SUPPLEMENTAL INVESTIGATIVE REPORT

Former Sylvania Electric Products, Inc. Facility Cantiague Rock Road Hicksville, New York

GTE Operations Support Incorporated

March 2001

O'BRIEN & GERE ENGINEERS, INC.

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John P. Cahill
Commissioner

MEMORANDUM

TO:	Kevin Carpenter, VCP Coordinator, Remedial Section B, BERA
FROM:	Bob Stewart, Region 1 BSt
SUBJECT:	Draft Supplemental Investigation Report, March 2001 Former Sylvania Electric Products Inc. Facility (FSEPIF), #V00089
DATE:	March 26, 2001

I have enclosed two copies of the Draft Supplemental Investigation Report for the FSEPIF site in Hicksville. One is for your review. Please give the other one to Tim LeBarron in the QA Unit for his review. Please submit any comments to me by April 27, 2001.

If you have any questions, please do not hesitate to call me at (631) 444-0244.

Enclosures

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Cantiague Rock Road
Hicksville, New York

GTE Operations Support Incorporated

For Swiatoslav W. Kaczmar, Ph.D., C.I.H.
Vice President, Environmental Toxicology
and Industrial Hygiene

March 2001

O'BRIEN & GERE
ENGINEERS, INC.

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List of abbreviations and acronyms

AEC	Atomic Energy Commission
bgs	below ground surface
CERCLA	Comprehensive Environmental Response Compensation Liability Act
DUSR	data usability summary report
FSP	Field Sampling Program
GPR	Ground Penetrating Radar
GTEOSI	GTE Operations Support Incorporated
ICP	Inductively coupled plasma
ITM	Interim Technical Memorandum
J	estimated value
LCS	laboratory control sample
MDL	method detection limit
mg/Kg	milligram per kilograms
mrem	millirem
MS	matrix spike
MSD	matrix spike duplicate
NCDPW	Nassau County Department of Public Works
ND	not detected
NGVD	National Geodetic Vertical Datum
NRC	Nuclear Regulatory Commission
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSWER	Office of Solid Waste and Emergency Response (USEPA)
PCE	tetrachloroethylene
PID	photoionization detector
ppb	parts per billion
QA/QC	quality assurance and quality control
QAPP	quality assurance project plan
RESRAD	a computer code used to estimate radiation risk
RI/FS	Remedial Investigations/Feasibility Studies
RPD	relative percent difference
SVOCs	semivolatile organic compounds
TAGM	Technical and Administrative Guidance Memorandum
TAL	target analyte list
TCE	trichloroethene
TCLP	toxicity characteristics leaching procedure
ug/Kg	microgram per kilogram
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
USRADS	Ultrasonic Ranging and Detection System
VOC	Volatile Organic Compounds
VCP	Voluntary Cleanup Program

Executive summary

This document is a Supplemental Investigative Report of the Former Sylvania Products Incorporated site, in Hicksville, New York (the Site) pursuant to the Voluntary Cleanup Program (VCP) Agreement dated April 7, 1999, between GTE Operations Support Incorporated (GTEOSI) and the New York State Department of Environmental Conservation (NYSDEC).

The VCP agreement included an Investigative Work Plan for the Site consisting of a health and safety plan, quality assurance project plan, and field-sampling plan. Subsequently, a Supplement to the Investigative Work Plan comprising the same elements as the original was approved in November 2000. To date, the *Ground Penetration Radar Survey and Exterior Radiation Survey Results, Hicksville, New York* describing the surveys (O'Brien & Gere 1998) were submitted and approved by NYSDEC. The Investigative Report (O'Brien & Gere 2000) was submitted in December 2000. This Supplemental Investigative Report incorporates the comments to the Investigative Report by NYSDEC.

The Site currently consists of properties at 70, 100, and 140 Cantiague Rock Road. The property at 70 Cantiague Rock Road is occupied by Air Techniques, Inc., a manufacturer of small air compressors, vacuum pumps, video cameras and x-ray processing equipment for the dental industry. Magazine Distributors, Inc., at 100 Cantiague Rock Road, distributes magazines while GTEOSI at 140 Cantiague Rock Road (formerly Gilbert Displays, Inc.) is currently vacant. The Gilbert Displays parcel was purchased by GTEOSI in the fall of 1999. At Magazine Distributors and Air Techniques, manufacturing or distribution takes place towards the rear of the buildings. Offices occupy the front of the buildings. Access to the Site by the public is limited to the office portion of the buildings.

This investigation was directed to further evaluate areas identified during the initial investigation where process residuals (from previous manufacturing operations) consisting of uranium, thorium and tetrachloroethylene (PCE), a common solvent were potentially located. These locations were characterized in this field effort through the advancement of soil borings and analyses of soils. In addition, the investigation was focused on above background areas of radiation found during the previous investigation or a surface scan by NYSDEC personnel. In total, over 60 borings were advanced at the Site. Samples of soil were screened in the field and analyzed by O'Brien & Gere Laboratories, Inc.

This Supplemental Investigation included the installation of borings to further evaluate the soil; the collection of a ground water sample from an existing well to verify previous field results; the analysis of soil and one ground water sample; and preparation of the Supplemental Investigative Report.

Findings indicated isolated areas of above background radiation on each of the properties investigated, consistent with prior investigations. However, no immediate health hazard exists given that the potential for exposure appears to be well within referenced acceptable levels. Soils containing above background levels of radionuclides detected during the Supplemental Investigation are beneath paved areas or occur several feet below ground. PCE and trichloroethene, common solvents, were found to exist in several subsurface locations.

Overall, the investigation met the following program objectives:

- further identify and characterize former process residuals associated with Site soils;
- confirm the presence or absence of nickel in the on Site ground water (MW-1); and
- further evaluate whether there was an immediate threat to human health and the environment.

In cooperation with NYSDEC, the next step of the investigative program is to install monitoring wells in the summer 2001.

1. Introduction

1.1. Project background

This report presents the findings of the Supplemental Investigation performed at the former Sylvania Electric Products Incorporated (the Site), Cantiague Rock Road, Hicksville, New York (Figure 1). The investigation was performed by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on behalf of GTE Operations Support Incorporated (GTEOSI) in cooperation with the New York State Department of Environmental Conservation (NYSDEC). The investigation was conducted in accordance to the approved Supplemental Investigation Work Plan (November 2000 Revision) and pursuant to the Voluntary Cleanup Program (VCP) Agreement between GTEOSI and the NYSDEC, dated April 7, 1999 (the Agreement).

The Supplemental Investigation was conducted to further define the nature and extent of compounds previously detected on Site. The Supplemental Investigation was performed in accordance with applicable investigative procedures set forth in the *NYSDEC Technical and Administrative Guidance Memorandum (TAGM), Guidelines for Remedial Investigations/Feasibility Studies (RI/FS), HWR-89-4025, March 1989* (NYSDEC 1989) and *United States Environmental Protection Agency (USEPA) Guidance for Conducting Remedial Investigations and Feasibility Studies Under Comprehensive Environmental Response and Compensation Liability Act (CERCLA)* (USEPA 1988).

The investigation evaluated possible locations of process residual source areas and associated risks. The scope of the Supplemental Investigation was based on the preliminary acquisition of representative soil samples and hydrogeologic information.

Phase I of the Initial Site Investigation included a ground penetration radar (GPR) survey and an exterior radiation survey, documented in the March 1998 Interim Technical Memorandum (ITM), entitled *Ground Penetration Radar Survey and Exterior Radiation Survey Results* (O'Brien & Gere 1998). Phase II included soil and ground water activities and was documented in the Investigative Report (O'Brien & Gere 2000b). The Supplemental Investigation included installing soil borings, collecting a ground water sample, analyzing samples, and preparing this Supplemental Investigative Report. Future efforts will consist of the installation of six monitoring wells (3 shallow, 3 deep) in the summer 2001.

1.2. Project objectives

The Supplemental Investigation was performed to meet the following program objectives:

- further define the vertical and lateral extent of residual levels of radionuclides;
- obtain Site geotechnical information;
- evaluate areas potentially impacted by nickel;
- further define area of high photoionization detector (PID) reading with depth;
- further identify and assess the possible "sediment layer" and potential subsurface impacts from the former leaching pools; and
- confirm that there was no immediate threat to human health and the environment.

1.3. Site background

1.3.1. Site description

The Site is in west central Long Island, approximately one-mile west of Hicksville, New York (Figure 1). Historically, the Site was comprised of Lots 79 and 80 containing three main buildings (designated as buildings 1, 2, and 4) and twelve support buildings used to fabricate reactor fuel elements. With the exception of a portion of historical building 4, which is owned by Air Techniques, Inc., the Site buildings were demolished prior to 1970. The property was subdivided into three new parcels with new lot numbers.

Approximately 95 percent of the 9.5-acre Site is either paved or occupied by buildings. The current occupants of the Site include: Air Techniques, Inc. (70 Cantiague Rock Road), Magazine Distributors Inc. (100 Cantiague Rock Road), and GTEOSI (formerly Gilbert Displays, Inc.) (140 Cantiague Rock Road) (identified respectively as northern Lots 99 and 100 and southern Lot 94). The Gilbert Displays parcel was purchased by GTEOSI in December 1999. However, for clarity and consistency, the name Gilbert Displays has been retained in this Supplemental Investigative Report. Areas addressed as part of this report are described in further detail below and are shown in the Site photographs (Appendix A) and on Figure 2.

Air Techniques, Inc. Study Area
The Air Techniques Inc. facility, on the southern portion of the Site, consists of an approximately 210,000-ft^2 one-story brick building and associated paved parking and paved storage areas. This property was purchased by Air Techniques in 1979, and was expanded to the east by purchasing land from Nassau County (ERM 1997). The western portion of the Air Techniques building is the only original building (historically Building 4) that remains on the Site.

Magazine Distributors, Inc. Study Area
Magazine Distributors consists of the fenced area enclosing the 80,100-ft^2 two-story distribution building and paved parking lots in the center of the Site. Magazine Distributors is bordered by Air Techniques to the south and the former Gilbert Displays to the north. Two underground petroleum tanks are on the south side of the building.

Former Gilbert Displays, Inc. Study Area
The former Gilbert Displays facility is on the northern portion of the Site, immediately south of the Nassau County Department of Public Works (NCDPW). The property houses an approximately 54,500-ft^2 one-story office and industrial building. The property is primarily paved with the exceptions of a small area on the east side. Historically, the east side of the property contained a small support building (formerly reportedly used for burning and chemical processing).

1.3.2. Adjacent properties

The Site is abutted by NCDPW Road and Bridge Maintenance Garage to the north and hydraulically upgradient. The facility stores and maintains heavy equipment. The Nassau County Parks Department (Cantiague Park) Golf Course driving range is to the east. Cantiague Rock Road and commercial and industrial properties are to the west. The former General Semiconductor facility (General Instruments) is south of the Site and now is occupied by Newsday and other commercial tenants and is owned by an unknown party. However, for clarity and consistency, the name General Semiconductor has been retained in this Report. General Semiconductor is a State Listed Class 2 inactive hazardous waste site and is the focus of a RI/FS associated with leaking underground waste solvent tanks (NYSDEC 1997). In January 1997, a preliminary remedial action plan for the Site was issued by NYSDEC to address soil contamination. Ground water contamination will be addressed separately.

1.4. Previous investigations

Historical Site information, information from previous reports, and prior geologic and hydrogeologic studies provided the framework for the selection of sampling locations and the initial analytical parameters for samples collected during the investigation. Information and previous studies referenced in this report include:

- US Department of Energy's Letter to the Nuclear Regulatory Commission (NRC) Regarding Radionuclide Data for the Former Sylvania Site in Hicksville, New York, 1979.
- ERM-Northeast's Subsurface Investigation at Air Techniques in 1987;
- EEA, Inc.'s, Environmental Investigation of 140 Cantiague Road (Gilbert Displays) in 1991;
- Stearns & Wheler's *Remedial Investigation, General Instrument Corporation, Hicksville, New York,* 1992;
- Nuclear Regulatory Commission (NRC) Inspection Report Number 070-00097/96-001, Gilbert Displays, Inc. (former Sylvania Facility) in 1996;
- ERM-Northeast's Summary Report of Ground Water Monitoring Program – Air Techniques Facility in 1997;
- O'Brien & Gere Engineers, Inc.'s, *Work Plan Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York,* Syracuse, New York, 1998;
- O'Brien & Gere Engineers, Inc.'s, *Investigative Report Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York,* Syracuse, New York, 2000; and
- O'Brien & Gere Engineers, Inc.'s, *Supplement to the Approved Work Plan Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York,* Syracuse, New York, 2000;

1.5. Report organization

The remainder of this report is organized as follows:

- Section 2 summarizes the initial investigation program (Phase I and Phase II);
- Section 3 details the Supplemental Investigation program including a description of field and data analysis methods;
- Section 4 presents the nature and extent of the residuals;
- Sections 5 summarizes the Human Health Exposure Evaluation; and
- Section 6 summarizes the findings of the investigation.

2. Investigative programs

This section describes the initial field methods used to characterize the Site. The initial investigation was performed in two phases: Phase I was conducted in 1997 and Phase II in the summer of 1999.

2.1. Phase I activities

The following field activities were performed as part of Phase I:

- A ground penetrating radar (GPR) survey was conducted to evaluate the existence of former subsurface structures to assist in identifying the locations for subsequent surface and subsurface soil sampling locations.
- An ultrasonic Ranging and Detection System (USRADS) survey was conducted to define, to the extent practicable, the lateral extent of above-background gamma emitting radioactive materials that could indicate the presence of process residuals, particularly uranium and thorium progeny, also to assist in identifying subsurface soil sampling locations.
- A Site survey was conducted to locate the historic structures (surface and subsurface) and produce a current map of the Site.

2.2. Phase II activities

Phase II was comprised of invasive field activities conducted in the summer of 1999 (July 7 through 23, 1999 and August 9 through 12, 1999). The Phase II investigation field efforts included:

- The advancement of 128 soil borings, with the samples being subject to field screening. and selected laboratory analysis, to evaluate the nature and extent of process residuals related to former Site use.

- The installation and sampling of five temporary wells to approximately 70 feet bgs and sampling of five existing ground water monitoring wells on the Air Techniques property and three existing upgradient ground water monitoring wells on NCDPW property to evaluate the impact of process residuals in the ground water under the Site.

3. Supplemental investigation

This section describes the Supplemental Investigation field methods used to characterize the former Sylvania facility including:

- a utilities clearance;
- borings installation and soil sampling; and
- ground water gauging and sampling.

The field methods used are described in the following sections.

3.1. Site characterization methods

3.1.1. Utility clearance

Prior to initiation of the supplemental field activities, sampling locations were marked and cleared in concurrence with GTEOSI and NYSDEC. NAEVA Geophysics, Inc. of Tappan, New York performed an underground utility clearance around each proposed boring using a Radio Detection RD-600 Electromagnetic (EM) utility-locating instrument, a Fisher TW-6 shallow-focus terrain conductivity meter, a Metrotech 50/60 EM receiver to detect conduits that carry 60 Hz current in the 440 to 20,000 volt range, a Dyntel 500A EM transmitter and receiver, and GSSI-Sir-3 GPR instrumentation. The locations of subsurface objects, pipes, and utilities are dependent upon the recognition of magnetic fields or electromagnetic waves. Standard underground utility line markings were used including red for electric, yellow for gas-oil-steam, orange for communications-CATV, blue for water, green for sewer, pink for temporary survey markings, and white for areas of proposed excavation or soil boring advancement.

3.1.2. Soil gas survey

A soil gas survey was used as a screening tool to provide a qualitative assessment of the presence, absence, and nature of potential VOCs in the shallow soils. The soil gas investigation was conducted simultaneous with the soil sampling. The soil gas sampling points were installed by driving through the asphalt or applicable surfacing material with the Geoprobe sampling device to a depth of 4 feet bgs. Two interconnected 3 foot sections of hollow 1-3/8" diameter threaded steel pipe, fitted with a detachable drive tip was pushed to 4.5 feet bgs. The probe rod was than pulled up several inches to cause the drive tip to detach from the hollow steel pipe. The probe was fitted with a length of polyethylene tubing leading to a vacuum pump. Soil gas was pulled by the vacuum pump, through the probe and into a tedler bag. A sample of in-situ gas was withdrawn through the probe and used to purge atmospheric air from the sampling system. A second sample of air was drawn through the probe into a tedler bag for analysis. The samples were injected into a gas chromatograph (GC) for analysis. Standard quality assurance/quality control (QA/QC) protocols were followed.

3.1.3. Subsurface soil investigation

The Supplemental Investigation was completed from November 27, 2000 through December 10, 2000 in accordance with the Supplement to the Investigative Work Plan. The objective of the soil samples was to further delineate the extent of process residuals related to former Site use. Although only 55 borings were proposed, the Work Plan was designed to accommodate additional borings in response to field results. Therefore, the number of borings was expanded to 67 due to field conditions and the need to further delineate areas where residuals were found. NYSDEC personnel participated in and concurred with the selection of the soil boring locations.

The cores were obtained using a direct push methodology (Hurricane truck mounted Geoprobe®). Soil samples were collected using either 2- or 4-foot soil cores within acetate sleeves. With the exception of some discrete samples collected at specific locations (i.e. SB-113B), the soil cores started from the ground surface and proceeded to a depth dictated by the area being investigated, the presence or absence of above-background levels of radioactivity and the headspace VOC readings. At a minimum, in areas containing fill, the borings were advanced into the underlying native material, if possible. Elevated levels of radiation at 0 to 2 feet bgs indicated that the radiation is present in the surfacing material. Select areas were advanced up to 24 feet or in the case of SB-148, refusal due to concrete. A table showing the boring depths is included as Table 1. Soil boring logs are in Appendix B.

For Health and Safety purposes the steel casing was scanned with a Model 19 for gamma radiation as it was removed from the hole. Additionally, the 0.016" acetate liners, which were used inside the steel casings, were scanned prior to opening and logging the soil core for the presence of VOCs and beta radiation. The liners were scanned with a PID, a 2"x 2" Sodium Iodide (NaI) Detector, and GM Pancake Probe, respectively. Additional field screening consisted of soil vapor readings and down hole field readings for both alpha and beta radiation. The field screening results are provided in Tables 2 through 4. Figure 4 depicts the boring locations and soil vapor results.

An O'Brien & Gere geologist described soils according to a Modified Wentworth soil classification system and the Munsel Color Chart. Soil descriptions include: soil type, color, percent recovery, moisture content, and odor. Sample recoveries varied ranged from 0 to 100 percent due to subsurface conditions. Field screening was performed to evaluate and select the soil interval(s) from the soil core to be sent to the laboratory. A representative portion of each sample was retained for analysis and labeled with: Site name, boring number, sample interval, date, and time of collection. If more than one discrete subsurface zone within a soil boring exhibited evidence of process residuals, either by visual observation or by field screening, additional soil samples were collected and analyzed for the described parameters. Laboratory analysis included: radionuclides, VOCs, metals, nickel, mercury, percent solids, polychlorinated biphenyls (PCBs), and pH. Specific procedures and methodologies were presented in the NYSDEC approved Supplemental Investigation Work Plan Appendix B - Field Sampling Plan (FSP).

3.1.4. Worker exposure monitoring

Exposure monitoring was conducted to evaluate if Site workers were exposed to chemicals or radiation during fieldwork and if so, to what extent. On-Site air monitoring included the use of a PID, three Mini Rae's, a portable aerosol monitor (DustTrak), a carbon monoxide meter, and radiation detection instrumentation. Prior to each day's use, field equipment was calibrated and tested. The calibration ensures that the equipment was functioning within the allowable tolerances established by the manufacturer and required by the project. Daily logs, health and safety information and equipment calibrations were maintained. Logs include date, equipment used, monitoring performed, and work completed. Details of the monitoring devices are provided below.

Photoionization detector

PID's and Mini Rae's monitor total concentrations of many gases and vapors (compounds with an ionization potential of less than 10.6 eV). The instruments ionize molecules using ultra violet radiation by producing a current that is proportional to the number of ions present. The instruments were calibrated by the manufacturer to an isobutylene standard and were zeroed in the field daily.

Portable aerosol monitor (DustTrak)

The work area and the perimeter of the Site were monitored for alpha particles using the DustTrak. The DustTrak replaced the Real-Time Aerosol Monitor (RAM) particulate sampler (O'Brien & Gere 2000). The DustTrak detects the presence of total or respirable particulates through use of a laser photometer. A pump draws both solid and liquid particles through an optics chamber for measurement purposes. Monitoring was also conducted in the work zones using sampling pumps and filter cassettes placed on the geologist table and drill rig. The DustTrak and filters were checked and recorded daily. No measurable levels of airborne particulates were detected.

Carbon monoxide meter

Approximately 20 soil borings were advanced inside the Site buildings. The doors and skylights were open and a fan was run to disperse exhaust during soil boring advancement. Additionally, a Quest SafeLog 100 Carbon Monoxide Meter was used to monitor indoor air quality. The SafeLog Meter collects continuous measurements (1-sample-second) using electrochemical sensors. Readings are displayed on the liquid crystal display and recorded internally. A pulsating dual tone and flashing LED alarm was set for 25 ppm, the threshold limit value. Site readings ranged from 0 to 3 ppm, well below the PEL of 50 ppm.

Radiation survey instruments

Radiation survey instruments were used to screen soil samples for radioactivity and monitor breathing zone levels for exposure. Prior to use, daily pre-operational and source checks using Tc-99, Th-230, and U-238 were performed. Sources were fabricated and standardized by O'Brien & Gere Laboratories. The observed counts were recorded and found to be within 10 percent of the standard values established during calibration.

Thermoluminescent Dosimeters (TLD)

Both whole body and extremity film badges (pocket and ring style, respectively) were worn by personnel engaged in field activities to evaluate beta and gamma radiation exposure. The TLD contains crystals of lithium fluoride that when exposed to radiation becomes excited. The excited state (energy accumulated from the exposure to radiation) is maintained in the badge media until it is analyzed. Landauer analytical reports from the period November 27, 2000 through December 10, 2000 indicate minimal reporting limit of less than 1 mrem for both the pocket and finger monitors worn.

Pocket Dosimeters

Field workers wore pocket dosimeters to measure whole body exposure to gamma radiation. Gamma particles create an electric charge (via a fiber voltmeter) within the dosimeter ion chamber. The charge is proportional to the activity present. These dosimeters are self-reading and show immediate and daily exposure, if present, through a digital display that is read by looking at a source of light through the eyepiece. Levels of radioactivity recorded on the dosimeters used by the workers engaged in the intrusive.

3.1.5. Ground water investigation

Depth to water measurements were collected from the five monitoring wells on Air Techniques (MW-01 through MW-05) and the three remaining upgradient wells at the NCDPW (W-24, W-24D, and W-25) to confirm previous results and update information on ground water flow beneath the Site. One unfiltered ground water sample was collected from MW-1 using low flow sampling techniques. The sample was collected to confirm the presence of nickel.

3.2. Data analysis

3.2.1. Laboratory methods

Samples were collected from November 27, 2000 to December 10, 2000 and submitted for analysis by *United States Environmental Protection Agency (USEPA) Methods with NYSDEC Analytical Services Protocol (ASP-91).* Sample analyses were performed by *O'Brien & Gere Laboratories in accordance with the Methods for Chemical Analysis of Water and Waste, USEPA 600/4-83-020, Test Methods for Evaluating Solid Wastes, SW-486.* The samples were analyzed for: VOCs (USEPA Method 8260B), PCBs (USEPA Method 8082), metals (USEPA Method 6010B), mercury (USEPA Method 7470A), fluoride (USEPA Method 340.2), pH (USEPA Method 9040B), total percent solids (USEPA 2540-G), gamma spectrometry (LANL ER-130 Method, 901.1 modified) and alpha spectrometry for thorium (EML TH-01 modified) and uranium (EML U-02 modified). Radionuclide analysis was performed using Los Alamos National Laboratory (LANL) and United States Department of Energy (USDOE) Methods.

Data management

Analytical results were received from the laboratory in hardcopy and electronic formats. The electronic data were used to establish a database, develop summary tables, for data validation, and for the human exposure evaluation. The data were manually reviewed during the data validation to assure consistency and correct any reporting errors that may have occurred during data entry.

Data validation and usability assessment

The analytical data generated for this investigation were evaluated by O'Brien & Gere Engineers using the quality assurance/quality control (QA/QC) criteria and guidance methods established in the project quality assurance project plan (QAPP) and specified in Section 4.2.1 Laboratory Methods. Excursions from the QA/QC criteria were qualified based on guidance provided in the *USEPA Region II Contract Laboratory Program (CLP) Organics Data Review, SOP No. HW-6, Revision #11, the USEPA Region II Evaluation of Metals Data, CLP 3/90.*

Analytical reporting requirements are presented in Section 8 of the QAPP and in the work plan. Five qualifiers were used during the data validation process "R", "U", "J", "JI", and "BU". The use of these qualifiers is consistent with guidance presented in *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992a). The field duplicate RPD requirement (less than 100%) was not met for nickel in the field duplicate pairs identified as SB-133 (0-4') and SB-133D (16-20'). As a result, the excursions detected results for these nickel samples were qualified as approximate (J). Additional qualifications of nickel data were not performed since RPD requirements were met for the other field duplicates collected.

Overall, 100 percent of the PCB, metals and mercury data and approximately 96.6 percent of the VOC data were determined to be usable for qualitative and quantitative purposes (Appendix E). Therefore, the completeness objective of 90 percent as stated in the QAPP was met.

3.2.2. Radiochemical data validation and interpretation

Data analyzed by gamma and alpha spectrometry were evaluated using the *USDOE Guidance for Radiochemical Data Validation, RD4, and the Science Applications International Corporation (SAIC) Laboratory Data Validation Guidelines for Evaluating Radionuclide Analyzes, 143-ARCS-92.01, Revision 05*, for conventional QA/QC parameters such as holding times, sample preservation, calibration, system performance and document completeness.

Gamma spectrometry analyses were performed on each sample as a qualitative method for determining what gamma emitting isotopes were present and a semi-quantitative method for determining the approximate activities for the detected isotopes (EPA Method 901.1). Using this method, soil samples obtained from the Site were dried, ground, homogenized, and weighed into 75mL jars. The samples were then allowed to set for at least 21 days in order to allow the radon-222 and its daughters, which may have been driven off in the preparation steps, to re-establish equilibrium.

Prior to laboratory analysis, NYSDEC reviewed and modified the radionuclide software library. Samples submitted for gamma spectrometry analyses were counted using high-purity germanium (HPGe) gamma detectors. Data were interpreted by comparing peaks detected versus a natural occurring radioactive materials (NORM) software library maintained with the instrumentation. An isotope was reported whenever a peak was detected, whether the activity was above detection levels or not.

"Interpretation of Radiochemistry Data" (Appendix F) provides clarification on measurement issues and radiochemistry data interpretation. However, data were reported as measured regardless of whether isotopic results may be biased based on the presence of other isotopes. Additionally, for the purposes of reporting U-238 and Th-232 concentrations from gamma spectrometry data (Figure 8), the following method of data interpolation was used:

Isotope	Reported Result
Th-232	Ac-228
U-238	Pa-234M (if above detection level)
U-238	Th-234 (if Pa-234M was NOT above detection level)

Alpha spectrometry (USEPA Method 907.0) was used as a final confirmation step to evaluate select samples for the presence of uranium and thorium, the principle isotopes that were identified via gamma spectrometry. Alpha spectrometry provides an extremely accurate quantitative method for determining uranium, thorium, and radium activities. Because interfering isotopes are separated out in the sample purification steps, the methodology is fairly isolated from interferences.

These procedures were developed at the USDOE's Idaho National Engineering Laboratory. The method involves the digestion of soil, micro-precipitation of interfering chemicals and isotopes, precipitation of radium with barium and alpha spectrometry counting. The method is accurate to about 1 pCi/g for radium-226 and its immediate alpha-emitting daughters.

4. Nature and extent of residuals

The Supplemental Investigation focused on the nature and extent of process residuals (VOCs and radionuclides in the soil at the Site) related to former Site use.

4.1. Soil characterization

Soil characterization within the study area consisted of the advancement of soil borings, soil screening and the collection of soil samples. The boring depths were based on Site-specific areas of interest and field conditions encountered.

- Areas of surface radiation were probed approximately 4 feet, or until elevated levels of radiation or other constituents were no longer encountered based on downhole and core screening data.

- Locations of VOCs were investigated until field-screening levels decreased with depth.

- Areas that formerly contained a leaching pool were advanced to approximately 20 feet.

Refusal was encountered in one boring (SB-148) at 11.5 feet. Boring SB-113 was given multiple designations because elevated concentrations of compounds were detected during field screening and further borings were performed to delineate the subsurface (SB-113A through SB-113C). Prior to opening and logging the core, field screening was used to evaluate the presence of beta or gamma radiation for health and safety purposes. Field screening was also used to evaluate the concentrations of VOCs and to aid in the selection of samples to be submitted for laboratory analysis. The field downhole and core screening data are presented as Tables 3 and 4.

Soil cores were sent to the laboratory for analysis including radionuclides, VOCs, metals, PCBs, and mercury. Table 9, Sample Identification and Analytical Summary, provides the boring locations and analyses run on a per sample basis. Radionuclide analytical results for gamma and alpha spectrometry is provided in Tables 10 and 11. Chemical analytical results for the soil borings are presented as Tables 12 through 15.

Air Techniques

Sampling at the Air Techniques Study area consisted of the advancement of 16 soil borings (SB-146A through C, SB-148 through SB-154 and SB-160 through SB-165) and one water sample. The borings were advanced in areas where above background counts of radiation were detected during the previous investigation and the surface survey. The areas investigated and the background information explaining the placement of the soil borings at Air Techniques are provided in Table 5. Data from the water sample are presented in Section 5.2.

Radionuclide Data

Eighteen soil samples were collected at various depths and analyzed for radionuclides using gamma spectrometry. Above background concentrations of radionuclides, primarily thorium and uranium, were detected in the shallow soils in SB-153 and SB-163. These two borings are near SB-003 in the Air Techniques parking lot. Figures 7 and 8 show the boring locations, sample interval(s) and concentration of each radionuclide detected.

Alpha spectrometry was used to further examine SB-151 and SB-163 (Table 11). Thorium-228 (4.21 pCi/g), thorium-230 (4.26 pCi/g), thorium-232 (57.5 pCi/g), uranium-233/234 (652 pCi/g), uranium-235/236 (36.4 pCi/g) and uranium-238 (660 pCi/g) were detected in the sample collected from SB-163 (0-4' bgs). Thorium-228 (22.7 pCi/g), thorium-230 (4.86 pCi/g), thorium-232 (29.5 pCi/g), uranium-233/234 (123 pCi/g), uranium-235/236 (5.09 pCi/g) and uranium-238 (61.6 pCi/g) were detected in the sample collected from SB-151 (1' bgs).

Chemical Data

Low levels of PCE were detected in SB-146A and C, SB-148, SB-150, and SB-152 (Table 12) at 0 to 12 feet bgs. The concentrations of PCE ranged from 3 ug/Kg to 24 ug/Kg (SB-150). SB-150 also contained an estimated concentration of 1 ug/Kg TCE. Toluene and xylene was detected in the interval of 0 to 4 feet bgs in two soil samples. The xylene and toluene concentrations are likely a result of the close proximity to the asphalt. No elevated concentrations of VOCs were detected in the remaining seven samples.

One sample (SB-152) was analyzed for PCBs. Aroclor 1254 was detected at low concentrations (0.2 mg/Kg) at 1 to 2 feet bgs (Table 13). This boring was advanced to investigate the surface levels of radiation detected near SB-003. SB-152 was also analyzed for metals (Table 14). Iron, zinc and beryllium were detected above background at concentrations of 14,300 mg/Kg, 23.2 mg/Kg and 0.41J mg/Kg, respectively. Eleven soil samples were analyzed for nickel (Figure 6 and Table 15). Nickel levels ranged from 3.9 mg/Kg in SB-149 to 3,980 mg/Kg in SB-153 (8-16' bgs). SB-153 is in an area used to delineate radioactivity near SB-003.

Area Analytical Summary

The Supplemental borings were advanced on the Air Techniques property to investigate above background radioactivity. Areas with detected constituents (radioisotopes, VOCs and metals) are extremely isolated and localized to areas less than 16 feet bgs. NYSDEC determined that some of the above background concentrations of radionuclides appear to be part of the asphalt patch.

Magazine Distributors

Sampling performed in the Magazine Distributors Study area consisted of the advancement of approximately 28 soil borings (SB-112 through SB-118 including SB-113A through C, SB-138 through SB-145, SB-147, SB-155 through SB-159 and SB-166 through SB-169). The areas investigated and background information explaining the placement of the soil borings at Magazine Distributors is provided in Table 7.

Radionuclide Data

Twenty-five soil samples, collected at various depths, were analyzed for radionuclides. Radionuclides, primarily thorium and uranium, were detected in several of the samples. The highest concentrations detected appear to be south of the building (SB-166 and SB-145) and in a remote area on the northeast corner of the Site (SB-113A). These concentrations are confined to depths less than 16 feet bgs.

Alpha spectrometry was used to analyze SB-113A (13.5–14' bgs). Thorium-228 (37.5 pCi/g), thorium-230 (8.99 pCi/g), thorium-232 (69.3 pCi/g), uranium-233/234 (369 pCi/g), uranium-235/236 (20 pCi/g) and uranium-238 (382 pCi/g) were detected. This boring was installed to further define contaminants near SB-071.

Chemical Data

VOC analyses were run on approximately 24 samples or ¾ of the samples collected from this area. All but three borings had detectable concentrations of PCE. PCE concentrations ranged from not detected (ND) to 75,000 ug/Kg (SB-166). TCE was detected in seven of the borings. Concentrations of TCE ranged from ND to 3,400 ug/Kg in SB-166 (Table 12). Other VOCs detected include 1,1-dichloroethane, toluene, xylene, methylene chloride, acetone, carbon disulfide, cis1, 2-dichloroethane, and 1,1,1-trichlorethane.

PCB analysis was performed on 15 of the samples. SB-140, down gradient of the historic electrical transformer, contained 2 mg/Kg Aroclor 1254 at 4 feet bgs (Table 13). This was the highest concentration of PCBs detected on-Site during this portion of the investigation.

Eleven soil samples were analyzed for metals and 17 samples for nickel (Tables 14 and 15, respectively). All 11 samples contained above background concentrations of iron. Iron concentrations ranged from 3,090 mg/Kg to 11,600 mg/Kg (SB-113C). Five samples contained above background concentrations of zinc, ranging from 20.1 mg/Kg to 167 mg/Kg (SB-142). Nine samples contained estimated above background levels of beryllium that ranged from 0.17J mg/Kg to 0.51J mg/Kg (SB-113C). SB-166 had above background concentrations of copper and SB-113C contained above background concentrations of arsenic. Nickel values ranged from 0.89 mg/Kg to 17,800 mg/Kg (SB-166). Elevated nickel areas also included SB-140 (109 mg/Kg) and SB-145 (910 mg/Kg). The isolated areas of above background metals appear to be confined to depths greater than 4 feet but less than 16 feet bgs and in areas of presumed remediation.

Area Analytical Summary

The investigation at Magazine Distributors focused on historic recharge basins, former buildings and an historic transformer. Two areas (south of the building and in the northeastern corner of the property) contained above background concentrations of radionuclides. Concentrations of analytes detected are confined to less than 16 feet bgs. Additionally, NYSDEC determined some above background concentrations of radionuclides appear to be part of the asphalt patch. The highest concentrations of VOCs were detected at less than 12 feet bgs. The VOCs and nickel appear to be present in the same boring and sample interval as the radionuclides (SB-166 from 8-12' bgs).

