SW846) USEPA, Final Update IIIA, April 1998.

- *Analytical Services Protocol (ASP), New York State Department of Environmental Conservation* (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000)

- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review*, SOP No. HW-6, Revision #11 (USEPA 1996a); and

- *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540-R-99-008, October 1999.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for volatile organic compound (VOC) analyses. The laboratory used the following USEPA guidance methods for the analyses:

- SW846 Method 5030B Purge/Trap Analysis
- SW846 Method 8260B Gas Chromatography/Mass Spectrometry plus Tentatively Identified Compounds (TICs)

The laboratory assigned a sample delivery group (SDG) number to a group of samples during the sample log-in process. The SDG number is the means by which the laboratory tracks samples and controls QC analyses. A total of 18 SDGs contained one or more groundwater samples submitted for analysis. The SDG, field identification and laboratory identification for each sample are summarized in Table 1-1.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. A summary of the findings associated with the validation and the specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data (EDD) is presented in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1.

URS performed a data review of all analytical results to assess data quality. A data review includes an assessment of sample handling protocols, supporting laboratory quality control (QC) parameters, and field QC. The following is a list of specific analytical information evaluated during the validation:

- Data package completeness review – per the NYSDEC ASP Category B or USEPA CLP deliverables requirements;
- Analytical methods performed and test method references;
- Sample condition - review of log-in records for cooler temperature, presence of headspace, chemical preservation, etc.;
- Holding times (comparison of collection, preparation, and analysis dates);
- Analytical results (units, values, significant figures, reporting limits, analyst, percent moisture);
- Sample traceability and comparison to raw data;
- Instrument tuning;
- Initial calibration – comparison to laboratory criteria;
- Continuing calibration – comparison to laboratory criteria;
- Method blank results and laboratory contamination;
- Laboratory control sample (LCS) results and comparison to laboratory control limits;
- Matrix spike/matrix spike duplicate (MS/MSD) results and comparison to laboratory control limits;
- Field replicate/duplicate results and comparison to data review criteria;
- Surrogate recoveries (where applicable) and comparison to laboratory control limits;
- Internal Standards (where applicable) and comparison to lab criteria;
- Tentatively Identified Compounds (TICs);
- Field QC sample (e.g., trip blanks, equipment blanks, etc.);
- Reporting limits and Dilutions; and
- Electronic Data Deliverables (EDDs) – comparison to the hardcopy analytical report (a 20% check of the data to confirm that the results in the hardcopy report matched the results in the electronic file).

The analytical reports were reviewed for completeness and the accompanying QC data were reviewed for acceptable performance. In case documentation was incomplete, the laboratory was required to provide the missing information. When QC results indicated poor performance, URS applied data qualifiers to the results to inform the data user of the possible performance problem. These qualifiers are in addition to or a revision of the qualifiers provided by the laboratory. A summary of the data qualifiers used for this review is presented in Section 2.2.

2.2. Data Qualifiers

The following qualifiers have been used by the laboratory:

"U" Non-detect result at the established laboratory reporting limit (adjusted for percent moisture, if applicable).

"B" Associated with a result if the compound was identified in the corresponding method blank.

"J" Indicates an estimated value or a value below the established reporting limit but above the method detection limit.

"E" This flag identifies compounds whose concentrations exceed the calibration range of the instrument for the specific analysis; data qualified with an "E" are qualitative only and not useable for quantitative purposes. All results qualified with an "E" were required to be re-analyzed using an applicable dilution and re-reported.

Laboratory qualifiers defined above, are retained in the final database unless revised during the data validation process to one of the following qualifiers:

"U" The chemical was not detected. Value shown is the reporting limit.

"J" Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

"UJ" The chemical was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of reporting necessary to accurately and precisely measure the chemical in the sample.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes whether the QA/QC parameters specified in Section 2.1 met validation criteria. A summary of the individual components of the review are described in the following sections.

3.2. Review of Validation Criteria

3.2.1. Completeness Review

The laboratory provided the analytical report in the New York State Department of Environmental Conservation (NYSDEC) format. Nearly all necessary documents were included in the report package including a case narrative summarizing the QC issues associated with the project analyses. In just a few isolated cases, the laboratory was asked to provide missing documentation, which included a run-log and an initial calibration run. The laboratory provided all information requested by URS.

3.2.2. Test Methods

The laboratory performed the analyses for most analyses using the analytical test methods listed in Section 1.3. These included SW846 Method 5030B (aqueous sample purge/trap analysis) followed by Method 8260B (gas chromatography/mass spectrometry). Most samples were analyzed using a 25-mL purge volume which allows lower reporting limits for each compound.

For five project samples, however, the laboratory inadvertently performed SW846 Method 1311 (i.e., Toxicity Characteristic Leaching Procedure). The analysis was performed using a dilution (20x) which caused reporting limits to be raised above the practical quantitation limits specified in the QAPP (GTEOSI, 2002). Re-analysis was not performed since sample holding times had expired before the error was noticed. Re-sampling and re-analysis for these locations was not performed due to the identification of some target compounds within the matrix at levels above the PQLs. No qualification of the results was performed since batch QC analyses were acceptable. Qualification is also not required by the guidance methods for a result associated with a diluted analysis. The affected project samples include:

Table 3-1: *Samples Analyzed by an Inappropriate Test Method*

Package Identification	***Client ID***	***Laboratory ID***
F2K190242	P-3(107.40)	F2K190242004REA
	P-3(87.40)	F2K190242001REA
F2K190242	P-6(252.4)	F2K190242007REA
	P-6(291.5)	F2K190242008REA
	TRIP BLANK *11-18-02*	F2K190242009REA

REA – Indicates a laboratory reanalysis or an analysis performed with a diluted sample.

3.2.3. Sample Receipt

The laboratory received 103 aqueous samples for VOC analysis between October 13, 2002 and December 11, 2002. The sample temperatures at the time of receipt were within the recommended temperature range

of 4°C±2°C for all SDGs. Field and laboratory personnel completed the Chain-of-Custody (COC) documents correctly recording the signature, date, and time of custody transfer.

The laboratory recorded the condition of the samples at the time of receipt on a "Conditions Upon Receipt Form." This Form identifies whether the containers were received undamaged, within the proper temperature range, at the proper pH, in a container that is sealed with a custody seal on the exterior, and with a completed COC enclosed to identify all samples submitted to the laboratory. For most SDGs, this form was completed properly. For one SDG, F2K150247, the laboratory did not record sufficient information on the form to assess the proper sample condition upon receipt. (The laboratory only recorded the sample temperature and the presence of a custody seal on the container). No qualification of data was required for this error. However, the laboratory was informed that all log-in forms must be completed appropriately for all future investigations. The samples associated with this SDG are as follows: P-12 (108), P-12 (78.85), P-12 (78.85), P-12 (87.89), P-12 (87.89), P-12 (97.92), P-6 (102.8), P-6 (102.8), P-6 (122.8), P-6 (82.8), P-9 (102.61), P-9 (102.61), P-9 (162.61), P-9 (82.61), and TRIP BLANK (11-13-02). Additionally, the laboratory identified the presence of headspace in the VOC sample containers for one project sample. Headspace in a VOC container can negatively bias the VOC results due to the loss of VIC compounds within that headspace. The VIC results for P-12 (207.43) were qualified as estimated ("J" or "UJ") to indicate the potential bias.

Table 3-2. *Evaluation of Sample Headspace*

Package Identification	***Client ID***	***Laboratory ID***	***Action***
F2K220291	P-12 (207.43)	F2K220291006	UJ – all non-detect results J – all positive results above the laboratory reporting limit.

3.2.4. Holding Times

The laboratory performed most VOC analyses within EPA-recommended holding time of 14-days for acid preserved samples. The Trip Blank collected on November 5, 2002 contained acetone at a concentration that exceeded the laboratory's calibration range. The laboratory did not identify the exceedance until the hold time for the VOC analysis had passed. The VOC results associated with the reanalysis (F2K080105002REA) were qualified as estimated ("J" or "UJ") to indicate the potential bias. With the exception of the acetone result, the initial results for the November 5th Trip Blank were retained in the final data set.

Table 3-3. *Evaluation of Holding Times*

Package Identification	***Client ID***	***Laboratory ID***	***Action***
F2K080105	Trip Blank	F2K080105002REA	UJ – all non-detect results J – all positive results above the laboratory reporting limit

REA – Laboratory reanalysis of the sample.

3.2.5. Analytical Results

For each sample tested, the laboratory provided the analytical test information using the Contract Laboratory Program (CLP) format. This format requires the use of stylized forms to present critical information pertaining to the analyses performed. For all analytical results, the laboratory provided a Form I with the reported analytical results for the requested analyses. The Form I format shows the following information for organic analyses: the laboratory name; laboratory code; matrix; sample weight

per volume; the gas chromatography (GC) column identification; the sample identification; the laboratory file identification; the date the sample was received; the date the sample was analyzed; the dilution factor; the chemical abstract service (CAS) number; the units of measure; and the laboratory qualifier (if any). Additional CLP forms were provided (e.g., II, III, etc.) to report applicable QC information for the analyses performed. The laboratory provided all the appropriate forms for the VOC method.

3.2.6. Traceability to Raw Data

Traceability of the VOC analyses is established by Form V (Instrument Performance Check). These forms list the project samples analyzed per laboratory batch processed and the corresponding QC samples performed with the project samples. All project samples for all SDGs were included on the applicable forms.

3.2.7. Instrument Tuning

The GC/MS instrument performance [i.e., "tuning data," or a check of mass spectral ion intensities using bromofluorobenzene (BFB)] met method criteria. The instrument performance was checked prior to calibration and once every 12-hour shift for all analytical QC batches.

3.2.8. Initial Calibration

The initial calibrations (ICALs) met data validation criteria (i.e., relative response factors (RRFs) were greater than method criteria for the System Performance Check Compounds (SPCCs), and the relative percent standard deviations (%RSDs) were less than 15% for Calibration Check Compounds (CCCs)). Additionally, for all target compounds, method requirements recommend that RRFs be greater than 0.05 and that compounds be quantitated using the average relative response factor (avgRRF) only if the %RSD is less than 15%. The guidance method recommends that all compounds with a %RSD greater than 15% be quantitated with a calibration curve rather than the avgRRF. The laboratory does not prepare a calibration curve for compounds with a %RSD greater than 15% as recommended within the guidance method. Rather, the laboratory uses an alternate approach to the ICAL evaluation by evaluating the avgRRF (for all compounds calibrated). If their avgRRF is less than 15% (across all compounds) then the laboratory considers this to mean that they have met method criteria for the ICAL. Since this evaluation approach is not widely used, a conservative approach was used for the validation process and all results were qualified as estimated ("J" or "UJ") that were associated with the laboratory ICALs that had a %RSD greater than 15%. Table 3-4 shows the samples and results qualified as estimated.