Gilbert Displays

Soil sampling at the former Gilbert Displays Site consisted of the advancement of 22 soil borings and two geotechnical borings (SB-110 and SB-111, SB-119 through SB-137, SB-170, GT-1 and GT-2). The areas investigated and background information explaining the placement of the soil borings on the former Gilbert Displays Property are provided in Table 6. Results from the indoor air survey are discussed in Section 6.

Radionuclide Data

Twenty-three samples, collected at various depths, were analyzed for radionuclides using gamma spectrometry. Radionuclides were detected in several of the soil samples with the highest concentrations being detected in the southeastern corner of the building. A concentration of U-238 above background (144.9 pCi/g) was also observed in one of the leaching pool locations (SB-111). Radionuclides in this area are confined to depths less than 4 feet bgs.

Alpha spectrometry was used to further examine SB-120 (12–16' bgs) (Table 11). Thorium-228 (0.199 pCi/g), thorium-230 (2.4 pCi/g), thorium-232 (5.05 pCi/g), uranium-233/234 (164 pCi/g), uranium-235/236 (9.27 pCi/g) and uranium-238 (155 pCi/g) were detected. This boring was installed to evaluate concentrations of contaminants beneath the building foundation.

Chemical Data

Twenty soil samples on the Gilbert Displays parcel were analyzed for VOCs. Sixteen of the samples contained estimated concentrations of PCE ranging from ND to 92,000 ug/Kg (SB-120). TCE was detected in nine of the borings. Concentrations of TCE ranged from ND to 170 ug/Kg in SB-111 (Table 12). Other VOCs detected include 1,1-dichloroethane, 2-butanone (MEK), toluene, benzene, methylene chloride, acetone, cis1, 2-dichloroethene, trans1, 2-dichloroethene and 1,1,1-trichlorethane. The isolated areas of above background VOCs beneath the building appear to be confined to depths of less than 8 feet bgs.

Five samples collected at the former Gilbert Displays were analyzed for PCBs. Two of the samples (SB-110 and SB-111) were collected at shallow intervals (3-4‘ bgs) and three (SB-110, SB-111, and SB-121) at deep intervals (18–21’ bgs) (Table 13). The highest concentration of PCBs (1 mg/Kg) was detected as Aroclor 1254 in SB-111 at 18 feet bgs.

Five soil samples were analyzed for metals and 15 samples for nickel (Tables 14 and 15, respectively). The five samples contained above background concentrations of iron and estimated beryllium values. Iron concentrations ranged from 3,860 mg/Kg to 16,100 mg/Kg (SB-125). Beryllium concentrations ranged from 0.17J mg/Kg to 0.56J mg/Kg (SB-125). Two samples (SB-125 and SB-111) contained above background concentrations of zinc (25.1 mg/Kg and 29.6 mg/Kg, respectively). Nickel concentrations ranged from 2.5 mg/Kg to 384 mg/Kg (SB-133) (Table 15). Elevated levels were also observed in SB-120 (149 mg/Kg) and SB-129 (251 mg/Kg). With the exception of SB-111, the isolated areas of above background metals appear to be confined to depths less than 16 feet bgs and in areas of presumed remediation. SB-111 had above background levels of zinc at 18 feet bgs.

Toxicity Characteristics Leaching Procedure (TCLP) and ignitability was run on a composite soil sample from SB-119 through SB-137. The TCLP analysis indicated concentration of metals at or below 0.2 mg/l. The flashpoint was greater than 60 degrees Celsius. A Standard Proctor (ASTM D-698) was also conducted on this sample.

Area Analytical Summary

The main areas of investigation at the former Gilbert Displays parcel was beneath the Site building and former leaching pools. The soils adjacent to the east wall of the building (denoted by SB-119 through SB-129) contained both VOCs and radionuclides. Both the vertical and lateral extent of these residuals appear to have been defined. With the exception of SB-110 and SB-120, the highest concentrations on analytes detected appear to be limited to the first 4 feet below the building slab. Soil boring SB-110 is a former leaching pool location with above background concentrations of PCE at 18 to 20 feet bgs. SB-120 has 149 mg/Kg of nickel at 12 to 16 feet bgs. Although the locations of the leaching pools were surveyed in to ensure these exact locations were evaluated, no evidence or remnants of the former leaching pools was observed in any portion of this or any other previous investigations conducted on Site.

4.2. Water characterization

On December 5, 2000, Site monitoring wells (MW-01 through MW-05) and the three NCDPW wells (W-24, W-24D, and W-25) were gauged and sampled for pH. The depth to ground water at the Site ranged from 67.73 feet bgs in MW-04 to 69.48 feet bgs in MW-01. Depths to water at the NCDPW property ranged from 70.72 feet bgs in W-24 to 71.31 feet bgs in W-25. The field pH of the Site wells ranged from 6.48 in MW-04 to 6.63 in MW-1. The pH in the upgradient DPW wells ranged from 7.22 in W-24 to 7.42 in W-25. Depth to water, water elevation, and pH measurements are included in Table 8. Based on the ground water measurements collected, the ground water appears to flow to the south (Figure 9). Ground water equipotential lines from previous investigations were superimposed on the adjacent parcels.

One water sample was collected from MW-1 using approved low flow sampling techniques. The sample was analyzed for nickel and pH. The concentration of nickel was 0.229 mg/L and pH was 6.3 (Table 16).

5. Exposure evaluation

This section presents a general assessment of potential public health implications related to the radionuclide and VOC levels detected on Site. Based on a review of analytical data, land use at and near the Site and other Site specific considerations, the following conclusions are made:

- VOC levels detected in soil, soil vapor, and ground water at the Site do not represent a significant risk to humans at the Site.

- Indoor air survey results indicated that concentrations of PCE and TCE are below method detection limits (MDLs) for the three locations tested inside the former Gilbert Displays building. The analytical results are included as Appendix C.

- It is highly unlikely that workers at the Site would be exposed to radiation levels that exceed acceptable dose limits as identified by the Nuclear Regulatory Commission (NRC), USEPA, or NYSDEC.

As discussed in Section 4, VOCs (primarily PCE and TCE) and radionuclides (primarily uranium-238) were detected in Site soils. Based on the newly acquired data, the public health implications from the VOCs and radionuclides detected were re-evaluated and are presented below. Each section includes a brief discussion of the distribution of residuals in soil, background information regarding the mechanisms by which humans may be exposed to the residuals and an assessment of public health implications related to residuals detected at or near the Site.

5.1. Volatile organic compounds

A detailed discussion of VOCs, primarily PCE and TCE, detected in soil at the Site is presented in Section 5.

Distribution - The distribution and detected concentrations of VOCs in soil vapor and subsurface soils are presented in Figures 4 and 5, respectively. Based on field observations, the Site is underlain by sandy soils, interspersed with discrete, thin, discontinuous clay lenses. Some VOCs were detected in the southeastern corner of the former Gilbert Displays, beneath the building slab. These soils appear to be confined to the shallow soils (0-4' bgs). In comparison, VOCs were detected from 8 to 12 feet bgs in the subsurface soils at the Magazine Distributors property. VOCs were not detected or detected at very low concentrations at Air Techniques.

Three ambient air samples were collected using 3M Organic Vapor Monitor Badges containing sorbent pads. The three badges were placed following vacancy of the Gilbert Displays manufacturing building. The badges were hung in the front, middle and back portions of the building to obtain a representative exposure scenario. Photographs of the badges are included as Appendix A. Although under normal-working conditions windows and access doors would be ajar, fans would be operating and a truck bay would be opened periodically during production. Access doors and the truck bay remained closed and the ventilation fans were not operating during monitoring at the request of the New York State Department of Health (NYSDOH).

A sample data sheet was used to document the sample location, sample designation, sample collection start and stop times, and any calibration data. The samples were analyzed by gas chromatography for PCE and TCE. Airborne levels for specific VOC materials in milligrams per cubic meter of air and is converted to ppm (based on time exposed). The badges have a minimum detection limit of 8 micrograms per sample.

The samples were used to evaluate potential ambient air solvent exposures to workers. Air data indicated that there is no PCE or TCE above MDLs in the former Gilbert Displays building (Appendix C). Gilbert Displays was monitored as a worst case scenario at the Site due to the elevated concentrations of TCE and PCE adjacent to the east wall of the building and under the building. Unlike Gilbert Displays, elevated concentrations of PCE and TCE were not detected either beneath the floor or adjacent to the exterior walls at Magazine Distributors. Consequently, it is reasonable to assume that there is no PCE and TCE in indoor air at Magazine Distributors.

Unlike worker exposure, potential exposures of the general public, including children, elderly, and pregnant women, are evaluated based on health assessment methods developed and applied by USEPA. The USEPA has classified PCE and TCE as "probable human carcinogens". This means that exposure to high levels of PCE and TCE have been shown to cause cancer in laboratory animals, but that there is "insufficient evidence" that these agents cause cancer in humans. According to USEPA, there no significant risk of cancer associated with a given chemical exposure if the estimated probability of cancer is in the range of less than 1 in a 1,000,000 to 1 in 10,000 depending on the specific circumstances of the exposure (NCP 40 CFR 300). Typically, the 1 in 1,000,000 reference value may be is applied in residential settings, whereas higher exposure levels would be considered to be within an acceptable range relative to industrial exposures (1 in 10,000).

Evaluation of Potential Exposures - Based on Site specific considerations, it is highly unlikely that the VOC levels detected in subsurface soils will result in adverse health impacts to humans at the Site. Furthermore, it is improbable that VOCs detected in soil vapor will migrate to indoor air at levels exceeding the OSHA PEL-TWA values, USEPA significant risk levels or NYSDOH guidelines. This is based on the following observations:

- The VOCs at the Site are in subsurface soils that are covered by asphalt. Since these areas are not routinely excavated, it is improbable that Site workers will be exposed to these materials via ingestion or dermal contact.

- The buildings are large and well-ventilated therefore bulk (advective) transport of soil gas to indoor air would be minimal because of a low-pressure differential between indoor air and soil vapor. The low-pressure differential results from open truck bays and other doors.

- The areas where VOCs occur are relatively small compared to the extent of the building slab. The building slab in this area is relatively new and intact.

Based on these considerations and recently acquired air data, VOC levels in the Site soil and soil vapors do not represent a significant risk to humans.

There are no active residential, municipal, or industrial ground water wells or irrigation wells within a 0.5-mile radius of the Site (NCDOH 1997). In addition, regulations (Article IV) "prohibit the installation of private water system wells in those areas served by a public water system" therefore unlikely to be a potable water source in the future (NCDOH 1987). Since ground water occurs at a depth of approximately 70 feet bgs and there will be no human exposure to constituents in Site ground water, this pathway does not represent risk to human health.

5.2. Radionuclides

Distribution – The primary radionuclide detected in Site soils is uranium-238. Other radionuclides including thorium-232 and uranium-235 were detected in samples collected from several discrete areas on the former Gilbert Displays and on the south side of Magazine Distributors, near the truck loading bays (Figure 7). Three borings (SB-119, SB-169 and SB-145) contained elevated levels of uranium-238 at depth (12-16' bgs). The remaining above background concentrations appears to be confined to 0 to 4 feet bgs.

NYSDEC performed a surface radiation survey at the Site for gamma activity. Most of the surface readings were within background levels for the local area. However, several small areas of slightly elevated readings corresponding to two to four times background were reported. These areas were explored via soil sampling to confirm or deny elevated concentrations of radionuclides in the soils. NYSDEC determined some above background concentrations of radionuclides appear to be part of the asphalt patch, not the soil.

The NRC has published an acceptable dose limit of 25 mrem/year for facilities where NRC licenses were terminated (62 FR 39058, July 21, 1997). If the calculated radiation dose is less than 25 mrem/year, NRC decommissioning protocols indicate that a site is appropriate for unrestricted future development, including residential. The USEPA applies a dose limit of 15 mrem/year for cleanup of sites regulated under the Superfund Program, which includes future residential land uses-OSWER Directive No. 9200.4-18 (USEPA 1997). The NYSDEC has a preliminary dose limit of 10 mrem/year when evaluating health based land use options, including possible future residential development (NYSDEC 1993).

Evaluation of Potential Exposure - To examine potential exposures relative to detected radionuclides; Site-specific variables were applied to estimate a dose for each scenario. In consultation with NYSDEC personnel, RESRAD for Windows version 5.91 (September 1999), was used to calculate the Site-specific dose. The dose was estimated from residual radioactive material based on conservative estimates of the magnitude, frequency, and duration of exposure for workers (USDOE 1999). The modeled dose estimates are less than 10 mrem/year.

Site-specific observations also support the modeled dose:

- The exposures of field workers were monitored using film badges and dosimeters during the Site investigation. The dosimeter results indicated no doses exceeding 1 mrem/month. Since the investigation workers directly handled subsurface soils in source areas, it is highly unlikely that the dose for a facility worker that would neither be expected to work directly with subsurface soils nor be in impacted areas for a length of time greater than investigative workers, would exceed 1 mrem/month or 10 mrem/year.

- The radionuclides in soil are mainly under pavement that completely shields alpha and beta and mitigates gamma emissions. The surface gamma survey indicated that most of the Site maintained background radiation readings. Surface readings at potential source areas were between two and four times background.

Based on these considerations, it is improbable that the workers at the Site or people at adjacent locations, would be exposed to radiation levels that exceed acceptable dose limits as identified by the NRC, USEPA, or NYSDEC under current or reasonably foreseeable future Site use.

6. Conclusions

The Supplemental Investigation of the Former Sylvania Electric Products Incorporated facility, documented in this report, was conducted in accordance with the requirements under the VCP agreement. The investigation was conducted in a series of steps that were sequenced to:

- further define the vertical and lateral extent of residual levels of radionuclides including potential subsurface impacts, if any, beneath the Gilbert Displays and Magazine Distributors buildings;
- obtain Site geotechnical information;
- assess areas containing high PID readings with depth and areas potentially impacted by nickel;
- view and assess a possible "sediment layer" and potential subsurface impacts from the former leaching pools; and
- evaluate whether there was an immediate threat to human health and the environment.

From the execution of these steps and evaluation of the collected data, it may be concluded that:

- there are several isolated areas of above background radiation on each of the properties investigated. The areas are confined to the subsurface beneath pavement;
- no evidence of a "sediment layer" was observed;
- isolated areas of above background metals are present in the shallow soils;
- PCE and to a lesser extent, TCE, exist in soils at several locations on former Gilbert Displays and Magazine Distributors, Inc. These VOC levels detected in soil and soil vapor do not represent a significant risk to workers or visitors at the Site; and
- it is highly unlikely that the workers at or pedestrians near the Site, would be exposed to radiation levels that exceed acceptable dose limits as identified by the NRC, USEPA, or NYSDEC under current Site use.

Finally, the investigation was performed in agreement with the Investigative Work Plan and Supplement to the Investigative Work Plan. This certification is made in accordance with Section I of the VCP agreement. Sufficient data have been acquired to complete the scope of work presented in the approved Work Plans and that no additional data are necessary for this purpose.

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List of Acronyms / Abbreviations

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

--	-	data not collected
AT	-	Air Techniques, Inc.
BT	-	boring terminated
c/min	-	counts per minute
D	-	dilution from analysis
DTW	-	depth to water
ft	-	feet
GD	-	Gilbert Displays
GT	-	geotechnical boring
in.	-	inches
J	-	estimated value
MDI	-	Magazine Distributors, Inc.
mg/kg	-	milligrams per kilogram
mg/L	-	milligrams per liter
NCDPW	-	Nassau County Department of Public Works
ND	-	not detected
NL	-	not logged
PCBs	-	polychlorinated biphenlys
PCE	-	tetrachloroethene
pCi/g	-	pico curries per gram
ppmv	-	parts per million by volume
R	-	unusable
SB	-	soil boring
TCE	-	trichloroethene
ug/kg	-	micrograms per kilogram
VOCs	-	volatile organic compounds

TABLE 1

Soil boring depths

Table 1
Soil Boring Depth

Former Sylvania Products Incorporated Facility
Hicksville, New York

Boring	Depth	Boring	Depth	Boring	Depth
GT-1	20	SB-129	16	SB-149	20
GT-2	20	SB-130	20	SB-150	16
SB-110	22	SB-131	20	SB-151	16
SB-111	22	SB-132	8	SB-152	8
SB-112	24	SB-133	16	SB-153	8
SB-113	20	SB-134	16	SB-154	8
SB-113b	20	SB-135	12	SB-155	20
SB-113c	16	SB-136	12	SB-156	20
SB-114	20	SB-137	12	SB-157	20
SB-115	20	SB-138	20	SB-158	20
SB-116	20	SB-139	4	SB-159	20
SB-117	20	SB-140	4	SB-160	4
SB-118	20	SB-141	20	SB-161	4
SB-119	16	SB-142	26	SB-162	4
SB-120	24	SB-143	20	SB-163	4
SB-121	20	SB-144	6	SB-164	4
SB-122	16	SB-144 (a)	12	SB-165	4
SB-123	16	SB-145	8, 20	SB-166	20
SB-124	24	SB-146a	16	SB-167	20-24 discrete
SB-125	20	SB-146b	8	SB-168	12-16 discrete
SB-126	16	SB-146c	8	SB-169	12-16 discrete
SB-127	16	SB-147	20	SB-170	20
SB-128	16	SB-148	11.5		

Notes:

All depths are in feet.

GT - Geotechnical Boring

SB - Soil boring

TABLE 2

Soil vapor volatile organic compounds data

Table 2
Soil Vapor Results

Former Sylvania Electric Products Inc. Facility
Hicksville, New York

Sample Location	Depth	Date Collected	Benzene (ppmv)	TCE (ppmv)	PCE (ppmv)	Ethylbenzene (ppmv)	o-xylene (ppmv)
Sample Collection Blank		11/28/00	ND	ND	ND	ND	ND
Sample Collection Blank		12/1/00	ND	ND	0.799	ND	ND
Sample Collection Blank		12/4/00	ND	0.013	ND	ND	ND
Sample Collection Blank		12/7/00	ND	ND	0.042	ND	ND
SB-110	4-5'	11/28/00	0.103	ND	10.200	ND	ND
SB-111	4-5'	11/28/00	0.102	ND	9.795	ND	ND
SB-111 (re-analysis)	4-5'	11/28/00	0.001	0.285	6.574	0.032	ND
SB-112	4-5'	11/28/00	0.001	ND	8.432	ND	ND
SB-113	4-5'	11/28/00	ND	ND	0.675	ND	ND
SB-114	4-5'	11/29/00	0.087	ND	5.779	0.012	ND
SB-115	4-5'	11/29/00	0.105	ND	11.600	ND	ND
SB-116	4-5'	11/29/00	0.009	ND	1.508	ND	ND
SB-117	4-5'	11/29/00	0.526	ND	57.400	ND	ND
SB-118	4-5'	11/30/00	0.348	ND	38.200	ND	ND
SB-119	4-5'	11/30/00	0.340	ND	273.000	ND	ND
SB-119	18'	11/30/00	ND	0.440	375.000	ND	ND
SB-120	4-5'	11/30/00	ND	4.600	163.000	ND	ND
SB-121	4-5'	12/1/00	ND	0.475	272.500	ND	ND
SB-121 Duplicate	4-5'	12/1/00	ND	0.550	243.800	ND	ND
SB-122	4-5'	12/1/00	ND	0.170	61.120	ND	ND
SB-122 Duplicate	4-5'	12/1/00	ND	0.175	76.650	ND	ND
SB-123	4-5'	12/1/00	ND	ND	7.264	ND	ND
SB-124	4-5'	12/1/00	ND	9.700	187.000	ND	ND
SB-125	4-5'	12/1/00	0.150	1.110	150.000	ND	ND
SB-125 (re-analysis)	4-5'	12/1/00	0.030	0.597	143.000	ND	ND
SB-126	4-5'	12/8/00	ND	0.290	78.500	ND	ND

Table 2
Soil Vapor Results

Former Sylvania Electric Products Inc. Facility
Hicksville, New York

Sample Location	Depth	Date Collected	Benzene (ppmv)	TCE (ppmv)	PCE (ppmv)	Ethylbenzene (ppmv)	o-xylene (ppmv)
SB-127	4-5'	12/7/00	1.354	0.580	222.000	ND	94.600
SB-128	4-5'	12/7/00	0.010	0.014	2.184	ND	ND
SB-129	4-5'	12/1/00	ND	0.160	1.718	ND	ND
SB-130	4-5'	12/6/00	0.061	3.426	9.806	ND	ND
SB-131	4-5'	12/7/00	0.027	0.588	4.081	ND	ND
SB-132	4-5'	12/7/00	ND	0.359	1.702	ND	ND
SB-132 Duplicate	4-5'	12/7/00	ND	0.339	1.489	ND	ND
SB-133	4-5'	12/7/00	0.554	0.308	67.500	ND	17.200
SB-134	4-5'	12/7/00	ND	0.330	81.600	ND	ND
SB-135	4-5'	12/7/00	ND	ND	36.270	ND	ND
SB-136	4-5'	12/8/00	0.062	0.106	13.744	ND	ND
SB-137	4-5'	12/8/00	0.023	ND	4.010	ND	ND
SB-138	4-5'	12/3/00	0.181	0.192	12.100	ND	ND
SB-139	4-5'	12/3/00	0.770	0.085	1.895	0.071	ND
SB-140	4-5'	12/3/00	ND	0.025	0.573	ND	ND
SB-141	4-5'	12/3/00	ND	0.037	0.678	ND	ND
SB-142	4-5'	12/3/00	ND	0.071	0.860	ND	ND
SB-143	4-5'	12/3/00	ND	ND	0.273	ND	ND
SB-144	4-5'	12/6/00	ND	0.545	1.332	ND	ND
SB-145	4-5'	12/9/00	ND	1.011	1.528	ND	ND
SB-146A	4-5'	12/4/00	ND	ND	0.037	ND	ND
SB-146B	4-5'	12/4/00	0.006	ND	0.061	ND	ND
SB-146C	4-5'	12/4/00	0.007	ND	0.077	ND	ND
SB-147	4-5'	12/6/00	ND	0.038	7.370	ND	ND
SB-148	4-5'	12/4/00	ND	0.122	0.174	ND	ND
SB-149	4-5'	12/4/00	ND	0.024	0.144	ND	ND

Table 2
Soil Vapor Results

Former Sylvania Electric Products Inc. Facility
Hicksville, New York

Sample Location	Depth	Date Collected	Benzene (ppmv)	TCE (ppmv)	PCE (ppmv)	Ethylbenzene (ppmv)	o-xylene (ppmv)
SB-150	4-5'	12/4/00	ND	0.474	1.674	ND	ND
SB-151	4-5'	12/4/00	ND	0.239	1.649	ND	ND
SB-152	4-5'	12/4/00	ND	0.252	1.614	ND	ND
SB-153	4-5'	12/4/00	ND	0.007	0.095	ND	ND
SB-154	4-5'	12/4/00	ND	0.069	0.235	ND	ND
SB-154 (replicate)	4-5'	12/4/00	ND	0.047	0.325	ND	ND
SB-154 Duplicate	4-5'	12/4/00	ND	ND	0.084	ND	ND
SB-155	4-5'	12/6/00	ND	0.098	6.549	ND	ND
SB-156	4-5'	12/6/00	ND	0.445	55.291	ND	ND
SB-157	4-5'	12/6/00	ND	0.050	24.291	ND	ND
SB-158	4-5'	12/8/00	ND	0.034	0.375	ND	ND
SB-159	4-5'	12/6/00	ND	0.290	0.914	ND	ND
SB-159 Duplicate	4-5'	12/6/00	ND	0.374	1.014	ND	ND
SB-166	4-5'	12/8/00	ND	14.160	12.850	ND	ND
SB-170	4-5'	12/9/00	0.400	1.172	69.800	ND	ND

Notes:
All depths in feet
ppmv - parts per million by volume
ND - not detected
TCE - trichloroethene
PCE - tetrachloroethene
SB - Soil boring

TABLE 3a

Downhole radiation field screening alpha/beta data

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-113B	SB-113C	SB-114	SB-115
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		29	25	21	15	16	--	16	18
0 - 12		28	134	45	144	128	--	73	50
12 - 24		26	120	102	84	98	--	77	25
24 - 36		72	51	59	46	62	--	19	21
36 - 48		20	41	55	39	30	--	15	21
48 - 60		22	26	73	88	63	--	17	9
60 - 72		21	29	76	417	216	--	22	19
72 - 84		32	24	57	284	724	--	--	14
84 - 96		39	16	34	230	262	--	--	2
96 - 108		44	17	47	294	223	--	--	16
108 - 120		38	12	46	233	265	--	--	13
120 - 132		22	16	49	217	186	--	--	25
132 - 144		28	18	22	--	157	--	--	19
144 - 156		47	21	18	--	156	--	--	27
156 - 168		46	13	7	--	391	--	--	12
168 - 180		--	--	--	--		--	--	--
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-116	SB-117	SB-118	SB-119	SB-120	SB-121	SB-122	SB-123
	Sample Date	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00	12/1/00	12/1/00	12/1/00
	Property	MDI	MDI	MDI	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		17	18	15	17	31	21	--	20
0 - 12		19	49	26	22	64	64	--	179
12 - 24		33	69	23	28	58	50	--	37
24 - 36		28	78	25	24	296	58	--	20
36 - 48		40	67	24	13	331	31	--	26
48 - 60		21	84	21	31	85	42	--	30
60 - 72		20	100	13	30	79	35	--	39
72 - 84		28	51	22	38	86	35	--	31
84 - 96		25	43	25	19	31	22	--	14
96 - 108		12	25	15	--	38	46	--	36
108 - 120		22	14	16	--	--	36	--	24
120 - 132		14	17	--	--	--	29	--	22
132 - 144		25	20	--	--	--	40	--	--
144 - 156		18	21	--	--	--	52	--	--
156 - 168		--	17	--	--	--	28	--	--
168 - 180		--	--	--	--	--	--	--	--
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-124	SB-125	SB-126	SB-127	SB-128	SB-129	SB-130	SB-131
	Sample Date	12/1/00	12/1/00	12/8/00	12/7/00	12/7/00	12/1/00	12/6/00	12/7/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		19	16	18	37	22	14	19	23
0 - 12		82	28	55	377	64	72	22	32
12 - 24		73	25	47	366	43	67	26	36
24 - 36		26	16	79	85	46	51	26	24
36 - 48		26	16	41	51	25	26	33	25
48 - 60		16	31	21	34	24	--	18	10
60 - 72		39	22	17	38	27	--	19	20
72 - 84		53	21	18	42	22	--	21	28
84 - 96		23	24	18	43	37	--	17	15
96 - 108		23	23	14	32	18	--	19	13
108 - 120		21	17	7	30	22	--	9	14
120 - 132		18	17	22	17	14	--	14	10
132 - 144		19	20	13	33	15	--	12	9
144 - 156		22	15	23	33	15	--	--	19
156 - 168		20	30	--	37	--	--	--	11
168 - 180		--	--	--	37	--	--	--	15
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-132	SB-133	SB-134	SB-135	SB-136	SB-137	SB-138	SB-139
	Sample Date	12/7/00	12/7/00	12/7/00	12/7/00	12/8/00	12/8/00	12/3/00	12/3/00
	Property	GD	GD	GD	GD	GD	GD	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		25	26	27	17	13	18	19	10
0 - 12		41	171	24	29	26	23	28	42
12 - 24		36	67	35	30	65	40	31	20
24 - 36		32	27	29	37	52	31	17	21
36 - 48		23	22	34	27	36	29	15	--
48 - 60		24	18	24	19	27	13	19	--
60 - 72		18	22	21	21	30	20	21	--
72 - 84		18	25	26	22	35	13	15	--
84 - 96		--	22	13	21	24	18	16	--
96 - 108		--	17	13	--	--	--	--	--
108 - 120		--	21		--	--	--	--	--
120 - 132		--	11	23	--	--	--	--	--
132 - 144		--	20	12	--	--	--	--	--
144 - 156		--	13	13	--	--	--	--	--
156 - 168		--	--	--	--	--	--	--	--
168 - 180		--	--	--	--	--	--	--	--
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-140	SB-141	SB-142	SB-143	SB-144	SB-144B	SB-145	SB-146
	Sample Date	12/3/00	12/3/00	12/3/00	12/3/00	12/6/00	12/8/00	12/9/00	12/4/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		20	10	15	16	19	15	42	29
0 - 12		44	25	25	20	43	37	72	38
12 - 24		22	30	31	22	54	50	59	27
24 - 36		--	24	39	41	81	90	72	26
36 - 48		--	25	35	30	88	73	85	27
48 - 60		--	20	37	22	70	76	201	29
60 - 72		--	18	18	20	99	57	42	27
72 - 84		--	20	21	19	--	79	111	25
84 - 96		--	21	15	29	--	52	110	22
96 - 108		--	11	28	20	--	43	170	14
108 - 120		--	8	16	11	--	38	271	17
120 - 132		--	16	33	11	--	41	654	18
132 - 144		--	22	20	14	--	28	620	15
144 - 156		--	14	--	12	--	--	1059	12
156 - 168		--	--	--	21	--	--	860	7
168 - 180		--	--	--	--	--	--	909	14
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-146B	SB-146c	SB-147	SB-148	SB-149	SB-150	SB-151	SB-152
	Sample Date	12/4/00	12/4/00	12/6/00	12/4/00	12/4/00	12/4/00	12/4/00	12/4/00
	Property	AT	AT	MDI	AT	AT	AT	AT	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		23	28	17	22	19	12	38	26
0 - 12		37	16	18	18	19	84	312	518
12 - 24		36	25	30	34	18	24	59	37
24 - 36		33	22	25	22	17	26	27	25
36 - 48		15	19	21	36	17	19	19	21
48 - 60		19	17	17	25	17	23	19	19
60 - 72		10	11	22	26	25	22	18	13
72 - 84		20	17	13	19	17	--	17	17
84 - 96		--	--	19	22	24	--	22	26
96 - 108		--	--	16	57	16	--	19	--
108 - 120		--	--	11	16	13	--	21	--
120 - 132		--	--	14	17	10	--	13	--
132 - 144		--	--	9	--	9	--	12	--
144 - 156		--	--	8	--	11	--	9	--
156 - 168		--	--	18	--	4	--	9	--
168 - 180		--	--	11	--	--	--	--	--
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-153	SB-154	SB-155	SB-156	SB-157	SB-158	SB-159	SB-160
	Sample Date	12/4/00	12/4/00	12/6/00	12/6/00	12/6/00	12/4/00	12/4/00	12/4/00
	Property	AT	AT	MDI	MDI	MDI	MDI	MDI	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		33	28	10	20	25	26	14	18
0 - 12		162	114	29	66	54	60	24	75
12 - 24		165	46	50	55	28	25	18	23
24 - 36		91	30	26	28	30	26	28	44
36 - 48		34	21	19	18	24	21	85	22
48 - 60		25	17	21	20	22	23	--	--
60 - 72		31	20	26	22	17	29	--	--
72 - 84		20	23	19	14	23	24	--	--
84 - 96		26	26	16	12	17	23	--	--
96 - 108		--	--	25	15	23	17	--	--
108 - 120		--	--	19	20	32	12	--	--
120 - 132		--	--	8	17	15	14	--	--
132 - 144		--	--	14	13	17	24	--	--
144 - 156		--	--	15	19	12	--	--	--
156 - 168		--	--	9	15	9	--	--	--
168 - 180		--	--	23	12	17	--	--	--
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-161	SB-162	SB-163	SB-164	SB-165	SB-166	SB-167	SB-168
	Sample Date	12/4/00	12/8/00	12/8/00	12/6/00	12/6/00	12/4/00	12/4/00	12/9/00
	Property	AT	AT	AT	AT	AT	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		16	20	20	24	19	21	29	--
0 - 12		71	65	110	127	41	86	48	--
12 - 24		57	19	671	34	25	159	53	--
24 - 36		24	41	92	25	25	76	91	--
36 - 48		11	26	14	24	12	75	76	--
48 - 60		--	--	--	--	--	291	52	--
60 - 72		--	--	--	--	--	172	55	--
72 - 84		--	--	--	--	--	143	140	--
84 - 96		--	--	--	--	--	156	190	--
96 - 108		--	--	--	--	--	307	222	--
108 - 120		--	--	--	--	--	421	120	--
120 - 132		--	--	--	--	--	175	128	--
132 - 144		--	--	--	--	--	142	137	--
144 - 156		--	--	--	--	--	125	48	46
156 - 168		--	--	--	--	--	103	47	33
168 - 180		--	--	--	--	--	--	33	29
180 - 192		--	--	--	--	--	--	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3A
Downhole Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-169	SB-170						
	Sample Date	12/9/00	12/9/00						
	Property	MDI	GD						
Depth (in.)	Units	c/min	c/min						
0		--	10						
0 - 12		--	43						
12 - 24		--	26						
24 - 36		--	58						
36 - 48		--	74						
48 - 60		--	104						
60 - 72		--	119						
72 - 84		--	187						
84 - 96		224	170						
96 - 108		353	99						
108 - 120		554	137						
120 - 132		355	76						
132 - 144		483	115						
144 - 156		436	137						
156 - 168		516	51						
168 - 180		229	48						
180 - 192		54	--						
192 - 204		--	--						
204 - 216		--	--						
216 - 228		--	--						
228 - 240		--	--						
240 - 252		--	--						
252 - 264		--	--						

TABLE 3b

Downhole radiation field screening gamma data

Table 3b
Downhole Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-113B	SB-113C	SB-114	SB-115
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		624	559	384	447	383	--	391	411
0 - 12		1804	3178	1985	2959	3244	--	3476	3208
12 - 24		1098	5265	3999	3824	4617	--	1088	1811
24 - 36		1295	3085	3791	1503	1417	--	1149	1129
36 - 48		1760	1247	2292	1358	1138	--	890	939
48 - 60		884	994	2639	3815	3009	--	726	816
60 - 72		1141	727	3101	10192	9366	--	851	700
72 - 84		1145	507	2459	14625	20174	--	--	559
84 - 96		1399	523	1809	10308	9001	--	--	515
96 - 108		1302	458	2039	9241	6728	--	--	500
108 - 120		1052	499	2246	12008	9599	--	--	450
120 - 132		512	453	2142	7411	7890	--	--	522
132 - 144		1296	446	1829	--	4855	--	--	506
144 - 156		2099	417	552	--	6165	--	--	421
156 - 168		679	376	449	--	14818	--	--	397
168 - 180		535	488	433	--	8649	--	--	NL
180 - 192		698	732	332	--	1029	--	--	--
192 - 204		2334	393	374	--	--	--	--	--
204 - 216		--	410	424	--	--	--	--	--
216 - 228		--	--	474	--	--	--	--	--
228 - 240		--	--	382	--	--	--	--	--
240 - 252		--	--	412	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3b
Downhole Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-116	SB-117	SB-118	SB-119	SB-120	SB-121	SB-122	SB-123
	Sample Date	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00	12/1/00	12/1/00	12/1/00
	Property	MDI	MDI	MDI	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		658	415	352	623	861	617	535	--
0 - 12		1029	1790	1502	1105	3469	2308	--	--
12 - 24		1042	1961	1965	1584	3350	1920	--	--
24 - 36		1320	1961	969	1113	5158	3054	--	--
36 - 48		1322	2719	1115	1080	10268	1926	--	--
48 - 60		1448	3494	1201	1103	3215	1226	--	--
60 - 72		1207	3769	784	1806	3134	1293	--	--
72 - 84		1353	1383	619	1877	2583	2033	--	--
84 - 96		995	2804	750	1127	3191	1411	--	--
96 - 108		757	1052	999	--	1862	1216	649	--
108 - 120		674	642	685	--	--	929	601	--
120 - 132		584	502	--	--	--	709	452	--
132 - 144		517	495	--	--	--	2332	461	--
144 - 156		603	507	--	--	--	3774	680	--
156 - 168		--	430	--	--	--	1555	--	--
168 - 180		--	547	--	--	--	749	--	--
180 - 192		--	441	--	--	--	616	--	--
192 - 204		--	--	--	--	--	--	--	--
204 - 216		--	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

Table 3b
Downhole Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-124	SB-125	SB-126	SB-127	SB-128	SB-129	SB-130	SB-131
	Sample Date	12/1/00	12/1/00	12/8/00	12/7/00	12/7/00	12/1/00	12/6/00	12/7/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0		614	519	--	--	--	--	--	--
0 - 12		3304	1735	--	--	--	--	--	--
12 - 24		2261	1361	--	--	--	--	--	--
24 - 36		1276	895	--	--	--	--	--	--
36 - 48		900	851	--	--	--	--	--	--
48 - 60		865	825	--	--	--	--	--	--
60 - 72		1175	878	--	--	--	--	--	--
72 - 84		1406	877	--	--	--	--	--	--
84 - 96		1255	861	--	--	--	--	--	--
96 - 108		765	893	--	--	--	--	--	--
108 - 120		577	566	--	--	--	--	--	--
120 - 132		646	568	--	--	--	--	--	--
132 - 144		751	801	--	--	--	--	--	--
144 - 156		682	721	--	--	--	--	--	--
156 - 168		600	606	--	--	--	--	--	--
168 - 180		646	505	--	--	--	--	--	--
180 - 192		626	497	--	--	--	--	--	--
192 - 204		815	--	--	--	--	--	--	--
204 - 216		934	--	--	--	--	--	--	--
216 - 228		--	--	--	--	--	--	--	--
228 - 240		--	--	--	--	--	--	--	--
240 - 252		--	--	--	--	--	--	--	--
252 - 264		--	--	--	--	--	--	--	--

TABLE 4a

Soil core radiation field screening alpha/beta data

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-113B	SB-113C	SB-114	SB-115
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		101	159	159	80	--	--	127	143
6 - 12		269	178	119	157	--	--	172	216
12 - 18		279	223	213	326	--	--	280	187
18 - 24		159	338	165	258	--	--	390	181
24 - 30		192	469	227	282	--	--	361	158
30 - 36		125	437	431	150	--	--	147	134
36 - 42		NL	202	328	NL	--	--	134	134
42 - 48		NL	213	NL	NL	--	--	NL	NL
48 - 54		132	322	142	296	--	--	212	131
54 - 60		234	166	137	172	--	--	154	163
60 - 66		130	212	239	153	--	--	198	199
66 - 72		215	174	295	731	--	--	152	188
72 - 78		157	164	300	1157	--	--	145	120
78 - 84		163	158	117	NL	--	--	151	154
84 - 90		220	123	142	NL	--	--	152	131
90 - 96		NL	NL	NL	NL	--	--	116	137
96 - 102		149	167	148	448	--	--	164	165
102 - 108		132	212	146	594	--	--	202	124
108 - 114		171	225	133	564	--	--	299	148
114 - 120		211	107	231	423	--	--	112	161
120 - 126		325	139	313	NL	--	--	169	152
126 - 132		272	141	119	NL	--	--	131	142
132 - 138		275	105	136	NL	--	--	111	173
138 - 144		NL	117	NL	NL	--	--	135	115
144 - 150		212	178	177	579	--	286	87	177
150 - 156		171	178	229	416	--	386	122	191
156 - 162		168	208	136	606	--	346	107	154
162 - 168		147	104	157	2136	--	338	100	121
168 - 174		115	139	113	327	--	464	144	162
174 - 180		176	125	166	NL	--	NL	146	102
180 - 186		236	176	141	NL	--	NL	168	157
186 - 192		198	161	NL	NL	--	NL	133	NL
192 - 198		148	154	168	495	133	--	105	146
198 - 204		230	169	197	224	120	--	NL	130
204 - 210		210	169	159	NL	145	--	172	NL
210 - 216		195	152	159	NL	NL	--	113	NL
216 - 222		183	254	174	NL	--	--	157	NL
222 - 228		109	128	130	NL	--	--	169	NL
228 - 234		177	148	121	NL	--	--	174	NL
234 - 240		131	NL	NL	NL	--	--	173	--
240 - 246		235	123	102	--	--	--	--	--
246 - 252		262	133	178	--	--	--	--	--
252 - 258		204	--	130	--	--	--	--	--
258 - 264		307	--	123	--	--	--	--	--
264 - 270		--	--	119	--	--	--	--	--
270 - 276		--	--	NL	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-116	SB-117	SB-118	SB-119	SB-120	SB-121	SB-122	SB-123
	Sample Date	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00	12/1/00	12/1/00	12/1/00
	Property	MDI	MDI	MDI	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		132	95	112	154	412	145	212	134
6 - 12		177	174	127	201	354	178	106	477
12 - 18		197	84	109	142	251	187	96	176
18 - 24		136	302	185	335	156	219	110	150
24 - 30		110	163	151	156	547	140	129	106
30 - 36		184	301	223	181	NL	NL	NL	107
36 - 42		171	157	137	NL	NL	NL	NL	NL
42 - 48		NL	NL	124	NL	NL	NL	NL	NL
48 - 54		129	254	152	153	1217	490	85	97
54 - 60		191	NL	132	206	1274	154	1047	76
60 - 66		183	NL	144	137	277	127	115	130
66 - 72		143	NL	127	160	286	86	86	91
72 - 78		132	NL	134	178	502	131	147	86
78 - 84		168	NL	110	193	NL	185	116	104
84 - 90		NL	NL	132	155	NL	NL	90	111
90 - 96		NL	NL	NL	171	NL	NL	101	85
96 - 102		182	182	134	100	362	164	109	77
102 - 108		181	233	129	168	1018	175	91	187
108 - 114		145	162	187	128	215	164	90	108
114 - 120		164	154	123	135	274	140	106	141
120 - 126		163	94	122	575	302	154	107	91
126 - 132		124	151	157	149	239	NL	111	99
132 - 138		NL	NL	137	190	300	NL	110	92
138 - 144		NL	NL	158	NL	316	172	122	123
144 - 150		168	139	132	181	292	145	105	126
150 - 156		135	275	126	145	217	143	87	80
156 - 162		103	155	143	207	157	96	67	130
162 - 168		152	177	144	158	197	219	104	86
168 - 174		159	128	120	537	3388	380	125	NL
174 - 180		127	150	146	1273	517	387	110	--
180 - 186		NL	152	128	2980	393	136	NL	--
186 - 192		NL	143	116	NL	257	134	NL	--
192 - 198		169	115	137	--	681	157	--	--
198 - 204		137	135	136	--	215	150	--	--
204 - 210		94	194	132	--	248	150	--	--
210 - 216		120	165	168	--	257	112	--	--
216 - 222		104	114	149	--	303	174	--	--
222 - 228		138	182	130	--	305	148	--	--
228 - 234		127	139	125	--	258	145	--	--
234 - 240		121	NL	123	--	198	126	--	--
240 - 246		--	--	--	--	197	--	--	--
246 - 252		--	--	--	--	165	--	--	--
252 - 258		--	--	--	--	153	--	--	--
258 - 264		--	--	--	--	165	--	--	--
264 - 270		--	--	--	--	NL	--	--	--
270 - 276		--	--	--	--	NL	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-124	SB-125	SB-126	SB-127	SB-128	SB-129	SB-130	SB-131
	Sample Date	12/1/00	12/1/00	12/8/00	12/7/00	12/7/00	12/1/00	12/6/00	12/7/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		207	202	190	802	240	121	95	174
6 - 12		375	126	215	775	216	292	114	200
12 - 18		252	160	239	279	138	224	73	107
18 - 24		120	96	221	220	126	249	214	152
24 - 30		175	103	115	NL	154	222	148	133
30 - 36		95	87	NL	NL	91	136	130	126
36 - 42		133	97	NL	NL	NL	210	115	111
42 - 48		NL	NL	NL	NL	NL	104	125	NL
48 - 54		182	108	132	242	160	75	96	129
54 - 60		109	110	182	147	67	124	84	117
60 - 66		76	76	183	147	84	98	89	124
66 - 72		97	106	146	152	115	125	97	117
72 - 78		124	112	170	166	97	100	102	120
78 - 84		135	126	135	132	123	63	91	106
84 - 90		155	164	127	87	110	NL	95	94
90 - 96		132	122	NL	NL	134	NL	NL	NL
96 - 102		131	140	142	172	97	101	92	147
102 - 108		95	94	196	181	118	131	102	148
108 - 114		179	83	184	125	127	226	109	132
114 - 120		163	137	156	106	129	NL	64	125
120 - 126		147	179	122	169	111	NL	89	112
126 - 132		NL	109	177	153	99	NL	97	102
132 - 138		NL	NL	NL	140	104	NL	114	NL
138 - 144		NL	NL	NL	NL	NL	NL	108	NL
144 - 150		112	106	NL	134	138	118	90	117
150 - 156		161	117	NL	146	146	166	105	108
156 - 162		144	128	NL	184	129	121	117	89
162 - 168		123	78	NL	176	186	101	120	92
168 - 174		123	102	NL	190	106	89	105	72
174 - 180		139	123	NL	254	134	99	95	122
180 - 186		101	189	NL	NL	123	84	103	134
186 - 192		114	116	NL	NL	102	102	NL	122
192 - 198		150	111	--	121	--	--	95	89
198 - 204		148	93	--	135	--	--	116	146
204 - 210		111	112	--	116	--	--	117	134
210 - 216		115	129	--	165	--	--	141	102
216 - 222		115	139	--	142	--	--	NL	129
222 - 228		101	102	--	176	--	--	NL	NL
228 - 234		110	NL	--	176	--	--	NL	NL
234 - 240		131	NL	--	NL	--	--	NL	NL
240 - 246		162	--	--	--	--	--	--	--
246 - 252		188	--	--	--	--	--	--	--
252 - 258		162	--	--	--	--	--	--	--
258 - 264		159	--	--	--	--	--	--	--
264 - 270		99	--	--	--	--	--	--	--
270 - 276		NL	--	--	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-132	SB-133	SB-134	SB-135	SB-136	SB-137	SB-138	SB-139
	Sample Date	12/7/00	12/7/00	12/7/00	12/7/00	12/8/00	12/9/00	12/3/00	12/3/00
	Property	GD	GD	GD	GD	GD	GD	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		177	359	259	256	168	263	85	93
6 - 12		147	147	138	81	231	101	145	147
12 - 18		152	215	149	93	202	166	59	179
18 - 24		134	209	145	82	447	124	104	121
24 - 30		123	141	132	145	402	130	86	61
30 - 36		109	131	76	129	196	143	103	114
36 - 42		NL	126	NL	117	207	NL	118	124
42 - 48		NL	NL	NL	109	NL	NL	142	125
48 - 54		99	89	107	74	215	176	86	--
54 - 60		101	147	88	92	182	168	120	--
60 - 66		117	150	116	125	152	175	69	--
66 - 72		86	135	121	104	136	146	105	--
72 - 78		86	111	117	96	142	111	103	--
78 - 84		117	121	124	110	144	117	113	--
84 - 90		NL	96	132	93	147	126	134	--
90 - 96		NL	NL	NL	NL	NL	121	131	--
96 - 102		--	108	93	84	117	--	93	--
102 - 108		--	136	151	132	244	--	116	--
108 - 114		--	107	112	130	164	--	90	--
114 - 120		--	82	101	110	155	--	90	--
120 - 126		--	NL	77	NL	142	--	96	--
126 - 132		--	NL	NL	NL	126	--	NL	--
132 - 138		--	NL	NL	NL	115	--	NL	--
138 - 144		--	NL	NL	NL	135	--	NL	--
144 - 150		--	82	101	--	--	--	98	--
150 - 156		--	136	93	--	--	--	97	--
156 - 162		--	124	117	--	--	--	86	--
162 - 168		--	107	102	--	--	--	146	--
168 - 174		--	99	135	--	--	--	132	--
174 - 180		--	NL	130	--	--	--	94	--
180 - 186		--	NL	NL	--	--	--	98	--
186 - 192		--	NL	NL	--	--	--	119	--
192 - 198		--	--	--	--	--	--	69	--
198 - 204		--	--	--	--	--	--	77	--
204 - 210		--	--	--	--	--	--	86	--
210 - 216		--	--	--	--	--	--	101	--
216 - 222		--	--	--	--	--	--	99	--
222 - 228		--	--	--	--	--	--	NL	--
228 - 234		--	--	--	--	--	--	--	--
234 - 240		--	--	--	--	--	--	--	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-140	SB-141	SB-142	SB-143	SB-144	SB-144B	SB-145	SB-146
	Sample Date	12/3/00	12/3/00	12/3/00	12/3/00	12/6/00	12/8/00	12/9/00	12/4/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		76	114	104	96	107	154	159	102
6 - 12		152	95	108	103	111	176	280	127
12 - 18		127	116	99	101	146	287	198	97
18 - 24		112	111	102	91	98	190	250	112
24 - 30		146	134	91	84	188	276	202	92
30 - 36		110	121	110	129	180	241	301	88
36 - 42		118	128	NL	144	183	NL	181	NL
42 - 48		NL	113	NL	NL	NL	NL	NL	NL
48 - 54		--	90	98	139	235	223	245	152
54 - 60		--	128	99	91	157	295	519	122
60 - 66		--	115	129	66	267	363	185	139
66 - 72		--	118	132	147	NL	443	175	108
72 - 78		--	134	126	126	--	160	243	114
78 - 84		--	59	90	102	--	NL	169	NL
84 - 90		--	107	116	146	--	NL	382	NL
90 - 96		--	NL	NL	NL	--	NL	NL	NL
96 - 102		--	119	99	99	--	170	295	136
102 - 108		--	116	117	107	--	204	166	102
108 - 114		--	82	107	124	--	221	116	117
114 - 120		--	123	86	85	--	NL	228	119
120 - 126		--	108	NL	90	--	NL	723	92
126 - 132		--	78	NL	81	--	NL	2494	99
132 - 138		--	103	NL	117	--	NL	5293	NL
138 - 144		--	72	NL	85	--	NL	NL	NL
144 - 150		--	145	105	111	--	--	2784	127
150 - 156		--	101	135	116	--	--	3473	119
156 - 162		--	103	129	114	--	--	5726	112
162 - 168		--	97	NL	115	--	--	3676	101
168 - 174		--	92	NL	107	--	--	5364	69
174 - 180		--	99	NL	108	--	--	1090	112
180 - 186		--	88	NL	134	--	--	NL	96
186 - 192		--	NL	NL	124	--	--	NL	155
192 - 198		--	126	137	109	--	--	166	--
198 - 204		--	81	97	122	--	--	142	--
204 - 210		--	104	121	116	--	--	136	--
210 - 216		--	110	102	125	--	--	--	--
216 - 222		--	NL	121	96	--	--	--	--
222 - 228		--	NL	NL	124	--	--	--	--
228 - 234		--	NL	NL	97	--	--	--	--
234 - 240		--	NL	NL	117	--	--	--	--
240 - 246		--	--	91	--	--	--	--	--
246 - 252		--	--	NL	--	--	--	--	--
252 - 258		--	--	NL	--	--	--	--	--
258 - 264		--	--	NL	--	--	--	--	--
264 - 270		--	--	NL	--	--	--	--	--
270 - 276		--	--	**(BT - 26')**	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-146B	SB-146C	SB-147	SB-148	SB-149	SB-150	SB-151	SB-152
	Sample Date	12/4/00	12/4/00	12/6/00	12/4/00	12/4/00	12/4/00	12/4/00	12/4/00
	Property	AT	AT	MDI	AT	AT	AT	AT	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		69	118	122	158	95	79	73	61
6 - 12		143	134	76	117	118	126	900	378
12 - 18		125	108	96	105	152	93	133	165
18 - 24		93	128	124	110	103	195	127	93
24 - 30		107	121	110	151	98	125	151	62
30 - 36		120	99	113	107	118	87	125	112
36 - 42		95	108	131	99	92	92	102	97
42 - 48		NL	NL	100	96	104	103	109	NL
48 - 54		113	110	124	89	116	84	223	123
54 - 60		113	92	83	133	137	85	67	123
60 - 66		93	91	96	111	85	107	90	127
66 - 72		138	108	76	136	138	146	102	92
72 - 78		63	93	118	210	94	97	112	75
78 - 84		117	105	101	184	110	120	135	85
84 - 90		105	92	120	NL	120	NL	110	129
90 - 96		120	NL	79	NL	93	NL	128	99
96 - 102		--	--	124	106	125	120	128	--
102 - 108		--	--	140	130	118	NL	103	--
108 - 114		--	--	117	131	89	NL	91	--
114 - 120		--	--	115	128	106	NL	129	--
120 - 126		--	--	130	NL	80	NL	78	--
126 - 132		--	--	110	NL	89	NL	112	--
132 - 138		--	--	95	NL	92	NL	93	--
138 - 144		--	--	NL	--	88	NL	NL	--
144 - 150		--	--	60	--	97	114	92	--
150 - 156		--	--	126	--	75	101	110	--
156 - 162		--	--	122	--	74	48	101	--
162 - 168		--	--	115	--	79	98	135	--
168 - 174		--	--	124	--	88	93	131	--
174 - 180		--	--	103	--	109	94	114	--
180 - 186		--	--	NL	--	74	NL	114	--
186 - 192		--	--	NL	--	29	NL	NL	--
192 - 198		--	--	85	--	62	--	--	--
198 - 204		--	--	105	--	98	--	--	--
204 - 210		--	--	101	--	82	--	--	--
210 - 216		--	--	96	--	96	--	--	--
216 - 222		--	--	124	--	NL	--	--	--
222 - 228		--	--	84	--	NL	--	--	--
228 - 234		--	--	116	--	NL	--	--	--
234 - 240		--	--	95	--	NL	--	--	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-153	SB-154	SB-155	SB-156	SB-157	SB-158	SB-159	SB-160
	Sample Date	12/4/00	12/4/00	12/6/00	12/6/00	12/6/00	12/8/00	12/6/00	12/8/00
	Property	AT	AT	MDI	MDI	MDI	MDI	MDI	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		113	94	62	126	107	152	124	93
6 - 12		341	182	142	130	179	164	128	194
12 - 18		401	232	106	124	171	213	115	203
18 - 24		196	133	148	165	150	170	108	143
24 - 30		163	143	200	105	115	120	106	125
30 - 36		99	139	167	97	120	130	97	NL
36 - 42		143	129	122	104	116	145	NL	NL
42 - 48		NL	141	87	124	NL	166	NL	NL
48 - 54		97	98	104	124	163	166	132	--
54 - 60		72	94	111	86	102	158	NL	--
60 - 66		137	102	139	110	127	164	NL	--
66 - 72		145	95	124	122	90	161	NL	--
72 - 78		100	119	98	115	128	167	NL	--
78 - 84		105	53	132	106	97	113	NL	--
84 - 90		115	NL	NL	102	117	156	NL	--
90 - 96		147	NL	NL	NL	120	NL	NL	--
96 - 102		--	--	98	148	123	158	222	--
102 - 108		--	--	123	106	105	105	129	--
108 - 114		--	--	115	69	72	109	252	--
114 - 120		--	--	109	84	94	100	136	--
120 - 126		--	--	NL	117	98	117	87	--
126 - 132		--	--	115	98	125	10	154	--
132 - 138		--	--	109	96	NL	135	153	--
138 - 144		--	--	NL	104	NL	123	NL	--
144 - 150		--	--	132	110	135	96	116	--
150 - 156		--	--	125	127	118	130	164	--
156 - 162		--	--	138	134	106	177	154	--
162 - 168		--	--	146	106	111	103	100	--
168 - 174		--	--	126	72	102	136	131	--
174 - 180		--	--	115	110	122	148	114	--
180 - 186		--	--	110	129	108	159	NL	--
186 - 192		--	--	107	126	89	NL	NL	--
192 - 198		--	--	115	112	94	128	115	--
198 - 204		--	--	118	125	124	134	116	--
204 - 210		--	--	93	119	91	157	89	--
210 - 216		--	--	121	115	97	135	110	--
216 - 222		--	--	127	NL	NL	171	132	--
222 - 228		--	--	NL	NL	NL	131	NL	--
228 - 234		--	--	NL	NL	NL	131	NL	--
234 - 240		--	--	NL	NL	NL	NL	NL	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-161	SB-162	SB-163	SB-164	SB-165	SB-166	SB-167	SB-168
	Sample Date	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00
	Property	AT	AT	AT	AT	AT	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		144	114	162	133	137	140	--	285
6 - 12		300	1302	187	686	282	197	--	138
12 - 18		170	145	1754	287	258	370	--	190
18 - 24		161	133	1602	154	168	375	--	NL
24 - 30		136	167	565	167	122	387	--	--
30 - 36		105	117	165	145	105	532	--	--
36 - 42		93	173	138	142	151	340	--	--
42 - 48		94	148	154	114	169	245	--	--
48 - 54		--	--	--	--	--	301	--	--
54 - 60		--	--	--	--	--	656	--	--
60 - 66		--	--	--	--	--	763	--	--
66 - 72		--	--	--	--	--	535	--	--
72 - 78		--	--	--	--	--	509	--	--
78 - 84		--	--	--	--	--	NL	--	--
84 - 90		--	--	--	--	--	NL	--	--
90 - 96		--	--	--	--	--	NL	--	--
96 - 102		--	--	--	--	--	358	--	--
102 - 108		--	--	--	--	--	832	--	--
108 - 114		--	--	--	--	--	1175	--	--
114 - 120		--	--	--	--	--	878	--	--
120 - 126		--	--	--	--	--	671	--	--
126 - 132		--	--	--	--	--	344	--	--
132 - 138		--	--	--	--	--	NL	--	--
138 - 144		--	--	--	--	--	NL	--	--
144 - 150		--	--	--	--	--	681	--	--
150 - 156		--	--	--	--	--	363	--	--
156 - 162		--	--	--	--	--	232	--	--
162 - 168		--	--	--	--	--	321	--	--
168 - 174		--	--	--	--	--	438	--	--
174 - 180		--	--	--	--	--	370	--	--
180 - 186		--	--	--	--	--	224	--	--
186 - 192		--	--	--	--	--	150	--	--
192 - 198		--	--	--	--	--	285	--	--
198 - 204		--	--	--	--	--	327	--	--
204 - 210		--	--	--	--	--	150	--	--
210 - 216		--	--	--	--	--	NL	--	--
216 - 222		--	--	--	--	--	NL	--	--
222 - 228		--	--	--	--	--	NL	--	--
228 - 234		--	--	--	--	--	NL	169	--
234 - 240		--	--	--	--	--	NL	155	--
240 - 246		--	--	--	--	--	--	141	--
246 - 252		--	--	--	--	--	--	162	--
252 - 258		--	--	--	--	--	--	175	--
258 - 264		--	--	--	--	--	--	167	--
264 - 270		--	--	--	--	--	--	NL	--
270 - 276		--	--	--	--	--	--	NL	--

Table 4a
Soil Core Radiation Field Screening
Alpha / Beta Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-169	SB-170						
	Sample Date	12/9/00	12/9/00						
	Property	MDI	GD						
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		1487	155						
6 - 12		373	167						
12 - 18			195						
18 - 24			156						
24 - 30			149						
30 - 36			132						
36 - 42			144						
42 - 48			NL						
48 - 54			208						
54 - 60			263						
60 - 66			618						
66 - 72			841						
72 - 78			421						
78 - 84			NL						
84 - 90			NL						
90 - 96			NL						
96 - 102			602						
102 - 108			326						
108 - 114			653						
114 - 120			1102						
120 - 126			1431						
126 - 132			NL						
132 - 138			NL						
138 - 144			NL						
144 - 150			511						
150 - 156			398						
156 - 162			1519						
162 - 168			280						
168 - 174			178						
174 - 180			162						
180 - 186			212						
186 - 192			NL						
192 - 198			152						
198 - 204			185						
204 - 210			NL						
210 - 216			NL						
216 - 222			NL						
222 - 228			NL						
228 - 234			NL						
234 - 240			NL						
240 - 246			--						
246 - 252									
252 - 258									
258 - 264									
264 - 270									
270 - 276									