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2J160194	DUP DUP (rea) EB-101302 MW-1 MW-10 MW-10 (rea) MW-11 MW-12 MW-2 MW-3 MW-3 (rea) MW-4 MW-4 (rea) MW-5 MW-6 MW-7 MW-7 (rea) MW-8 MW-9 MW-9 (rea) TRIP BLANK 10-13-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J180121	P-1 (78.7) P-1 (98.7) P-2 (78.5) P-2 (78.5) (rea) P-2 (98.8) P-2-DUP-01 P-2-DUP-01 (rea) TRIP BLANK 10-16-02	%RSD: acetone, methylene chloride, bromomethane, 4-methyl-2-pentanone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J220241	P-1 (299.14) TRIP BLANK 10-19-02	%RSD: acetone, methylene chloride, bromomethane RRF: 2-butanone, acetone, bromomethane, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J250192	P-1(301.16) TRIP BLANK 10-23-02	%RSD: methylene chloride, bromomethane RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J300166	P-4 (106.8) P-4 (77.5) P-4 (97.2) P-5 (107.5) P-5 (107.5) (rea) P-5 (77.5) P-5 (77.5) (rea) P-5 (97.5) P-5 (97.5) (rea)	%RSD: 2-butanone, acetone, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K010208	P-4 (197.65) P-5 (207.4) TRIP BLANK 10-30-02	%RSD: 2-butanone, acetone, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2K050144	P-10 (198.15) P-10 (198.15) (rea) P-10 (97.9) P-10 (97.9) (rea) P-11-107.4	%RSD: 2-butanone, acetone, methylene chloride, bromomethane RRF: 2-butanone, bromomethane, methylene chloride	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K060153	P-10 (107.95) P-10 (107.95) (rea) P-10 (77.6) P-10 (77.6) (rea) P-11 (167.4) P-11 (87) P-5 (292.4) P-5 (299.02) P-5 (299.02) (rea) TRIP BLANK 11/03/02 TRIP BLANK 11/03/02 (rea)	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K080105	P-10 (264.5) P-11 (247.4) P-11 (281.13) TRIP BLANK 11-05-02 TRIP BLANK 11-05-02 (rea)	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K150247	P-12 (108) P-12 (78.85) P-12 (78.85) (rea) P-12 (87.89) P-12 (87.89) (rea) P-12 (97.92) P-6 (102.8) P-6 (102.8) (rea) P-6 (122.8) P-6 (82.8) P-9 (102.61) P-9 (102.61) (rea) P-9 (162.61) P-9 (82.61) TRIP BLANK 11-13-02	%RSD: 2-hexanone RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K180219	P-9 (232.61) TRIP BLANK 11-15-02	%RSD: bromomethane, chloroethane, methylene chloride, tetrachloroethene	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K190242	P-3 (107.40) P-3 (87.40) P-6 (252.4) P-6 (291.5) TRIP BLANK 11-18-02	%RSD: acetone, bromomethane, methylene chloride, chloromethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K220291	P-12 (207.43) P-12 (287.42) P-12 (287.42) (rea) P-12 (297.41) P-3 (167.40) P-3 (227.40) P-7 (102.4) –Unfiltered P-7 (82.4) TRIP BLANK 11-19-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-4. *Evaluation of Initial Calibration Results*

Package Identification	*Sample ID*	*Compounds**	*Action*
F2K230165	P-2 (258.14) P-3 (304.40) P-7 (242.4) TRIP BLANK 11-21-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55) TRIP BLANK 12-04-02	%RSD: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L070156	P-13 (76.6) P-13 (86.6) P-13 (96.6) P-14 (77.82) P-14 (77.82) (rea) P-14 (85.82) P-14 (85.82) (rea) P-14 (95.17) P-2 (302.05) P-8 (167.55) P-8 (247.55) TRIP BLANK 12-6-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120248	P-13 (237.30) P-13 (237.30) (rea) P-16 (181.00) P-16 (231.00) P-16 (251.00) Trip Blank 12-10-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120270	P-13 (116.6) P-13 (116.6) (rea) P-13 (176.6) P-14 (115.14) P-14 (204.7) P-16 (101) P-16 (101) (rea) P-16 (121) P-16 (81) P-16 (81) (rea) P-16 (91) P-16 (91) (rea) P-8 (297.55) P-8 (302.55) TRIP BLANK 12-07-02	%RSD: 2-butanone, acetone, methylene chloride, bromomethane RRF: 2-butanone, acetone	%RSD >15% UJ – all non-detect results J – all positive results above the laboratory reporting limit RRF < 0.05 UJ – all non-detect results J – all positive results above the laboratory reporting limit

Notes:
*Not all compounds listed are affected by exceedances of %RSD and avgRRF. The final EDD shows the final qualifiers for the project.
rea – Indicates a laboratory reanalysis.

3.2.9. Continuing Calibration

The continuing calibration (CCAL) verification analyses were performed with a mid-level standard immediately following the tuning check at the beginning of each 12-hour analytical sequence. The CCAL verification analyses met data validation criteria (i.e., RRFs were <0.05 for the SPCCs, and the percent differences (%Ds) from the avgRRF were < 20% for the CCCs) for all analytical QC batches. For the target compounds, the %Ds were greater than 20% for multiple compounds. Although method criteria were met, as a conservative approach the results associated with a CCAL that exceeded 20%D were qualified as estimated ("J" or "UJ"). Table 3-5 shows a summary of the samples and qualified parameters.

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2J160194	DUP DUP (rea), EB-101302 MW-1 MW-10 MW-10 (rea) MW-11 MW-12 MW-2 MW-3 MW-3 (rea) MW-4 MW-4 (rea) MW-5 MW-6 MW-7 MW-7 (rea) MW-8 MW-9 MW-9 (rea) TRIP BLANK 10-13-02	2-butanone, 2-hexanone	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J220241	P-1 (299.14) TRIP BLANK 10-19-02	Acetone, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J250192	P-1(301.16) TRIP BLANK 10-23-02	2-hexanone, acetone, bromomethane, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2J300166	P-4(106.8) P-4(77.5) P-4(97.2) P-5(107.5) P-5(107.5) (rea) P-5(77.5) P-5(77.5) (rea) P-5(97.5) P-5(97.5) (rea)	2-hexanone, methylene chloride, chloromethane, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K050144	P-10 (198.15), P-10 (198.15) (rea) P-10 (97.9) P-10 (97.9) (rea) P-11-107.4	2-hexanone, methylene chloride, chloromethane, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K060153	P-5 292.4	2-hexanone, methylene chloride, bromoform, 4-methyl-2-pentanone, bromomethane, chloroform	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K080105	P-10 (264.5) P-11 (247.4) P-11 (281.13) TRIP BLANK 11-05-02 TRIP BLANK 11-05-02 (rea)	2-hexanone, methylene chloride, 4-methyl-2-pentanone, bromomethane, chloroform	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	***Sample ID***	***Compounds****	***Action***
F2K150247	P-12 (108) P-12 (78.85) P-12 (78.85) (rea) P-12 (87.89) P-12 (87.89) (rea) P-12 (97.92) P-6 (102.8) P-6 (102.8) (rea) P-6 (122.8) P-6 (82.8) P-9 (102.61) P-9 (102.61) (rea) P-9 (162.61) P-9 (82.61) TRIP BLANK 11-13-02	Acetone, 2-hexanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K180219	P-9 (232.61') TRIP BLK 11-15-02	2-butanone, acetone, bromoform, chloromethane,	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K190242	P-3 (107.40) P-3 (87.40) P-6 (252.4) P-6 (291.5) TRIP BLANK 11-18-02	acetone, chloromethane,	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K220291	P-12 (207.43) P-12 (287.42) P-12 (287.42) P-12 (297.41) P-3 (167.40) P-3 (227.40) P-7 (102.4) –UNFILTERED P-7 (82.4) TRIP BLANK 11-19-02	2-hexanone, 4-methyl-2-pentanone, bromomethane, chloromethane, trans-1,3-dichloropropene	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2K230165	P-2 (258.14) P-3 (304.40) P-7 (242.4) TRIP BLANK 11-21-02	2-hexanone, 4-methyl-2-pentanone, chloromethane, trans-1,3-dichloropropene	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55) TRIP BLANK 12-04-02	2-hexanone, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L070156	P-13 (76.6) P-13 (86.6) P-13 (96.6) P-14 (77.82) P-14 (77.82) P-14 (85.82) P-14 (85.82) P-14 (95.17) P-2 (302.05) P-8 (167.55) P-8 (247.55) TRIP BLANK 12-6-02	2-hexanone, methylene chloride, 4-methyl-2-pentanone, bromomethane	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

Table 3-5. *Evaluation of Continuing Calibration Results*

Package Identification	*Sample ID*	*Compounds**	*Action*
F2L120248	P-13 (237.30) P-13 (237.30) P-16 (181.00) P-16 (231.00) P-16 (251.00) Trip Blank 12-10-02	Carbon tetrachloride, acetone, bromomethane, methylene chloride	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit
F2L120270	P-13 (116.6) P-13 (116.6) P-13 (176.6) P-14 (115.14) P-14 (204.7) P-16 (101) P-16 (101) P-16 (121) P-16 (81) P-16 (81) P-16 (91) P-16 (91) P-8 (297.55) P-8 (302.55) TRIP BLANK 12-07-02	2-hexanone, acetone, carbon tetrachloride, 1,1-dichloroethane, 4-methyl-2-pentanone	%D > 20% UJ – all non-detect results J – all positive results above the laboratory reporting limit

*Not all compounds listed in column 3 affect all project samples shown. The attached EDD shows the final qualifiers assigned to the project sample results based on the validation criteria for all QC sample analyses.

3.2.10. Laboratory Method Blanks

In general, nearly all laboratory method blanks contained trace levels of one of more of laboratory contaminants including: acetone, methylene chloride, toluene, and chloromethane. The corresponding project sample results for the identified contaminants were revised to non-detect results if the associated sample results were less than 5 times the method blank results for laboratory contaminants in accordance with the QAPP (GTEOSI, 2002). Nearly all samples were affected by this qualification practice. A summary of the samples and compounds that were revised for the VOCs is presented in Table 3-6.

Table 3-6. *Evaluation of Laboratory Method Blank Results*

Package Identification	*Client ID*	*Laboratory ID*	*Action*
F2J160194	MW-4 (rea)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	MW-7	Acetone	Revise "B" qualifier to "U" to indicate non-detect result
F2J300166	P-4 (106.8) P-4 (77.5) P-4 (97.2) P-5 (77.5) P-5 (107.5) (rea) P-5 (97.5) (rea)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	P-5 (107.5)	Acetone, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
	P-5 (77.5)	Acetone	Revise "B" qualifier to "U" to indicate non-detect result
F2K060153	P-10 (77.6)	Toluene	Revise "B" qualifier to "U" to indicate non-detect result
F2K050144	P-10 (97.9) (rea) P-10 (198.15) P-10 (198.15) (rea)	Acetone, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result

Table 3-6. *Evaluation of Laboratory Method Blank Results*

Package Identification	*Client ID*	*Laboratory ID*	*Action*
F2K150247	P-12 (87.89) P-12 (87.89) (rea) P-9 (82.61)	Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2K190242	P-3 (87.40) P-3 (107.4) P-6 (252.4) P-6 (291.5)	Carbon disulfide, methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2L060132	P-7 (301) P-8 (77.55) P-8 (97.55)	Acetone, Methylene chloride	Revise "B" qualifier to "U" to indicate non-detect result
F2L120248	P-13 (237.00) P-13 (237.00) (rea) P-16 (181.00) P-16 (231.00) P-16 (251.00)	Acetone	Revise "B" qualifier to "U" to indicate non-detect result

(rea) – Indicates a laboratory reanalysis of the sample.