TABLE 4b

Soil core radiation field screening gamma data

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-113B	SB-113C	SB-114	SB-115
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		2879	2803	3013	2948	--	--	3140	3074
6 - 12		3141	2987	2962	3013	--	--	3161	3277
12 - 18		3313	3086	3128	3254	--	--	3216	3252
18 - 24		2993	3531	3279	220	--	--	3500	3254
24 - 30		2907	3753	3437	3301	--	--	3517	3163
30 - 36		2970	3631	3690	2977	--	--	3038	3017
36 - 42		NL	3162	3382	NL	--	--	3103	299
42 - 48		NL	2992	NL	NL	--	--	NL	NL
48 - 54		3136	3126	3084	3128	--	--	3109	3190
54 - 60		3064	3017	3092	3027	--	--	3027	3102
60 - 66		2940	2893	3234	3128	--	--	3131	3141
66 - 72		2977	2968	3275	3924	--	--	3140	3110
72 - 78		3066	2908	3259	4037	--	--	3094	3066
78 - 84		2835	3035	3081	NL	--	--	3110	2979
84 - 90		3021	2910	3129	NL	--	--	3109	3030
90 - 96		NL	NL	NL	NL	--	--	2922	2875
96 - 102		2891	2959	2963	3463	--	--	3032	3028
102 - 108		2919	3047	3119	4148	--	--	3104	3001
108 - 114		2973	3045	3153	3560	--	--	3199	3056
114 - 120		2920	2868	3125	3375	--	--	3052	3079
120 - 126		2967	2858	3182	NL	--	--	2923	3066
126 - 132		3115	2976	3161	NL	--	--	2971	2881
132 - 138		3034	2936	3125	NL	--	--	2898	2928
138 - 144		NL	2843	NL	NL	--	--	2992	2920
144 - 150		3096	2827	3103	4159	--	3870	3014	3024
150 - 156		3062	3050	3061	3848	--	3875	3004	3019
156 - 162		2999	2973	2946	6070	--	3446	3081	3042
162 - 168		2934	2880	2916	7214	--	3533	3159	3024
168 - 174		2956	2866	3010	4302	--	3616	3016	3120
174 - 180		2900	2922	2889	NL	--	NL	3067	3024
180 - 186		3027	2834	2907	NL	--	NL	2979	2962
186 - 192		2907	2940	NL	NL	--	NL	3027	NL
192 - 198		2900	3068	2920	3557	3114	--	2987	2970
198 - 204		3017	2958	3119	3240	3061	--	NL	3033
204 - 210		3065	3028	2979	NL	3037	--	3039	--
210 - 216		3074	3038	2856	NL	NL	--	3121	--
216 - 222		2873	3110	2932	NL	--	--	3052	--
222 - 228		2919	2906	2915	NL	--	--	3040	--
228 - 234		2896	2846	2827	NL	--	--	2992	--
234 - 240		2903	NL	NL	NL	--	--	3048	--
240 - 246		3083	2908	2910	--	--	--	--	--
246 - 252		2942	2886	2937	--	--	--	--	--
252 - 258		3101	--	2875	--	--	--	--	--
258 - 264		3040	--	2988	--	--	--	--	--
264 - 270		--	--	2947	--	--	--	--	--
270 - 276		--	--	NL	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-116	SB-117	SB-118	SB-119	SB-120	SB-121	SB-122	SB-123
	Sample Date	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00	12/1/00	12/1/00	12/1/00
	Property	MDI	MDI	MDI	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		3095	2980	3109	2926	3528	3021	2924	2930
6 - 12		2982	3215	3292	2692	3392	3250	2897	3273
12 - 18		3089	3065	3061	2992	3541	3059	2795	2988
18 - 24		3203	3250	3193	3051	3423	3109	2806	2974
24 - 30		3101	3237	3267	2893	3933	3013	2773	2892
30 - 36		3107	3217	3127	3001	NL	NL	NL	2888
36 - 42		3035	3061	3136	NL	NL	NL	NL	NL
42 - 48		NL	NL	3097	NL	NL	NL	NL	NL
48 - 54		3053	3096	2985	2877	3920	2997	2878	2919
54 - 60		3038	NL	3130	2989	4217	2880	2759	2857
60 - 66		3103	NL	3149	2939	3431	2781	2969	2808
66 - 72		3147	NL	3035	2988	3197	2949	2857	2852
72 - 78		3026	NL	3058	3053	3354	3037	2891	2869
78 - 84		3041	NL	3083	3036	NL	2941	2863	2894
84 - 90		NL	NL	3025	3034	NL	NL	2877	2884
90 - 96		NL	NL	NL	2963	NL	NL	2701	2845
96 - 102		3042	3177	3101	2938	3139	2912	2840	2733
102 - 108		3153	3203	2986	3019	3577	2982	2887	2977
108 - 114		3085	3090	2997	2982	3122	2867	2749	2920
114 - 120		2999	3077	3177	2986	3158	2864	2682	2850
120 - 126		2888	2892	3052	3122	3090	3093	2818	2876
126 - 132		3113	2924	3003	2952	3127	NL	2751	2792
132 - 138		NL	NL	2980	3039	3364	NL	2878	2844
138 - 144		NL	NL	3123	NL	3279	2948	2807	2795
144 - 150		3031	3047	3075	2978	3076	3210	2789	2778
150 - 156		3035	3167	3029	2958	3259	3061	2739	2818
156 - 162		3054	2990	3042	2953	3651	3037	2853	2802
162 - 168		2990	2997	3026	3115	3598	3188	2839	2854
168 - 174		2990	3042	2990	3520	6299	3297	2757	NL
174 - 180		2986	2951	3023	3745	3871	3247	2718	--
180 - 186		NL	3009	3047	5656	3423	2877	NL	--
186 - 192		NL	3043	3060	NL	3425	2981	NL	--
192 - 198		3120	2864	2961	--	3470	2917	--	--
198 - 204		3097	2971	2904	--	3186	3124	--	--
204 - 210		3064	3146	2968	--	3166	2822	--	--
210 - 216		2924	2982	3046	--	3130	2846	--	--
216 - 222		3037	3011	2998	--	3240	2979	--	--
222 - 228		2925	2966	3011	--	3295	2871	--	--
228 - 234		3088	2912	2598	--	3034	2951	--	--
234 - 240		3070	NL	2968	--	2935	2916	--	--
240 - 246		--	--	--	--	2968	--	--	--
246 - 252		--	--	--	--	2792	--	--	--
252 - 258		--	--	--	--	2914	--	--	--
258 - 264		--	--	--	--	2912	--	--	--
264 - 270		--	--	--	--	NL	--	--	--
270 - 276		--	--	--	--	NL	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-124	SB-125	SB-126	SB-127	SB-128	SB-129	SB-130	SB-131
	Sample Date	12/1/00	12/1/00	12/8/00	12/7/00	12/7/00	12/1/00	12/6/00	12/7/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		3209	2897	3091	4155	3308	3001	2929	3326
6 - 12		4166	3038	3229	4328	3410	3359	2869	3191
12 - 18		3365	3101	3241	3468	3145	3373	2966	3081
18 - 24		3124	2977	3041	3211	3010	305*9	3185	3042
24 - 30		3083	2971	3000	NL	3028	3111	2981	3088
30 - 36		3057	2847	NL	NL	2980	3037	2815	2996
36 - 42		2979	2941	NL	NL	NL	3021	2868	2957
42 - 48		NL	NL	NL	NL	NL	2821	2899	NL
48 - 54		2977	2918	2843	3184	3077	2743	2875	2972
54 - 60		2871	2873	3017	2930	3085	2821	2852	2942
60 - 66		2893	2909	2871	2917	2909	2746	2807	3027
66 - 72		2949	2864	2856	3017	2975	2938	2824	3033
72 - 78		2974	2862	2820	3066	2923	2915	2800	3012
78 - 84		3062	2907	2862	2935	2906	2837	2832	3054
84 - 90		2953	2911	2894	3031	2963	NL	2849	2973
90 - 96		3027	2856	NL	NL	2981	NL	NL	NL
96 - 102		2920	2881	2927	3137	2916	2792	2978	2982
102 - 108		2913	2913	2956	3073	3102	2993	2934	2952
108 - 114		3075	2768	2983	2981	3303	2999	2851	2946
114 - 120		2952	2915	2932	3110	3026	NL	2894	2915
120 - 126		2831	2985	2901	3049	2952	NL	2838	2869
126 - 132		NL	2954	2917	2961	2895	NL	2907	3052
132 - 138		NL	NL	NL	3079	2868	NL	2862	NL
138 - 144		NL	NL	NL	NL	NL	NL	2827	NL
144 - 150		2767	2906	NL	3036	3046	3010	2893	2981
150 - 156		2749	2788	NL	3103	3215	3043	2875	2969
156 - 162		2984	2930	NL	3212	3361	2903	2899	3062
162 - 168		2769	2937	NL	3103	3025	2899	2842	2975
168 - 174		2768	2823	NL	3114	3011	2850	2936	3000
174 - 180		2800	2841	NL	3125	2931	2756	2876	2983
180 - 186		2837	2949	NL	NL	2900	2807	2864	2961
186 - 192		2908	2858	NL	NL	2792	2813	NL	2910
192 - 198		3019	2790	--	2942	--	--	2838	2960
198 - 204		2936	2891	--	3015	--	--	2876	3054
204 - 210		2812	2795	--	3121	--	--	2844	3029
210 - 216		2859	2854	--	3148	--	--	3007	3060
216 - 222		2913	2715	--	3111	--	--	NL	3001
222 - 228		2871	2810	--	3026	--	--	NL	NL
228 - 234		2923	NL	--	3154	--	--	NL	NL
234 - 240		2869	NL	--	NL	--	--	NL	NL
240 - 246		2840	--	--	--	--	--	--	--
246 - 252		2985	--	--	--	--	--	--	--
252 - 258		2919	--	--	--	--	--	--	--
258 - 264		2890	--	--	--	--	--	--	--
264 - 270		2897	--	--	--	--	--	--	--
270 - 276		NL	--	--	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-132	SB-133	SB-134	SB-135	SB-136	SB-137	SB-138	SB-139
	Sample Date	12/7/00	12/7/00	12/7/00	12/7/00	12/8/00	12/9/00	12/3/00	12/3/00
	Property	GD	GD	GD	GD	GD	GD	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		3199	3540	3169	3161	2897	3059	2914	2849
6 - 12		3076	3697	2980	2926	2970	2874	2965	3161
12 - 18		3022	3309	3078	2973	3010	3035	2996	3153
18 - 24		3058	3174	3076	3141	3464	2989	2937	3181
24 - 30		3150	3007	3004	3149	3315	3073	2995	3070
30 - 36		2991	2927	3074	3075	2976	2917	3072	2969
36 - 42		NL	2950	NL	3042	2952	NL	3059	3076
42 - 48		NL	NL	NL	2910	NL	NL	2913	2969
48 - 54		2959	2975	3113	2863	2943	3046	2863	--
54 - 60		3066	3015	2904	2942	2901	2902	3011	--
60 - 66		3047	2932	2915	3066	2883	2871	2942	--
66 - 72		2943	2962	2972	3026	2842	2911	2929	--
72 - 78		3022	2998	2935	2947	2953	2946	2926	--
78 - 84		2948	3010	2971	2932	2925	2927	2948	--
84 - 90		NL	2971	3012	2960	2930	2879	2804	--
90 - 96		NL	NL	NL	NL	NL	2899	2965	--
96 - 102		--	3023	3006	2974	2995	--	2872	--
102 - 108		--	2987	3019	3002	3009	--	2825	--
108 - 114		--	2930	2973	3027	2962	--	2923	--
114 - 120		--	3134	2879	2899	2950	--	2933	--
120 - 126		--	NL	2944	NL	2896	--	2930	--
126 - 132		--	NL	NL	NL	2904	--	NL	--
132 - 138		--	NL	NL	NL	2891	--	NL	--
138 - 144		--	NL	NL	NL	2910	--	NL	--
144 - 150		--	3134	2967	--	--	--	2828	--
150 - 156		--	2992	2982	--	--	--	3029	--
156 - 162		--	2889	2976	--	--	--	2891	--
162 - 168		--	2816	2954	--	--	--	2808	--
168 - 174		--	2845	2936	--	--	--	2868	--
174 - 180		--	NL	2983	--	--	--	2878	--
180 - 186		--	NL	NL	--	--	--	2914	--
186 - 192		--	NL	NL	--	--	--	2902	--
192 - 198		--	--	--	--	--	--	2815	--
198 - 204		--	--	--	--	--	--	2814	--
204 - 210		--	--	--	--	--	--	2975	--
210 - 216		--	--	--	--	--	--	2814	--
216 - 222		--	--	--	--	--	--	2956	--
222 - 228		--	--	--	--	--	--	NL	--
228 - 234		--	--	--	--	--	--	--	--
234 - 240		--	--	--	--	--	--	--	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-140	SB-141	SB-142	SB-143	SB-144	SB-144B	SB-145	SB-146
	Sample Date	12/3/00	12/3/00	12/3/00	12/3/00	12/6/00	12/8/00	12/9/00	12/4/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		2920	2819	2916	2910	2885	2958	2873	2936
6 - 12		3169	2857	2896	2939	2884	3176	3179	3058
12 - 18		3094	2898	2828	2834	3120	3189	3150	2931
18 - 24		3098	2958	2968	2981	3057	3234	3175	3006
24 - 30		2968	2955	3018	2979	3218	3347	3044	2912
30 - 36		2882	2977	2887	2972	3215	3351	3638	2972
36 - 42		2955	2925	NL	3019	3117	NL	3149	NL
42 - 48		NL	2806	NL	NL	NL	NL	NL	NL
48 - 54		--	2876	2888	2966	3276	3195	3228	2953
54 - 60		--	3029	2919	3029	3028	3290	4214	2936
60 - 66		--	2863	2976	2860	3153	3482	3234	3029
66 - 72		--	2958	2946	2989	NL	3286	2988	2961
72 - 78		--	2958	2995	2774	--	3064	2917	2893
78 - 84		--	2802	2889	2855	--	NL	2849	NL
84 - 90		--	2823	2907	2923	--	NL	3021	NL
90 - 96		--	NL	NL	NL	--	NL	NL	NL
96 - 102		--	2902	2929	2862	--	3111	3158	2939
102 - 108		--	2904	2846	2959	--	3169	3098	2855
108 - 114		--	2956	2975	2917	--	3119	3093	2899
114 - 120		--	2854	2966	2903	--	NL	4600	2800
120 - 126		--	2826	NL	2862	--	NL	6456	3031
126 - 132		--	2717	NL	2809	--	NL	7567	2966
132 - 138		--	2713	NL	2843	--	NL	9274	NL
138 - 144		--	2692	NL	2863	--	NL	NL	NL
144 - 150		--	2915	2887	2879	--	--	5961	2860
150 - 156		--	2815	2899	2905	--	--	687	3033
156 - 162		--	2795	2890	2840	--	--	8837	2848
162 - 168		--	2761	NL	2872	--	--	7026	2872
168 - 174		--	2747	NL	2821	--	--	7696	2860
174 - 180		--	2943	NL	2857	--	--	4889	2876
180 - 186		--	2788	NL	2860	--	--	NL	2925
186 - 192		--	NL	NL	2910	--	--	NL	2913
192 - 198		--	2629	2857	2826	--	--	2941	--
198 - 204		--	2761	2802	2944	--	--	2911	--
204 - 210		--	2709	2978	2960	--	--	2839	--
210 - 216		--	2709	2943	2912	--	--	--	--
216 - 222		--	NL	2868	2829	--	--	--	--
222 - 228		--	NL	NL	2853	--	--	--	--
228 - 234		--	NL	NL	2823	--	--	--	--
234 - 240		--	NL	NL	2888	--	--	--	--
240 - 246		--	--	2933	--	--	--	--	--
246 - 252		--	--	NL	--	--	--	--	--
252 - 258		--	--	NL	--	--	--	--	--
258 - 264		--	--	NL	--	--	--	--	--
264 - 270		--	--	NL	--	--	--	--	--
270 - 276		--	--	**(BT - 26')**	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-146B	SB-146C	SB-147	SB-148	SB-149	SB-150	SB-151	SB-152
	Sample Date	12/4/00	12/4/00	12/6/00	12/4/00	12/4/00	12/4/00	12/4/00	12/4/00
	Property	AT	AT	MDI	AT	AT	AT	AT	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		2857	3021	2739	2991	2898	2093	3135	3219
6 - 12		2947	2929	2936	2989	2991	3257	5639	5778
12 - 18		3024	3014	2848	3057	2898	3241	3410	3340
18 - 24		3024	2962	2855	3189	2929	3284	3394	3114
24 - 30		3104	2954	2896	2998	2843	3044	3427	2905
30 - 36		2963	3082	2959	2878	2843	2990	3030	2887
36 - 42		2830	3029	3011	2977	2884	3020	2962	2928
42 - 48		NL	NL	2962	2825	2877	2909	2979	NL
48 - 54		2916	2880	2865	2943	2725	2896	3553	2731
54 - 60		2813	2863	2852	2890	2910	2847	2825	2905
60 - 66		2894	2855	2864	3102	3013	2969	2999	2873
66 - 72		2932	2926	2875	2946	3022	2952	2853	2861
72 - 78		2902	2839	2864	3129	2936	2836	2971	2857
78 - 84		2935	2978	2973	3162	3057	2914	2848	2862
84 - 90		3028	2871	2824	NL	2827	NL	2810	2874
90 - 96		3014	NL	2820	NL	2853	NL	2846	3012
96 - 102		--	--	2849	2978	2838	2909	2954	--
102 - 108		--	--	2744	3174	2895	NL	2926	--
108 - 114		--	--	2789	3063	2852	NL	2860	--
114 - 120		--	--	2874	2910	2830	NL	2874	--
120 - 126		--	--	2926	NL	2842	NL	2783	--
126 - 132		--	--	2852	NL	2848	NL	2752	--
132 - 138		--	--	2742	NL	2704	NL	2847	--
138 - 144		--	--	NL	--	2778	NL	NL	--
144 - 150		--	--	2865	--	2797	2890	2825	--
150 - 156		--	--	2853	--	2820	2898	2817	--
156 - 162		--	--	2800	--	2894	3008	3002	--
162 - 168		--	--	2910	--	2903	2815	2885	--
168 - 174		--	--	2902	--	2824	2825	2834	--
174 - 180		--	--	2780	--	2858	2890	2800	--
180 - 186		--	--	NL	--	2777	NL	2825	--
186 - 192		--	--	NL	--	2800	NL	NL	--
192 - 198		--	--	2824	--	2902	--	--	--
198 - 204		--	--	2767	--	2818	--	--	--
204 - 210		--	--	2752	--	2826	--	--	--
210 - 216		--	--	2740	--	2919	--	--	--
216 - 222		--	--	2699	--	NL	--	--	--
222 - 228		--	--	2881	--	NL	--	--	--
228 - 234		--	--	2897	--	NL	--	--	--
234 - 240		--	--	2808	--	NL	--	--	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-153	SB-154	SB-155	SB-156	SB-157	SB-158	SB-159	SB-160
	Sample Date	12/4/00	12/4/00	12/6/00	12/6/00	12/6/00	12/8/00	12/6/00	12/8/00
	Property	AT	AT	MDI	MDI	MDI	MDI	MDI	AT
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		3158	2867	2776	2944	2809	3094	2940	3033
6 - 12		3748	3165	2983	3003	2953	3066	2878	3025
12 - 18		4122	3873	2907	3238	3021	2976	2854	2933
18 - 24		3545	3159	3000	3170	2951	3048	2913	2953
24 - 30		3330	3089	2946	2993	2912	3052	2929	3053
30 - 36		3170	2984	2955	2897	3063	2995	3128	NL
36 - 42		3033	2988	2942	2878	2899	2896	NL	NL
42 - 48		NL	3001	2968	2857	NL	2883	NL	NL
48 - 54		3015	2930	2972	2838	2885	3010	3102	--
54 - 60		3004	2835	2865	2855	2707	2845	NL	--
60 - 66		2917	2919	2875	2914	2863	2662	NL	--
66 - 72		3039	2976	2750	2861	2860	2942	NL	--
72 - 78		2947	2862	2828	2942	2861	2926	NL	--
78 - 84		2873	2954	3004	2906	2821	3006	NL	--
84 - 90		2891	NL	NL	2945	2938	3060	NL	--
90 - 96		2944	NL	NL	NL	2925	NL	NL	--
96 - 102		--	--	2961	2941	2784	2964	3160	--
102 - 108		--	--	2962	2925	2851	3100	3551	--
108 - 114		--	--	2954	2907	2974	2879	5336	--
114 - 120		--	--	2997	2896	2904	3005	3120	--
120 - 126		--	--	NL	2952	2999	2911	3067	--
126 - 132		--	--	2765	2846	2990	3007	3041	--
132 - 138		--	--	2838	2805	NL	2915	3097	--
138 - 144		--	--	NL	2799	NL	2847	NL	--
144 - 150		--	--	2868	2822	2808	2952	3085	--
150 - 156		--	--	2834	2834	2781	2986	3135	--
156 - 162		--	--	2845	2865	2832	2988	3257	--
162 - 168		--	--	2807	2873	2946	2969	3021	--
168 - 174		--	--	2815	2771	2896	3078	2933	--
174 - 180		--	--	2818	2848	2911	3035	2996	--
180 - 186		--	--	2871	2730	2734	2949	NL	--
186 - 192		--	--	2873	2863	2758	NL	NL	--
192 - 198		--	--	2895	2870	2883	2871	2847	--
198 - 204		--	--	2742	2901	2855	2968	2916	--
204 - 210		--	--	2737	2841	2772	2952	2779	--
210 - 216		--	--	2774	2875	2864	3011	2879	--
216 - 222		--	--	2793	NL	NL	2947	2850	--
222 - 228		--	--	NL	NL	NL	2940	NL	--
228 - 234		--	--	NL	NL	NL	2886	NL	--
234 - 240		--	--	NL	NL	NL	NL	NL	--
240 - 246		--	--	--	--	--	--	--	--
246 - 252		--	--	--	--	--	--	--	--
252 - 258		--	--	--	--	--	--	--	--
258 - 264		--	--	--	--	--	--	--	--
264 - 270		--	--	--	--	--	--	--	--
270 - 276		--	--	--	--	--	--	--	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-161	SB-162	SB-163	SB-164	SB-165	SB-166	SB-167	SB-168
	Sample Date	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00	12/8/00
	Property	AT	AT	AT	AT	AT	MDI	MDI	MDI
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		2987	3090	2918	3085	2953	3014	--	2936
6 - 12		3270	3771	3278	3442	3167	3221	--	2756
12 - 18		3136	3093	4199	3306	3239	4009	--	2835
18 - 24		3091	3080	4808	3194	3104	4093	--	NL
24 - 30		3059	3097	3840	3171	3153	4181	--	--
30 - 36		2974	3108	3266	3080	3086	4274	--	--
36 - 42		2956	2977	3034	3054	3022	3705	--	--
42 - 48		2883	2982	2958	3112	2897	3140	--	--
48 - 54		--	--	--	--	--	3424	--	--
54 - 60		--	--	--	--	--	4383	--	--
60 - 66		--	--	--	--	--	5964	--	--
66 - 72		--	--	--	--	--	4103	--	--
72 - 78		--	--	--	--	--	3304	--	--
78 - 84		--	--	--	--	--	NL	--	--
84 - 90		--	--	--	--	--	NL	--	--
90 - 96		--	--	--	--	--	NL	--	--
96 - 102		--	--	--	--	--	3411	--	--
102 - 108		--	--	--	--	--	4047	--	--
108 - 114		--	--	--	--	--	4267	--	--
114 - 120		--	--	--	--	--	4011	--	--
120 - 126		--	--	--	--	--	3819	--	--
126 - 132		--	--	--	--	--	3379	--	--
132 - 138		--	--	--	--	--	NL	--	--
138 - 144		--	--	--	--	--	NL	--	--
144 - 150		--	--	--	--	--	3805	--	--
150 - 156		--	--	--	--	--	3899	--	--
156 - 162		--	--	--	--	--	3392	--	--
162 - 168		--	--	--	--	--	3297	--	--
168 - 174		--	--	--	--	--	3326	--	--
174 - 180		--	--	--	--	--	3257	--	--
180 - 186		--	--	--	--	--	3109	--	--
186 - 192		--	--	--	--	--	2901	--	--
192 - 198		--	--	--	--	--	3592	--	--
198 - 204		--	--	--	--	--	3219	--	--
204 - 210		--	--	--	--	--	2970	--	--
210 - 216		--	--	--	--	--	NL	--	--
216 - 222		--	--	--	--	--	NL	--	--
222 - 228		--	--	--	--	--	NL	--	--
228 - 234		--	--	--	--	--	NL	2854	--
234 - 240		--	--	--	--	--	NL	2856	--
240 - 246		--	--	--	--	--	--	2901	--
246 - 252		--	--	--	--	--	--	2873	--
252 - 258		--	--	--	--	--	--	2920	--
258 - 264		--	--	--	--	--	--	2943	--
264 - 270		--	--	--	--	--	--	NL	--
270 - 276		--	--	--	--	--	--	NL	--

Table 4b
Soil Core Radiation Field Screening
Gamma Data
Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Sample ID	SB-169	SB-170						
	Sample Date	12/9/00	12/9/00						
	Property	MDI	GD						
Depth (in.)	Units	c/min	c/min	c/min	c/min	c/min	c/min	c/min	c/min
0 - 6		3172	2962						
6 - 12		3096	2956						
12 - 18			2941						
18 - 24			2902						
24 - 30			3252						
30 - 36			2969						
36 - 42			2932						
42 - 48			NL						
48 - 54			3122						
54 - 60			3255						
60 - 66			4757						
66 - 72			6808						
72 - 78			4622						
78 - 84			NL						
84 - 90			NL						
90 - 96			NL						
96 - 102			3618						
102 - 108			3659						
108 - 114			4072						
114 - 120			4186						
120 - 126			4335						
126 - 132			NL						
132 - 138			NL						
138 - 144			NL						
144 - 150			3581						
150 - 156			3641						
156 - 162			4461						
162 - 168			3168						
168 - 174			2938						
174 - 180			2972						
180 - 186			2979						
186 - 192			NL						
192 - 198			2946						
198 - 204			3004						
204 - 210			NL						
210 - 216			NL						
216 - 222			NL						
222 - 228			NL						
228 - 234			NL						
234 - 240			NL						
240 - 246			--						
246 - 252									
252 - 258									
258 - 264									
264 - 270									
270 - 276									

TABLE 5

Air Techniques
soil boring description

Table 5
Air Techniques, Inc. Soil Boring Description

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

Boring	Basis for Location	Property
SB-146a	Evaluate the presence of radionuclides in the shallow soils or surfaces near SB-005	Air Techniques, Inc.
SB-146b	Evaluate the presence of radionuclides in the shallow soils or surfaces near SB-005	Air Techniques, Inc.
SB-146c	Evaluate the presence of radionuclides in the shallow soils or surfaces near SB-005	Air Techniques, Inc.
SB-148	Evaluate the subsurface conditions associated with historic leaching pool near SB-002.	Air Techniques, Inc.
SB-149	Evaluate the subsurface conditions associated with historic leaching pool near SB-002.	Air Techniques, Inc.
SB-150	Evaluate the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-151	Evaluate the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-152	Evaluate the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-153	Evaluate the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-154	Evaluate the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-160	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-161	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-162	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-163	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-164	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.
SB-165	Further define the vertical and lateral extent of radionuclides near SB-003	Air Techniques, Inc.

TABLE 6

Magazine Distributors soil boring description

Table 6
Former Gilbert Displays Soil Boring Description

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

Boring	Basis for Location	Property
GT-1	Advance a boring to obtain geotechnical Site specific information.	Former Gilbert Displays
GT-2	Advance a boring to obtain geotechnical Site specific information.	Former Gilbert Displays
SB-110	Evaluate the subsurface conditions associated with a historic leaching pool.	Former Gilbert Displays
SB-111	Evaluate the subsurface conditions associated with a historic leaching pool.	Former Gilbert Displays
SB-119	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-120	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-121	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-122	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-123	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-124	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-125	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-126	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-127	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-128	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-129	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-130	Evaluate the subsurface conditions associated with a historic leaching pool.	Former Gilbert Displays
SB-131	Evaluate the subsurface conditions associated with a historic leaching pool.	Former Gilbert Displays
SB-132	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-133	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-134	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-135	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-136	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-137	Evaluate concentrations of process residuals beneath the building.	Former Gilbert Displays
SB-170	Further define concentrations of contaminants previously detected near SB-054	Former Gilbert Displays

TABLE 7

Former Gilbert Displays soil boring description

Table 7
Magazine Distributors, Inc. Soil Boring Description

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

Boring	Basis for Location	Property
SB-112	Further define concentrations of Nickel near SB-074	Magazine Distributors, Inc.
SB-113	Further define concentrations of contaminants near SB-071	Magazine Distributors, Inc.
SB-113b	Collect a discrete sample adjacent to SB-113.	Magazine Distributors, Inc.
SB-113c	Collect a discrete sample adjacent to SB-113.	Magazine Distributors, Inc.
SB-114	Further define concentrations of contaminants near SB-074	Magazine Distributors, Inc.
SB-115	Additional sample location used to evaluate the potential presence of process residuals.	Magazine Distributors, Inc.
SB-116	Additional sample location used to evaluate the potential presence of process residuals.	Magazine Distributors, Inc.
SB-117	Evaluate the suspected sediment layer in the former leaching pool locations near SB-75.	Magazine Distributors, Inc.
SB-118	Evaluate the suspected sediment layer in the former leaching pool locations near SB-76.	Magazine Distributors, Inc.
SB-138	Evaluate elevated PID reading in SB-085b	Magazine Distributors, Inc.
SB-139	Evaluate the presence of PCBs in the shallow soils near the former transformers.	Magazine Distributors, Inc.
SB-140	Evaluate the presence of PCBs in the shallow soils near the former transformers.	Magazine Distributors, Inc.
SB-141	Evaluate the subsurface conditions associated with historic leaching pool #4.	Magazine Distributors, Inc.
SB-142	Evaluate the subsurface conditions associated with historic leaching pool #7.	Magazine Distributors, Inc.
SB-143	Evaluate the subsurface conditions associated with historic leaching pool #8.	Magazine Distributors, Inc.
SB-144	Evaluate the presence of PCBs in the shallow soils.	Magazine Distributors, Inc.
SB-144 (a)	Confirm the downhole radiation readings in SB-144	Magazine Distributors, Inc.
SB-145	Evaluate the subsurface conditions associated with a historic leaching pool.	Magazine Distributors, Inc.
SB-147	Further define concentrations of contaminants near SB-83.	Magazine Distributors, Inc.
SB-155	Further define concentrations of contaminants near SB-064 (southeast of the former reservoir).	Magazine Distributors, Inc.
SB-156	Further define concentrations of contaminants near SB-064 (southeast of the former reservoir).	Magazine Distributors, Inc.
SB-157	Further define concentrations of contaminants near SB-064 (southeast of the former reservoir).	Magazine Distributors, Inc.
SB-158	Evaluate the subsurface conditions associated with a historic leaching pool southeast of SB-91.	Magazine Distributors, Inc.
SB-159	Further define concentrations of contaminants east of and between 77 and 82.	Magazine Distributors, Inc.
SB-166	Evaluate the subsurface conditions associated with a historic leaching pool.	Magazine Distributors, Inc.
SB-167	Evaluate the presence of PCBs and metals in two soil depths near SB-079.	Magazine Distributors, Inc.
SB-168	Further define the vertical and lateral extent of radionuclides near SB-145.	Magazine Distributors, Inc.
SB-169	Further define the vertical and lateral extent of radionuclides near SB-145.	Magazine Distributors, Inc.

TABLE 8

Ground water elevation summary

Table 8
Ground Water Elevation Summary

Former Sylvania Electric Products Inc. Facility
Hicksville, New York

Date Gauged	Well ID	Well Depth	Top Of Casing Elevation	DTW	Water Elevation	pH	Screen Setting	Date of Installation	Location
--	MW-1*	--	--	--	--	--	--	--	Gilbert Displays
--	MW-2*	--	--	--	--	--	--	--	Gilbert Displays
--	MW-3*	--	--	--	--	--	--	--	Gilbert Displays
12/5/00	MW-01	77.25	143.86	69.48	74.38	6.63	unknown	unknown	Air Techniques
12/5/00	MW-02	77.44	143.58	69.1	74.48	6.5	unknown	unknown	Air Techniques
12/5/00	MW-03	77.8	142.27	68.12	74.15	6.6	unknown	unknown	Air Techniques
12/5/00	MW-04	76.78	141.89	67.73	74.16	6.48	unknown	unknown	Air Techniques
12/5/00	MW-05	76.32	143.44	69.05	74.39	6.55	unknown	unknown	Air Techniques
12/5/00	W-24	87.09	146.56	70.92	75.64	7.22	79.5 - 59.5	11/7/88	NCDPW
12/5/00	W-24D	128.79	145.49	70.72	74.77	7.28	35.4 - 15.4	11/7/88	NCDPW
12/5/00	W-25	84.25	145.9	71.31	74.59	7.42	81.3 - 61.3	unknown	NCDPW

Notes:
All depths are in feet
-- - Not collected
Casing Elevations for MW-01 through MW-05 based on an ERM Report dated July 15, 1996.
* Wells reportedly damaged and filled in place several years ago
Wells located off-site and were not accessible during the investigation
DTW - depth to water
NCDPW - Nassau County Department of Public Works

TABLE 9

Sample identification and analytical summary

Table 9
Sample Identification and Analytical Summary

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Total Depth	VOC	Gamma Spectrometry	Alpha Spectroscopy	Nickel	Metals	pH	PCBs	Location
SB-146a	16	1	1		1				Air Techniques
SB-146b	8	1	1		1				Air Techniques
SB-146c	8	2	1		1				Air Techniques
SB-148	11.5	1	1		1				Air Techniques
SB-149	20	1	1		1				Air Techniques
SB-150	16	1	1		1				Air Techniques
SB-151	16	2	1	1	1				Air Techniques
SB-152	8	1	1			1		1	Air Techniques
SB-153	8	1	1		2				Air Techniques
SB-154	8	1	1		1				Air Techniques
SB-160	4		1						Air Techniques
SB-161	4		1						Air Techniques
SB-162	4		1						Air Techniques
SB-163	4		1	1					Air Techniques
SB-164	4		1						Air Techniques
SB-165	4		1						Air Techniques
GT-1	20								Gilbert Displays
GT-2	20								Gilbert Displays
SB-110	22	1	1			1		2	Gilbert Displays
SB-111	22	1	1			1		2	Gilbert Displays
SB-170	20	1							Gilbert Displays
SB-119	16	1			1				Inside Gilbert Displays
SB-120	24	2		1	1		1		Inside Gilbert Displays
SB-121	20	1	1		1			1	Inside Gilbert Displays
SB-122	16	1	1		1				Inside Gilbert Displays
SB-123	16	1	1		1				Inside Gilbert Displays

Table 9
Sample Identification and Analytical Summary

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Total Depth	VOC	Gamma Spectrometry	Alpha Spectroscopy	Nickel	Metals	pH	PCBs	Location
SB-124	24	1	1		1				Inside Gilbert Displays
SB-125	20	2	1			1			Inside Gilbert Displays
SB-126	16	1	1		1				Inside Gilbert Displays
SB-127	16	1	1		1		1		Inside Gilbert Displays
SB-128	16	2	1		1				Inside Gilbert Displays
SB-129	16		1		1		1		Inside Gilbert Displays
SB-130	20	1	1						Inside Gilbert Displays
SB-131	20	1	1			1	1		Inside Gilbert Displays
SB-132	8		1						Inside Gilbert Displays
SB-133	16	1	1		2				Inside Gilbert Displays
SB-134	16	1	1		1				Inside Gilbert Displays
SB-135	12	1	1		1				Inside Gilbert Displays
SB-136	12	1	1		1				Inside Gilbert Displays
SB-137	12	1	1						Inside Gilbert Displays
SB-141	20	1	1			1	1	1	inside Magazine Distributors
SB-142	26	1	1			1	1	1	inside Magazine Distributors
SB-143	20	1	1			1	1	1	inside Magazine Distributors
SB-112	24	1	1		2	1	1	1	Magazine Distributors
SB-113	20	1	1	1	2				Magazine Distributors
SB-113b	20		1			1			Magazine Distributors
SB-113c	16		1			1			Magazine Distributors
SB-114	20	1	1		2	1			Magazine Distributors
SB-115	20	1	1		1				Magazine Distributors
SB-116	20	1	1		1				Magazine Distributors
SB-117	20	1	1			1		1	Magazine Distributors
SB-118	20	1	1			1	1	1	Magazine Distributors

Table 9
Sample Identification and Analytical Summary

Former Sylvania Electric Products Incorporated Facility
Hicksville, New York

	Total Depth	VOC	Gamma Spectrometry	Alpha Spectroscopy	Nickel	Metals	pH	PCBs	Location
SB-138	20	1	1		1				Magazine Distributors
SB-139	4	1	1		1			1	Magazine Distributors
SB-140	4	1	1		1			1	Magazine Distributors
SB-144	6	1	1		1			2	Magazine Distributors
SB-144 (a)	12								Magazine Distributors
SB-145	8, 20	2	1		2		2	2	Magazine Distributors
SB-147	20	1	1		1				Magazine Distributors
SB-155	20	1	1		1				Magazine Distributors
SB-156	20	1	1		1		2		Magazine Distributors
SB-157	20	1	1		1				Magazine Distributors
SB-158	20	1	1			1		2	Magazine Distributors
SB-159	20	1	1		1		1	1	Magazine Distributors
SB-166	20	1	1			1			Magazine Distributors
SB-167	20-24 discrete								Magazine Distributors
SB-168	12-16 discrete								Magazine Distributors
SB-169	12-16 discrete								Magazine Distributors

Notes:

All depths are in feet.

GT - Geotechnical Boring

SB - Soil boring

VOCs - Volatile organic compounds

PCBs - Polychlorinated biphenlys

TABLE 10

Soil gamma spectroscopy data

O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound										
	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-113B	SB-113C	SB-114	SB-115	SB-116
	Sample Depth	21 - 22 ft	2 ft	2 - 3 ft	13.5 - 14 ft	16 - 20 ft	12 - 16 ft	20 ft	8 - 12 ft	16 - 20 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6328	R6332	R6335	R6341	R6460	R6461	R6459	R6454	R6456
	Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Actinium-228		0.3961 U	4.719	3.027	37.42	0.2398	7.001	0.2998	0.5612	0.3001
Bismuth-211		0.7771	2.205	1.868	1.831	0.1724 U	3.841	0.6981	0.7018	0.6911
Bismuth-212		0.8849 U	3.597	6.043	57.12	0.4456 U	10.14	0.3948 U	0.3459 U	0.5254 U
Bismuth-214		0.1757 U	0.961	0.8115	0.5416 U	0.1051 U	1.524	0.2277	0.2019	0.2648
Cesium-137		0.04306 U	0.07546 U	0.08016 U	0.146 U	-0.01913 U	0.09128 U	-0.01089 U	0.01179 U	0.01826 U
Francium-223		0.006785 U	0.2205 U	0.05074 U	1.268	0.06441 U	0.1367 U	-0.006248 U	0.04251 U	0.07916 U
Lead-210		1.105	0.4292 U	-0.1589 U	-3.47 U	-0.1324 U	1.335 U	2.111 U	0.7021 U	1.98 U
Lead-211		-0.3343 U	-1.043 U	-0.4077 U	-1.868 U	0.01469 U	-3.502 U	0.05572 U	-0.06126 U	0.03967 U
Lead-212		0.3823	3.99	2.849	30.63	0.1585	5.905	0.2723	0.1295	0.225
Lead-214		0.152	0.9116	0.8103	0.6304	0.05933 U	1.454	0.2403	0.03235 U	0.3998
Potassium-40		10.35	13.39	9.733	14.22	4.263	7.662	5.999	7.596	5.352
Protactinium-231		0.1325 U	2.847	2.481 U	30.75	-0.1888 U	5.325	0.1203 U	0.2402 U	0.3785 U
Protactinium-234		0.0329 U	-0.2859 U	-0.2929 U	-1.619 U	0.07359 U	-0.2376 U	0.02189 U	0.08318 U	0.03097 U
Protactinium-234m		32.85	144.9	122.2	445.2	9.669	126.8	1.625 U	4.621 U	3.529 U
Radium-223		0.01625 U	1.551	0.536	6.645	-0.01425 U	1.068	0.08702 U	-0.01259 U	0.1079 U
Radium-224		1.397	7.304	5.956	54.9	0.6153 U	14.18	2.899	0.8245	2.395
Radium-226		17.18	9.742	6.05	18.54	5.103	62.69	0.3639 U	0.9179	2.613
Thallium-208		0.07286 U	1.354	0.9972	13.08	0.07082	2.209	0.1062	0.07183	0.09141
Thorium-227		0.04921 U	4.794	3.512	41.88	-0.01881 U	7.976	0.02521 U	-0.01496 U	0.01748 U
Thorium-231		1.962	5.297	5.785	8.54	0.227 U	4.942	0.08334 U	0.08522 U	0.2387 U
Thorium-234		17.43	82.41	62.61	268.5	5.459	72.18	1.371	0.3342 U	2.289
Uranium-235		1.025	4.335	3.741	14.33	0.32	4.196	0.05112 U	0.08201 U	0.1719 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Sample ID	SB-117	SB-118	SB-119	SB-120	SB-120 DUP	SB-121	SB-122	SB-123	SB-124
Sample Depth	12 ft	17.5 - 20.0 ft	12 - 16 ft	12 - 16 ft	12 - 16 ft	18 - 20 ft	12 - 16 ft	8 - 12 ft	12 - 16 ft
Sample Date	11/29/00	11/30/00	11/30/00	11/30/00	11/30/00	12/01/00	12/01/00	12/01/00	12/01/00
Property	MDI	MDI	GD	GD	GD	GD	GD	GD	GD
Lab Sample ID	R6463	R6505	R6512	R6508	R6513	R6533	R6534	R6536	R6527
Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Compound									
Actinium-228	0.5531	0.2199 U	0.6763	0.364	1.085	0.2104 U	0.3845	0.507	0.08746 U
Bismuth-211	0.8829	0.7987	0.6761 U	0.4972	0.7055	0.3658 U	0.4276	0.8932	1.082
Bismuth-212	0.4057 U	0.5854 U	0.3928 U	0.4548 U	1.003	0.3839 U	0.5439 U	0.743 U	0.9094 U
Bismuth-214	0.2814	0.3309	0.2991 U	0.119 U	0.1974	0.3365	0.2031	0.3215	0.2881
Cesium-137	0.01364 U	0.02598 U	-0.00857 U	0.01259 U	0.01366 U	0.01477 U	-0.01651 U	-0.02486 U	-0.01049 U
Francium-223	-0.2025 U	-0.03615 U	0.7587	-0.4618 U	-0.1931 U	-0.02449 U	-0.0213 U	0.00124 U	-0.06346 U
Lead-210	2.576 U	1.468	-0.04654 U	5.238 U	3.446 U	-0.09342 U	1.032 U	0.6867 U	1.047
Lead-211	0.5437 U	0.06018 U	-0.6091 U	-0.7037 U	-0.1771 U	-0.7886 U	0.2132 U	-0.3553 U	0.04768 U
Lead-212	0.3045	0.4455	1.047	0.3446	0.8004	0.1967	0.1879	0.2228	0.2176
Lead-214	0.5068	0.275	0.2821	-1711 U	0.2563	0.126 U	0.1472	0.3076	0.3725
Potassium-40	8.195	8.149	8.932	5.866	8.313	7.609	5.705	5.878	9.563
Protactinium-231	0.1012 U	-0.4408 U	1.132 U	-0.1253 U	-0.1739 U	0.5373 U	0.1504 U	-0.3941 U	-0.1926 U
Protactinium-234	0.0264 U	-0.1742 U	-1.031 U	-0.009878 U	0.09333 U	-0.3825 U	0.03481 U	0.1988 U	-0.02827 U
Protactinium-234m	7.383	7.664 U	217.9	136.3	61.04	19.12	5.03 U	7.311 U	16.59
Radium-223	0.1412 U	-0.03116 U	0.0162 U	-0.04982 U	0.1219 U	0.03992 U	0.05313 U	0.1042 U	-0.04595 U
Radium-224	2.38	4.74	11.14	1.658	1.57	1.758	1.166	1.347	2.315
Radium-226	1.422	4.759	0.01482 U	19.3	15.68	12.07	1.361	0.06375 U	8.438
Thallium-208	0.2037	0.09839	0.2411	0.08723	0.2681	0.0503 U	0.08221	0.04408 U	0.06169 U
Thorium-227	0.1078 U	0.2805 U	1.042	0.1199 U	0.2158 U	0.2247 U	0.06877 U	0.2546 U	0.3838
Thorium-231	0.1709 U	0.2096 U	11.89	6.367	2.476	1.64	0.1678 U	-0.3522 U	0.2605 U
Thorium-234	5.664	5.56	157.8	80.38	39.55	12.67	1.446	1.013	9.298
Uranium-235	0.232	0.1551 U	9.077	4.283	1.616	0.7771	0.07364 U	-0.1053 U	0.5757

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound		SB-125	SB-126	SB-127	SB-128	SB-129	SB-130	SB-131	SB-132	SB-133
	Sample Depth	4 ft	16 - 20 ft	0 - 4 ft	0 - 4 ft	2 - 3 ft	16 - 20 ft	4 - 8 ft	1 ft	0 - 4 ft
	Sample Date	12/01/00	12/08/00	12/07/00	12/07/00	12/01/00	12/06/00	12/07/00	12/07/00	12/07/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6529	R6947	R6897	R6903	R6537	R6836	R6895	R6905	R6898
	Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Actinium-228		0.72	0.7117	0.956	1.663	1.778	0.5758	0.4918	0.8419	2.065
Bismuth-211		1.438	1.33	1.189	3.567	1.635	0.9763	1.271	1.795	2.175
Bismuth-212		0.7814	1.294 U	1.179	2.335	1.879	0.6453 U	0.7356 U	1.26	2.977
Bismuth-214		0.5524	0.2825	0.2695	1.179	0.6169	0.5024	0.3494	0.5209	0.1519 U
Cesium-137		-0.001174 U	0.01858 U	0.02097 U	0.00691 U	0.08872	0.03422 U	0.0006795 U	0.03179 U	0.07663 U
Francium-223		-0.04671 U	-0.0001465 U	-0.09002 U	-0.1285 U	0.3369 U	0.01578 U	0.005956 U	-0.02947 U	0.3577
Lead-210		-0.9294 U	0.1516 U	1.125 U	1.146	2.093 U	1	-0.03543 U	0.5508 U	0.192 U
Lead-211		-0.1579 U	0.1686 U	0.2964 U	-0.08182 U	-0.6178 U	-0.1744 U	-0.5116 U	0.02885 U	0.1999 U
Lead-212		0.6374	0.5169	0.6515	1.346	1.612	0.2929	0.3596	0.6778	1.892
Lead-214		0.4904	0.4578	0.2875	0.8559	0.5357	0.3362	0.2143	0.5913	0.8087
Potassium-40		7.709	8.05	7.814	15.31	8.413	11.66	9.562	9.309	10.47
Protactinium-231		1.783	-1.88 U	0.007882 U	1.63 U	-0.02445 U	-0.6117 U	-0.2474 U	0.4222 U	1.228 U
Protactinium-234		-0.08313 U	-0.2431 U	0.06326 U	-0.2674 U	-0.00654 U	-0.02524 U	-0.04039 U	-0.1315 U	-0.5496 U
Protactinium-234m		3.336 U	5.765 U	41.7	10.54 U	70.89	6.222 U	0.8143 U	11.44	109.1
Radium-223		0.1654 U	0.1628 U	0.09696 U	-0.02192 U	0.3587	0.03775 U	0.1398 U	0.1181 U	0.2865 U
Radium-224		1.63	5.499	1.196	2.615	2.867	2.94	1.846	1.362	4.786
Radium-226		1.582	3.833	8.587	1.584	6.371	2.819	1.317	7.491	63.26
Thallium-208		0.2634	0.1217	0.2207	0.472	0.6386	0.06108 U	0.1007	0.2877	0.783
Thorium-227		0.2372 U	1.354	0.2632 U	1.553	0.4618	0.5326	0.2517	0.2062 U	2.336
Thorium-231		0.3554 U	0.3812 U	1.187	0.873 U	3.577	-0.1529 U	0.0175 U	0.4293 U	4.549
Thorium-234		1.156 U	7.151	21.93	1.388 U	40.98	1.84	0.4115 U	6.383	72.69
Uranium-235		0.09914 U	0.5262	0.9735	1.533	2.499	0.1269 U	0.03122 U	0.5388	3.99

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound	Sample ID / Sample Depth / Sample Date / Property / Lab Sample ID / Units	SB-134 12 - 16 ft 12/07/00 GD R6901 pCi/g	SB-134 DUP 12 - 16 ft 12/07/00 GD R6902 pCi/g	SB-135 8 - 12 ft 12/07/00 GD R6906 pCi/g	SB-136 0 - 4 ft 12/08/00 GD R6958 pCi/g	SB-137 0 - 4 ft 12/08/00 GD R6959 pCi/g	SB-138 16 - 20 ft 12/03/00 MDI R6656 pCi/g	SB-139 4 ft 12/03/00 MDI R6658 pCi/g	SB-140 4 ft 12/03/00 MDI R6659 pCi/g	SB-141 16 - 20 ft 12/03/00 MDI R6650 pCi/g
Actinium-228		0.3594	0.01186 U	0.5072	1.412	1.529	0.575	1.788	0.8294	0.37
Bismuth-211		0.758	0.4531	1.218	2.334	2.639	0.678	1.605	1.738	0.4278
Bismuth-212		0.254 U	-0.1491 U	0.4014 U	1.269	1.577 U	0.4161 U	1.366	1.068	0.4353 U
Bismuth-214		0.2423	0.2428	0.2286	0.7916	0.7387	0.1624	0.3969	0.4642	0.1651
Cesium-137		0.006981 U	-0.01354 U	0.01552 U	0.09315	-0.02694 U	0.003901 U	0.003898 U	0.02558 U	-0.006525 U
Francium-223		-0.2194 U	-0.01365 U	-0.05347 U	-0.6106 U	-0.1526 U	0.001114 U	-0.05017 U	-0.03637 U	0.08786 U
Lead-210		1.655 U	0.7642	1.861 U	-1.809 U	0.9889 U	-1.025 U	0.6858 U	1.205 U	-0.5361 U
Lead-211		0.05827 U	0.02444 U	-0.008411 U	-0.4827 U	1.158 U	0.1229 U	-0.6144 U	0.218 U	-0.2203 U
Lead-212		0.357	0.1628	0.4141	1.683	0.6073	0.267	1.027	0.6834	0.1904
Lead-214		0.2745	0.156 U	0.2664	0.8063	0.5823	0.2334	0.421	0.4784	0.1473
Potassium-40		5.961	7.278	8.952	10.06	9.341	8.333	8.707	9.488	5.095
Protactinium-231		-0.4036 U	-0.6189 U	0.5489 U	2.211	2.335	0.1986 U	0.2218 U	-0.3127 U	-0.1077 U
Protactinium-234		-0.07468 U	-0.3129 U	-0.08647 U	0.5484 U	-0.08201 U	0.1783 U	0.2357 U	-0.2051 U	-0.05546 U
Protactinium-234m		1.354 U	4.038 U	3.262 U	130.7	9.524 U	1.804 U	25.41	12.65	0.4502 U
Radium-223		0.0496 U	-0.01139 U	0.1096 U	0.2115 U	0.02523 U	0.1402 U	0.4201	0.1519 U	-0.07835 U
Radium-224		3.8	1.732	1.748	17.64	3.975	1.495	17.21	7.275	1.447
Radium-226		0.1238 U	0.6561 U	1.328	81.9	1.017 U	1.588	3.24	2.904	0.3502 U
Thallium-208		0.1998	0.08094 U	0.1494	0.4453	0.03167 U	0.1226	0.5245	0.2521	0.0602
Thorium-227		0.1728 U	0.3489 U	0.7273	2.267	2.12	0.2041 U	0.4957	0.2914	0.139 U
Thorium-231		-0.06641 U	-0.3547 U	-0.1626 U	4.765	0.3097 U	-0.0212 U	1.185	0.1256 U	0.2939 U
Thorium-234		0.3653 U	0.3994 U	0.9834 U	80.22 U	5.935	1.372	9.126	2.939	-0.4385 U
Uranium-235		0.0504 U	0.09876 U	0.1125 U	5.06	0.5414	0.09434 U	0.7621	0.0824 U	-0.0007072 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound	Sample ID	SB-142	SB-143	SB-144	SB-145	SB-146A	SB-146B	SB-146C	SB-147	SB-148
	Sample Depth	8 - 12 ft	4 - 8 ft	6 ft	12 - 16 ft	1 ft	1 ft	2 ft	16 - 20 ft	9 ft
	Sample Date	12/03/00	12/03/00	12/06/00	12/09/00	12/04/00	12/04/00	12/04/00	12/06/00	12/04/00
	Property	MDI	MDI	MDI	MDI	AT	AT	AT	MDI	AT
	Lab Sample ID	R6653	R6654	R6832	R6937	R6644	R6647	R6648	R6823	R6626
	Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Actinium-228		0.7841	0.4413	1.768	9.591	1.272	0.9308	1.592	0.09636 U	0.2282 U
Bismuth-211		1.196	1.015	1.227	0.7178 U	1.702	1.161	1.421	0.4797	0.8649
Bismuth-212		0.3322 U	0.5673 U	1.599	10.33	1.405	1.651	1.089	0.1302 U	0.4223 U
Bismuth-214		0.3627	0.408	0.4067	0.2477 U	0.5345	0.4699	0.611	0.1221	0.3828
Cesium-137		0.03839 U	0.006302 U	0.01875 U	-0.003604 U	0.01121 U	0.06452	0.04498 U	0.006119 U	0.009232 U
Francium-223		-0.005481 U	0.1474 U	-0.01446 U	-3.733 U	-0.09205 U	0.002472 U	-0.09433 U	-0.1241 U	-0.2729 U
Lead-210		1.165 U	1.316 U	-0.2967 U	-85.36 U	0.6048 U	-0.1296 U	1.869 U	-0.1749 U	2.75 U
Lead-211		-0.07587 U	-0.727 U	-0.5759 U	-1.981 U	-0.4007 U	0.4496 U	0.1076 U	0.2363 U	-0.2799 U
Lead-212		0.3928	0.2517	1.749	9.087	1.359	0.6188	1.735	0.09052	0.3574
Lead-214		0.367	0.3198	0.4224	0.371	0.6228	0.4218	0.4881	0.1651	0.2977
Potassium-40		8.426	10.02	8.355	5.83	9.46	7.994	10.79	6.057	7.233
Protactinium-231		-0.1662 U	-0.4786 U	0.4179 U	9.02	-0.5967 U	-0.218 U	0.9042 U	0.1568 U	-0.4571 U
Protactinium-234		0.06583 U	0.1856 U	0.4174 U	3.239	0.08741 U	-0.03876 U	-0.02851 U	0.01902 U	0.1597 U
Protactinium-234m		6.474 U	0.5444 U	31.14	2168	13.6	12.43	8.099	1.746 U	5.199 U
Radium-223		0.1624 U	0.1347 U	0.5037	2.605	0.4042	0.1479 U	0.4304	0.103 U	0.06886 U
Radium-224		2.88	1.77	0.1861 U	18.05	14.46	2.156	19.04	0.5226 U	3.805
Radium-226		1.003	1.212	0.1269 U	56.69	3.211	4.602	2.842	0.08679 U	18.45
Thallium-208		0.1635	0.1066	0.6164	3.565	0.3909	0.2649	0.5948	0.06402	0.09762
Thorium-227		0.179 U	0.2075 U	0.5852	19.92	0.4705	0.1694 U	0.4077	0.04862 U	0.1353 U
Thorium-231		-0.01404 U	0.4322 U	1.424	118.9	0.2778 U	0.3814 U	-0.04059 U	-0.0174 U	3.02
Thorium-234		1.845	0.02443 U	0.1559 U	1211	4.701	7.75	2.847	-0.1491 U	2.74
Uranium-235		0.2131 U	0.07699 U	0.8506	90.97	0.1158 U	0.2122 U	0.462	-0.02073 U	2.046

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound	Sample ID	SB-149	SB-150	SB-151	SB-152	SB-153	SB-153DUP	SB-154	SB-155	SB-156
	Sample Depth	6 ft	1 - 2 ft	1 ft	8 - 14 ft	0.5 - 2 ft	0.5 - 2 ft	4 - 8 ft	4 - 8 ft	4 - 8 ft
	Sample Date	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/06/00	12/06/00
	Property	AT	AT	AT	AT	AT	AT	AT	MDI	MDI
	Lab Sample ID	R6628	R6630	R6632	R6638	R6639	R6641	R6642	R6824	R6829
	Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Actinium-228		0.8155	1.703	16.63	12.32	4.198	6.611	0.8148	0.9221	0.6043
Bismuth-211		1.147	1.904	2.562	2.503	1.843	2.342	0.6677	1.465	0.9387
Bismuth-212		0.3212 U	1.731	19.83	13.76	4.886	9.477	0.5314 U	0.9869	0.5342 U
Bismuth-214		0.5151	0.8407	0.5681	1.073	0.6883	0.743	0.2546	0.4782	0.3413
Cesium-137		-0.008586 U	0.01777 U	0.01197 U	0.0642 U	0.07086 U	0.1391	-0.01115 U	-0.005884 U	-0.01581 U
Francium-223		0.009476 U	-0.1726 U	-0.5176 U	-0.507 U	-0.3269 U	-0.1261 U	-0.08295 U	-0.005237 U	-0.1668 U
Lead-210		0.7409 U	2.154 U	2.088 U	0.5084 U	1.003 U	-4.575 U	1.706 U	-1.901 U	-0.1837 U
Lead-211		0.1696 U	0.01012 U	-0.8502 U	-0.5892 U	-0.9149 U	-1.05 U	0.101 U	-0.2876 U	-0.2448 U
Lead-212		0.5719	1.925	17.42	12.16	2.772	5.333	0.4877	0.7778	0.4412
Lead-214		0.4429	0.8236	0.7914	0.8794	0.6205	0.9067	0.2298	0.7142	0.3201
Potassium-40		9.316	9.433	12.01	9.832	8.957	9.6	7.963	9.168	6.949
Protactinium-231		-0.04964 U	-0.1969 U	7.528	4.048	1.428	2.825	-0.1513 U	0.3307 U	-0.06497 U
Protactinium-234		-0.1013 U	0.1998 U	0.595 U	0.2769 U	0.335 U	0.3329 U	0.1036 U	0.178 U	-0.1334 U
Protactinium-234m		0.7142 U	12.99	58.78	121.6	92.23	116.2	3.506 U	2.074 U	8.051
Radium-223		0.01492 U	0.5422	3.447	2.727	0.9531	1.166	-0.004834 U	0.05989 U	0.12 U
Radium-224		1.425	20.5	180.9	137.3	43.38	77.78	2.563	8.28	1.172
Radium-226		0.7727	1.302	7.643	32.43	24.01	39.8	0.9285	1.078	1.153
Thallium-208		0.1838	0.5333	5.152	4.208	1.187	2.278	0.2123	0.2684	0.1619
Thorium-227		0.2135 U	0.5858 U	5.022	4.256	1.201	2.432	0.203 U	0.2263 U	0.1175 U
Thorium-231		0.195 U	0.01859 U	10.11	13.93	3	3.421	0.1524 U	-0.179 U	0.7378
Thorium-234		0.4926 U	9.404	15.84	77.26	56.88	27.56	0.8394 U	1.181 U	0.8688 U
Uranium-235		0.1016 U	0.635 U	3.278	4.764	2.079	2.216	0.09297 U	0.07366 U	0.1557 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound	Sample ID	SB-157	SB-158	SB-159	SB-160	SB-161	SB-161 DUP	SB-162	SB-163	SB-164
	Sample Depth	12 - 16 ft	16 - 20 ft	8 - 12 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft
	Sample Date	12/06/00	12/08/00	12/06/00	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00
	Property	MDI	MDI	MDI	AT	AT	AT	AT	AT	AT
	Lab Sample ID	R6825	R6956	R6834	R6948	R6949	R6954	R6950	R6951	R6952
	Units	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
Actinium-228		0.1671 U	0.5559	1.153	0.9754	1.649	1.282	1.078	1.297	0.869
Bismuth-211		0.6963	0.8878	0.2924	1.578	2.21	2.187	2.124	1.528	2.259
Bismuth-212		0.3277 U	1.203	0.5813 U	1.611	1.616	1.858	1.661 U	1.462	0.9459
Bismuth-214		0.2077	0.265	0.07771 U	0.3864	0.9143	0.7492	1.054	0.4238	0.6397
Cesium-137		0.007951 U	0.01787 U	0.02214 U	0.05004 U	0.02119 U	-0.006462 U	0.07913 U	-0.006986 U	-0.0123 U
Francium-223		-0.07421 U	-0.06106 U	-0.1526 U	-0.1536 U	-0.1997 U	-0.2724 U	-0.07678 U	1.021 U	0.1526 U
Lead-210		2.391 U	1.565 U	0.8226 U	-2.045 U	-0.3013 U	2.263 U	0.3564 U	-1.952 U	-0.02348 U
Lead-211		0.5203 U	-0.3042 U	-0.3725 U	0.3493 U	-0.4756 U	-0.1363 U	-0.018 U	-0.06693 U	0.1522 U
Lead-212		0.1677	0.408	0.9841	0.8684	1.367	1.191	1.226	0.8269	1.056
Lead-214		0.2397	0.2493	0.1007	0.6476	0.8201	0.6828	0.7683	0.7602	0.6828
Potassium-40		8.029	7.957	6.786	9.11	10.43	10.4	12.37	8.593	10.93
Protactinium-231		-0.04856 U	0.1685 U	-0.3912 U	0.6803 U	1.298 U	0.693 U	1.326 U	-0.2197 U	1.151 U
Protactinium-234		-0.056 U	-0.1283 U	0.02071 U	0.2711 U	0.1117 U	0.3816 U	0.2757 U	0.7443 U	0.5998 U
Protactinium-234m		2.149 U	3.897 U	5.174 U	5.269 U	20.3	20.8	2.135 U	468.7	2.306 U
Radium-223		0.04043 U	0.0926 U	0.2462	0.246 U	0.1544 U	0.3777	0.03542 U	0.04017 U	0.2228 U
Radium-224		1.404	0.6928	10.48	11.25	1.548	2.393	12.65	4.826	2.667
Radium-226		0.8162	2.825	1.357	12.29	14.15	15.69	3.112	11.4	1.705
Thallium-208		0.09959	0.1141	0.3878	0.3966	0.5082	0.3807	0.4297	0.372	0.3805
Thorium-227		0.1247 U	0.04069 U	0.4146	1.607	2.322	0.214 U	3.038	-0.02059 U	2.172
Thorium-231		-0.1067 U	-0.1273 U	0.09182 U	0.6111 U	1.196	1.4	-0.2306 U	17.86	-0.7989 U
Thorium-234		0.5655 U	2.222	2.692	9.904	14.01	13.95	3.076	260.2	1.387 U
Uranium-235		0.02432 U	0.1866 U	0.2305 U	0.7926	0.9204	0.985	0.05379 U	18.55	0.1294 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 10
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Gamma Spectroscopy Data

Compound				
	Sample ID	SB-165	SB-166	SB-169
	Sample Depth	0 - 4 ft	8 - 12 ft	12 - 16 ft
	Sample Date	12/08/00	12/08/00	12/09/00
	Property	AT	MDI	MDI
	Lab Sample ID	R6953	R6955	R6938
	Units	pCi/g	pCi/g	pCi/g
Actinium-228		0.9993	6.879	1.687
Bismuth-211		2.743	0.009274 U	0.4185
Bismuth-212		1.521 U	5.426	1.471
Bismuth-214		1.154	0.3213 U	0.2544
Cesium-137		0.04072 U	0.04889 U	0.08799
Francium-223		-0.19 U	3.024	-0.5134 U
Lead-210		1.103 U	5.136	-13.2 U
Lead-211		0.6458 U	-2.359 U	-1.48 U
Lead-212		1.253	5.082	1.082
Lead-214		0.8164	0.1052 U	0.144 U
Potassium-40		13.97	4.63	6.354
Protactinium-231		1.654 U	1.262 U	0.9859 U
Protactinium-234		0.1417 U	1.931	0.4498 U
Protactinium-234m		3.121 U	312.2	116.8
Radium-223		0.2107 U	0.1351 U	0.5104
Radium-224		11.97	50.45	7.896
Radium-226		1.132 U	182.8	5.765
Thallium-208		0.4553	1.893	0.6138
Thorium-227		3.183	13.43	3.285
Thorium-231		0.7391 U	16.68	7.068
Thorium-234		7.5	288	67.42
Uranium-235		0.4177 U	11.48	4.513

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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TABLE 11

Soil alpha spectroscopy data

O'BRIEN & GERE ENGINEERS, INC.

Table 11
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Alpha Spectroscopy Data

Compound					
	Sample ID	SB-113	SB-120	SB-151	SB-163
	Sample Depth	13.5 - 14 ft	12 - 16 ft	1 ft	0 - 4 ft
	Sample Date	11/28/00	11/30/00	12/04/00	12/08/00
	Property	MDI	GD	AT	AT
	Lab Sample ID	R6341	R6508	R6632	R6951
	Units	pCi/g	pCi/g	pCi/g	pCi/g
Thorium-228		37.5	0.199 U	22.7	4.21
Thorium-230		8.99	2.4	4.86	4.26
Thorium-232		69.3	5.05	29.5	57.5
Uranium-233/234		369	164	123	652
Uranium-235/236		20	9.27	5.09	36.4
Uranium-238		382	155	61.6	660

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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TABLE 12

Soil volatile organic compound data

O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound	Sample ID	SB-110	SB-111	SB-112	SB-113	SB-114	SB-115	SB-116	SB-117	SB-118
	Sample Depth	18 - 20 ft	0 - 4 ft	4 - 8 ft	0 - 4 ft	4 ft	12 - 16 ft	4 - 8 ft	0 - 4 ft	4 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00	11/30/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6326DL	R6329	R6333	R6338	R6458	R6453RE	R6455	R6462	R6506DL
	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3 U	3 U	0.7 J	3 U	0.6 J	3 U	3 U	3 U	3 U
1,1,2,2-Tetrachloroethane		3 U	3 UJ	3 UJ	3 U	3 UJ	3 U	3 UJ	3 U	3 U
1,1,2-Trichloroethane		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1-Dichloroethane		3 U	2 J	0.9 J	2 J	3	3 U	3 U	3 U	3 U
1,1-Dichloroethene		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,2-Dichloroethane		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,2-Dichloropropane		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
2-Butanone (MEK)		2 J	11 U	12 U	11 U	10 U	10 U	12 U	12 U	13 U
2-Hexanone		5 U	5 U	6 U	6 U	5 U	5 U	6 U	6 U	6 U
4-Methyl-2-pentanone (MIBK)		5 U	5 U	6 U	6 U	5 U	5 U	6 U	6 U	6 U
Acetone		13	11 U	12 U	11 U	10 U	4 J	4 J	12 U	13 U
Benzene		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Bromodichloromethane		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Bromoform		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Bromomethane		5 U	5 U	6 U	6 U	5 U	5 U	6 U	6 U	6 U
Carbon disulfide		3 U	0.9 J	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Carbon tetrachloride		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Chlorobenzene		3 U	2 J	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Chloroethane		5 U	5 U	6 U	6 U	5 U	5 U	6 U	6 U	6 U
Chloroform		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Chloromethane		5 U	5 U	6 U	6 U	5 U	5 U	6 U	6 U	6 U
Dibromochloromethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Ethylbenzene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Methylene chloride		3 U	0.6 J	1 J	0.6 J	2 J	0.6 J	3	0.7 J	3 U
Styrene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Tetrachloroethene		190 D	18000 D	1800 D	75	190 D	35	1500 DJ	1800 D	4200 D
Toluene		0.5 J	3 U	2 J	6	3 U	2 J	4	3 U	5
Trichloroethene		1 J	170	9	1 J	3	3 U	1 J	5	7
Vinyl chloride		5 UJ	5 UJ	6 UJ	6 UJ	5 UJ	5 UJ	6 UJ	6 UJ	6 UJ
Xylene (total)		3 U	3 U	1 J	1 J	3 U	3 U	3 UJ	3 U	0.8 J
cis-1,2-Dichloroethene		3 U	110	3 J	3 U	1 J	3 U	3 U	3 U	3 U
cis-1,3-Dichloropropylene		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
trans-1,2-Dichloroethene		3 U	5	3 U	3 U	3 U	3 U	3 U	3 U	3 U
trans-1,3-Dichloropropene		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Total VOCs		206.5	18290.5	1817.6	85.6	199.6	41.6	1512	1805.7	4212.8

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

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O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound										
	Sample ID	SB-119	SB-120	SB-120	SB-121	SB-122	SB-123	SB-124	SB-125	SB-125DUP
	Sample Depth	0 - 4 ft	24 ft	4 - 8 ft	0 - 4 ft	12 - 16 ft	0 - 4 ft	0 - 4 ft	4 ft	4 ft
	Sample Date	11/30/00	11/30/00	11/30/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6511DL	R6510	R6509	R6532	R6534	R6535RE	R6528	R6529DL	R6531
Compound	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3	3 UJ	4	14 UJ	3 U	3 UJ	14 U	270 U	7 J
1,1,2,2-Tetrachloroethane		3 UJ	3 UJ	3 UJ	14 UJ	3 U	3 UJ	14 UJ	270 U	15 UJ
1,1,2-Trichloroethane		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
1,1-Dichloroethane		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
1,1-Dichloroethene		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
1,2-Dichloroethane		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
1,2-Dichloropropane		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
2-Butanone (MEK)		12 U	10 UJ	10 U	56 UJ	10 U	11 UJ	57 U	1100 U	61 U
2-Hexanone		6 U	5 UJ	5 U	28 UJ	5 U	6 UJ	28 U	540 U	30 U
4-Methyl-2-pentanone (MIBK)		6 U	5 UJ	5 U	28 UJ	5 U	6 UJ	28 U	540 U	30 U
Acetone		5 J	10 UJ	10 U	56 UJ	10 U	11 UJ	57 U	1100 U	61 U
Benzene		3 U	3 UJ	3 U	5 J	3 U	3 UJ	14 U	270 U	15 U
Bromodichloromethane		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Bromoform		3 U	3 U	3 UJ	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Bromomethane		6 U	5 UJ	5 U	28 UJ	5 U	6 UJ	28 U	540 U	30 U
Carbon disulfide		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Carbon tetrachloride		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Chlorobenzene		3 U	3 U	3 UJ	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Chloroethane		6 U	5 UJ	5 U	28 UJ	5 U	6 UJ	28 U	540 U	30 U
Chloroform		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Chloromethane		6 U	5 UJ	5 U	28 UJ	5 U	6 UJ	28 U	540 U	30 U
Dibromochloromethane		3 U	3 U	3 UJ	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Ethylbenzene		3 U	3 U	3 UJ	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Methylene chloride		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	31	270 U	15 U
Styrene		3 U	3 U	3 UJ	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Tetrachloroethene		16000 D	3 U	92000 DJ	9200 DJ	0.6 J	33 J	14000 D	9600	10000 D
Toluene		8	3 UJ	2 J	11 J	3 U	1 J	37	270 U	7 J
Trichloroethene		15	3 UJ	7	12 J	3 U	3 UJ	23	270 U	30
Vinyl chloride		6 UJ	5 UJ	5 UJ	28 UJ	5 U	6 UJ	28 UJ	540 U	30 U
Xylene (total)		0.7 J	3 U	0.5 J	14 UJ	3 U	3 UJ	14 U	270 U	15 U
cis-1,2-Dichloroethene		1 J	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	7 J
cis-1,3-Dichloropropylene		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
trans-1,2-Dichloroethene		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
trans-1,3-Dichloropropene		3 U	3 UJ	3 U	14 UJ	3 U	3 UJ	14 U	270 U	15 U
Total VOCs		16032.7	---	92013.5	9228	0.6	34	14091	9600	10051

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound									
Sample ID	SB-126	SB-127	SB-128	SB-128DUP	SB-130	SB-131	SB-133	SB-134	SB-135
Sample Depth	0 - 4 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	16 - 20 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	8 - 12 ft
Sample Date	12/08/00	12/07/00	12/07/00	12/07/00	12/06/00	12/07/00	12/07/00	12/07/00	12/07/00
Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
Lab Sample ID	R6945	R6897	R6903	R6904	R6836RE	R6894	R6898	R6900	R6906
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
1,1,2,2-Tetrachloroethane	3 UJ	520 U	R	3 U	3 UJ	3 U	3 UJ	R	3 UJ
1,1,2-Trichloroethane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
1,1-Dichloroethane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
1,1-Dichloroethene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
1,2-Dichloroethane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
1,2-Dichloropropane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
2-Butanone (MEK)	10 U	2100 U	10 UJ	11 U	10 UJ	11 U	11 U	11 UJ	10 U
2-Hexanone	5 U	1000 U	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
4-Methyl-2-pentanone (MIBK)	5 U	1000 U	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
Acetone	10 U	2100 U	10 UJ	11 U	10 UJ	11 U	11 U	11 UJ	10 U
Benzene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Bromodichloromethane	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Bromoform	3 UJ	520 UJ	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 UJ
Bromomethane	5 U	1000 UJ	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
Carbon disulfide	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Carbon tetrachloride	3 U	520 UJ	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Chlorobenzene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Chloroethane	5 U	1000 U	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
Chloroform	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Chloromethane	5 U	1000 U	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
Dibromochloromethane	3 U	520 UJ	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Ethylbenzene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Methylene chloride	8 U	520 U	3 UJ	3 U	1 J	2 J	3 U	3 UJ	3 U
Styrene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Tetrachloroethene	1 J	18000	4 J	3	3 UJ	3 U	780 D	2500 D	3 U
Toluene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 J	0.7 J	3 U
Trichloroethene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	2 J	2 J	3 U
Vinyl chloride	5 U	1000 U	5 UJ	5 U	5 UJ	6 U	5 U	5 UJ	5 U
Xylene (total)	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
cis-1,2-Dichloroethene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
cis-1,3-Dichloropropylene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
trans-1,2-Dichloroethene	3 U	520 U	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
trans-1,3-Dichloropropene	3 U	520 UJ	3 UJ	3 U	3 UJ	3 U	3 U	3 UJ	3 U
Total VOCs	1	18000	4	3	1	2	785	2502.7	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

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O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound	Sample ID	SB-136	SB-137	SB-138	SB-139	SB-140	SB-141	SB-142	SB-143	SB-144
	Sample Depth	0 - 4 ft	0 - 4 ft	8 - 12 ft	4 ft	4 ft	12 - 16 ft	16 - 20 ft	16 - 20 ft	0 - 4 ft
	Sample Date	12/08/00	12/08/00	12/03/00	12/03/00	12/03/00	12/03/00	12/03/00	12/03/00	12/06/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6958	R6959	R6657	R6658	R6659	R6651	R6652RE	R6655	R6830
	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
1,1,2,2-Tetrachloroethane		3 UJ	3 UJ	3 UJ	14 UJ	3 U	3 U	3 UJ	3 UJ	3 U
1,1,2-Trichloroethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
1,1-Dichloroethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
1,1-Dichloroethene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
1,2-Dichloroethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
1,2-Dichloropropane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
2-Butanone (MEK)		11 U	11 U	10 UJ	56 UJ	11 U	10 U	11 UJ	10 U	12 U
2-Hexanone		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
4-Methyl-2-pentanone (MIBK)		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
Acetone		11 U	11 U	15 UJ	56 UJ	11 U	10 U	34 UJ	10 U	12 U
Benzene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Bromodichloromethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Bromoform		3 UJ	3 UJ	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Bromomethane		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
Carbon disulfide		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Carbon tetrachloride		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Chlorobenzene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Chloroethane		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
Chloroform		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Chloromethane		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
Dibromochloromethane		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Ethylbenzene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Methylene chloride		3 U	3 U	3 UJ	14 UJ	3 U	3 U	1 J	3 U	1 J
Styrene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Tetrachloroethene		35	8	1 UJ	690 J	4	3 U	23 J	26	11
Toluene		3 U	3 U	3 UJ	6 J	3 U	3 U	0.6 J	1 J	1 J
Trichloroethene		5	3 U	3 UJ	9 J	3 U	3 U	1 J	3 U	8
Vinyl chloride		6 U	5 U	5 UJ	28 UJ	5 U	5 U	5 UJ	5 U	6 U
Xylene (total)		0.7 J	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
cis-1,2-Dichloroethene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
cis-1,3-Dichloropropylene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
trans-1,2-Dichloroethene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
trans-1,3-Dichloropropene		3 U	3 U	3 UJ	14 UJ	3 U	3 U	3 UJ	3 U	3 U
Total VOCs		40.7	8	---	705	4	---	25.6	27	21

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound	Sample ID	SB-145	SB-145	SB-146A	SB-146B	SB-146C	SB-146CDUP	SB-147	SB-148	SB-149
	Sample Depth	20 ft	8 ft	0 - 4 ft	0 - 4 ft	2 ft	2 ft	16 - 20 ft	4 - 8 ft	8 - 12 ft
	Sample Date	12/09/00	12/09/00	12/04/00	12/04/00	12/04/00	12/04/00	12/06/00	12/04/00	12/04/00
	Property	MDI	MDI	AT	AT	AT	AT	MDI	AT	AT
	Lab Sample ID	R6935	R6936	R6645	R6646RE	R6648	R6649	R6823	R6627RE	R6629
	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3 U	11	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
1,1,2,2-Tetrachloroethane		3 U	3 UJ	3 UJ	3 UJ	3 UJ	3 U	3 UJ	3 UJ	3 U
1,1,2-Trichloroethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
1,1-Dichloroethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
1,1-Dichloroethene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
1,2-Dichloroethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
1,2-Dichloropropane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
2-Butanone (MEK)		10 U	11 U	11 U	12 U	12 U	10 U	10 UJ	11 U	11 U
2-Hexanone		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
4-Methyl-2-pentanone (MIBK)		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
Acetone		7 J	11 U	11 U	12 U	12 U	10 U	42 J	11 U	11 U
Benzene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Bromodichloromethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Bromoform		3 U	3 UJ	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Bromomethane		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
Carbon disulfide		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Carbon tetrachloride		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Chlorobenzene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Chloroethane		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
Chloroform		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Chloromethane		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
Dibromochloromethane		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Ethylbenzene		3 U	2 J	3 U	3 U	1 J	3 U	1 J	2 J	3 U
Methylene chloride		2 J	7 U	3 U	3 U	3 U	3 U	1 J	3 U	3 U
Styrene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Tetrachloroethene		3 U	160 D	7	1 J	1 J	3	20 J	11	3 U
Toluene		3 U	2 J	3 U	3 U	2 J	3 U	58 J	2 J	3 U
Trichloroethene		3 U	52 D	3 U	3 U	3 U	3 U	3 UJ	0.7 J	3 U
Vinyl chloride		5 U	6 U	6 U	6 U	6 U	5 U	5 UJ	5 U	6 U
Xylene (total)		3 U	3 J	3 U	3 U	6	3 U	9 J	10	3 U
cis-1,2-Dichloroethene		3 U	3 J	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
cis-1,3-Dichloropropylene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
trans-1,2-Dichloroethene		3 U	3 U	3 U	3 U	R	3 U	3 UJ	3 U	3 U
trans-1,3-Dichloropropene		3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	3 U
Total VOCs		9	233	7	1	10	3	131	25.7	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound										
	Sample ID	SB-150	SB-151	SB-151DUP	SB-152	SB-153	SB-154	SB-155	SB-156	SB-157
	Sample Depth	8 - 12 ft	8 - 12 ft	8 - 12 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	4 - 8 ft	0 - 4 ft	0 - 4 ft
	Sample Date	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/06/00	12/06/00	12/06/00
	Property	AT	AT	AT	AT	AT	AT	MDI	MDI	MDI
	Lab Sample ID	R6631	R6634	R6635	R6637RE	R6640RE	R6643RE	R6824	R6827DL	R6826
	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
1,1,2,2-Tetrachloroethane		3 UJ	3 U	3 UJ	3 UJ	3 UJ	R	R	27 UJ	R
1,1,2-Trichloroethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
1,1-Dichloroethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
1,1-Dichloroethene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
1,2-Dichloroethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
1,2-Dichloropropane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
2-Butanone (MEK)		11 U	11 U	11 UJ	12 U	11 U	R	11 UJ	110 UJ	12 UJ
2-Hexanone		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
4-Methyl-2-pentanone (MIBK)		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
Acetone		11 U	11 U	23 J	12 U	11 U	R	11 UJ	110 UJ	12 UJ
Benzene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Bromodichloromethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Bromoform		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Bromomethane		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
Carbon disulfide		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Carbon tetrachloride		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Chlorobenzene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Chloroethane		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
Chloroform		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Chloromethane		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
Dibromochloromethane		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Ethylbenzene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Methylene chloride		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	14 J	3 UJ
Styrene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Tetrachloroethene		24	1 J	0.7 J	23	3 U	R	380 DJ	210 J	100 DJ
Toluene		0.5 J	3 U	3 UJ	3 U	3 U	R	2 J	27 UJ	0.7 J
Trichloroethene		1 J	3 U	3 UJ	3 U	3 U	R	5 J	27 UJ	3 UJ
Vinyl chloride		5 U	6 U	5 UJ	6 U	6 U	R	5 UJ	54 UJ	6 UJ
Xylene (total)		0.9 J	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
cis-1,2-Dichloroethene		3 U	3 U	3 UJ	3 U	3 U	R	2 J	27 UJ	3 UJ
cis-1,3-Dichloropropylene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
trans-1,2-Dichloroethene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
trans-1,3-Dichloropropene		3 U	3 U	3 UJ	3 U	3 U	R	3 UJ	27 UJ	3 UJ
Total VOCs		26.4	1	23.7	23	---	---	389	224	100.7

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

O'BRIEN & GERE ENGINEERS, INC.