3.2.11. Laboratory Control Sample Results

The laboratory analyzed a laboratory control sample (LCS) for all QC batches. The percent recoveries were within laboratory control limits for almost all QC batches. Where recoveries exceeded laboratory control limits, the associated data were qualified as estimated ("J" or "UJ") using the following validation guidance: 1) if the percent recovery was greater than the upper control limit, positive results were qualified as estimated; non-detects were not qualified; 2) if the percent recovery was below the lower control limit, both positive and non-detect results were qualified ("J" or "UJ"). Table 3-7 shows the samples that were qualified as estimated due to LCS percent recoveries exceeding laboratory control limits. All results associated with LCS recoveries above the laboratory control limits were non-detect, and therefore, did not require qualification. Consequently, these samples are not listed in Table 3-7.

Table 3-7. *Evaluation of Laboratory Control Sample Results*

Package Identification	*Client ID*	*Compound*	*Action*
F2K010208	P-4 (197.65) P-5 (207.4) TRIP BLANK 10-30-02	Bromomethane	"UJ" (low %R)
F2K080105	P-11 (247.4)	Methylene chloride	"UJ" (low %R)

3.2.12. Matrix Spike/Matrix Spike Duplicate Analyses

Multiple project samples were submitted for MS/MSD analyses. Where recoveries exceeded laboratory control limits, the associated data were qualified as estimated ("J" or "UJ") using the following validation guidance: 1) if the percent recovery was greater than the upper control limit, positive results were qualified as estimated; 2) if the percent recovery was below the lower control limit, both positive and non-detect results were qualified ("J" or "UJ"). No qualification of data is required when percent recoveries are above the upper control limit and the VOC results are non-detect. Table 3-8 shows the samples that were qualified as estimated due to MS/MSD percent recoveries exceeding criteria. Table 3-8 does not list cases where the MS/MSD percent recoveries were greater than the upper control limit and the results were non-detect.

Table 3-8. *Evaluation of Matrix Spike/Matrix Spike Duplicate Sample Results*

Package Identification	*Client ID*	*Compound*	*Action*
F2J180121	P-2 (78.5)	Tetrachloroethene	"J" (high %R)
F2K050144	P-10 (198.15)	Carbon disulfide	"J" (high %R)
F2K060153	P-10 (77.6)	Methylene chloride Trans-1,3-dichloropropene Trichloroethene Tetrachloroethene	"UJ" (low %R)
F2L120248	P-16 (181.00)	Chloroform	"J" (low %R)

3.2.13. Field Duplicate Analyses

Two project samples were submitted as field duplicates. An evaluation of the precision of the field sampling procedure (as well as the laboratory analysis procedure) was made based on the relative percent difference (RPD) calculated for the original and duplicate sample results. RPD calculations were made only when both results were above the laboratory reporting limits. The RPD values for all compounds were less than 30% (aqueous data evaluation criteria).

It should be noted that QAPP requirements (GTEOSI, 2002) specified that a field duplicate sample be collected at a rate of one sample for every ten samples (collection rate of 10%). Nine field duplicates were required to be collected for the project since a total of 87 project samples were submitted for analysis. Although the precision objective for the two field duplicates submitted was achieved, an appropriate number of field duplicate samples were not collected to adequately assess precision. Therefore, precision is considered unknown because of the limited number of field duplicate samples collected.

3.2.14. Trip Blanks and Equipment Blanks

Multiple trip blanks and one equipment blank were submitted for the groundwater sampling project. Two sample delivery groups were submitted to the laboratory without a trip blank (F2J300166 and F2K050144). The reason for the oversight was not identified by field personnel. No assessment of the affect of sample cross-contamination during the shipping process could be made for these SDGs. Many of the trip blanks that were submitted contained common contaminants, including acetone, methylene chloride, and toluene. The equipment blank also contained acetone, methylene chloride, and chloromethane. Revisions to the affected target compounds were based on trip blank and equipment blank contamination, in accordance with practices described in the validation guidance documents listed in Sections 1.2 and 3.2.10 (method blank contamination). It should be noted that the results for the trip blanks and the equipment blank were not revised but the original result and laboratory qualifiers were retained to show data users the presence and concentrations of contamination that was used to qualify the project sample results. The contamination in the trip blanks and equipment blank, like the project samples, is potentially attributable to contamination from laboratory processing of samples, cross-contamination from samples during shipment, or contamination during the preparation of these QC samples (at the laboratory). Table 3-9 shows the samples and compounds that were qualified as non-detect ("U") or as estimated ("J") due to QC sample contamination.

Table 3-9. *Evaluation of Trip Blank and Equipment Blank Results*

Package Identification	*Sample ID*	*Compound*	*Action*
F2J160194	DUP (rea) MW-1 MW-10 MW-12 MW-3	Acetone, methylene chloride	Revised result to "U" (non-detect)
	MW-10 (rea) MW-11 MW-2 MW-3 (rea) MW-5 MW-7 (rea)	Methylene chloride	Revised result to "U" (non-detect)
	MW-4 MW-6 MW-7	Acetone	Revised result to "U" (non-detect)
	MW-4 (rea) MW-9	Acetone, chloromethane, methylene chloride	Revised result to "U" (non-detect)
	MW-8	Acetone, chloromethane	Revised result to "U" (non-detect)
F2J220241	P-1 (299.14)	Acetone	Revised result to "U" (non-detect)
F2J250192	P-1 (301.16)	Acetone	Revised result to "U" (non-detect)
F2K180219	P-9 (232.61)	Toluene	Revised result to "U" (non-detect)
F2J180121	P-2 (78.5)	Methylene chloride	Revised result to "U" (non-detect)

rea – indicates a laboratory re-analysis

3.2.15. System Monitoring Compounds

The percent recoveries for the VOC surrogates were within laboratory control limits for most project samples. Several project samples had one of a total of three surrogate recoveries outside laboratory control limits. When one of three surrogate recoveries is either above or below laboratory control limits, qualification of VOC results is not required per USEPA guidance documents. For this dataset, no qualification was required based on exceedances of the surrogate percent recoveries.

3.2.16. Internal Standards

The responses of most internal standards associated with target compounds were within the range of 50-200% of the associated calibration verification for all project samples. All internal standard retention times were within ± 30 seconds from that of the most recent calibration for all analyses. Table 3-10 shows the samples and compounds that were qualified as estimated due to internal standard value exceedances.

Table 3-10. *Evaluation of Internal Standard Values*

Package Identification	*Sample ID*	*Compound*	*Action*
F2J160194	DUP	1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene	"UJ" – non-detects
	DUP (rea)	1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 2-hexanone, bromoform, chlorobenzene, ethylbenzene, styrene, tetrachloroethene, toluene, trans-1,3-dichloropropene, total xylenes	"J" – positive results "UJ" – non-detects

rea – indicates a laboratory re-analysis

3.2.17. Compound Identification and Quantitation of Results

The laboratory's evaluations of the gas chromatographs and mass spectra for the identified compounds were acceptable for most project samples with one exception. The laboratory identified carbon tetrachloride in sample P-7 (102.4)-Unfiltered, but the result was revised to non-detect by the laboratory after a secondary QA review. The validation found that the retention time for the peak identified as carbon tetrachloride was not within the daily retention time window established by the CCAL. A revised analytical report for this compound was issued by the laboratory. However, rather than reissue the EDD, URS agreed to revise the electronic database to show carbon tetrachloride as a non-detect result (qualified "U" at the laboratory reporting limit) in accordance with the laboratory's revised report.

Additionally, the laboratory performed analysis on several samples (including MW-2, MW-5, MW-12, P-6 (82.8), P-9 (102.61), P-11 (167.4), P-13 (76.6), P-13 (86.6), P-13 (96.6), and P-14 (95.14)) using a dilution. There were no undiluted analyses reported for these results. All reporting limits for the target compounds are elevated due to the dilutions. The laboratory narrated this information, as required by the guidance documents, but was also informed that for future investigations, samples should be analyzed without a dilution (or with a small dilution, whenever possible) to provide the lowest reporting limits for the compounds of concern.

Additionally, many project samples contained elevated concentrations of some target compounds that exceeded the calibration range for the VOC analysis. The laboratory reported and qualified these results with an "E" qualifier. As part of the laboratory's corrective action, the affected samples were reanalyzed at a dilution to obtain usable results within the established calibration curve range. In two cases, however, the re-analyses resulted in non-detect results for two parameters which were originally detected in the undiluted sample. The samples are P-16 (81) and P-15 (91) and the affected compounds are cis-1,2-dichloroethene and trichloroethene. Since "E" qualified data are not used for quantitative purposes, the re-analysis results were required to be reported ("U"-qualified results). The "U" qualified results had elevated reporting limits due to the diluted analysis. The data user should be aware of the presence of these two chemicals in the subject samples. A list of the re-analyzed samples and the affected parameters are listed in Table 3-11.

Table 3-11: *Summary of Laboratory Re-Analyses*

Package Identification	***Client ID***	***Laboratory ID***	***Compound Reported From Re-Analysis***
F2J160194	MW-10	F2J160194005REA	Tetrachlorethene
	MW-3	F2J160194001REA	Tetrachlorethene
	MW-4	F2J160194002REA	Tetrachlorethene
	MW-7	F2J160194013REA	Tetrachlorethene
F2J160194	MW-9	F2J160194004REA	Tetrachlorethene
F2J180121	P-2 (78.5)	F2J180121001REA	Tetrachlorethene
	P-2-DUP-01	F2J180121003REA	Tetrachlorethene
F2J300166	P-5 (107.5)	F2J300166006REA	Tetrachlorethene
	P-5 (77.5)	F2J300166001REA	Tetrachlorethene
	P-5 (97.5)	F2J300166002REA	Tetrachlorethene

Table 3-11: *Summary of Laboratory Re-Analyses*

Package Identification	***Client ID***	***Laboratory ID***	***Compound Reported From Re-Analysis***
F2K050144	P-10 (97.9)	F2K050144002REA	Tetrachlorethene
F2K060153	P-10 (107.95)	F2K060153007REA	Tetrachlorethene
	P-10 (77.6)	F2K060153005REA	Tetrachlorethene
F2K080105	TRIP BLANK 11-05-02	F2K080105002REA	Acetone
F2K150247	P-12 (78.85)	F2K150247011REA	Tetrachlorethene Trichloroethene
	P-12 (87.89)	F2K150247009REA	Tetrachlorethene
	P-6 (102.8)	F2K150247002REA	Tetrachlorethene
F2K150247	P-9 (102.61)	F2K150247015REA	Tetrachlorethene
F2L070156	P-14 (85.82)	F2L070156010REA	Tetrachlorethene
F2L120248	P-13 (237.30)	F2L120248002REA	Trichlorethene
F2L120270	P-13 (116.6)	F2L120270006REA	Tetrachlorethene
	P-16 (101)	F2L120270024REA	Tetrachlorethene
	P-16 (81)	F2L120270021REA	Tetrachlorethene Cis-1,3-dichloroethene* Trichloroethene*
	P-16 (91)	F2L120270023REA	Tetrachlorethene Cis-1,3-dichloroethene* Trichloroethene*

*Results detected in an undiluted analysis but qualified with an "E" by the laboratory due to exceedances of the calibration curve range. Because of the large dilution performed to obtain results for another target compound (tetrachloroethene), these two compounds were reported as non-detect ("U"- qualified) at an elevated reporting limit. The compounds are present in the sample; however, an accurate quantity was not reported by the laboratory.

3.2.18. Tentatively Identified Compounds (TICs)

The laboratory was required to perform a library search for Tentatively Identified Compounds (TICs) present in the sample and QC matrices for the VOC analyses. TICs were identified most frequently in the laboratory method blanks and only in a few project samples. Since the TIC evaluation provides only the identity of a possible compound in the matrix and not the actual concentration of a compound, all TIC data should be considered qualitative (i.e., not usable for quantitative purposes). The "J" qualifier was added to all TIC results to indicate to the data user that the data are estimated. The TICs identified in the project and laboratory QC samples are shown in Attachment A.