Table 12
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Volatile Organic Compound Data

Compound					
	Sample ID	SB-158	SB-159	SB-166	SB-170
	Sample Depth	16 - 20 ft	0 - 4 ft	8 - 12 ft	16 - 20 ft
	Sample Date	12/08/00	12/06/00	12/08/00	12/09/00
	Property	MDI	MDI	MDI	GD
	Lab Sample ID	R6956	R6835	R6955	R6939
	Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,1,1-Trichloroethane		3 U	R	1800 U	3 U
1,1,2,2-Tetrachloroethane		3 UJ	R	1800 U	3 U
1,1,2-Trichloroethane		3 U	R	1800 U	3 U
1,1-Dichloroethane		3 U	R	1800 U	3 U
1,1-Dichloroethene		3 U	R	1800 U	3 U
1,2-Dichloroethane		3 U	R	1800 U	3 U
1,2-Dichloropropane		3 U	R	1800 U	3 U
2-Butanone (MEK)		10 U	R	7200 U	11 U
2-Hexanone		5 U	R	3600 U	5 U
4-Methyl-2-pentanone (MIBK)		5 U	R	3600 U	5 U
Acetone		10 U	R	7200 U	11 U
Benzene		3 U	R	1800 U	3 U
Bromodichloromethane		3 U	R	1800 U	3 U
Bromoform		3 UJ	R	1800 U	3 U
Bromomethane		5 U	R	3600 UJ	5 U
Carbon disulfide		3 U	R	2700	3 U
Carbon tetrachloride		3 U	R	1800 UJ	3 U
Chlorobenzene		3 U	R	1800 U	3 U
Chloroethane		5 U	R	3600 U	5 U
Chloroform		3 U	R	1800 U	3 U
Chloromethane		5 U	R	3600 U	5 U
Dibromochloromethane		3 U	R	1800 U	3 U
Ethylbenzene		3 U	R	1800 U	3 U
Methylene chloride		6 U	R	1800 U	1 J
Styrene		3 U	R	1800 U	3 U
Tetrachloroethene		5	R	75000	3 U
Toluene		3 U	R	1800 U	3 U
Trichloroethene		3 U	R	3400	3 U
Vinyl chloride		5 U	R	3600 U	5 U
Xylene (total)		3 U	R	1800 U	3 U
cis-1,2-Dichloroethene		3 U	R	1800 U	3 U
cis-1,3-Dichloropropylene		3 U	R	1800 U	3 U
trans-1,2-Dichloroethene		3 U	R	1800 U	3 U
trans-1,3-Dichloropropene		3 U	R	1800 UJ	3 U
Total VOCs		5	---	81100	1

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.
RE - reanalysis, DL - diluted analysis.

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TABLE 13

Soil polychlorinated biphenyls data

O'BRIEN & GERE ENGINEERS, INC.

Table 13
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Polychlorinated Biphenyl Data

Compound										
	Sample ID	SB-110	SB-110	SB-111	SB-111	SB-112	SB-117	SB-118	SB-121	SB-139
	Sample Depth	20 - 21 ft	3 - 4 ft	18 ft	4 ft	16 - 20 ft	12 ft	8 - 12 ft	18 - 20 ft	4 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/30/00	12/01/00	12/03/00
	Property	GD	GD	GD	GD	MDI	MDI	MDI	GD	MDI
	Lab Sample ID	R6327	R6325	R6330	R6331	R6337	R6463	R6507	R6533	R6658
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aroclor 1016		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U
Aroclor 1221		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U
Aroclor 1232		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U
Aroclor 1242		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U
Aroclor 1248		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U
Aroclor 1254		0.09	0.2	1	0.02 U	0.09	0.07	0.07	0.1	0.07
Aroclor 1260		0.02 U	0.09 U	0.4 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.02 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 13
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Polychlorinated Biphenyl Data

Compound										
	Sample ID	SB-140	SB-141	SB-142	SB-143	SB-144	SB-144DUP	SB-145	SB-145	SB-152
	Sample Depth	4 ft	16 - 20 ft	8 - 12 ft	4 - 8 ft	5 - 6 ft	5 - 6 ft	20 ft	8 ft	1 - 2 ft
	Sample Date	12/03/00	12/03/00	12/03/00	12/03/00	12/06/00	12/06/00	12/09/00	12/09/00	12/04/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI	AT
	Lab Sample ID	R6659	R6650	R6653	R6654	R6833	R6831	R6935	R6936	R6636
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aroclor 1016		0.9 U	0.02 U	0.02 U	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U
Aroclor 1221		0.9 U	0.02 U	0.02 U	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U
Aroclor 1232		0.9 U	0.02 U	0.02 U	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U
Aroclor 1242		0.9 U	0.02 U	0.02 U	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U
Aroclor 1248		0.9 U	0.02 U	0.02 U	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U
Aroclor 1254		2	0.02 U	0.02 U	0.02 U	0.8	1	0.009 J	0.6	0.2
Aroclor 1260		0.9 U	0.02 U	0.04	0.02 U	0.09 U	0.2 U	0.02 U	0.2 U	0.09 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 13
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Polychlorinated Biphenyl Data

Compound				
	Sample ID	SB-158	SB-158DUP	SB-159
	Sample Depth	16 - 20 ft	16 - 20 ft	8 - 12 ft
	Sample Date	12/08/00	12/08/00	12/06/00
	Property	MDI	MDI	MDI
	Lab Sample ID	R6956	R6957	R6834
	Units	mg/Kg	mg/Kg	mg/Kg
Aroclor 1016		0.02 U	0.02 U	0.02 U
Aroclor 1221		0.02 U	0.02 U	0.02 U
Aroclor 1232		0.02 U	0.02 U	0.02 U
Aroclor 1242		0.02 U	0.02 U	0.02 U
Aroclor 1248		0.02 U	0.02 U	0.02 U
Aroclor 1254		0.01 J	0.03	0.03
Aroclor 1260		0.02 U	0.02 U	0.02 U

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

TABLE 14

Soil metals data

O'BRIEN & GERE ENGINEERS, INC.

Table 14
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Metals Data

Compound									
Sample ID	SB-110	SB-111	SB-112	SB-113B	SB-113C	SB-114	SB-117	SB-118	SB-125
Sample Depth	20 - 21 ft	18 ft	16 - 20 ft	16 - 20 ft	12 - 16 ft	20 ft	12 ft	8 - 12 ft	4 ft
Sample Date	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00	11/30/00	12/01/00
Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI	GD
Lab Sample ID	R6327	R6330	R6337	R6460	R6461	R6459	R6463	R6507	R6529
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aluminum	1980	5580	3160	8180	7420	2750	4690	4060	10500
Antimony	0.19 J	0.16 UJ	0.18 J	0.16 UJ	0.17 UJ	0.17 UJ	0.21 J	0.15 UJ	0.16 UJ
Arsenic	1.3	4.1	5.2	0.49 J	21.2	1.1	2.8	2.1	3.7
Barium	10.5 J	22.2	12.7	6.2 J	55.6	9.6 J	22.4	15.5	24.5
Beryllium	0.20 J	0.29 J	0.17 J	0.10 J	0.51 J	0.12 J	0.24 J	0.25 J	0.56 J
Cadmium	0.026 U	0.027 U	0.027 U	0.026 U	0.12 J	0.029 U	0.026 U	0.026 U	0.027 U
Calcium	613	2820	2480	101 J	5460	197	1750	1300	389
Chromium	20.2	25.4	10.7	4.7	22.9	6.2	22.9	9.2	15.2
Cobalt	1.3 J	3.6 J	1.7 J	0.44 J	3.3 J	0.76 J	2.1 J	5.8	5.6
Copper	7.7	19.4	4.7	8.7	16.6	3.3	8.2	16.3	7.2
Iron	8030	11400	6610	3090	11600	3950	8300	8640	16100
Lead	2.6	13.0	9.5	3.7	21.5	1.8	5.8	5.8	7.7
Magnesium	521	1840	738	152	1560	302	800	1090	1440
Manganese	59.0	101	82.7	24.2	304	40.0	91.0	178	181
Mercury	0.030 U	0.064 J	0.030 U	0.030 U	0.046 J	0.033 U	0.029 U	0.029 U	0.031 U
Potassium	279 J	397 J	196 J	114 J	607	295 J	318 J	336 J	434 J
Selenium	0.22 U	0.31 J	0.23 U	0.22 U	0.23 U	0.24 U	0.37 J	0.42 J	0.46 J
Silver	0.20 J	0.36 J	0.17 J	0.16 J	0.49 J	0.40 J	0.22 J	0.12 J	0.19 J
Sodium	66.7 J	202	52.3 J	44.8 J	1780	42.6 J	115	119	47.9 J
Thallium	0.39 U	0.39 U	0.40 U	0.39 U	0.41 U	0.43 U	0.38 U	0.38 U	0.44 J
Vanadium	4.3 J	18.6	6.8	2.5 J	15.5	3.2 J	9.7	15.5	18.4
Zinc	14.9	29.6	18.6	17.3	55.0	11.8	20.1	21.9	25.1

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 14
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Metals Data

Compound									
	Sample ID	SB-131	SB-131	SB-141	SB-142	SB-143	SB-152	SB-158	SB-166
	Sample Depth	16 - 20 ft	4 - 8 ft	16 - 20 ft	8 - 12 ft	4 - 8 ft	1 - 2 ft	16 - 20 ft	8 - 12 ft
	Sample Date	12/07/00	12/07/00	12/03/00	12/03/00	12/03/00	12/04/00	12/08/00	12/08/00
	Property	GD	GD	MDI	MDI	MDI	AT	MDI	MDI
	Lab Sample ID	R6896	R6895	R6650	R6653	R6654	R6636	R6956	R6955
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aluminum		1720	1810	1360	5200	5180	9070	2520	20300 D
Antimony		0.15 UJ	0.15 UJ	0.15 UJ	0.16 UJ	0.16 UJ	0.17 UJ	0.22 J	11.9 J
Arsenic		1.0	1.3	0.92	5.5	2.0	3.8	1.1	0.21 U
Barium		6.9 J	6.9 J	7.8 J	37.8	15.7	19.6	13.0	29.9
Beryllium		0.17 J	0.17 J	0.13 J	0.31 J	0.30 J	0.41 J	0.22 J	0.21 J
Cadmium		0.025 U	0.025 U	0.025 U	0.78 J	0.026 U	0.028 U	0.026 U	0.78 J
Calcium		133	304	143	6740	284	1390	592	355
Chromium		4.0	5.2	2.6	10.5	9.5	11.4	18.6	36.7
Cobalt		1.1 J	1.9 J	1.4 J	2.9 J	2.2 J	6.8	2.4 J	7.3
Copper		7.8	4.5	2.1	17.4	3.6	9.5	6.0	53.5
Iron		5180	3970	3860	8500	7000	14300	6580	3080 D
Lead		1.4	1.5	1.3	15.4	3.3	7.2	2.3	29.5
Magnesium		303	341	295	1160	762	1840	664	530
Manganese		90.5	82.7	51.9	124	59.0	287	77.9	35.4
Mercury		0.029 U	0.029 U	0.029 U	0.031 U	0.030 U	0.032 U	0.029 U	0.052 J
Potassium		160 J	182 J	174 J	465 J	298 J	392 J	351 J	223 J
Selenium		0.21 U	0.21 U	0.21 U	0.34 J	0.24 J	0.51 J	0.22 U	0.23 U
Silver		0.074 U	0.25 J	0.099 J	0.36 J	0.076 U	0.15 J	0.075 U	8.8
Sodium		36.5 J	43.5 J	37.7 J	75.3 J	65.3 J	52.5 J	79.2 J	176
Thallium		0.49 J	0.47 J	0.37 U	0.40 U	0.73 J	0.44 J	0.95 J	1.3
Vanadium		3.6 J	4.1 J	3.0 J	10.9	10.1	16.6	6.7	0.043 U
Zinc		7.6	16.9	8.0	167	11.4	23.2	8.8	34.5

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

TABLE 15

Soil nickel data

O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

	Sample ID	SB-110	SB-111	SB-112	SB-112	SB-112	SB-113	SB-113	SB-113B	SB-113C
	Sample Depth	20 - 21 ft	18 ft	0 - 4 ft	16 - 20 ft	8 - 12 ft	12 ft	4 - 8 ft	16 - 20 ft	12 - 16 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00
	Property	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6327	R6330	R6336	R6337	R6334	R6340	R6339	R6460	R6461
Compound	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		6.9	22.9	171	26.4	10.1	68.0	39.4	6.2	55.6

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound										
	Sample ID	SB-114	SB-114	SB-114	SB-115	SB-116	SB-117	SB-118	SB-119	SB-120
	Sample Depth	12 ft	20 ft	4 ft	8 - 12 ft	16 - 20 ft	12 ft	8 - 12 ft	12 - 16 ft	12 - 16 ft
	Sample Date	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	GD	GD
	Lab Sample ID	R6457	R6459	R6458	R6454	R6456	R6463	R6507	R6512	R6508
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		15.3	3.4 J	2.8 J	4.8 J	2.5 J	80.4	12.2	86.2	147

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound										
	Sample ID	SB-121	SB-122	SB-123	SB-124	SB-125	SB-126	SB-127	SB-128	SB-129
	Sample Depth	18 - 20 ft	12 - 16 ft	8 - 12 ft	12 - 16 ft	4 ft	4 - 8 ft	0 - 4 ft	0 - 4 ft	2 - 3 ft
	Sample Date	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/08/00	12/07/00	12/07/00	12/01/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6533	R6534	R6536	R6527	R6529	R6946	R6897	R6903	R6537
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		1.5 J	26.4	2.1 J	29.9	20.1	4.3 J	13.4	6.0	251

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound										
	Sample ID	SB-131	SB-131	SB-133	SB-133DUP	SB-134	SB-135	SB-136	SB-138	SB-139
	Sample Depth	16 - 20 ft	4 - 8 ft	0 - 4 ft	0 - 4 ft	12 - 16 ft	8 - 12 ft	0 - 4 ft	16 - 20 ft	4 ft
	Sample Date	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/08/00	12/03/00	12/03/00
	Property	GD	GD	GD	GD	GD	GD	GD	MDI	MDI
	Lab Sample ID	R6896	R6895	R6898	R6899	R6901	R6906	R6958	R6656	R6658
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		3.3 J	5.8	384 J	46.3 J	2.5 J	2.9 J	10.5	0.89 J	6.6

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound	Sample ID	SB-140	SB-141	SB-142	SB-143	SB-144	SB-145	SB-145	SB-146A	SB-146B
	Sample Depth	4 ft	16 - 20 ft	8 - 12 ft	4 - 8 ft	5 - 6 ft	20 ft	8 ft	1 ft	1 ft
	Sample Date	12/03/00	12/03/00	12/03/00	12/03/00	12/06/00	12/09/00	12/09/00	12/04/00	12/04/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	AT	AT
	Lab Sample ID	R6659	R6650	R6653	R6654	R6833	R6935	R6936	R6644	R6647
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		109	1.8 J	8.3	4.1 J	433	140	910	23.5	27.5

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound										
	Sample ID	SB-146CDUP	SB-147	SB-148	SB-149	SB-150	SB-151	SB-152	SB-153	SB-153DUP
	Sample Depth	2 ft	16 - 20 ft	8 - 11.5 ft	6 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft	0.5 - 2 ft	0.5 - 2 ft
	Sample Date	12/04/00	12/06/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00
	Property	AT	MDI	AT	AT	AT	AT	AT	AT	AT
	Lab Sample ID	R6649	R6823	R6625	R6628	R6630	R6633	R6636	R6639	R6641
Compound	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		6.0	3.9 J	6.1	3.9 J	60.3	21.5	14.2	1790	3980

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 15
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Nickel Data

Compound								
	Sample ID	SB-154	SB-155	SB-156	SB-157	SB-158	SB-159	SB-166
	Sample Depth	4 - 8 ft	4 - 8 ft	4 - 8 ft	12 - 16 ft	16 - 20 ft	8 - 12 ft	8 - 12 ft
	Sample Date	12/04/00	12/06/00	12/06/00	12/06/00	12/08/00	12/06/00	12/08/00
	Property	AT	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6642	R6824	R6829	R6825	R6956	R6834	R6955DL
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Nickel		11.5	6.8	2.0 J	2.0 J	13.3	26.0	20100 D

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound	Sample ID	SB-110	SB-110	SB-110	SB-110	SB-111	SB-111	SB-111	SB-111	SB-112
	Sample Depth	18 - 20 ft	20 - 21 ft	21 - 22 ft	3 - 4 ft	0 - 4 ft	18 ft	2 ft	4 ft	0 - 4 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	MDI
	Lab Sample ID	R6326	R6327	R6328	R6325	R6329	R6330	R6332	R6331	R6336
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		95.8	94.6	96.4	93.1	91.4	94.0	92.3	73.7	93.0
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-112	SB-112	SB-112	SB-112	SB-113	SB-113	SB-113	SB-113	SB-113B
	Sample Depth	16 - 20 ft	2 - 3 ft	4 - 8 ft	8 - 12 ft	0 - 4 ft	12 ft	13.5 - 14 ft	4 - 8 ft	16 - 20 ft
	Sample Date	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/29/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6337	R6335	R6333	R6334	R6338	R6340	R6341	R6339	R6460
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		93.1	87.7	82.7	79.4	89.4	95.7	77.2	81.6	94.5
Fluoride		---	---	---	---	---	---	---	---	---
pH		8.1	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-113C	SB-114	SB-114	SB-114	SB-115	SB-115	SB-116	SB-116	SB-117
	Sample Depth	12 - 16 ft	12 ft	20 ft	4 ft	12 - 16 ft	8 - 12 ft	16 - 20 ft	4 - 8 ft	0 - 4 ft
	Sample Date	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6461	R6457	R6459	R6458	R6453	R6454	R6456	R6455	R6462
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		90.2	97.7	86.6	98.5	98.6	98.5	96.4	83.5	84.9
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

	Sample ID	SB-117	SB-118	SB-118	SB-118	SB-119	SB-119	SB-120	SB-120	SB-120
	Sample Depth	12 ft	17.5 - 20.0 ft	4 ft	8 - 12 ft	0 - 4 ft	12 - 16 ft	12 - 16 ft	24 ft	4 - 8 ft
	Sample Date	11/29/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00
	Property	MDI	MDI	MDI	MDI	GD	GD	GD	GD	GD
	Lab Sample ID	R6463	R6505	R6506	R6507	R6511	R6512	R6508	R6510	R6509
Compound	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		96.6	96.3	79.4	97.3	82.4	97.2	89.6	96.5	97.2
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	8.7	---	---	8.4	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-120D	SB-121	SB-121	SB-122	SB-123	SB-123	SB-124	SB-124	SB-125
	Sample Depth	12 - 16 ft	0 - 4 ft	18 - 20 ft	12 - 16 ft	0 - 4 ft	8 - 12 ft	0 - 4 ft	12 - 16 ft	4 ft
	Sample Date	11/30/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6513	R6532	R6533	R6534	R6535	R6536	R6528	R6527	R6529
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		95.5	88.7	97.4	97.1	90.0	97.0	87.8	97.3	92.2
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

	Sample ID	SB-125DUP	SB-126	SB-126	SB-126	SB-127	SB-128	SB-128DUP	SB-129	SB-130
	Sample Depth	4 ft	0 - 4 ft	16 - 20 ft	4 - 8 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	2 - 3 ft	16 - 20 ft
	Sample Date	12/01/00	12/08/00	12/08/00	12/08/00	12/07/00	12/07/00	12/07/00	12/01/00	12/06/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6531	R6945	R6947	R6946	R6897	R6903	R6904	R6537	R6836
Compound	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		81.5	98.5	98.4	86.8	96.0	96.9	95.0	95.7	98.7
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	7.6	---	---	7.9	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound	Sample ID	SB-131	SB-131	SB-131	SB-132	SB-133	SB-133DUP	SB-134	SB-134	SB-134
	Sample Depth	0 - 4 ft	16 - 20 ft	4 - 8 ft	1 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	12 - 16 ft	16 - 20 ft
	Sample Date	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00
	Property	GD	GD	GD	GD	GD	GD	GD	GD	GD
	Lab Sample ID	R6894	R6896	R6895	R6905	R6898	R6899	R6900	R6901	R6902
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		87.1	99.2	99.0	93.0	92.8	93.7	93.8	98.8	98.8
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	6.5	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-135	SB-136	SB-137	SB-138	SB-138	SB-139	SB-140	SB-141	SB-141
	Sample Depth	8 - 12 ft	0 - 4 ft	0 - 4 ft	16 - 20 ft	8 - 12 ft	4 ft	4 ft	12 - 16 ft	16 - 20 ft
	Sample Date	12/07/00	12/08/00	12/08/00	12/03/00	12/03/00	12/03/00	12/03/00	12/03/00	12/03/00
	Property	GD	GD	GD	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6906	R6958	R6959	R6656	R6657	R6658	R6659	R6651	R6650
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		98.8	89.0	93.4	97.8	98.4	89.0	92.7	98.2	99.0
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	6.8

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-142	SB-142	SB-143	SB-143	SB-144	SB-144	SB-144	SB-144DUP	SB-145
	Sample Depth	16 - 20 ft	8 - 12 ft	16 - 20 ft	4 - 8 ft	0 - 4 ft	5 - 6 ft	6 ft	5 - 6 ft	12 - 16 ft
	Sample Date	12/03/00	12/03/00	12/03/00	12/03/00	12/06/00	12/06/00	12/06/00	12/06/00	12/09/00
	Property	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6652	R6653	R6655	R6654	R6830	R6833	R6832	R6831	R6937
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		93.4	93.0	97.8	96.2	85.4	94.0	94.6	94.5	43.4
Fluoride		---	---	---	---	---	---	---	---	0.4
pH		---	8.2	---	5.4	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Sample ID	SB-145	SB-145	SB-146A	SB-146A	SB-146B	SB-146B	SB-146C	SB-146CDUP	SB-147
Sample Depth	20 ft	8 ft	0 - 4 ft	1 ft	0 - 4 ft	1 ft	2 ft	2 ft	16 - 20 ft
Sample Date	12/09/00	12/09/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/06/00
Property	MDI	MDI	AT	AT	AT	AT	AT	AT	MDI
Lab Sample ID	R6935	R6936	R6645	R6644	R6646	R6647	R6648	R6649	R6823
Compound / Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids	97.2	87.6	87.8	89.6	81.6	82.2	81.9	96.4	97.0
Fluoride	---	---	---	---	---	---	---	---	---
pH	8.9	8.8	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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FXP File: N:\5816\009\DATA\TABSUPP.FXP

File Number: 5816.009

TABLE 16

Percent solids, fluoride and pH data

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-148	SB-148	SB-148	SB-149	SB-149	SB-150	SB-150	SB-151	SB-151
	Sample Depth	4 - 8 ft	8 - 11.5 ft	9 ft	6 ft	8 - 12 ft	1 - 2 ft	8 - 12 ft	1 - 2 ft	1 ft
	Sample Date	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00
	Property	AT	AT	AT	AT	AT	AT	AT	AT	AT
	Lab Sample ID	R6627	R6625	R6626	R6628	R6629	R6630	R6631	R6633	R6632
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		93.1	93.5	93.9	95.8	87.5	94.4	94.5	86.0	86.4
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound		SB-151	SB-151DUP	SB-152	SB-152	SB-152	SB-153	SB-153	SB-153DUP	SB-154
	Sample Depth	8 - 12 ft	8 - 12 ft	0 - 4 ft	1 - 2 ft	8 - 14 ft	0.5 - 2 ft	0 - 4 ft	0.5 - 2 ft	0 - 4 ft
	Sample Date	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00
	Property	AT	AT	AT	AT	AT	AT	AT	AT	AT
	Lab Sample ID	R6634	R6635	R6637	R6636	R6638	R6639	R6640	R6641	R6643
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		90.1	92.2	81.6	89.5	88.5	81.4	89.1	83.0	97.0
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound		SB-154	SB-155	SB-156	SB-156	SB-156 DUP	SB-157	SB-157	SB-158	SB-158DUP
	Sample Depth	4 - 8 ft	4 - 8 ft	0 - 4 ft	4 - 8 ft	4 - 8 ft	0 - 4 ft	12 - 16 ft	16 - 20 ft	16 - 20 ft
	Sample Date	12/04/00	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/08/00	12/08/00
	Property	AT	MDI	MDI	MDI	MDI	MDI	MDI	MDI	MDI
	Lab Sample ID	R6642	R6824	R6827	R6829	R6828	R6826	R6825	R6956	R6957
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		98.0	93.7	92.6	98.9	98.6	85.7	98.7	96.9	88.1
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	---	---	8.4	8.8	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

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FXP File: N:\5816\009\DATA\TABSUPP.FXP

File Number: 5816.009

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

Compound										
	Sample ID	SB-159	SB-159	SB-160	SB-161	SB-161	SB-162	SB-163	SB-164	SB-165
	Sample Depth	0 - 4 ft	8 - 12 ft	0 - 4 ft	0 - 4 ft	16 - 20 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft	0 - 4 ft
	Sample Date	12/06/00	12/06/00	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00
	Property	MDI	MDI	AT	AT	AT	AT	AT	AT	AT
	Lab Sample ID	R6835	R6834	R6948	R6949	R6954	R6950	R6951	R6952	R6953
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Percent Solids		92.5	98.8	89.1	84.0	78.2	80.9	77.4	82.2	83.2
Fluoride		---	---	---	---	---	---	---	---	---
pH		---	7.5	---	---	---	---	---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

O'BRIEN & GERE ENGINEERS, INC.

Table 16
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Soil Boring
Percent Solids, Fluoride, and pH Data

	Sample ID	SB-166	SB-169	SB-170
	Sample Depth	8 - 12 ft	12 - 16 ft	16 - 20 ft
	Sample Date	12/08/00	12/09/00	12/09/00
	Property	MDI	MDI	GD
	Lab Sample ID	R6955	R6938	R6939
Compound	Units	mg/L	mg/L	mg/L
Percent Solids		93.3	84.5	95.1
Fluoride		---	---	---
pH		---	---	---

NOTES: U - not detected, J - estimated value, D - from diluted analysis, R - unusable.
* Properties are: AT - Air Techniques, GD - Gilbert Displays, MD - Magazine Distributors, GC - Golf Course, BK - Background, DPW - Department of Public Works.

TABLE 17

Ground water nickel and pH

O'BRIEN & GERE ENGINEERS, INC.

Table 17
GTE Operations Support Incorporated
Former Sylvania Electric Products Facility - Hicksville, NY
Ground Water
Nickel and pH Data

Compound		
	Sample ID	MW-1
	Sample Depth	
	Sample Date	12/05/00
	Property	
	Lab Sample ID	
	Units	mg/L
Nickel		0.229
pH		6.3

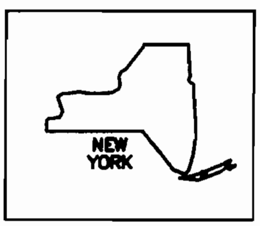
NOTES: U - not detected, J - estimated value.

FIGURE 1

Site location map

FIGURE 1

SOURCE: USGS 7.5 MINUTES HICKSVILLE QUADRANGLE MAP, 1967.



STATE LOCATION MAP

GTE OPERATIONS SUPPORT INCORPORATED
FORMER SYLVANIA ELECTRIC PRODUCTS
INCORPORATED FACILITY
HICKSVILLE, NEW YORK

SITE LOCATION MAP

4000 0 4000

1"=4000'

5816.001.701
DEC. 1999

O'BRIEN & GERE ENGINEERS INC.

FIGURE 2

Site boring locations

FIGURE 3

Site boring locations with historic overlays

FIGURE 4

Site vapor data

FIGURE 5

Volatile organic compounds in soil

FIGURE 6

Nickel in soil

FIGURE 7

Soil gamma spectroscopy data

FIGURE 8

U238 and Th232 data

FIGURE 9

Ground water flow map

APPENDIX A

Photographs

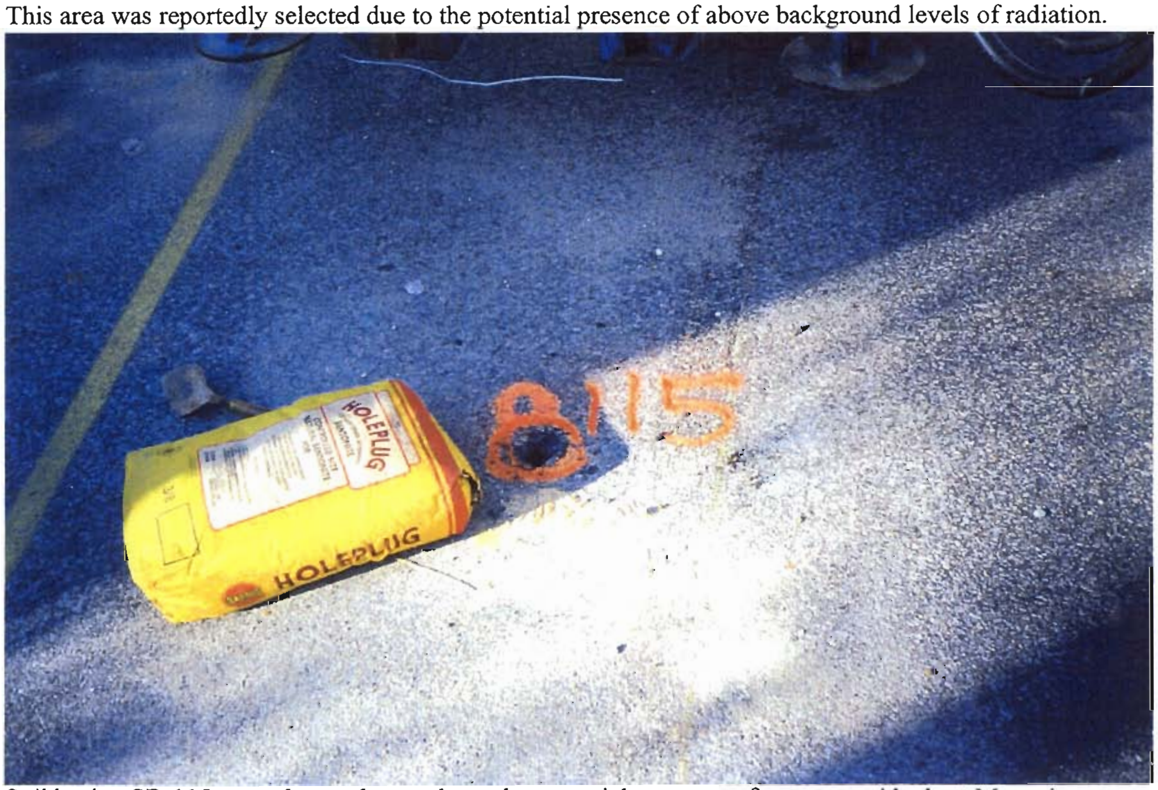
Site Photographs

Photographs of SB-001 through SB-109 were included in the Investigative Report - January 2000 (Revision 2: December 2000). The enclosed photographs (SB-110 through SB-170) were taken during the Supplemental Investigation.

Soil borings SB-110 and SB-111 at the former Gilbert Displays Building.


SB-113 A, B, and C. Borings 113B and C were discrete sampling locations. These borings were installed to delineate Nickel in the subsurface at this location.

Soil boring SB-114 was installed between SB-074 and SB-070, in an area selected by NYSDEC personnel. This area was reportedly selected due to the potential presence of above background levels of radiation.



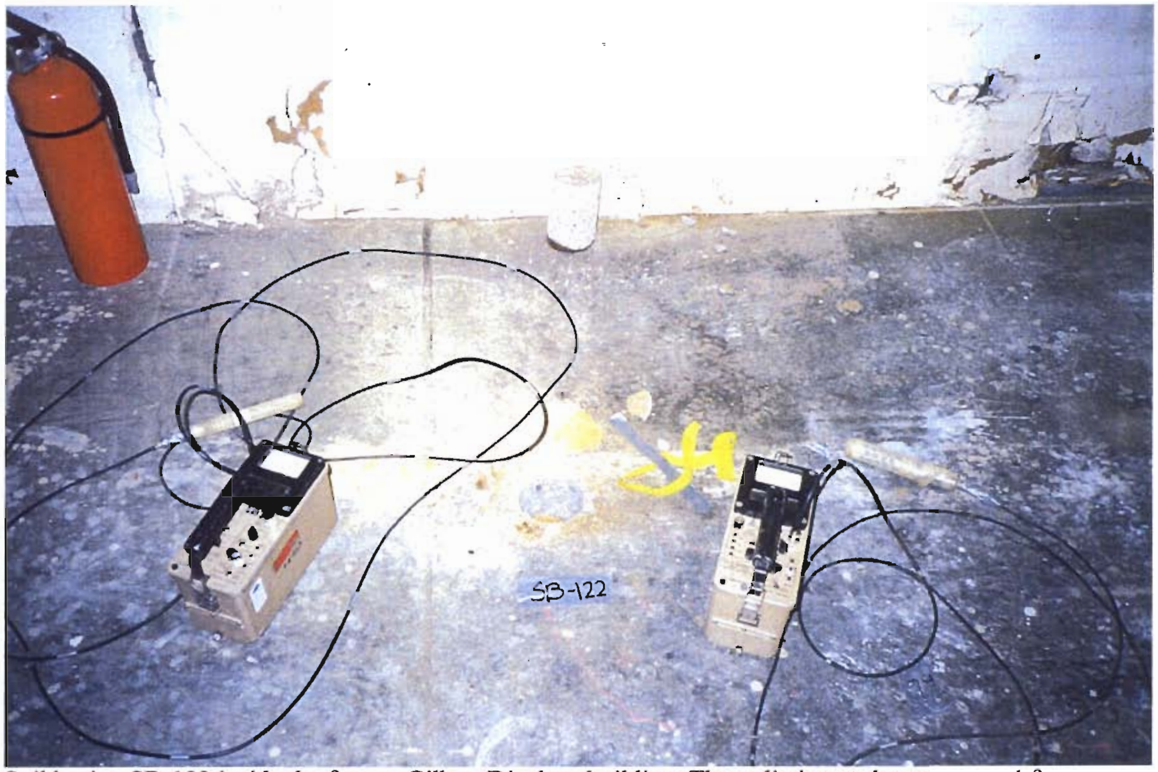
Soil boring SB-115 was advanced to evaluate the potential presence of process residuals at Magazine Distributors.

Soil boring SB-117 at the corner of the Magazine Distributors Building at a historic drywell location.

Soil boring SB-118 at the corner of the Magazine Distributors Building.

Soil Boring SB-119 inside of the former Gilbert Displays Building. Note tape on the floor showing surface levels of radiation (placed by Jack Kadelecek, NYSDEC).


Soil boring SB-120, inside the former Gilbert Displays Building.



Soil boring SB-122 inside the former Gilbert Displays building. The radiation probes were used for downhole.measurements

Soil boring SB-123 inside the former Gilbert Displays Building.

Soil boring SB-124 inside the former Gilbert Displays Building.


Inside of former Gilbert Displays Building. Soil boring SB-119, SB-120, SB-121, SB-124, SB-125, and SB-126 were installed in this area.

Soil boring SB-125 inside the former Gilbert Displays Building.


Soil boring SB-127 inside the former Gilbert Displays Building. This location was a supplemental location chosen by Jack Kadelecek, NYSDEC.

Soil boring SB-128, inside the former Gilbert Displays Building. This boring was placed to investigate surface levels of radiation.

Soil boring SB-130 was placed in the center of the former Gilbert Displays Building, at the location of a former historic leaching pool.

Soil boring SB-131 inside the former Gilbert Displays Building. LPH indicates an historic leaching pool.

Soil boring SB-132 was added to the scope to determine whether the increase in surface radiation was a result of the proximity to the brick wall.

SB-126 and SB-137 inside the former Gilbert Displays Building.

SB-144 was placed near SB-081 on the south side of Magazine Distributors near the transformer.

Soil boring SB-138 at the exterior of Magazine Distributors. This boring was installed at this location at the direction of and in consultation with NYSDEC.

Soil boring SB-139 was installed near the historic transformer pad on Magazine Distributors.

Soil boring SB-140 was installed near the historic transformer pad at Magazine Distributors.

.

Soil boring SB-141 was installed inside Magazine Distributors to investigate an historic leaching pool.

.

Soil boring SB-142 was located inside Magazine Distributors to investigate an historic leaching pool.

Soil boring SB-143 was placed inside the back door of Magazine Distributors to investigate an historic leaching pool.

Soil boring SB-144 was located adjacent to and south of Magazine Distributors. Note paint markings indicating the presence of utilities.


Soil boring SB-145 was placed south of Magazine Distributors to investigate an historic leaching pool.