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 100 percent of the VOC data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated ("J" and "UJ") due to data validation QA/QC exceedances should be considered conditionally usable. TICs, qualified as "J," are not usable as there is only presumptive evidence of the compounds presence in the project sample.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration or detection limit of the chemical, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the VOC analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the VOC analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte identification and quantification are indicators of the representativeness of the analytical data. None of the VOC data were rejected due to representativeness non-conformances.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes that can be determined with a designated level of confidence. Sensitivity requirements were not met for several project samples due to the necessity of analyzing samples using significant dilutions. However, none of the VOC data were rejected due to sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for the majority of VOC analyses. See Section 3.2.4 for sample and parameters qualified due to hold time exceedances.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the VOC data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USEPA guidance methods be used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols (with some minor modifications) for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed most information provided in the data packages. In one instance, however, the laboratory result was revised to a non-detect result due to mis-identification during the evaluation of the chromatographic retention time.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The validation qualifiers were applied as required by validation guidelines listed in Section 1.

References

GTE Operations Support Incorporated. (GTEOSI) 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1,* Revision 2, October 2002

O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP – Appendix C), Former Sylvania Electric Products Incorporated Facility Cantiague Rock Road, Hicksville, New York.* Syracuse, New York.

United States Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A),* 540/1-891002. Washington D.C.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, (SW846) USEPA, Final Update IIIA, April 1998;

USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, EPA 540-R-99-008, October 1999;

Analytical Services Protocol (ASP), New York State Department of Environmental Conservation (NYSDEC). Guidance documents including Exhibits A, B, C, D, E, F, G, H, and I. (June 2000), and

United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review, SOP No. HW-6, Revision #11 (USEPA 1996a)

ATTACHMENT A

VALIDATED ELECTRONIC DATA DELIVERABLE

REPORT

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Attachment A Validated Data

Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by Malcolm Pirnie, Inc. (MPI) on March 15th and 16th, 2003.

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including liquid scintillation counting for technetium-99 and alpha spectrometry for isotopic thorium and isotopic uranium using United States Department of Energy (USDOE) Methods and laboratory standard operating procedures (SOP's) and gas flow proportional counting for gross alpha, radium-226 and radium-228 using USEPA SW-846 Methods and laboratory SOP's. The analytical data generated for this investigation were evaluated by MPI using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the Science Applications International Corporation (SAIC) *Laboratory Data Validation Guidelines For Evaluating Radionuclide Analyses*, 143.-ARCS-00.08, Revision 06, 04 June 2000 and USDOE *Guidance For Radiochemical Data Validation,* Draft RD4, October 4, 1995.

The non-detect liquid scintillation counting results for technetium-99 (Tc-99) for samples MW-1 and MW-12 were qualified as rejected (R) because the net negative results have uncertainties less than their absolute values. This may be an indication of improper blank subtraction, per the data validation guidelines. Tc-99 was not detected in any of the groundwater samples. The affected data listed above was rejected (R) and therefore considered not usable.

Other method non-conformances requiring data validation qualification (J and UJ) include holding time, laboratory control sample recovery, laboratory duplicate analysis, matrix spike sample recovery, radionuclide identification and quantitation and blank contamination. None of these non-conformances were significant enough to jeopardize the usability of the data.

Overall, about 99 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable and those sample results qualified as rejected (R) should be considered not usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by Malcolm Pirnie, Inc. (MPI) on March 15th and March 16th, 2003.

The quantity and types of samples that were submitted for data validation are presented in Table 1-1.

Table 1-1. *Sample Cross-Reference List*

Package Identification	*Date Collected*	*Client ID*	*Laboratory ID*	*Analysis Requested*
F3C190235	3/15/03	MW-7	F3C190235-003	Alpha, GFPC, LSC
	3/15/03	MW-2	F3C190235-004	Alpha, GFPC, LSC
	3/15/03	MW-1	F3C190235-005	Alpha, GFPC, LSC
	3/15/03	MW-11	F3C190235-006	Alpha, GFPC, LSC
	3/15/03	MW-12	F3C190235-007	Alpha, GFPC, LSC
	3/15/03	MW-5	F3C190235-008	Alpha, GFPC, LSC
	3/15/03	MW-10, MS/MSD	F3C190235-009	Alpha, GFPC, LSC
	3/15/03	MW-9	F3C190235-010	Alpha, GFPC, LSC
	3/16/03	MW-6	F3C190235-011	Alpha, GFPC, LSC
	3/16/03	MW-3 *	F3C190235-012	Alpha, GFPC, LSC
	3/16/03	MW-4	F3C190235-013	Alpha, GFPC, LSC
	3/16/03	MW-8	F3C190235-014	Alpha, GFPC, LSC
	3/15/03	MW-FB	F3C190235-015	Alpha, GFPC, LSC
	3/15/03	MW-DUP *	F3C190235-016	Alpha, GFPC, LSC

Notes:
Alpha indicates isotopic thorium or isotopic uranium by Alpha Spectroscopy GFPC indicates Gas-Flow Proportional Counting for gross alpha, radium-226 and radium -228.
LSC indicates Liquid Scintillation Analysis for technetium-99.
DUP indicates field duplicate, EB is equipment blank, and FB is field blank.
MS/MSD indicates Matrix Spike/Matrix Spike Duplicate.
* Indicates that field sampler identified blind field duplicate sample.

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report outlines deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- United States Department of Energy (USDOE). 1997. *Environmental Measurements Laboratory (EML) Procedures Manual, 28th Edition, Volume 1(HASL 300)*. New York, New York.

Deviations from the QA/QC criteria were qualified based on guidance provided in the following document:

- Science Applications International Corporation (SAIC). 2000. *Laboratory Data Validation Guidelines for Evaluating Radionuclide Analyzes*, 143-ARCS-00.08, Revision 06. Oak Ridge, Tennessee.

- United States Department of Energy (USDOE), October 4, 1995, *Guidance for Radiochemical Data Validation,* Draft RD4, Gaithersburg, Maryland.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including alpha spectrometry (thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238) and liquid scintillation (technetium-99) using USDOE Methods and laboratory SOP's and gas-flow proportional counting (gross alpha, radium-226 and radium228) using USEPA SW-846 methods and laboratory SOP's. The methods used in this investigation are presented in Table 1-2.

Table 1-2. *Analytical Method References*

Parameter	***Method***	***Reference***
Liquid Scintillation Counting (technetium-99)	DOE TC-02-RC MOD	1
Gross Alpha by Gas-Flow Proportional Counting	SW-846 9310 MOD	3
Radium-226	SW-846 9315 MOD	3
Radium-228	SW-846 9320 MOD	3
Alpha Spectrometry (Thorium-228, -230, -232)	NAS/DOE 3004/RP (DOE RP-725)*	1, 2
Alpha Spectrometry (Uranium-234, -235, -238)	NAS/DOE 3050/RP (DOE RP-725)*	1, 2

Table 1-2. *Analytical Method References*

Notes:
* Extraction Chromatography method used for analysis utilizes the same technology as the cited reference but includes proprietary techniques, more selective in separation of uranium and thorium from the matrix. Reference is for background information only.

1. United States Department of Energy (USDOE). October 1994. DOE Method for Evaluating Environmental and Waste Management Samples.
2. National Academy of Science (NAS).
3. USEPA SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition, November 1986 and its updates.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data is summarized in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1 herein.

The following QA/QC parameters were evaluated for the radiochemistry (liquid scintillation, alpha spectrometry and gas-flow proportional counting) analyses (where applicable):

- Holding times and sample preservation;
- Calibration;
- Blank analysis:
- Tracer recovery;
- Laboratory Control Sample (LCS);
- Matrix Spike Sample (MS);
- Duplicate analysis;
- Field duplicate analysis;
- Radionuclide quantitation and detection limit evaluation;
- Chemical separation specificity (alpha spectrometry);
- System performance; and
- Documentation completeness.

2.2. Data Validation Qualifiers

The following guidelines are used regarding the assignment of qualifiers and the use of qualified data:

- QA/QC exceedances which do not result in the qualification of an analyte, or which result in additional qualification of the analyte with the same qualifier, are not discussed.

- The use of estimated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following qualifiers have been used in this data validation.

"J" The associated numerical value is an estimated quantity, due to a QC or statistical exceedance.

"UJ" The associated non-detect value is an estimated quantity, due to a QC or statistical exceedance.

"U" The associated value is non-detect.

"R" The associated non-detect or numerical value is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data (where applicable): blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes which QA/QC parameters specified in Section 2.1 met validation criteria, and which QA/QC parameters did not meet validation criteria. Samples requiring qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records.

3.2. Liquid Scintillation Analyses (technetium-99)

3.2.1. Criteria

The QA/QC parameters presented in Section 2.1 were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Blank analysis;
- Tracer Recovery;
- Duplicate analysis;
- Field duplicate analysis;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.2.2. Radionuclide Quantitation and Detection Limits

The net negative results for several samples have uncertainties less than their absolute values. This may be an indication of improper blank subtraction, per SAIC data validation guidelines. Tc-99 was not detected in the groundwater samples. The affected data was rejected (R) as summarized in Table 3-1.

Table 3-1. *Evaluation of Negative Results versus Uncertainties for Liquid Scintillation Counting*

Sample ID	***Affected Radionuclide Results***	***Action***
MW-1, MW-12	Technetium-99	R

3.2.3. Laboratory Control Sample (LCS)

The percent recovery was greater than 120 percent for Tc-99 (151%) in the LCS, therefore the affected data was qualified estimated "J" as summarized in table 3-2.

Table 3-2. *Evaluation of Laboratory Control Sample for Tc-99*

Sample ID	*Affected Radionuclide Results*	*Action*
MW-7, MW-2, MW-1, MW-11, MW-12, MW-5, MW-10, MW-9, MW-6, MW-3, MW-4, MW-8, FB, MW-DUP	Technetium-99	J

3.2.4. Matrix Spike Sample (MS)

The percent recovery was greater than 120 percent for Tc-99 (144%) in the aqueous matrix spike sample, therefore the affected data was qualified estimated "J" as summarized in table 3-3. It should be noted that these results were previously qualified "J" due to LCS or rejected due to radionuclide quantitation and detection limits being out of criteria.

Table 3-3. *Evaluation of Matrix Spike Sample for Tc-99*

Sample ID	*Affected Radionuclide Results*	*Action*
MW-7, MW-2, MW-1, MW-11, MW-12, MW-5, MW-10, MW-9, MW-6, MW-3, MW-4, MW-8, FB, MW-DUP	Technetium-99	J

3.3. Alpha Spectrometry Analyses

3.3.1. Criteria

The QA/QC parameters presented in Section 2.1 for radiochemistry were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Tracer recovery;
- Laboratory Control Sample (LCS);
- Matrix Spike Sample (MS);
- Duplicate analysis;
- Chemical separation specificity;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.3.2. Blank Analysis

The field and laboratory blank results were evaluated using the following statistical approach: if the net blank result was not less than the associated uncertainty and if the sample result ± uncertainty was less than ten times the associated blank result ± uncertainty, the qualifier "J" was applied to the associated sample result. The statistical evaluation of the field and laboratory blank results is summarized in Table 3-4. The QAPP requires method blanks to be less than or equal to the minimum detected concentration (MDC) or less than 5 times the lowest sample activity. The method blanks were not always less than the lowest sample activity. The QAPP requires the laboratory to reanalyze the affected batch. This was not done by the laboratory.