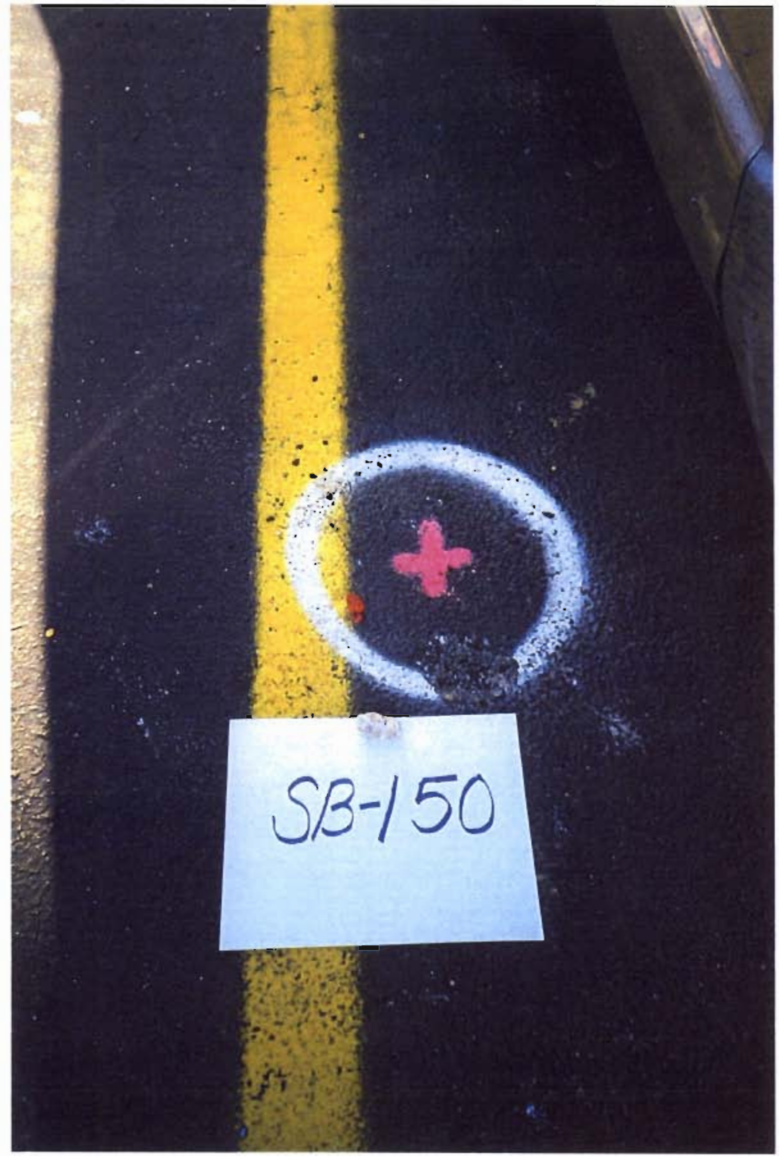
The SB-146 series of borings were used to delineate the area of elevated radiation at Air Techniques. It was determined that the elevated levels of radiation were associated with the asphalt. Photograph shows SB-146A.

SB-146B (Air Techniques).

SB-146C (Air Techniques).

Soil boring SB-147 was placed on Magazine Distributors to delineate near SB-083.

SB-146a - SB-146c along sewer line.



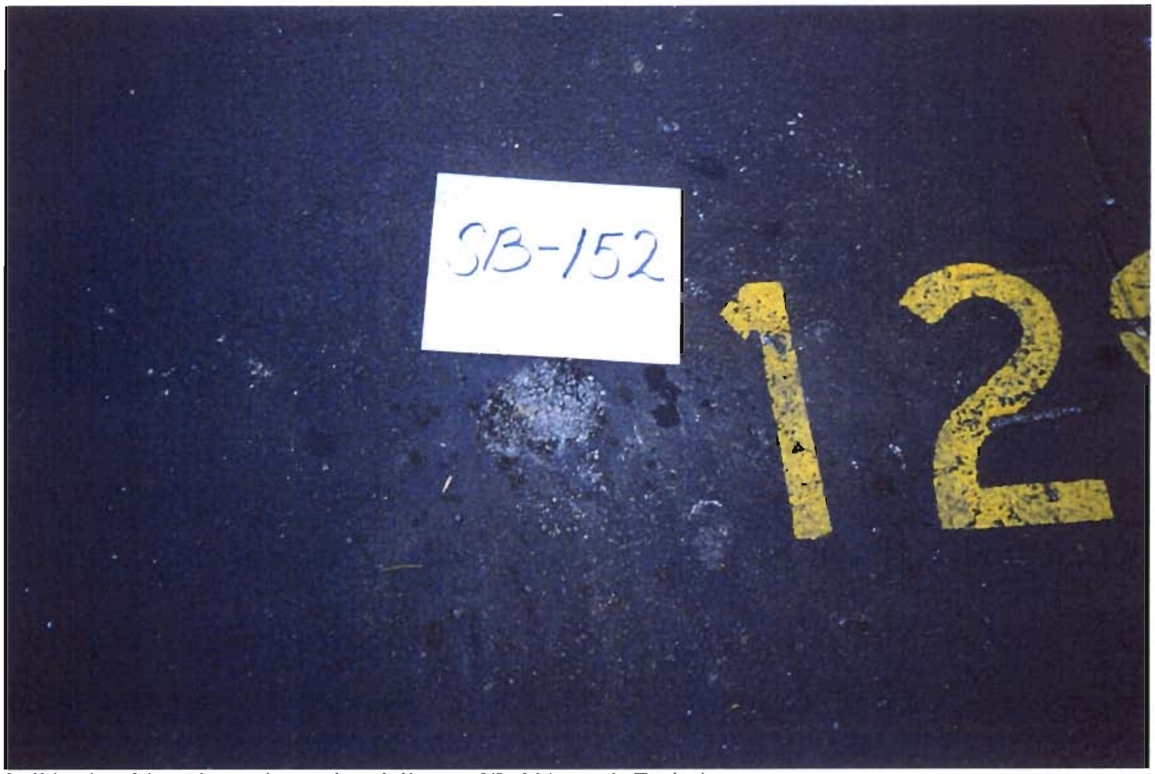
SB-150, on Air Techniques, was to delineate the area around SB-003

Soil boring SB-148 was advanced to investigate an anomalous area on Air Techniques.

Soil boring SB-149 was used to delineate the above background radioactivity found at SB-003.

SB-151 was to delineate around SB-003 at Air Techniques.

SB-157 was located between SB-094 and SB-095 at the rear of Magazine Distributors.



Soil boring SB-152 was located to delineate SB-003 at Air Techniques.

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Soil boring SB-153 was located at Air Techniques (adjacent to Magazine Distributors) to investigate an area of surface radiation denoted by Jack Kadelecek, NYSDEC.

..

Soil boring SB-155 was advanced near SB-064 at the request of NYSDEC.

Soil boring SB-156 was advanced to further define SB-064 (southeast of the former reservoir).

Soil boring SB-158 was installed to investigate an historic leaching pool on the south side of Magazine Distributors.

Soil boring SB-159 was advanced to further define the concentrations of contaminants east of and between SB-077 and SB-082.

Soil boring SB-160 was used to delineate radioactivity near SB-003 at Air Techniques.

Soil borings SB-163, SB-164, and SB-165 were used to delineate radionuclides in surface materials at Air Techniques.

Soil boring SB-161 was used to delineate surface areas of radionuclides.

Soil boring SB-162 was used to delineate radionuclides in surface materials at Air Techniques.

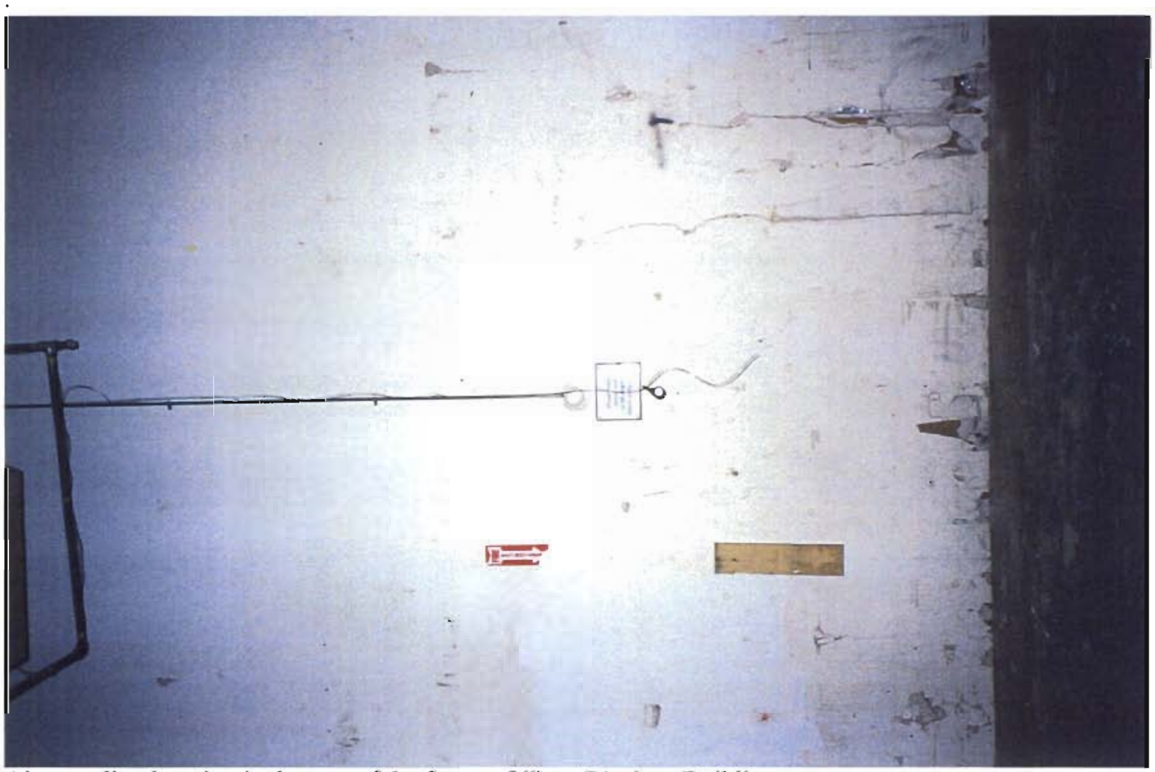
Soil boring SB-163 was used to delineate areas of surface radiation at Air Techniques.

Soil boring SB-166 was advanced to investigate an historical leaching pool south of Magazine Distributors. Note air monitoring equipment housed in tote.

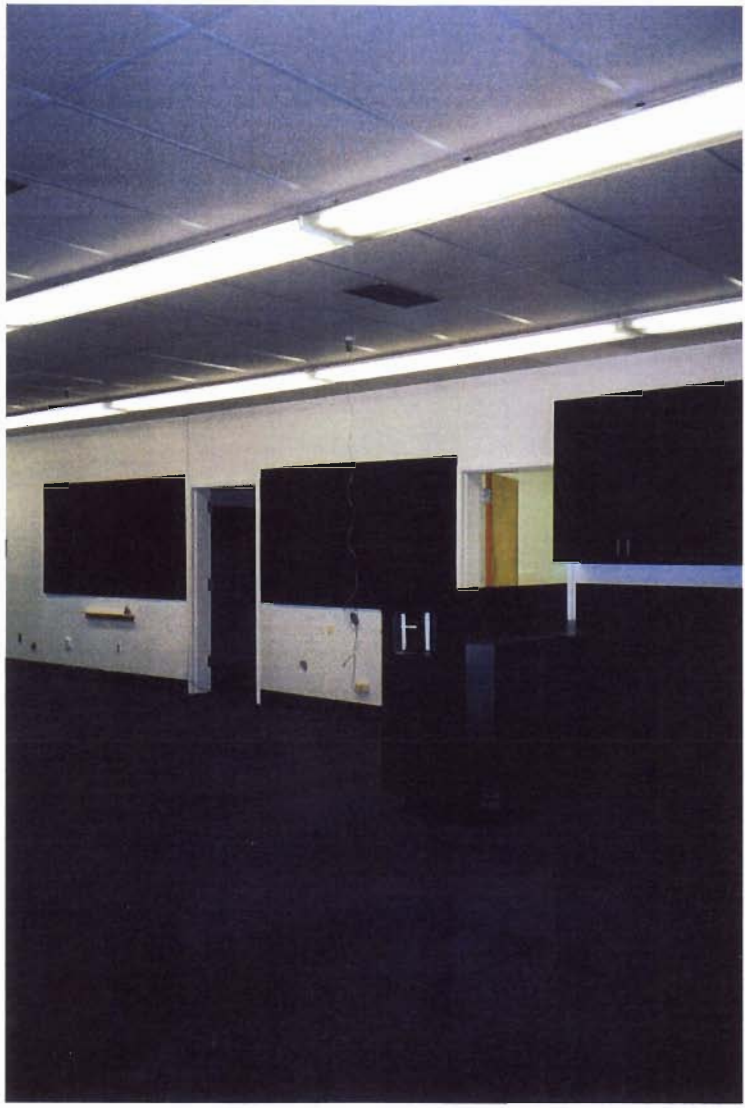
Soil borings SB-168 and SB-169 were used to delineate the extent of "green" material in SB-145.

Soil boring SB-170 was advanced at the request of NYSDEC to delineate the building rubble identified in SB-054. There was no rubble identified in SB-170.

Air sampling location in the center of the former Gilbert Displays Building.



Air sampling location in the rear of the former Gilbert Displays Building.



Air sample (front location) inside the former Gilbert Displays Building.

Equipment used to examine cores for radiation.

Rear of former Gilbert Displays Building (view from roof). Numbers marked on pavement denote boring locations.

Rear of former Gilbert Displays Building (view from roof) Orientation is further south compared to the previous picture.

Coring the floor at Magazine Distributors.

NAEVA utility clearance inside Magazine Distributors.

Office / work area inside of the former Gilbert Displays Building.

Geologist table in the office area.

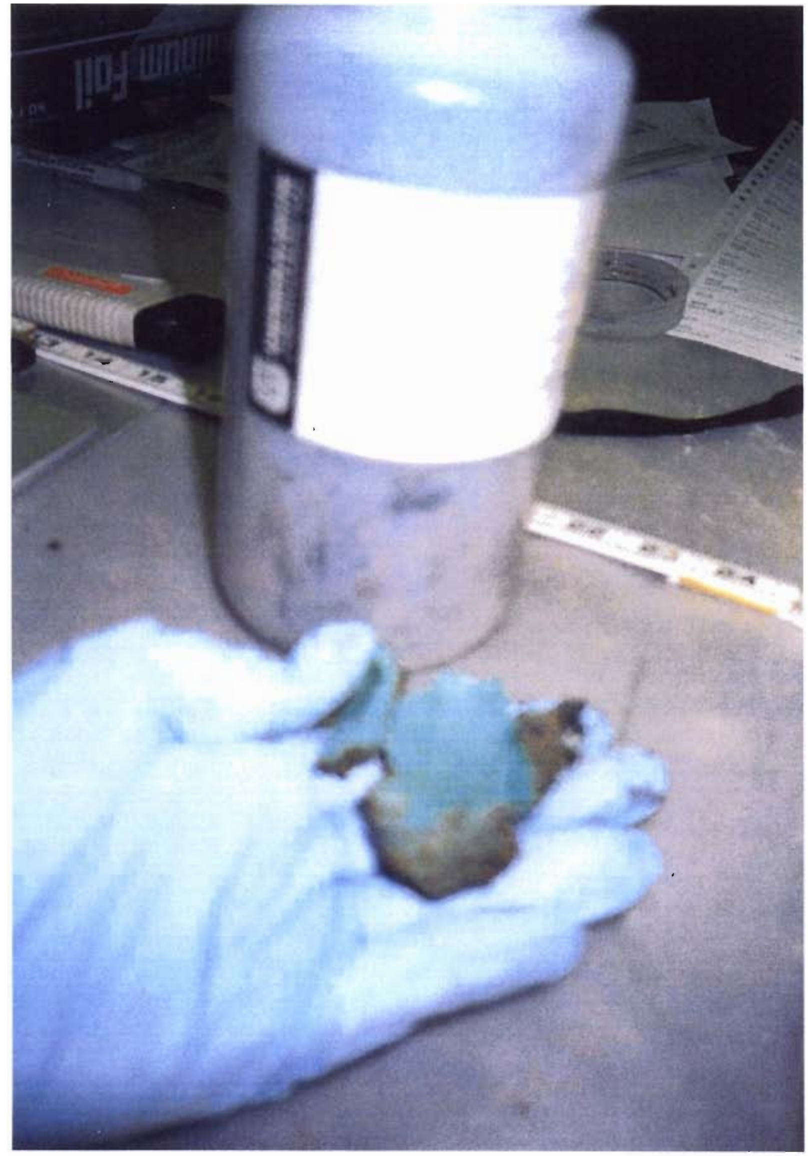
Hurricane Geoprobe Rig (inside the former Gilbert Displays Building).


Geotechnical drill rig. Two geotechnical borings were advanced adjacent to the former Gilbert Displays Building. View of GT-1.

Downhole readings.

Pole with radiation in concrete. Area was bored and no radiation was detected.

Photograph shows field analyst using a Ludlum Model 19 to scan a core for radiation as it was extracted from the borehole.



"Green" sample obtained from boring SB-145 at Magazine Distributors.

Cores representative of those collected during November – December 2000 Supplemental Investigation.

APPENDIX B

Boring logs

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING GT-1
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 2-foot split spoons Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/5/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Pam Cox		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0 - 2	-	12/24	12	Asphalt				
	19	8	4	7		Gray GRAVEL (FILL)		--	0.6	
						Brownish yellow SILT, little Sand				
						(dry, medium dense)				
2	2	2 - 4	-	18/24	17			ML	0.8	
	3	4	13	17		@ 3' Light brown SAND, little Gravel				
						(dry, medium dense)				
4	3	4-8	-	22/24	25			SP	1.1	
	4	10	15	27						
6	4	6-8	-	23/24	57			SP	1	
	20	26	31	38						
8	5	8-10	-	24/24	45	similar (moist, dense)		SP	0.8	
	16	18	27	13						
9	6	10-12	-	24/24	48			SP	1.3	
	9	23	25	27						
10	7	12-14	-	24/24	60	grades to brownish yellow SAND,		SP	1.1	
	26	38	22	25		some Gravel (moist, dense)				
11	8	14-16	-	24/24	43			SP	1	
	11	19	24	23						
12	9	16-18	-	24/24	39			SP	0.6	
	11	20	19	13						
13	10	18-20	-	24/24	30			SP	0.5	
	14	13	17	23						
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING GT-2
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 2-foot split spoons Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/5/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale / Pam Cox		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-2	-	12/24	12	Asphalt				
	5	5	7	5		Moderate yellowish brown 10YR5/4			1.7	
						SAND, some gravel (dry)				
2	2	2-4	-	24/24	36				2.4	
	14	17	19	19		@ 3' CLAY, trace gravel				
4	3	4-8	-	24/24	62				2.4	
	6	24	38	51		@ 5' Moderate yellowish brown 10YR				
						5/4 SAND, some gravel (subrounded)				
6	4	6-8	-	23	57	Similar (moist, dense)			NL	
	20	26	31	38						
8	5	8-10	-	24/24	54	Similar (moist, dense)			1.4	
	15	30	24	36						
9	6	10-12	-	24/24	87	Brownish yellow SAND, some fine			1.3	
	31	39	48	51		gravel (subrounded) (moist)				
10	7	12-14	-	24/24	43	Similar (moist, dense)			NL	
	7	21	22	30						
11	8	14-16	-	20/24	52	Similar (moist, dense)			1.1	
	16	21	31	25						
12	9	16-18	-	--/24	49	Brownish yellow SAND, little gravel			0.9	
	25	24	25	29		(moist, dense)				
13	10	18-20	-	12/24	21	Similar (moist, medium dense)			0.2	
	10	11	10	12						
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-110
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/28/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		36/48		0-3" Asphalt Dusky brown 5YR2/2 SAND, trace gravel (subangular, subrounded) (moist, loose)			3.4	
4	2	4-8		43/48		Similar @ 4.5' grades to grayish brown 5YR 3/2			1.6	
8	3	8-12		43/48		Similar @ 9' grades to SAND, some gravel			5.3	
12	4	12-16		48/48		Similar			14.0	
16	5	16-20		48/48		grades to SAND, trace gravel			14.0	
20	6	20-24		24/48		Similar			4.6	
						Boring was terminated at 24'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-111
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/28/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		Grayish brown 5YR3/2 SAND and SILT, some gravel (moist, loose) @ 15" Dusky yellow brown 10YR2/2 SAND, some gravel (subangular, sub-			24.6	
4	2	4-8		41/48		Similar			22.5	
8	3	8-12		48/48		Similar			3.8	
12	4	12-16		48/48		Similar			NL	
16	5	16-20		48/48		Similar			3.1	
20	6	20-21		12/12		Similar			1.3	
						Boring was terminated at 21'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-112
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/28/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		43/48		0-5" Asphalt Dark yellow brown 10YR4/2 SAND, some gravel (subangular, subrounded) (moist, loose) @ 16" SILTY CLAY, some gravel			3.8	
4	2	4-8		39/48		Similar @ 4.5' Dusky yellow brown 10YR2/2 SAND, some gravel (subangular, sub-rounded) (moist, loose) @ 6.5' SILT and CLAY, some gravel			30	
8	3	8-12		48/48		Similar @8.5' Dark yellowish orange 10YR6/6 SAND and SILT, some gravel (subangular-subrounded) (moist, loose) @10.5' CLAY, trace gravel (moist, stiff)			9.9	
12	4	12-16		42/48		Dark yellowish brown 10YR4/2 SAND and SILT, some gravel (subangular, subrounded) (moist, loose)			19.0	
16	5	16-20		43/48		Similar @ 17' lense of SILT and CLAY			3.1	
20	6	20-22		27.5/48		Similar			4.2	
						Boring was terminated at 22'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-113
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/28/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		36/48		0-4" Asphalt Dusky brown 5YR2/2 SAND, little gravel (subangular, subrounded) (moist, loose) @ 19"-5" lense of CLAY, some gravel			6	
4	2	4-8		30/48		Dark yellowish orange 10YR6/6 SAND, some gravel (subangular, subrounded) (moist, loose)			20.5	
8	3	8-12		20/48		Dusky brown 5YR 2/2 SAND and SILT, some gravel (subangular-subrounded) (moist, loose) @9' grades to SAND, some gravel			13.3	
12	4	12-16		31/48		Similar @ 13' SILT and CLAY, little gravel (subangular-subrounded) @ 14' SAND and SILT, little gravel (subangular, subrounded) (moist, loose)			16.0	
16	5	16-20		NL		Slough - Not Logged			NL	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-113b
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/29/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4								
4	2	4-8								
8	3	8-12								
12	4	12-16								
						Discrete sampie from 16-20 feet				
16	5	16-20		19/36		Dark yellowish brown 10YR6/6 SAND, some gravel			1.3	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-113c
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/29/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4								
4	2	4-8								
8	3	8-12								
						***Discrete sample from 12-16 feet**				
12	4	12-16		28/36		Pale yellowish brown 10YR6/2 SAND (coarse), trace gravel (FILL)			9.6	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-114
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/28/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		0-3" Asphalt Moderate yellowish brown 5YR5/4 SAND, little gravel (subangular, subrounded) (moist, loose) (FILL)			8.1	
4	2	4-8		36/48		Moderate yellowish brown 5YR5/4 SAND (moist, loose)			0.5	
8	3	8-12		26/48		Similar			1.2	
12	4	12-14		24/24		Similar			1.0	
14	5	14-17		24/36		Similar			1	
16	6	17-20		28.5/36		Similar			1.2	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-115
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/29/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser ☐ / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		41/48		0-7" Asphalt @7" Dusky brown 5YR2/2 GRAVEL (FILL) @ 17" Pale yellowish orange 10YR8/6 coarse SAND (subrounded, subangular) @ 20" - 9" layer of dark yellowish orange 10YR6/6 CLAY, little gravel @ 20" Grayish orange 10YR7/4 SAND some gravel			7.8	
4	2	4-8		48/48		Similar			1.1	
8	3	8-12		48/48		Similar @ 9.5' grades to coarse SAND and GRAVEL (moist)			1.1	
12	4	12-16		43/48		Similar			8.1	
16	6	16-20		12/48		Similar			1.1	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-116
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/29/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		0-9" Asphalt Moderate yellowish brown 10YR4/2 SAND and CLAY, little gravel @ 2' FILL (soil, clay, aggregate mix) with white calcium build-up			2.6	
4	2	4-8		37/48		Similar @ ~5' Dark yellowish orange 10YR6/6 CLAY, little gravel (soft) @~6' becomes coarse SAND with little gravel @~6.5' FILL (soil, clay, aggregate mix)			3.6	
8	3	8-12		36/48		Similar @~9' Grayish orange 10YR7/4 SAND, some gravel			1.0	
12	4	12-16		34/48		Similar @ 12.5' - 6" layer of FILL @ 13' very pale orange 10YR8/2 SAND			1.8	
16	5	16-18		24/24		Similar			1.4	
18	6	18-20		18/24		Similar			1.3	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-117
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/29/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		41/48		0-6" Asphalt Dark yellowish brown 10YR4/2 SAND some gravel (FILL) @~2.5' SAND @ 3' Dark yellowish brown 10YR4/2 CLAY and SILT			41.1	
4	2	4-8		5/48		Similar			6.9	
8	3	8-12		37/48		Dark yellowish orange 10YR6/6 SAND			5.0	
12	4	12-16		48/48		Similar			3.9	
16	6	16-20		39/48		Similar			12.0	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-118
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/30/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-4" Asphalt Moderate brown 5YR 3/4 SILT, little gravel (moist, loose) @ 14" moderate yellowish brown 10YR5/4 SAND, trace gravel @ 21" Moderate brown 10YR4/2 CLAY and SILT, trace gravel (soft) @ 32" grades to CLAY, trace gravel (moist, soft)			90	
4	2	4-8		39/48		@41" Moderate yellowish brown 10YR5/4 SILTY SAND, trace gravel (moist, loose) @4.5' Dark yellowish orange 10YR6/6 CLAY, trace gravel (wet, soft) @6' very pale orange SAND, trace gravel (moist, loose)			4.9	
8	3	8-12		48/48		Dark yellowish orange 10YR6/6 SAND trace gravel (moist, loose) @ 9.5' moderate yellowish brown 10YR5/4 CLAY (moist, stiff) @ 10' SAND, some gravel @ 11' grades to SAND, little gravel			1.0	
12	4	12-14.5		30/48		Similar			10.6	
14.5	5	14.5-17.5		36/48		Similar			1.7	
17.5	6	17.5-20		30/48		Similar			13.2	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-119
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/30/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		36/48		0-3" Dark yellowish brown 10YR2/2 SAND and SILT, some gravel (sub-angular, subrounded) (moist, loose) @ ~2' CLAY (moist, firm) slough and pieces of concrete			400	
4	2	4-8		48/48		Very pale orange 10YR8/2 SAND some gravel (subangular-subrounded) (moist, loose)			142	
8	3	8-12		48/48		Moderate yellowish brown 10YR5/4 SAND and SILT, some gravel (sub-angular-subrounded) (moist, loose) @ 9' similar with trace gravel			100.0	
12	4	12-16		43/48		Similar			20.0	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-120
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 11/30/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		32/48		Dusky yellowish brown 10YR 2/2 SILTY SAND, some fine gravel (subangular) (moist, medium dense) @ 29" - 1" layer of very pale orange 10YR 8/2 CLAY (moist, stiff)			469	
4	2	4-8		32.5/48		@5' grades to very pale orange SAND some fine gravel (subangular, subrounded), (moist, loose)			3413	
8	3	8-12		48/48		@ 8.5' grades to little gravel @ 9' SAND, some gravel			2860	
12	4	12-16		48/48		@ 14.5' - 10" layer very pale orange 10YR 8/2 SAND and SILT, little gravel			1081	
16	5	16-20		48/48		@ 17.5' - 5" layer of SAND, little gravel			1145.0	
20	6	20-24		18/36		Similar			15.1	
						Boring was terminated at 24'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-121
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		30/48		Dark yellowish brown SILT and CLAY some gravel (subangular) (moist, loose)			344	
4	2	4-8		37/48		Similar @4.5' very pale orange 10YR 4/2 SAND, little gravel (moist, loose)			310	
8	3	8-12		34/48		Similar @ 9.5' Dark yellowish orange 10YR6/6 SAND, some gravel (subrounded) (moist, loose)			83	
12	4	12-15		34/48		Similar @ 13' - 1' layer of very pale orange 10YR 8/2 CLAY, black staining (wet, medium stiff) @ 14' Dark yellowish orange 10YR6/6			50.3	
15	5	15-18		15/48		SAND, little gravel			15	
18	5	18-20		24/24		Similar			5.4	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-122
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		32/48		0-6" Dusky yellowish brown 10YR 2/2 SILTY SAND, trace fine gravel (subangular) (moist, loose)			3.6	
						@3.5' grades to SAND (dry, loose)				
4	2	4-8		48/48		@4' grades to SAND, some fine gravel (subangular, subrounded)			4	
8	3	8-12		unk		Similar w/varying amounts of gravel			20.2	
						@ ~11' iron staining				
12	4	12-16		26/48		Similar			16	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-123
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		35/48		Dark yellowish orange 10YR 6/6 SILT and SAND, trace fine gravel (subrounded) (moist, loose) @ 9" Dark yellowish brown 10YR 4/2 CLAY, trace coarse gravel (subangular) (dry, very stiff) @ 25" grades to SAND, little gravel (damp, loose)			2.4	
4	2	4-8		48/48		@ 4.5' Dark yellowish orange 10Y 6/6 coarse SAND, some fine gravel (subrounded-subangular) (moist, loose)			1.7	
8	3	8-12		48/48		@ 8.5' Dark yellowish orange 10YR6/6 SAND and GRAVEL (subangular) (moist, loose)			0.9	
12	4	12-16		29/48		@ 13' Dark yellowish orange 10YR6/6 SAND, some fine gravel			1	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-124
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		41/48		Moderate yellowish brown 10YR5/4 SAND, some silt and gravel (sub-rounded, subangular) (moist, loose) @ 12" Dusky yellowish brown 10YR 2/2 SILT, some gravel (dry, loose) @ 14" becomes CLAY (medium stiff) ***alternating layers of SILT, SAND, CLAY***			165	
4	2	4-8		48/48		Dusky yellowish brown 10YR2/2 SILT some gravel (dry, loose) @ 4.5' Very pale orange 10YR8/2 SAND, some gravel (moist, loose) @~6.5' grades to little gravel			121	
8	3	8-12		27/48		Similar @ 8.5' grades to some gravel @ ~9' SILTY CLAY, trace gravel @ ~9.5' SAND, some gravel			105	
12	4	12-16		48/48		Very pale orange 10YR8/2 SAND, some gravel (subangular, subrounded) (moist, loose)			8	
16	5	16-18		24/24		Similar			45.0	
18	6	18-20		24/24		Similar, SAND, trace gravel			110.0	
20	7	20-24		29/36		Similar			9.8	
						Boring was terminated at 24'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-125
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		Dusky yellowish brown 10YR 2/2 SILTY SAND, little gravel (subangular) (moist, loose) @ 19" Dusky yellowish brown 10YR 2/2 CLAY (moist, stiff) @ 36" Dark yellowish orange 10YR6/6 SAND, trace gravel			260	
4	2	4-8		48/48		grades to Very pale orange 10YR8/2			12.1	
8	3	8-12		35/48		Similar @ 9.5' Dark yellowish orange 10YR6/6 SAND, some gravel (subangular) (moist, loose)			54.8	
12	4	12-16		48/48		grades to Very pale orange 10YR8/2 SAND, trace fine gravel (moist, loose)			27.5	
16	5	16-20		36/36		Similar			12.5	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-126
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		31/48		0-4" Dark yellowish orange 10YR 6/6 SAND and GRAVEL (subrounded) (moist, loose) @ 4" Dark yellowish brown 10YR 4/2 SILT and SAND, little gravel (subangular subrounded (moist, loose) @ 23" Very pale orange 10YR 8/2 SAND, some gravel (moist, loose)			13.2	
4	2	4-8		41/48		Similar			7	
8	3	8-12		40/48		Similar @8.5' Pale yellowish brown 10YR 6/2 SAND, some silt and gravel (subangular subrounded), (moist, loose) @ 9.5' grades to SILT and SAND, little gravel @ 10' Very pale orange 10YR 8/2 SAND, some gravel (moist, loose)			2	
12	4	12-16		NL/48		Similar			9	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-127
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		26/48		Dusky yellowish brown 10YR4/2 SILT and CLAY, some gravel (subrounded) (moist, soft) @ 21" Very pale orange 10YR 8/2 SAND, some gravel (subangular, subrounded) (moist, loose)			307	
4	2	4-8		48/48		Similar			2.6	
8	3	8-12		42/48		Similar @8.5' grades to dark yellowish orange 10YR6/6 SAND, some gravel			8.5	
12	4	12-16		36/48		Very pale orange 10YR 8/2 SAND, some gravel (moist, loose)			2.3	
16	5	16-20		43/48		Similar (minor color variations)			20.0	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-128
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist:		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		40/48		0-3" Asphalt @3" Dusky brown SAND, trace gravel (subangular, subrounded) (moist, loose)			1	
4	2	4-8		37/48		Similar @ 4.5' grades to grayish brown 5YR 3/2			0.6	
8	3	8-12		17/48		Similar @ 9' grades to SAND, some gravel			0.7	
12	4	12-16		8/24		Similar			0.7 0.7	
16	5	16-20		17/24		Similar				
20	6	20-24		24/48		Similar			4.6	
						Boring was terminated at 24'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-129
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		37/48		Moderate yellowish brown 10YR5/4 SILT and CLAY, trace gravel (subrounded) (moist, loose)			0.2	
4	2	4-8		46/48		Similar, with some gravel @ 4.5' grades to very pale orange 10YR 8/2 SAND, some gravel (sub-angular) (moist, loose) @6.5' grades to dark yellowish orange @ 7' grades to trace gravel			0.1	
8	3	8-12		18/48		Similar @ 8.5' grades to SAND, some gravel			0.3	
12	4	12-16		23/24		Similar			0.2 0.1	
16	5	16-20		24/24		Similar (black precipitate on sides)				
20	6	20-24		24/48		Similar			4.6	
						Boring was terminated at 24'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-130
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		Moderate yellowish brown 10YR 5/4 SAND, some gravel (subrounded) (moist, loose) @ 4" SILT and CLAY, some gravel @ 20" grades to yellowish brown 10YR2/2 CLAY @ 31" SAND, some gravel			1.3	
4	2	4-8		48/48		Similar @ 6.5' grades to very pale orange 10YR8/2 SAND, little gravel (sub-rounded, subangular) (moist, loose)			0.8	
8	3	8-12		48/48		Similar @ 8.5' - 2" layer of SILT and CLAY, trace gravel becomes SAND, some gravel			1.8	
12	4	12-16		37/48		Similar @ 13' becomes SAND and GRAVEL layers of SAND with various amounts of gravel			4	
16	5	16-20		26/48		Similar			4.8	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-131
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		Moderate yellowish brown 10YR5/4 SILT and CLAY, some gravel (moist, loose) @ 13" CLAY, some silt and gravel @ 24" CLAY, trace gravel @ 38" SAND, some gravel			2.7	
4	2	4-8		45/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ 7' Moderate yellowish brown 10YR 5/4 CLAY, some silt, trace gravel			0.7	
8	3	8-12		36/48		Very pale orange 10YR 8/2 SAND some gravel (subrounded, subangular) (moist, loose)			1.1	
12	4	12-16		48/48		Similar @ 14' Dark yellowish orange 10YR 6/6 SAND, some gravel (subangular, subrounded) (moist, loose)			0.9	
16	5	16-20		8/48		Similar			0.8	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-132
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		38/48		Dark yellowish brown 10YR4/2 SILT and SAND, some gravel (moist, loose) @ 12" CLAY, some silt and gravel @ 30" Dark yellowish brown 10YR4/2 SILT and SAND, some gravel			11.5	
4	2	4-8		30/48		Similar @~4.5' Very pale orange 10YR8/2 SAND, some gravel (subrounded, sub-angular), (moist, loose)			0.7	
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-133
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		45/48		Moderate yellowish brown 10YR5/4 SILT and SAND, some gravel (sub-rounded, subangular) (moist, loose)			35	
4	2	4-8		48/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ 6.5' Dark yellowish orange 10YR6/6 SILT and SAND, some gravel (sub-rounded, subangular) (moist, loose)			7	
8	3	8-12		26/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ 9.5' grades to SAND and GRAVEL			15.6	
12	4	12-16		NL/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			2.6	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.