Table 3-4. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3C200000-115B (laboratory blank)	Thorium-230	0.66 ± 0.27	MW-7, MW-2, MW-1, MW-11, MW-12, MW-5, MW-10, MW-9, MW-6, MW-3, MW-4, MW-8, MW-DUP	J
FB (Field Blank)	Thorium-230	1.14 ± 0.41	Same samples as laboratory blank (above)	J
FB (Field Blank)	Uranium-234	0.14 ± 0.14	MW-7, MW-11, MW-5, MW-10, MW-9, MW-6, MW-3, MW-4, MW-8, MW-DUP	J

Note:
pCi indicates picocurries
Uncertainty indicates total propagated uncertainty, which includes counting error and non-counting error.

3.3.3. Radionuclide Quantitation and Detection Limits

The net positive uranium-234 results for sample MW-7 and uranium-238 results for samples MW-DUP and FB were less than their uncertainties. This indicates that the sample counts were less than the critical values or less than 95% confidence of positive detection. The sample results were qualified as estimated (J), as summarized in Table 3-5.

Table 3-5. *Evaluation of Positive Results versus Uncertainties for Alpha Spectrometry Analyses*

Sample ID	*Affected Radionuclide Results*	*Sample Concentration ± Uncertainty (pCi/L)*	*Action*
MW-7	Uranium-234	0.10 ± 0.12	J
FB	Uranium-238	0.10 ± 0.12	J
MW-DUP	Uranium-238	0.11 ± 0.13	J

3.4. Gas-Flow Proportional Counting

3.4.1. Criteria

The QA/QC parameters presented in Section 2.1 were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Blank analysis;
- Matrix Spike Sample (MS)
- Duplicate analysis;
- Field duplicate analysis;
- Radionuclide quantitation and detection limits
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.4.2. Laboratory Control Sample (LCS)

The percent recovery was less than 80 percent for radium 226 (73%) in the LCS, therefore the affected data was qualified estimated "J" as summarized in table 3-6.

Table 3-6. *Evaluation of Laboratory Control Sample*

Sample ID	*Affected Radionuclide Results*	*Action*
MW-7, MW-2, MW-1, MW-11, MW-12, MW-5, MW-10, MW-9, MW-6, MW-3, MW-4, MW-8, FB, MW-DUP	Radium-226	J

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 98.5 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable and those results rejected (R) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria whereas the presence or absence of the analyte cannot be verified should be considered unusable.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration of the radionuclide, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PSARCC) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the radiochemistry analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the radiochemistry analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte identification and quantification are indicators of the representativeness of the analytical data. Technetium-99 was rejected in two samples due to net negative results having uncertainties less than their absolute value, which may be an indication of improper blank subtraction therefore technetium-99 was rejected in these two samples due to representativeness non-conformance.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes that can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project. None of the radiochemistry data were rejected due to the sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for the radiochemistry analyses.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the radiochemistry data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USDOE methods are used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols (with some minor modifications) for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed information provided in the data packages.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The validation qualifiers were applied as required by validation guidelines as listed in Section 1

References

GTE Operations Support Incorporated. (GTEOSI). 2002. *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

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Science Applications International Corporation (SAIC). 1992. *Laboratory Data Validation Guidelines for Evaluating Radionuclide Analyzes*, 143.-
ARCS-00.08, Revision 06. Oak Ridge, Tennessee.

United States Department of Energy (USDOE).1997. *Environmental Measurements Laboratory (EML) Procedures Manual(HASL-300),* 28th Edition, Volume 1. New York, New York.

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United States Environmental Protection Agency (USEPA). 1992. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A),* 540/1-891002. Washington D.C.

ATTACHMENT A

VALIDATED DATA

REPORT

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Attachment A Validated Data

Executive Summary

This report addresses data quality for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by Malcolm Pirnie, Inc. (MPI) from April 24, 2003 through February 9, 2004.

The samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including alpha spectrometry for isotopic thorium and isotopic uranium using United States Department of Energy (USDOE) Methods and laboratory standard operating procedures (SOP's) and gas flow proportional counting for gross alpha, radium-226 and radium-228 using USEPA SW-846 Methods and laboratory SOP's. The analytical data generated for this investigation were evaluated by MPI using the quality assurance/quality control (QA/QC) criteria established in the methods as guidance. Non-conformances from the QA/QC criteria were qualified based on guidance provided in the Science Applications International Corporation (SAIC) *Laboratory Data Validation Guidelines For Evaluating Radionuclide Analyses*, 143-ARCS-00.08, Revision 06, June 2000 and the USDOE *Guidance for Radiochemical Data Balidation, Draft RD4, October 4, 1995.*

Method non-conformances requiring data validation qualification (J, U, or R) include holding time, laboratory control sample recovery, laboratory duplicate analysis, sample specific chemical recovery, radionuclide identification and quantitation and blank contamination. None of these non-conformances were significant enough to jeopardize the usability of the data.

Overall, 99 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable. Therefore, the completeness objective of 90 percent, as stated in the quality assurance project plan (QAPP), was met.

1. Introduction

1.1. Sample Identification

This report addresses the results of a data quality evaluation for groundwater samples collected at the former Sylvania Electric Products facility in Hicksville, New York (the Site). Sample collection activities were conducted by Malcolm Pirnie, Inc. (MPI) from April 24, 2003 through February 9, 2004.

The quantity and types of samples that were submitted for data validation are presented in Table 1-1.

Table 1-1. *Sample Cross-Reference List*

Package Identification	*Date Collected*	*Client ID*	*Laboratory ID*	*Analysis Requested*
F3D290160:	4/24/03	P-17-82.25	F3D290160-002	Alpha, GFPC
	4/25/03	P-17-92.25	F3D290160-003	Alpha, GFPC
	4/28/03	P-F-86.48	F3D290160-007	Alpha, GFPC
F3E020153:	4/29/03	P-F-96.48	F3E020153-001	Alpha, GFPC
F3E060217:	5/3/03	P-27-89.75	F3E060217-001X	Alpha, GFPC
	5/3/03	P-27-99.75	F3E060217-003	Alpha, GFPC
	5/3/03	P-28-87.02	F3E060217-007	Alpha, GFPC
	5/3/03	P-28-97.02	F3E060217-008	Alpha, GFPC
F3E140308:	5/12/03	P-26-86.8	F3E140308-002	Alpha, GFPC
	5/12/03	P-26-96.8	F3E140308-003	Alpha, GFPC
F3E160130:	5/15/03	P-E-88.57	F3E160130-012	Alpha, GFPC
F3E200165:	5/15/03	P-E-98.57	F3E200165-007	Alpha, GFPC
F3E290170:	5/27/03	P-D-87.05	F3E290170-002	Alpha, GFPC
	5/27/03	1EB-5/27	F3E290170-003	Alpha, GFPC
	5/28/03	P-D-97.05	F3E290170-004	Alpha, GFPC
	5/28/03	P-15-89.65	F3E290170-012	Alpha, GFPC
	5/28/03	P-15-99.65	F3E290170-013	Alpha, GFPC
F3F12022 0:	6/10/03	P-C-89.60	F3F120220-002	Alpha, GFPC
	6/10/03	P-C-99.60	F3F120220-003	Alpha, GFPC
	6/10/03	P-C-DUP1 #1	F3F120220-012	Alpha, GFPC
F3F170126:	6/16/03	P-24-87.35	F3F170126-006	Alpha, GFPC
F3F180192:	6/16/03	P-24-97.5	F3F180192-002	Alpha, GFPC

Table 1-1. *Sample Cross-Reference List*

Package Identification	Date Collected	Client ID	Laboratory ID	Analysis Requested
F3F260187:	6/24/03	P-23-FB1	F3F260187-002	Alpha, GFPC
	6/24/03	P-23-90.1	F3F260187-004	Alpha, GFOC
	6/24/03	P-23-100.1	F3F260187-005	Alpha, GFPC
F3G110256:	7/8/03	P-25-EB-1	F3G110256-001	Alpha, GFPC
	7/8/03	P-25-89.7	F3G110256-003	Alpha, GFPC
	7/9/03	P-25-99.7	F3G110256-004	Alpha, GFPC
	7/9/03	P-35-87.2	F3G110256-020	Alpha, GFPC
	7/9/03	P-35-97.2	F3G110256-021	Alpha, GFPC
F3G230216:	7/21/03	P-H-EB1	F3G230216-001	Alpha, GFPC
	7/21/03	P-H-86.8	F3G230216-003	Alpha, GFPC
	7/22/03	P-H-96.8	F3G230216-004	Alpha, GFPC
F3G250374:	7/23/03	P-42-89.6	F3G250374-022	Alpha, GFPC
	7/23/03	P-42-99.6	F3G250374-023	Alpha, GFPC
F3H060192:	8/4/03	P-20-89.60	F3H060192-002	Alpha, GFPC
	8/5/03	P-20-99.60	F3H060192-003	Alpha, GFPC
	8/4/03	P-45-81.25	F3H060192-011	Alpha, GFPC
	8/5/03	P-45-91.25	F3H060192-012	Alpha, GFPC
	8/4/03	P-45-DUP1	F3H060192-018	Alpha, GFPC
F3H210288:	8/19/03	P36-EB1	F3H210288-001	Alpha, GFPC
	8/19/03	P36-86.7	F3H210288-003	Alpha, GFPC
	8/19/03	P36-96.7	F3H210288-004	Alpha, GFPC
	8/19/03	P46-89.60	F3H210288-010	Alpha, GFPC
	8/20/03	P46-99.60	F3H210288-011	Alpha, GFPC
	8/19/03	P37-89.95	F3H210288-016	Alpha, GFPC
	8/19/03	P37-99.95	F3H210288-017	Alpha, GFPC
F3H280315:	8/26/03	P-46-330.21	F3H280315-008	Alpha, GFPC
	8/26/03	P-46-307.69	F3H280315-012	Alpha, GFPC
F3I040177:	9/2/03	P-44-89.8	F3I040177-003	Alpha, GFPC
	9/3/03	P-44-99.3	F3I040177-004	Alpha, GFPC
	9/3/03	P-44-DUP#1	F3I040177-005	Alpha, GFPC

Table 1-1. *Sample Cross-Reference List*

Package Identification	*Date Collected*	*Client ID*	*Laboratory ID*	*Analysis Requested*
	9/3/03	P-46-389.28	F3I040177-007	Alpha, GFPC
F3I050189:	9/4/03	P-47-87.08	F3I050189-010	Alpha, GFPC
F3I180259:	9/16/03	P-29-89.5	F3I180259-002	Alpha, GFPC
	9/16/03	P-29-99.5	F3I180259-004	Alpha, GFPC
	9/17/03	P-38-96.8	F3I180259-023	Alpha, GFPC
	9/17/03	P-38-86.7	F3I180259-024	Alpha, GFPC
F3I090305:	9/4/03	P-47-97.1	F3I090305-020	Alpha, GFPC
F3I120107:	9/9/03	P-43-89.88	F3I120107-003	Alpha, GFPC
	9/10/03	P-43-99.88	F3I120107-004	Alpha, GFPC
F3I230231:	9/20/03	P-29-310.2	F3I230231-014	Alpha, GFPC
	9/21/03	P-29-360.0	F3I230231-020	Alpha, GFPC
	9/22/03	P-29-390.0	F3I230231-044	Alpha, GFPC
F3J030259:	9/30/03	P-30-89.55	F3J030259-002	Alpha, GFPC
	10/1/03	P-30-99.55	F3J030259-003	Alpha, GFPC
F3J070236:	10/4/03	P-18-86.65	F3J070236-035	Alpha, GFPC
	10/5/03	P-18-96-65	F3J070236-036	Alpha, GFPC
F3J240204	10/21/03	P-50-89.90	F3J240204-004	Alpha, GFPC
	10/22/03	P-50-99.90	F3J240204-005	Alpha, GFPC
	10/21/03	P-49-84.25	F3J240204-017	Alpha, GFPC
	10/22/03	P-49-94.3	F3J240204-018	Alpha, GFPC
	10/22/03	P-51-87.78	F3J240204-030	Alpha, GFPC
	10/22/03	P-51-97.78	F3J240204-031	Alpha, GFPC
	10/22/03	P-51-DUP-1	F3J240204-032	Alpha, GFPC
F3K080109	11/4/03	P-54-87.55	F3K080109-002	Alpha, GFPC
	11/5/03	P-54-97.55	F3K080109-003	Alpha, GFPC
	11/5/03	P-52-90.0	F3K080109-016	Alpha, GFPC
	11/5/03	P-52-100.0	F3K080109-017	Alpha, GFPC
	11/4/03	P-58-89.65	F3K080109-029	Alpha, GFPC
	11/4/03	P-58-99.65	F3K080109-030	Alpha, GFPC
F3K110173:	11/7/03	P-58-304.65	F3K110173-005	Alpha, GFPC

Table 1-1. *Sample Cross-Reference List*

Package Identification	Date Collected	Client ID	Laboratory ID	Analysis Requested
	11/7/03	P-58-DUP-3	F3K110173-006	Alpha, GFPC
	11/9/03	P-58-402.40	F3K110173-010	Alpha, GFPC
	11/10/03	P-58-432.05	F3K110173-011	Alpha, GFPC
F3K210372:	11/18/03	P-53-86.40	F3K210372-011	Alpha, GFPC
	11/20/03	P-53-EB-11-20	F3K210372-012	Alpha, GFPC
F3K280120:	11/20/03	P-53-96.40	F3K280120-001	Alpha, GFPC
	11/21/03	P-34-89.55	F3K280120-027	Alpha, GFPC
	11/22/03	P-34-99.55	F3K280120-028	Alpha, GFPC
F3L090146:	12/05/03	P-33-89.6	F3L090146-003	Alpha, GFPC
	12/06/03	P-33-99.6	F3L090146-004	Alpha, GFPC
F4A130259:	1/5/04	P-31-89.25	F4A130259-003	Alpha, GFPC
	1/6/04	P-31-99.25	F4A130259-004	Alpha, GFPC
	1/11/04	P-55-84.10	F4A130259-021	Alpha, GFPC
	1/11/04	P-55-94.55	F4A130259-022	Alpha, GFPC
F4A230292:	1/21/04	P-56-86.55	F4A230292-006	Alpha, GFPC
	1/21/04	P-56-96.55	F4A230292-007	Alpha, GFPC
	1/22/04	P-56-DUP	F4A230292-019	Alpha, GFPC
F4B110140:	2/9/04	P-32-89.35	F4B110140-006	Alpha, GFPC
	2/9/04	P-32-99.35	F4B110140-007	Alpha, GFPC

Notes:
Alpha indicates Alpha Spectrometry of thorium (isotopic) and uranium (isotopic).
GFPC indicates Gas Flow Proportional Counting for gross alpha, radium 226 and radium 228.
Dup is duplicate, EB is equipment blank, and FB is field blank.

1.2. General Considerations

Validation is a process of determining the suitability of a measurement system for providing useful analytical data. Although the term is frequently used in discussing methodologies, it applies to all aspects of the analytical system and especially to samples, their measurements, and the actual data output. Accordingly, for the samples and analyses addressed herein, this report outlines deviations from the applicable QC criteria outlined in the following documents:

- GTE Operations Support Incorporated. (GTEOSI). *Soil Remediation Program Work Plan (QAPP: Appendix H), Former Sylvania Electric Products Facility, Hicksville, New York, Site Number V 00089-1*, Revision 2, October 2002.

- United States Department of Energy (USDOE). 1997. *Environmental Measurements Laboratory (EML) Procedures Manual, 28th Edition, Volume 1(HASL-300)*. New York, New York.

Deviations from the QA/QC criteria were qualified based on guidance provided in the following documents:

- Science Applications International Corporation (SAIC). June 2000. *Laboratory Data Validation Guidelines for Evaluating Radionuclide Analyses*, 143-ARCS-00.08, Revision 06. Oak Ridge, Tennessee.

- United States Department of Energy (USDOE). October 4, 1995, *Guidance for Radiochemical Data Validation,* Draft RD4, Gaithesrburg, Maryland.

1.3. Analytical Methods

The environmental samples collected for this investigation were submitted to Severn Trent Laboratories, Inc. of Earth City, Missouri for radiochemistry analyses including alpha spectrometry (thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238) using USDOE Methods and laboratory SOP's and gas flow proportional counting (gross alpha, radium 226 and radium 228) using USEPA SW-846 methods and laboratory SOP's. The methods used in this investigation are presented in Table 1-2.

Table 1-2. *Analytical Method References*

Parameter	***Method***	***Reference***
Alpha Spectrometry (Uranium-234, Uranium-235 and Uranium –238)	DOE RP-725*	1
Radium-226 by GFPC	SW-846 9315 MOD	2
Radium-228 by GFPC	SW-846 9320 MOD	2
Alpha Spectrometry (Thorium-228, Thorium-230 and Thorium–232)	DOE RP-725*	1

Notes:
*Extraction Chromatography method used for analysis utilizes the same technology as the cited reference but includes proprietary techniques, more selective in separation of uranium and thorium from the matrix. Reference is for background information only.

1. United States Department of Energy (USDOE). October 1994. DOE Method for Evaluating Environmental and Waste Management Samples.
2. USEPA SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition, November 1986 and its updates.

The following sections of this document address distinct aspects of the validation process. Section 2 lists the data QA/QC protocols used to validate the sample data. Specific QA/QC deviations and qualifications performed on the sample data are discussed in Section 3. Data completeness and usability are discussed in Section 4. Section 5 presents the Data Usability Summary Report (DUSR) Summary Information. A copy of the validated electronic deliverable data is summarized in Attachment A.

2. Data Validation Protocols

2.1. Sample Analysis Parameters

The validation of analyses for this project used guidance presented in the QAPP (GTEOSI, 2002), the analytical methodology, and the data validation guidelines referenced in Section 1 herein.

The following QA/QC parameters were evaluated for the radiochemistry (alpha spectrometry and gas flow proportional counting) analyses (where applicable):

- Holding times and sample preservation;
- Calibration;
- Blank analysis:
- Tracer recovery;
- Laboratory Control Sample (LCS);
- Matrix Spike Sample (MS)
- Duplicate analysis;
- Field duplicate analysis;
- Radionuclide quantitation and detection limit evaluation;
- Chemical separation specificity (alpha spectrometry);
- System performance; and
- Documentation completeness.

It should be noted that no Matrix Spike samples were associated with these data. The field blind duplicates associated with these data are PC-99.60 associated with P-C-DUP #1; P-45-81.25 associated with P-45-DUP1; P-44-99.3 associated with P-44-DUP#1; P-51-DUP-1 associated with P-51-97.78; P58-304.65 associated with P-58-DUP-3; and P-56-86.55 associated with P-56-DUP.

2.2. Data Validation Qualifiers

The following guidelines are used regarding the assignment of qualifiers and the use of qualified data:

- QA/QC exceedances which do not result in the qualification of an analyte, or which result in additional qualification of the analyte with the same qualifier, are not discussed.

- The use of estimated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992).

The following qualifiers have been used in this data validation.

"J" The associated numerical value is an estimated quantity, due to a QC or statistical exceedance.

"UJ" The associated non-detect value is an estimated quantity, due to a QC or statistical exceedance.

"U" The associated value is non-detect.

"R" The associated non-detect or numerical value is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

2.3. Data Usability Summary Report Questions

The DUSR determines whether or not the data meets site-specific criteria for data quality and use. It was developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions were addressed (where applicable):

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data (where applicable): blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

The answers to the questions presented by the DUSR are presented in the following sections of the report and in the DUSR Summary Information Section, Section 5.

3. Data Quality Evaluation

3.1. Summary

This section summarizes which QA/QC parameters specified in Section 2.1 met validation criteria, and which QA/QC parameters did not meet validation criteria. Samples requiring qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records.

3.2. Alpha Spectrometry Analyses

3.2.1. Criteria

The QA/QC parameters presented in Section 2.1 for radiochemistry were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Field Duplicate Analysis;
- Chemical separation specificity;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.2.2. Blank Analysis

The field and laboratory blank results were evaluated using the following statistical approach: if the net blank result was not less than the associated uncertainty and if the sample result ± uncertainty was less than ten times the associated blank result ± uncertainty, the qualifier "J" was applied to the associated sample result. The statistical evaluation of the field and laboratory blank results is summarized in Table 3-1. The QAPP requires method blanks to be less than or equal to the minimum detected concentration (MDC) or less than 5 times the lowest sample activity. The method blanks were not always less than the lowest sample activity. The QAPP requires the laboratory to reanalyze the affected batch. The laboratory did not do this

Table 3-1. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3D290160:				
F3D0300000-110B	Thorium-230	0.48 ± 0.25	P-17-82.25, P-17-92.25, P-F-86.48	J
F3D300000-111B	Uranium-234	0.97 ± 0.50	P-17-82.25, P-17-92.25, P-F-86.48	J
F3E020153:				
F3E0200000-448B	Thorium-230	0.38 ± 0.22	P-F-96.48	J

Table 3-1. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3E0200000-452B	Uranium-234 Uranium-235	0.38 ±0.27 0.32 ±0.27	P-F-96.48	J
F3E60217:				
F3E070000-125B	Thorium-228 Thorium-230	0.13 ±0.12 0.94 ±0.37	P-27-89.75 P-27-99.75 P-28-87.02 P-28-97.02	J
F3E140308:				
F3E150000-239B	Thorium-228 Thorium-230	0.18±0.14 0.55 ± 0.27	P-26-86.8 P-26-96.8	J
F3E160130:				
F3E190000-133B	Thorium-230	0.45 ±0.25	P-E-88.57	J
F3E200165:				
F3E210000-111B	Thorium-230	0.22 ±0.16	P-E-98.57	J
F3E290170:				
F3E290000-420B 1EB-5/27	Thorium-230 Thorium-230	0.31 ±0.20 0.27 ± 0.20	P-D-87.05 P-D-97.05 P-15-89.65 P-15-99.65	J
F3E290000-421B	Uranium-234	0.12 ±0.12	P-D-87.05 P-D-97.05 P-15-89.65 P-15-99.65	J
F3F120220:				
F3F120220-139B	Thorium-230 Thorium-232	0.57 ± 0.28 0.14 ± 0.13	P-C-89.60, P-C-99.60, P-C-DUP1 #1	J
F3F170126				
F3F170126-371B F3F170126-369B	Thorium-230 Uranium-234	0.43 ± 0.25 0.25 ± 0.19	P-24-87.35	J
F3F180192:				
F3F190000-160B	Thorium-230	0.68 ± 0.32	P-24-97.35	J
F3F260187:				
F3F260000-381B	Thorium-230 Thorium-232	0.36 ± 0.21 0.084 ± 0.098	P-23-90.1 P-23-100.1	J
F3G110256:				
F3G140000-273B P-25-EB-1	Thorium-230 Thorium-230	0.20 ± 0.16 0.43 ± 0.23	P-25-89.7 P-25-99.7 P-35-87.2 P-35-97.2	J
F3G230216:				
F3G240000-557B P-H-EB1	Thorium-230 Thorium-230	0.62 ± 0.30 0.23 ± 0.17	P-H-86.8 P-H-96.8	J
F3G240374:				
F3G270000-105B	Thorium-230	0.40 ± 0.22	P-42-89.6 P-42-99.6	J
F3H060192:				

Table 3-1. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3H070000-257B	Thorium-230	0.39 ± 0.24	P-20-89.60 P-20-99.60 P-45-81.25 P-45-91.25 P-45-DUP1	J
F3H210288:				
F3H220000-114B	Thorium-230	0.57 ± 0.25	P36-86.7 P36-96.7 P46-89.60 P46-99.60 P37-89.95 P37-99.95	J
F3H280315:				
F3I020000-170B	Thorium-230	0.63 ± 0.33	P-46-330.21 P-46-307.69	J
F3I180259:				
F3I190000-260B F3I190000-259B	Uranium-234 Thorium-230	0.17 ± 0.13 0.64 ± 0.29	P-29-89.5 P-29-99.5 P-38-96.8 P-38-86.7	J
F3I090305:				
F3I120000-253B	Thorium-228	0.18 ± 0.15	P-47-97.1	J
F3I120107:				
F3I120000-253B	Thorium-228	0.18 ± 0.15	P-43-89.88 P-43-99.88	J
F3I230231:				
F3I240000-211B	Thorium-230	0.39 ± 0.23	P-29-310.2 P-29-360.0 P-29-390.0	J
F3J030259:				
F3J060000-164B	Thorium-230	0.43 ± 0.25	P-30-89.55 P-30-99.55	J
F3J060000-485B	Uranium-234	0.11 ± 0.10	P-30-89.55 P-30-99.55	J
F3J070236:				
F3J080000-223B	Thorium-230	0.57 ± 0.25	P-18-86.65 P-18-96.65	J
F3J240204:				
F3J270000-652B	Uranium-234 Uranium-238	0.21 ± 0.13 0.12 ± 0.10	P-50-89.90 P-50-99.90 P-49-84.25 P-49-94.3 P-51-87.78 P-51-97.78 P-51-DUP-1	J
F3K080109:				
F3K090000-092B	Thorium-230	0.17 ± 0.15	P-54-87.55 P-54-97.55 P-52-90.0 P-52-100.0 P-58-89.65 P-58-99.65	J
F3K110173:				

Table 3-1. *Blank Evaluation for Thorium/Uranium Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3K120000-272B	Thorium-230	0.17 ± 0.15	P-58-304.65 P-58-DUP-3 P-58-402.40 P-58-432.05	J
F3K210372:				
F3K20000-098B P53-EB-11-20	Thorium-230 Thorium-230 Uranium-234	0.17 ± 0.15 0.17 ± 0.14 0.17 ± 0.13	P-53-86.40	J
F3K280120:				
F3L040000-542B F3L010000-149B	Thorium-230 Uranium-238	0.31 ± 0.20 0.080 ± 0.093	P-53-96.40 P-34-89.55 P-34-99.55	J
F3L090146:				
F3L090000-348B	Thorium-230	0.22 ± 0.17	P-33-89.6 P-33-99.6	J
F4A230292:				
F4A240000-097B	Thorium-230	0.32 ± 0.21	P-56-86.55 P-56-96.55 P-56-DUP	J
F4B110140:	Thorium-230	0.27 ± 0.18	P-32-89.35 P-32-99.35	J

Note:
pCi indicates picocurries
Uncertainty indicates total propagated uncertainty, which includes counting error and non-counting error.

3.2.3. Sample Specific Chemical Recovery

If the tracer recovery is less than 50 percent or greater than 100 percent then the qualifier "J" was applied to the associated sample results, as summarized in table 3-2.

Table 3-2. *Sample Specific Chemical Recovery*

Sample ID	*Affected Radionuclide Results*	*Action*
F3D290160:		
P-17-82.25	Uranium 234, -235, -238	J
F3D290170:		
P-D-87.05	Uranium 234, -235, -238	J
F3G230216:		
P-H-EB1	Uranium-234 Uranium-235 Uranium-238	J
F3G250374:		
P-42-89.6 P-42-99.6	Uranium-234 Uranium-235 Uranium-238	J
F3I040177:		

Table 3-2. *Sample Specific Chemical Recovery*

Sample ID	*Affected Radionuclide Results*	*Action*
P-44-99.3	Thorium-228 Thorium-230 Thorium-232	J

It should be noted that the laboratory mistakenly did not spike the original sample F3E060217-001 resulting in no tracer recovery, therefore the duplicate results (sample F3E060217-001X), which showed good tracer recovery were reported, however no laboratory duplicate results were available for QA /QC for the samples in group F3E060217.

It should be noted that Uranium-234 was also previously qualified "J" in sample P-D-87.05 due to method blank contamination.

It should be noted that Thorium-230 was also previously qualified "J" in sample P-44-99.3 due to high LCS recovery.

3.2.4. Laboratory Control Sample (LCS)

If the percent recovery is less than 80 percent or greater than 120 percent in the LCS then the qualifier "J" was applied to the associated sample results, as summarized in table 3-3.

Table 3-3. *Evaluation of Laboratory Control Sample*

Sample ID	*Affected Radionuclide Results*	*Action*
F3D290160:		
P-17-82.25, P-17-92.25, P-F-86.48	Uranium-238	J
F3F120220:		
P-C-89.60, P-C-99.60, P-C-DUP1 #1	Thorium-230	J
F3F170126:		
P-24-87.35	Thorium-230	J
F3F180192:		
P-24-97.35	Thorium-230	J
F3F260187:		
P-23-FB1 P-23-90.1 P-23-100.1	Thorium-230	J
F3G110256:		
P-25-EB-1 P-25-89.7 P-25-99.7 P-35-87.2 P-35-97.2	Thorium-230	J

Table 3-3. *Evaluation of Laboratory Control Sample*

Sample ID	***Affected Radionuclide Results***	***Action***
F3G230216:		
P-H-EB1 P-H-86.8 P-H-96.8	Thorium-230	J
F3G250374:		
P-42-89.6 P-42-99.6	Thorium-230 Uranium-234	J
F3H210288:		
36-EB1 P36-86.7 P36-96.7 P46-89.60 P46-99.60 P37-89.95 P37-99.95	Thorium-230	J
F3I040177:		
P-44-89.8 P-44-99.3 P-44-DUP#1 P-46-389.28	Thorium-230	J
F3I050189:		
P-47-87.08	Thorium-230	J
F3I180259:		
P-29-89.5 P-29-99.5 P-38-96.8 P-38-86.7	Thorium-230	J
F3I120107:		
P-43-89.88 P-43-99.88	Thorium-230	J
F3I230231:		
P-29-310.2 P-29-360.0 P-29-390.0	Thorium-230	J
F3J070236:		
P-18-86.65 P-18-96.65	Thorium-230	J
F3J240204:		
P-50-89.90 P-50-99.90 P-49-84.25 P-49-94.3 P-51-87.78 P-51-97.78 P-51-DUP-1	Thorium-230	J
F3K080109:		

Table 3-3. *Evaluation of Laboratory Control Sample*

Sample ID	***Affected Radionuclide Results***	***Action***
P-54-87.55 P-54-97.55 P-52-90.0 P-52.100.0 P-54-89.65 P-54-99.65	Thorium-230	J
F3K210372:		
P-53-86.40 P-53-EB-11-20	Thorium-230	J
F3K280120:		
P-53-96.40 P-34-89.55 P-34-99.55	Thorium-230	J
F3L090146:		
P-33-89.6 P-33-99.6	Thorium-230	J
F4A230292:		
P-56-86.55 P-56-96.55 P-56-DUP	Thorium-230	J
F4A130259:		
P-31-89.25 P-31-99.25 P-55-84.10 P-55-94-.55	Thorium-230	J
F4B110140:		
P-32.89.35 P-32-99.35	Throium-230	J

It should be noted that Thorium-230 was also previously qualified "J" in samples P-C-89.60, P-C-99.60, P-C-DUP1 #1, P-24-87.35, P-24-97.35, P-23-90.1, P-23-100.1, P-25-89.7, P-25-99.7, P-35-87.2, P-35-97.2, P-H-86.8, P-H-96.8, P-42-89.6, P-42-99.6, P36-86.7, P36-99.7, P46-89.60, P46-99.60, P37-89.95, P37-99.95, P-44-99.3, P-29.89.5, P-29-99.5, P-38-96.8, P-38-86.7, P-29-310.2, P-29-360.0, P-29-390.0, P-18-86.65, P-18-96.65, P-54-87.55, P-54-97.55, P-52-90.0, P-52-100.0, P-54-89.65, P-54-99.65, P-53-86.40, P-53-96.40, P-34-89.55, P-34-99.55, P-33-89.6, P-33-99.6, P-56-86.55, P-56-96.55, P56-DUP, P-32-89.35 and P-32-99.35 due to blank contamination.

It should be noted that Uranium-234 was previously qualified "J" in samples P-42-89.6 and P-42-99.6 due to poor tracer recovery.

3.2.5. Duplicate Analysis

If the Duplicate Error Ratio (DER) is greater than one (1) when comparing laboratory or field duplicate samples then the qualifier of "J" was applied to the associated sample results, as summarized in table 3-4.

Table 3-4. *Evaluation of Duplicate Analysis*

Sample ID	***Affected Radionuclide Results***	***Action***
F3E160130:		
P-E-88.57	Thorium-228	J
F3F170126:		
P-24-87.35	Thorium-230	J
F3H060192:		
P-20-89.60 P-20-99.60 P-45-81.25 P-45-91.25 P-45-DUP1	Thorium-228 Uranium-234	J
F3H210288:		
P36-EB1 P36-86.7 P36-96.7 P46-89.60 P46-99.60 P37-89.95 P37-99.95	Thorium-230	J
F3I040177:		
P-44-89.8 P-44-DUP#1 P-46-389.28	Uranium-238	J
F3I050189:		
P-47-87.08	Uranium-238	J
F3I230231:		
P-29-310.2 P-29-360.0 P-29-390.0	Thorium-230 Uranium-238	J
F3K110173:		
P-58-304.65 P-58-DUP-3 P-58-402.40 P-58-432.05	Uranium-234	J
F4A230292:		
P-56-86.55 P-56-DUP	Thorium-232	J

It should be noted that the laboratory mistakenly did not spike the original sample F3E060217-001 resulting in no tracer recovery, therefore the duplicate results (sample F3E060217-001X), which showed good tracer recovery were reported, however no laboratory duplicate results were available for QA /QC for the samples in SDG F3E060217.

It should be noted that Thorium-230 was also previously qualified "J" in samples P-24.87.35, P36-EB1, P36-86.7, P36-99.7, P46-89.60, P46-99.60, P37-89.95, P37-99.95, P-29-310.2, P-29-360.0 and P-29-390.0 due to method blank contamination or poor LCS recovery.

It should be noted that an equipment blank was used to perform the laboratory duplicate analyses, therefore all of the QC data was carefully judged and professional judgment was exercised.

3.2.6. Radionuclide Quantitation and Detection Limits

If the net positive results are less than their uncertainties and the uncertainty multiplied by 1.65 is greater than the MDC, this would indicate that the sample counts were less than the critical values or less than 95% confidence of positive detection, therefore the sample results were qualified as estimated "J", as summarized in Table 3-5. It the net negative result has an uncertainty smaller than their absolute value, this is an indication of improper blank subtraction and the sample results were rejected "R", as summarized in Table 3-6.

Table 3-5. *Evaluation of Positive Results versus Uncertainties for Alpha Spectrometry Analyses*

Sample ID	*Affected Radionuclide Results*	*Sample Concentration ± Uncertainty (pCi/L)*	*Action*
F3D290160:			
P-17-82.25	Uranium-234	0.14 ± 0.16	J
P-F-86.48	Uranium-238	0.13 ± 0.15	J
F3D290170:			J
P-D-87.05	Uranium-234	0.12 ± 0.14	J
P-D-97.05	Thorium-228	0.077 ± 0.091	J
F3F120220:			
P-C-89.60	Thorium-232	0.09 ± 0.11	J
F3G110256:			
P-35-97.2	Thorium-228	0.1 ± 0.12	J
F3G250374:			
P-42-89.6 P-42-99.6	Uranium-234	0.11 ± 0.18 0.19 ± 0.22	J
F3I040177:			
P-46-389.28	Thorium-232	0.1 ± 0.12	J
F3J070236:			
P-18-96.65	Uranium-234	0.080 ± 0.092	J
F3K080109:			
P-52-100.0	Uranium-234	0.095 ± 0.097	J
F4B110140:			
P-32-89.35 P-32-99.35	Uranium-238 Uranium-238	0.073 ± 0.085 0.068 ± 0.078	J

It should be noted that Uranium-234 was previously qualified "J" in sample P-D-87.05 due to tracer recovery and method blank contamination; Thorium-232 was previously qualified "J" in sample P-C-89.60 due to method blank contamination; and Uranium-234 was previously qualified "J" in sample P-42-89.6 and P-42-99.6 due to tracer recovery and laboratory control sample being out of criteria.

Table 3-6. *Evaluation of Net Negative Results versus Uncertainties for Alpha Spectrometry Analyses*

Sample ID	*Affected Radionuclide Results*	*Sample Concentration ± Uncertainty (pCi/L)*	*Action*
F3G110256:			
P-25-EB-1	Uranium-235	-0.031 ± 0.028	R
P-25-89.7	Thorium-232	-0.030 ± 0.028	R
F3H210288:			
P37-99.95	Thorium-228	-0.039 ± 0.033	R
F4A230292:			
P-56-86.55	Thorium-232	-0.078 ± 0.043	R

3.3. Gas Proportional Counting

3.3.1. Criteria

The QA/QC parameters presented in Section 2.1 were applied to the environmental samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times and sample preservation;
- Calibration;
- Blank analysis;
- Field Duplicate Analysis;
- System performance; and
- Documentation completeness.

Only those QA/QC parameters not meeting validation criteria are discussed in subsequent sections.

3.3.2. Blank Analysis

The field and laboratory blank results were evaluated using the following statistical approach: if the net blank result was not less than the associated uncertainty and if the sample result ± uncertainty was less than ten times the associated blank result ± uncertainty, the qualifier "J" was applied to the associated sample result. The statistical evaluation of the field and laboratory blank results is summarized in Table 3-7. The QAPP requires method blanks to be less than 5 times the minimum detected concentrations (MDC) and the lowest sample activity. The method blanks were not always less than the lowest sample activity. The QAPP requires the laboratory to reanalyze the affected batch. The laboratory did not do this.

Table 3-7. *Blank Evaluation for Radium-226 Analyses.*

Blank ID	*Radionuclide*	*Blank Concentration ± Uncertainty (pCi/L)*	*Affected Samples*	*Action*
F3H210288:				
P36-EB1	Radium-226	0.37 ± 0.20	P36-86.7 P36-96.7 P46-89.60 P46-99.60 P37-89.95 P37-99.95	J
F3I090305:				
F3I120000-564B	Radium-226	0.229 ± 0.078	P-47-97.1	J

3.3.3. Laboratory Control Sample (LCS)

If the percent recovery is less than 80 or greater than 120 in the LCS then the qualifier "J" was applied to the associated sample results, as summarized in table 3-8.

Table 3-8. *Evaluation of Laboratory Control Sample*

Sample ID	*Affected Radionuclide Results*	*Action*
F3G230216:		
P-H-86.8, P-H-96.8, P-H-EB1	Radium-226	J
F3G250374:		
P-42-89.6, P-42-99.6	Radium-226	J
F3H060192:		
P-20-89.60 P-20-99.60 P-45-81.25 P-45-91.25 P-45-DUP1	Radium-226	J
F3H210288:		
P36-EB1 P36-86.7 P36-96.7 P46-89.60 P46-99.60 P37-89.95 P37-99.95	Radium-226	J
F3H280315:		
P-46-330.21 P-46-307.69	Radium-226	J
F3I040177:		
P-44-89.8 P-44-99.3 P-44-DUP#1 P-46-389.28	Radium-226	J
F3I050189:		

Table 3-8. *Evaluation of Laboratory Control Sample*

Sample ID	*Affected Radionuclide Results*	*Action*
P-47-87.08	Radium-228	J
F3I090305:		
P-47-97.1	Radium-226	J
F3I120107:		
P-43-89.88 P-43-99.88	Radium-226	J
F3J030259:		
P-30-89.55 P-30-99.55	Radium-226	J
F3J240204:		
P-50-89.90 P-50-99.90 P-49-84.25 P-49-94.3 P-51-87.78 P-51-97.78 P-51-DUP-1	Radium-226	J
F3K080109:		
P-54-87.55 P-54-97.55 P-52-90.0 P-52-100.0 P-54-89.65 P-54-99.65	Radium-228	J
F3K110173:		
P-58-304.65 P-58-DUP-3 P-58-402.40 P-58-432.05	Radium-226	J
F3L090146:		
P-33-89.6 P-33-99.6	Radium-226	J
F4A230292:		
P-56-86.55 P-56-96.55 P-56-DUP	Radium-228	J
F4B110140:		
P-32-89.35 P-32-99.35	Radium-226	J

It should be noted that Radium-226 was previously qualified "J" in samples P36-86.7, P36-96.7, P46-89.60, P46-99.60, P37-89.95, P37-99.95 and P-47-97.1 due to equipment or method blank contamination.

3.3.4. Duplicate Analysis

If the Duplicate Error Ration (DER) is greater than one (1) when comparing laboratory or field duplicate samples then the qualifier of "J" was applied to the associated sample results, as summarized in table 3-9.

Table 3-9. *Evaluation of Duplicate Analysis*

Sample ID	***Affected Radionuclide Results***	***Action***
F3D290160:		
P-17-82.25 P-17-92.25 P-F-86.48	Radium-228	J
F3E140308:		
P-86-86.8 P-26-96.8	Radium-226	J
F3I180259:		
P-29-89.5 P-29-99.5 P-38-96.8 P-38-86.7	Radium-228	J
F3I090305:		
P-47-97.1	Radium-226	J
F3J030259:		
P-30-89.55 P-30-99.55	Radium-226	J
F3K080109:		
P-54-87.77 P-54-97.55 P-52-90.0 P-52-100.0 P-54-89.65 P-54-99.65	Radium-226	J
F4B110140:		
P-32-89.35 P-32-99.35	Radium-226	J

It should be noted that Radium-226 was previously qualified "J" in sample P-47-97.1, P-30-89.55, P-30-99.55, P-32-89.35 and P-32-99.35 due to method blank contamination and/or poor LCS recovery.

It should be noted that the LCS results in SDG F3L090146 and F4B110140 were used for laboratory duplicate analyses.

3.3.5. Radionuclide Quantitation and Detection Limits

Detection limits specified in the specific procedures must be met unless other detection limits are specified in the Statement of Work (SOW). The detection limits were not met due to insufficient sample volume. The results were reported with the detection limits that were achieved and the qualifier "DL" was applied to the associated sample results, as summarized in table 3-10.

Table 3-10. *Detection Limits for Radium-228*

Sample ID	*Affected Radionuclide Results*	*Sample Concentration ± Uncertainty (pCi/L)*	*Action*
F3F120220:			
P-C-89.60	Radium-228	0.29 ± 0.79	DL
P-C-99.60	Radium-228	-0.03 ± 0.77	DL
P-C-DUP1 #1	Radium-228	0.48 ± 0.65	DL

It should be noted that the reporting limit for sample P-33-89.6 in SDG F3L090146 was not met for Radium-228 due to insufficient sample volume available for analysis. The results are reported with the MDC achieved.

4. Summary and Data Usability

This chapter summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. Overall, 99 percent of the radiochemistry data were determined to be usable for qualitative and quantitative purposes. Those sample results qualified as estimated (J and UJ) due to data validation QA/QC exceedances should be considered conditionally usable and those results rejected (R) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria whereas the presence or absence of the analyte cannot be verified should be considered unusable.

The samples collected from the Site in Hicksville, New York were evaluated based on QA/QC criteria established by methods as listed in Section 1.3, by the data validation guidelines listed in Section 1.2, and by the QAPP (GTEOSI, 2002) established for this project. Major deficiencies in the data generation process would have resulted in data being rejected, indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate or estimated. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity.

The following paragraphs present the adherence of the data to the precision, accuracy, representativeness, comparability, completeness, and sensitivity (PSARCC) parameters.

Precision is measured through the evaluation of field duplicate samples and laboratory duplicate samples. For the radiochemistry analyses, none of the data were rejected due to precision non-conformances.

LCS recoveries indicate the accuracy of the data. For the radiochemistry analyses, none of the data were rejected due to accuracy non-conformances.

Holding times, sample preservation, blank analysis, and analyte identification and quantification are indicators of the representativeness of the analytical data. For the radiochemistry analyses, none of the data were rejected due to accuracy non-conformances.

Comparability is not compromised, provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes that can be determined with a designated level of confidence. Sensitivity requirements were met for the sample data in this project. None of the radiochemistry data were rejected due to the sensitivity non-conformances.

5. Data Usability Summary Report Summary Information

The DUSR was performed to determine whether or not the data meets site-specific criteria for data quality and use. The DUSR is developed by reviewing and evaluating the analytical data package. The following questions were addressed:

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

The QAPP required that USEPA Level III deliverables be provided by the laboratory for each data package. This requirement was met as it applies to the methods used by the laboratory for sample analysis. The evaluation of the sample data was completed using the information provided in the data packages provided by the laboratory.

2. Have all holding times been met?

The holding times were met for the radiochemistry analyses.

3. Do all the QC data: blanks, standards, spike recoveries, replicate analyses, and sample data fall within the protocol-required limits and specifications?

The laboratory used the laboratory control limits during the analyses performed for this sampling event. QA/QC deviations and qualifications performed on the sample data are discussed in Chapter 3. Major non-conformances were not detected for the radiochemistry data.

4. Have all of the data been generated using established and agreed upon analytical protocols?

The QAPP required that USDOE methods are used in the analysis of samples collected for this sampling event. The laboratory used the required method protocols (with some minor modifications) for the analyses performed for this sampling event, which met data user and client needs.

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

The evaluation of selected raw data confirmed information provided in the data packages.

6. Have the correct data qualifiers been used?

The laboratory applied the correct qualifiers to the sample data. The validation qualifiers were applied as required by validation guidelines as listed in Section 1

References

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