TEST BORING LOG

REPORT OF BORING SB-134

Client: GTEOSI
Proj. Loc: Hicksville, New York
File No.: 5816.009.005

Sampler: 4-foot acetate
Hammer: 140 lbs - direct push

Start Date: 12/7/00
End Date:

Boring Company: Environmental Probing, Inc.
OBG Geologist: Eddy Teasdale

Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		45/48		Moderate yellowish brown 10YR5/4 SILT and SAND, some gravel (subrounded, subangular) (moist, loose)			35	
4	2	4-8		48/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ 6.5' Dark yellowish orange 10YR6/6 SILT and SAND, some gravel (subrounded, subangular) (moist, loose)			7	
8	3	8-12		26/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ 9.5' grades to SAND and GRAVEL			15.6	
12	4	12-16		NL/48		Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			2.6	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-135
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/7/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = Grout Riser Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		Dark yellowish orange 10YR6/6 SILT and SAND, little gravel (moist, loose) @ 5" grades to some gravel @ 14" Dusky brown 5YR2/2 CLAY, trace gravel (moist, very stiff) @ 25" CLAY, trace gravel (moist, soft) @ 35" Very pale orange 10YR8/2 SAND, some gravel (moist, loose)			5.9	
4	2	4-8		48/48		Similar			0.5	
8	3	8-12		25/48		Similar			7.8	
						Boring was terminated at 12'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-136
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		41/48		0-4" Dark yellowish brown 10YR4/2 SILT, some gravel (subangular - subrounded), (moist, loose) @ 4" grades to SILT, some sand and gravel @ 24" lense of CLAY (stiff)			2	
4	2	4-8		37/48		Very pale orange 10YR8/2 SAND, some gravel (subangular-subrounded) (moist, loose)			2	
8	3	8-12		21/48		Similar			1.2	
						Boring was terminated at 12'				

O'Brien & Gere Engineers, Inc.

3/16/01

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-137
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/9/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		37/48		0-6" Moderate yellowish brown 10YR 5/4 SILT and CLAY, trace gravel (subangular-subrounded), (moist)			6.2	
						6" lense of SILT, some sand and gravel				
						@12" CLAY, trace gravel				
4	2	4-8		37/48		Similar			1.1	
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-138
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/1/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		3" Asphalt Grayish brown 5YR3/2 SILT and SAND trace gravel (moist, loose) @ 7" grades to some gravel @ 14" Dusky brown 5YR2/2 CLAY, trace gravel (moist, very stiff) @ 25" CLAY, trace gravel (moist, soft) @ 47" Dark yellowish orange 10YR6/6 SAND, some gravel (moist, loose)			4.6	
4	2	4-8		48/48		Similar @ 6.5' grades to trace gravel			4.9	
8	3	8-12		37/48		Similar @ 9' - 10" layer of very pale orange 10YR8/2 SAND and GRAVEL (sub-rounded) (moist, loose) Very pale orange 10YR8/2 SAND, trace GRAVEL (moist, loose)			10	
12	4	12-16		48/48		Similar @ 13' Moderate yellowish brown 10YR 5/4 SAND and SILT , some gravel (moist, loose) @13.5' grades to SAND, some gravel			0.5	
16	5	16-20		30/36		Similar			0.6	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-139
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/3/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		44/48		0-2" Asphalt Dark yellowish brown 10YR4/2 SILT and SAND, little gravel (subrounded) (moist, loose) @ 29" Dusky brown 5YR2/2 CLAY, trace gravel (subangular) (moist, soft)			NL	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-140
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/3/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-3" Asphalt			1	
						@ 3" Dark yellowish brown 10YR 4/2				
						SILTY SAND, trace gravel (subrounded)				
						(moist, loose).				
						alternate lenses of SILTY CLAY and				
						SILTY SAND				
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-141
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/3/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = Riser Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		Dark yellowish orange 10YR6/6 SAND little gravel (subrounded, subangular) (moist, soft) @ 15" Dark yellowish orange 10YR6/6 SILT and SAND @ 28" Dark yellowish brown 10YR2/2 CLAY, trace fine gravel @ 39" Very pale orange 10YR8/2 SAND			0.7	
4	2	4-8		22/48		some gravel (subrounded) *Similar with varying amounts of gravel*			0.4	
8	3	8-12		20/48		Similar			NL	
12	4	12-16		41/48		Similar @ 14' Very pale orange 10YR8/2 SAND and GRAVEL @ 14.5' grades to SAND, trace gravel			3.1	
16	5	16-20		20/36		Dark yellowish orange 10YR6/6 SAND, little gravel (subangular, subrounded), (moist, loose)			0.6	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-142
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 2 and 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/3/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		38/48		Dark yelloiwsh orange 10YR6/6 SILTY SAND, little gravel (subrounded, sub-angular) (moist, soft) @ 28" Dark yellowish brown 10YR4/2 SAND and SILT, trace fine gravel @ 34" -3" layer dark yellowish brown 10YR6/6 CLAY, trace gravel (moist, soft) @ 37" SAND and SILT, trace fine gravel			0.8	
4	2	4-8		42/48		Similar			1.7	
8	3	8-12		28/48		Similar			2.1	
12	4	12-16		23/48		Similar @ 14' Very pale orange 10YR8/2 SAND and GRAVEL @ 14.5' grades to SAND, trace gravel			2.7	
16	5	16-20		31/48		Dark yellowish orange 10YR6/6 SAND, little gravel (subangular, subrounded), (moist, loose)			6.1	
20	6	20-24		8/48					5.6	
24	7	24-26		23/48					4	
						Boring was terminated at 26'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-143
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/3/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		Dark yellowish orange 10YR 6/6 SAND and SILT, trace fine gravel (subrounded) (moist, loose) @ 33" - 6" lense of SILT, trace fine gravel (moist, loose) @ 39" Dusky yellowish brown CLAY trace fine gravel (subangular) (moist, medium stiff)			1.3	
4	2	4-8		42/48		Similar, becomes soft @5-5.5' Dusky yellowish orange 10YR 6/6 SILT and SAND, some fine gravel (subrounded) (moist, loose)			0.4	
8	3	8-12		48/48		Similar @ 8.5' Dark yelowish orange 10YR6/6 SAND, some gravel (subrounded, subangular), (moist, loose)			4.6	
12	4	12-16		48/48		Very pale orange 10YR 8/2 SAND, trace fine gravel (subrounded, sub-angular) (moist, loose)			2	
16	5	16-20		48/48		Very pale orange 10YR 8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			10.0	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-144
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		43/48		0-5" Asphalt @ 5" Pale yellowish brown 10YR 6/2 SILT and SAND, some gravel (subrounded-subangular) (moist, loose)			1	
4	2	4-6		20/24		Similar @ 4.5' concrete @ 5.5' Pale yellowish brown 10YR 6/2 SILT and SAND, some gravel (subrounded-subangular) (moist, loose)			0.8	
						Boring was terminated at 6'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-144B
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		36/48		0-4" Asphalt @ 4" Moderate yellowish brown 10YR 5/4 SILT and SAND, some gravel (subangular), (moist, loose)			0.9	
4	2	4-8		33/48		Similar			0.5	
8	3	8-12		19/48		grades to SAND, some gravel (moist, loose)			0.7	
						Boring was terminated at 12'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-145
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/9/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-4" Asphalt @ 4" Mod. yellowish brown 10YR 5/4 SILT and CLAY, some gravel (sub-rounded, subangular), (moist, soft) @ 29" grades to SILT and SAND, some gravel (moist, loose)			5	
4	2	4-8		43/48		Similar @ 4.5' Cement @ 7' Dusky yellowish brown 10YR2/2 GRAVEL (moist, loose) - Oil Residue			4.5	
8	3	8-12		18/48		Moderate yellowish brown 10YR5/4 CLAY, trace grace (moist, soft)			3.2	
12	4	12-16		34/48		Moderate yellowish brown 10YR5/4 SAND, some gravel (Green Layer) (moist, loose) @ 12.7' CLAYEY waste @ 14.5' Moderate yellowish brown 10YR5/4 SAND and GRAVEL (wellrounded) (moist, loose)			10	
16	5	16-20		15/48		Dark yellowish orange 10YR6/6 SAND, some gravel (subangular, subrounded), (moist, loose)			0.8	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-146a
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		37/48		0-4" Asphalt @ 4" Dusky yellowish brown 10YR 2/2 SILT and SAND, some gravel (subangular), (moist, loose) @ 8" grades to SILT and CLAY @ 24" SAND, trace gravel			2.2	
4	2	4-8		30/48		Similar @ 5.5' Moderate yellowish brown 10 YR 5/4 CLAY, some gravel (moist, soft) @ 6' Moderate yellowish brown 10YR 5/4 SAND and GRAVEL (moist, loose)			0.5	
8	3	8-12		36/48		Similar @ 8.5' Very pale orange 10YR 8/2 SAND, some gravel (moist, loose)			1.1	
12	4	12-16		48/48		Similar @ 12.5' Moderate yellowish brown 10 YR 5/4 SAND, some gravel (moist, loose)			1	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-146b
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-3" Asphalt			NL	
						@ 3" Pale yellowish brown 10YR4/2				
						SILT and SAND, some gravel				
						(moist, loose)				
						@ 8" Dark yellowish orange 10YR6/6				
						CLAY trace gravel (subrounded)				
						(moist, soft)				
						@ 3' Dark yellowish orange 10YR6/6				
4	2	4-8		39/48		SAND, some gravel (moist, loose)			NL	
						@ 5' Dark yellowish orange 10YR6/6				
						CLAY trace gravel (subrounded)				
						(moist, soft)				
						@ 6.5' Dark yellowish orange 10YR6/6				
						SAND, some gravel (subrounded,				
						subangular) (moist, loose)				
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-146c
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		0-3" Asphalt @ 3" Grayish brown 5YR 3/2 SILT and SAND, some gravel (moist, loose) @ 9" Dark yellowish orange 10YR 6/6 CLAY, some gravel (subrounded) (moist, stiff) (alternating lenses of SAND and CLAY)			1.5	
4	2	4-8		34/48		Dark yellowish orange 10YR 6/6 SAND some gravel (subrounded, subangular) (moist, loose)			1.8	
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-147
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-4" Asphalt Pale yellowish brown 10YR2/2 SILT and SAND, some fine gravel (dry, loose) @ 9" Dark yellowish orange 10YR6/6 SAND, little gravel (moist, loose) @ 25" - 8" lense of CLAY, little gravel (moist, stiff) @ 33" - 9" lense of CLAY, trace gravel (moist, soft) @ 42" Dark yellowish orange 10YR 6/6 SAND, some gravel (damp, loose)			2.1	
4	2	4-8		40/48		Similar			0.6	
8	3	8-12		36/48		Similar @ 9.5' - 5" lense of dark yellowish orange 10YR6/6 SAND and GRAVEL			0.5	
12	4	12-16		36/48		Very pale orange 10YR8/2 SAND, some gravel (moist, loose)			3.8	
16	5	16-20		48/48		Similar			18.6	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-148
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Moderate yellowish brown 10YR5/4 SILTY SAND, little fine gravel (subangular) (moist, loose) 2" CLAY lense grades to dark yellowish orange 10YR 6/6 SAND, trace fine gravel (moist, loose).			0.6	
4	2	4-8	--	30.5/48	--	Dark yellowish brown 10YR4/2 CLAY (moist, soft)			1	
8	3	8-11.5	--	25/42	--	@ 8.5' Yellowish brown 10YR4/2 SILTY SAND with trace fine gravel (subangular), (moist, loose)			0.6	
						Refusal at 11.5' bgs.				
						Boring was terminated at 11.5'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-149
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-3" Asphalt @ 3" Pale yellowish brown 10YR 6/2 SILT and SAND, trace fine gravel (subangular), (dry, loose) @ 14" - 3" lense of SILT (FILL) Similar to previous @ 19" - 7" lense of CLAY, trace gravel (moist, soft)			0.4	
4	2	4-8		48/48		Dark yellowish orange 10YR 6/6 SAND trace fine gravel (damp, loose)			0.5	
8	3	8-12		48/48		Similar @ 8.5' Grayish orange 10YR7/4 SAND, some gravel (moist, loose) @ 10.5' grades to SAND, trace gravel			0.6	
12	4	12-16		48/48		Similar @ 12.5' Dark yellowish orange 10YR 6/6 SAND, some silt and fine gravel (moist, loose) @14' Dark yellowish orange 10YR6/6 SAND, some fine gravel (moist, loose)			0.3	
16	5	16-20		25/36		Similar			0.2	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC. | **TEST BORING LOG** | **REPORT OF BORING SB- 150**

Client: GTEOSI
Proj. Loc: Hicksville, New York
File No.: 5816.009

Sampler: 4-foot acetate
Hammer: 140 lbs - direct push

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Start Date: 12/4/00
End Date:

Boring Company: Environmental Probing, Inc.
OBG Geologist: Eddy Teasdale

Screen | Riser | Grout | Sand Pack | Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Dark yellowish orange 10YR 6/6 CLAY some silt, trace fine gravel (subrounded subangular) (moist, soft) @ 15" Moderate yellowish brown 10YR5/4 SAND, some gravel, little silt (moist, loose) @ 24" -10" lense of CLAY, trace gravel			0.8	
4	2	4-8	--	37/48	--	@ 34" Moderate yellowish brown 10YR5/4 SAND and SILT, some gravel (moist, loose) @ 37" grades to SAND, some gravel @ 5' Dark yellowish orange 10YR6/6 SAND, trace gravel (moist, loose4)			0.4	
8	3	8-12	--	7/48	--	Similar			1.8	
12	4	12-16	--	36/36	--	Similar			0.4	
16										
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 151
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Grayish brown 5YR3/2 SILTY SAND, trace gravel (subrounded) (moist, loose) @ 8" CLAY, trace gravel (moist, soft) @ 38" Dark yellowish brown 10YR5/4 SAND, some gravel (moist, loose)			1.5	
4	2	4-8	--	36/48	--	Similar @ 6.5' Dark yellowish orange 10YR6/6 CLAY (moist, soft)			0.9	
8	3	8-12	--	34/48	--	Dark yellowish orange 10YR6/6 SILTY SAND, some fine gravel (subrounded, subangular) (moist, loose) @ 9' grades to SAND and GRAVEL @ 10' grades to SAND, some gravel			2.7	
12	4	12-16	--	41/48	--	Similar @ 12.5' grades to SAND, trace gravel			1.3	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 152
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = Riser ☐ Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Grayish brown 5YR3/2 SILT and SAND, some gravel (subrounded) (dry, loose) @ 9" SILTY CLAY, some gravel (soft) @ 16" CLAY (moist, medium stiff) @ 23" CLAY, trace gravel (moist, soft) @ 29" very pale orange 10YR8/2 SAND some gravel (moist, loose)			2.5	
4	2	4-8	--	41/48	--	Similar @ 6.5' dark yellowish orange 10YR6/6 CLAY, trace gravel (moist, soft)			0.9	
8										
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 153
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	42/48	--	0 - 3" Asphalt Grayish brown 5YR2/2 SILT and CLAY, little gravel (subrounded) (moist, loose) @ 9" SILTY CLAY, some gravel (soft) @ 16" CLAY, little gravel (moist, soft) @ 34" Dark yellowish orange 10YR6/6 SAND, some gravel (moist, loose)			0.8	
4	2	4-8	--	43/48	--	Similar			0.7	
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 154
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/4/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 5" Asphalt Grayish brown 5YR3/2 SAND and SILT some fine gravel (subrounded). (moist, loose) lenses of SILT and CLAY				
4	2	4-8	--	35/48	--	@ 5' Dark yellowish orange 10YR6/6 SAND, some fine gravel (subrounded, subangular) (moist, loose)				
						Boring was terminated at 8'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 155
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Dark yellowish brown 10YR4/2 SILTY SAND, some gravel (moist, loose) @ 44" Moderate yellowish brown 10YR 5/4 SAND, some gravel (moist, loose)			24.1	
4	2	4-8	--	39/48	--	Moderate yellowish brown 10YR5/4 SAND, some silt and gravel (moist, loose) @~5.5' CLAY, some gravel (moist, soft)			46.2	
8	3	8-10.5	--	22/48		Dark yellowish brown 10YR4/2 SILTY SAND, little gravel (moist, loose) @ 8.5' SAND, some gravel (moist, soft) @ 9.5' SILTY SAND, some gravel			26.5	
10.5	4	10.5-12	--	7/48	--	Concrete @ 11' SAND, some gravel (moist, soft)			2.1	
12	5	12-16	--	43/48	--	Very pale orange 10YR8/2 SAND, some gravel (moist, loose) @ 13' Dark yellowish orange 10YR6/6 SAND, some gravel (moist, loose) @ 14.5' grades to trace gravel			3	
16	6	16-20	--	24/48	--	Similar			4.9	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 156
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 2" Asphalt Moderate yellowish brown 10YR5/4 CLAY and SILT, some gravel (moist soft) @ 37" - 7" lense of CLAY (moist, soft)			33.6	
4	2	4-8	--	36/48	--	Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose) @ ~6.5' - 4" lense of CLAY			1.4	
8	3	8-12	--	48/48	--	Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			2.6	
12	4	12-16	--	48/48	--	Similar @ 15' Dark yellowish orange 10YR6/6 SAND, some aggregate (subrounded, subangular) (moist, loose)			3.1	
16	5	16-20	--	23/36	--	Similar			3.4	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 157
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 4" Asphalt Pale yellowish brown 10YR6/2 SILTY SAND, some gravel (moist, loose) @ 10" Dark yellowish brown 10YR4/2 SAND, some silt and gravel (moist, loose) @ 26" CLAY, trace gravel (moist, stiff) @ 33" CLAY, little gravel (moist, soft)			27.2	
4	2	4-8	--	39/48	--	Very pale orange 10YR6/2 SAND, some gravel (subrounded, subangular) (moist, loose)			1.1	
8	3	8-12	--	38/48	--	Similar @ 9.5' CLAY and SILT, trace gravel (moist, soft)			3.9	
12	4	12-16	--	48/48	--	Pale yellowish brown 10YR6/2 SAND, trace gravel (subrounded) (moist, loose) @ ~13.5' Very pale orange 10YR8/2 SAND and GRAVEL (moist, loose) @ 15' Dark yellowish orange SAND, some gravel (subangular, subrounded) (moist, loose)			2.9	
16	5	16-20	--	20/36	--	Similar			3.8	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-158
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-6" Concrete @ 6" Pale yellowish brown 10YR 2/2 SILT, some sand and gravel (sub-angular, subrounded), (moist, loose) ~ 1' lense of SILTY CLAY, some gravel (moist, loose)			1	
4	2	4-8		37/48		Dark yellowish orange 10YR 6/6 SAND, some gravel (subrounded -subangular) (moist, loose)			0.7	
8	3	8-12		48/48		Similar			0.5	
12	4	12-16		40/48		Similar			0.7	
16	5	16-20		40/48		Similar			0.8	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-159
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/6/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		37/48		0-4" Asphalt Moderate yellowish brown 10YR5/4 SAND and SILT, some gravel (sub-angular, subrounded), (moist, loose) @ ~1' concrete @ 2.5' Very pale orange 10YR8/2 SAND and SILT, some gravel (FILL)			22.2	
4	2	4-8		10/48		Similar			10.8	
8	3	8-12		41/48		Similar with iron remnants @ 9' Moderate yellowish brown 10YR 5/4 SILT and CLAY, some gravel (moist, soft) @ 10' Very pale orange 10YR8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			2.4	
12	4	12-16		22/48		Similar			1.4	
16	5	16-20		28/36		Similar			1.2	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-160
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		35/48		0-4" Asphalt Dark yellowish brown 10YR 4/2 CLAY and SILT, some gravel (moist, soft). @1' lense of SAND and GRAVEL (subangular, subrounded) alternate clay and sand lenses			0.5	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 161
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 2" Asphalt Dark yellowish brown 10YR4/2 CLAY little gravel (moist, stiff). @21" grades to dark yellowish orange 10YR 6/6 CLAY, trace fine gravel (moist, soft) @30" grades to dark yellowish orange SAND, some fine gravel (subangular, subrounded), (moist, loose)			0.4	
						Boring was terminated at 4'				

O'Brien & Gere Engineers, Inc.

3/16/01

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 162
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Pale yellowish brown 10YR6/2 SILT, some sand, little gravel (subangular). (moist, loose) @ 9" Dark yellowish brown CLAY trace fine gravel (moist, soft) @37" Dark yellowish orange 10YR6/6 SAND, some gravel (moist, loose)			0.9	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 163
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 5" Asphalt Pale yellowish brown 10YR6/2 SILT, some fine gravel Moderate yellowish brown CLAY some Silt (moist, soft) (lense of SILT, some gravel) @36" Dark yellowish orange 10YR6/6 SAND, some gravel (moist, loose)			0.6	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 164
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	–	48/48	–	0 - 3" Asphalt Pale yellowish brown 10YR6/2 SILT, some fine gravel @7" Dusky yellowish brown 10YR2/2 CLAY, some gravel (moist, soft) @32" Dark yellowish orange 10YR6/6 SAND, some fine gravel (moist, loose)			0.5	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB- 165
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4	--	48/48	--	0 - 3" Asphalt Pale yellowish brown 10YR6/2 SILT, some fine gravel @7" Dusky yellowish brown 10YR2/2 CLAY, some gravel (moist, soft) @34" Dark yellowish orange 10YR6/6 SAND, some fine gravel (moist, loose)			0.7	
						Boring was terminated at 4'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-166
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser; Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		48/48		0-4" Asphalt Pale yellowish brown 10YR 6/2 SILT, some sand, and gravel (subround subangular) (moist, loose) @ 11" grades to SAND and SILT, some gravel			5	
4	2	4-8		30/48		@ 5' Dark yellowish brown 10 YR 4/2 GRAVEL (subrounded, subangular) (moist, loose)			12.5	
8	3	8-12		35/48		Similar w/trace sand			1000	
12	4	12-16		19/48		@ 13' Very pale orange 10YR 8/2 SAND, some gravel (subrounded, subangular) (moist, loose)			800	
16	5	16-20		9/48		Similar			10.5	
						Boring was terminated at 20'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-167
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser — Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4								
4	2	4-8								
8	3	8-12								
12	4	12-16								
						*Discrete sample from 19-23 feet				
16	5	19-23		29/36		Very pale orange 10YR 8/2 SAND, some gravel (subangular, subrounded)			1.2	
						Boring was terminated at 23'				

O'BRIEN & GERE ENGINEERS, INC.

TEST BORING LOG

REPORT OF BORING SB-168

Client: GTEOSI
Proj. Loc: Hicksville, New York
File No.: 5816.009.005

Sampler: 4-foot acetate
Hammer: 140 lbs - direct push

Page 1 of 1
Start Date: 12/8/00
End Date:

Boring Company: Environmental Probing, Inc.
OBG Geologist: Eddy Teasdale

Screen =
Riser
Grout
Sand Pack
Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4								
4	2	4-8								
8	3	8-12								
						*Discrete sample from 12-16 feet				
12	4	12-16		23/36		Dark yellowish orange 10YR6/6 SAND, some gravel (subangular, subrounded)			NL	
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-169
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/8/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = Riser / Grout Sand Pack Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4								
4	2	4-8								
8	3	8-12								
						*Discrete sample from 12-16 feet				
12	4	12-16		13/36		Dusky yellowish brown 10YR2/2 SAND			1.3	
						and GRAVEL (subrounded)**				
						** *Heavily coated with organic sludge*				
						Boring was terminated at 16'				

O'BRIEN & GERE ENGINEERS, INC.	TEST BORING LOG	REPORT OF BORING SB-170
Client: GTEOSI Proj. Loc: Hicksville, New York File No.: 5816.009.005	Sampler: 4-foot acetate Hammer: 140 lbs - direct push	Page 1 of 1 Start Date: 12/9/00 End Date:
Boring Company: Environmental Probing, Inc. OBG Geologist: Eddy Teasdale		Screen = / Riser / Grout / Sand Pack / Bentonite

Depth Below Grade	No.	Depth (feet)	Blow /6"	Recovery /Penetr	"N" Value	Sample Description	Stratum Change General Description	USCS	Field Testing PID (ppm)	Field Testing Black Light
0	1	0-4		42/48		0 - 4" Asphalt Moderate yellowish brown 10YR5/4 SILT and SAND, some fine gravel @23" grades to SAND, some gravel @ 29" SILTY CLAY, some gravel (moist, loose)			50.4	
4	2	4-8		24/48		Similar @ ~5.5' Dusky yellowish brown 10YR 2/2 CLAY, some gravel (subrounded subangular)			25	
8	3	8-12		20/48		Similar			5.9	
12	4	12-16		27/48		@12.25' Dark yellowish orange 10YR 6/6 SAND, some gravel (moist, loose)			1.2	
16	5	16-20		17/48		Similar			1.1	
						Boring was terminated at 20'				

APPENDIX C

Air sampling analytical results

GTEOSI - HICKSVILLE
File: 5816.029. reports

Galson
Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

November 29, 2000

DOH ELAP# 11626

Ms. Pam Cox
O'Brien & Gere Engineers, Inc.
P.O. Box 4873
Syracuse, NY 13221

Client Account# 10864 Login# L66171

Dear Ms. Cox:

Enclosed are the analytical results of the samples received by our laboratory November 29, 2000.

Results in this report are based on the sampling data provided by the client. Unless otherwise requested, all samples will be discarded two weeks from the date of this report.

Please contact your client service representative, Nancy Ackerman at (888) 577-5227, extension 305, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

F. Joseph Unangst
Laboratory Director

Enclosure(s)

Galson
Laboratories
6601 Kirkville Road
P.O. Box 369
E. Syracuse, NY 13057
Tel: (315) 437-7252 888-577-Labs (5227)
Fax: (315) 437-0571

Request For Industrial Hygiene Analysis

Company Name: O'Brien + Gere
Site Name: Hicksville, New York
Sampled By: PMC
Project #: 5816.009

...nd Report to: Pam Cox
OBG
5000 Brittonfield Parkway
E. Syr.

Invoice to:

OBG PRICES

- [ ] Purchase order number
(or)
- [ ] Credit Card (type) Card # Exp Date
- [ ] Verbal Authorization

- [ ] Standard Turn-Around Time OR [X] Rush: Date and Time Requested: 11/30/00 8 am pm
- [X] Phone Results to: Cell Phone # (315-391-0020 ext.
- [ ] Fax Results to: Fax # ( ) - -
- [ ] Email Results to:

PASSIVE

Sample Identification	Date Sampled	Sample Medium Catalog # / Lot #	Air Sample Volume (liters)*	Analysis Requested	Method Reference
#1	11/27/00	SK 9211	343520	PCE/TCE	
#2	↓	SK 9229	↓	↓	
#3	↓	SK 9214	↓	↓	
Blank	↓	—	1/23	↓	

*For passive monitors please list time exposed in minutes. 18:30 - 7:35 am

Comments (Please list any known interferences present in sampling area):

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by:	Pam Cox	P. M. Cox	11/28/00
Received by LAB.		Brian Baxter	11/29 @ 10:30

Samples received after 3pm will be considered as next day's business.

LAB ORIGINAL

Galson Laboratories

LABORATORY ANALYSIS REPORT

Client : O'Brien & Gere Engineers, Inc.
Site : Hicksville, NY
Project No. : 5816.009

Date Sampled : 27-NOV-00
Date Received : 29-NOV-00
Date Analyzed : 29-NOV-00

Account No.: 10864
Login No. : L66171

Trichloroethylene

Sample ID	Lab ID	Time minutes	Front ug	Back ug	Total ug	ppm
#1	L66171-1	785	<8	<8	< 8	< 0.06
#2	L66171-2	785	<8	<8	< 8	< 0.06
#3	L66171-3	785	<8	<8	< 8	< 0.06
BLANK	L66171-4	NA	<8	<8	< 8	NA

Level of quantitation: 8 ug
Analytical Method : OVM 3M
OSHA PEL (TWA) : 100 ppm
Collection Media : OVM2-3520

Submitted by: AMW
Approved by : jal
Date : 29-NOV-00
QC by: [signature]
NYS DOH # : 11626

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	

Galson Laboratories

LABORATORY ANALYSIS REPORT

Client : O'Brien & Gere Engineers, Inc.
Site : Hicksville, NY
Project No. : 5816.009

Date Sampled : 27-NOV-00
Date Received : 29-NOV-00
Date Analyzed : 29-NOV-00

Account No.: 10864
Login No. : L66171

Tetrachloroethylene

Sample ID	Lab ID	Time minutes	Front ug	Back ug	Total ug	ppm
#1	L66171-1	785	<8	<8	< 8	< 0.05
#2	L66171-2	785	<8	<8	< 8	< 0.05
#3	L66171-3	785	<8	<8	< 8	< 0.05
BLANK	L66171-4	NA	<8	<8	< 8	NA

Level of quantitation: 8 ug
Analytical Method : OVM 3M
OSHA PEL (TWA) : 100 ppm
Collection Media : OVM2-3520

Submitted by: AMW
Approved by : jal
Date : 29-NOV-00
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified

APPENDIX D

Film badge analytical results

O'BR & GERE ENG
ATTN CRAIG GABRIEL
5000 BRITTONFIELD PKWY
PO BOX 4873
EAST SYRACUSE NY 13057

LANDAUER®

Landauer, Inc. 2 Science Road Glenwood, Illinois 60425-1586
Telephone: (708)755-7000 Facsimile: (708)755-7016
www.landauerinc.com

RADIATION DOSIMETRY REPORT

luxel®

ACCOUNT NO.	SERIES CODE	ANALYTICAL WORK ORDER	REPORT DATE	DOSIMETER RECEIVED	REPORT TIME IN WORK DAYS	PAGE NO.
146337		0035381386	01/02/01	12/18/00	10	1 OF 1

PARTICIPANT NUMBER	NAME: ID NUMBER	NAME: BIRTH DATE	NAME: SEX	DOSIMETER	USE	RADIATION QUALITY	DOSE EQUIVALENT (MREM) FOR PERIODS SHOWN BELOW: DEEP DDE	EYE LDE	SHALLOW SDE	QUARTERLY ACCUMULATED DOSE EQUIVALENT (MREM): DEEP DDE	EYE LDE	SHALLOW SDE	YEAR TO DATE DOSE EQUIVALENT (MREM): DEEP DDE	EYE LDE	SHALLOW SDE	LIFETIME DOSE EQUIVALENT (MREM): DEEP DDE	EYE LDE	SHALLOW SDE	RECORDS FOR YEAR	INCEPTION DATE (MM/YY)
FOR MONITORING PERIOD:							11/28/00				QTR 4			2000						
00000	CONTROL			P	CNTRL		M	M	M										2	07/95
				U	CNTRL				M											
90005				P	OWHBDY		M	M	M						NOTOTAL					
				U	OEXTRM				M						NOTOTAL					
90006				P	OWHBDY	P	M	M	1						NOTOTAL				1	
				U	OEXTRM				M						NOTOTAL					
90007				P	OWHBDY		M	M	M						NOTOTAL					
				U	OEXTRM				M						NOTOTAL					
90008				P	OWHBDY		M	M	M						NOTOTAL				1	
				U	OEXTRM				M						NOTOTAL					
90009				P	OWHBDY		M	M	M						NOTOTAL					
				U	OEXTRM				M						NOTOTAL					

M: MINIMAL REPORTING SERVICE OF 1 MREM

QUALITY CONTROL RELEASE: JS

1 - PR 7132 - RPT130 - N1 - 06056

Accredited by the National Institute of Standards and Technology through NVLAP*

APPENDIX E

Data validation

Contents

Executive summary

This Data Usability Summary Report (DUSR) addresses data quality for soil borings, one ground water sample and trip blanks collected at the Cantiague Rock Road (former Sylvania Electric Products Incorporated) Site in Hicksville, New York. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) in November and December 2000.

The environmental samples collected for this investigation were submitted to O'Brien & Gere Laboratories, Inc. of Syracuse, New York for analysis of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), fluoride, metals, mercury, pH, and percent solids using New York State Department of Environmental Conservation (NYSDEC) Methods. The analytical data were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) criteria established in the NYSDEC ASP Methods and the *Supplement to the Approved Work Plan (Appendix C) Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville* (O'Brien & Gere 2000) as guidance. Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- *United States Environmental Protection Agency Region II Evaluation of Metals Data for the CLP 3/90* (USEPA 1992b), and

- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review, SOP No. HW-6, Revision #11* (USEPA 1996).

Overall, 100 percent of the PCB, metals and mercury data and approximately 96.6 percent of the VOC data were determined to be usable for qualitative and quantitative purposes. Therefore, the completeness objective of 90 percent, as stated in the QAPP, was met.

1. Introduction

1.1. Sample identification

The Data Usability Summary Report (DUSR) addresses the results of a data quality evaluation for soil boring and one ground water sample and trip blanks collected at the at the Cantiague Rock Road (former Sylvania Electric Products Incorporated) Site in Hicksville, New York. Sample collection activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) in November and December 2000.

The quantity and types of samples that were submitted for data validation are presented in Table 1-1 below.

Table 1-1. *Sample cross reference list*

Package ID	Date Collected	Client ID	Laboratory ID	Analysis Requested
OBG SDGs 7511, 7526, 7537, 7542	1/28/00	SB-110(3-4')	R6325	PCBs, Percent Solids
		SB-110(18-20')	R6326	VOCs, Percent Solids
		SB-110(20-21')	R6327	PCBs, Metals, Mercury, Percent Solids
		SB-110(21-22')	R6328	Percent Solids
		SB-111(0-4')	R6329	VOCs, Percent Solids
		SB-111(18')	R6330	PCBs, Metals, Mercury, Percent Solids
		SB-111(0-4')4'	R6331	PCBs, Percent Solids
		SB-111(0-4')2'	R6332	Percent Solids
		SB-112(4-8')	R6333	VOCs, Percent Solids
		SB-112(8-12')	R6334	Nickel, Percent Solids
		SB-112(2-3')	R6335	Percent Solids
		SB-112(0-4')	R6336	Nickel, Percent Solids
		SB-112(16-20')	R6337	PCBs, Metals, Mercury, pH, Percent Solids
		SB-113(0-4')	R6338	VOCs, Percent Solids
		SB-113(4-8')	R6339	Nickel, Percent Solids
		SB-113(12')	R6340	Nickel, Percent Solids
		SB-113(13.5-14')	R6341	Percent Solids

Table 1-1. *Sample cross reference list*

Package ID	Date Collected	Client ID	Laboratory ID	Analysis Requested
	11/29/00	SB-115(12-16')	R6453	VOCs, Percent Solids
		SB-115(8-12')	R6454	Nickel, Percent Solids
		SB-116(4-8')	R6455	VOCs, Percent Solids
		SB-116(16-20')	R6456	Nickel, Percent Solids
		SB-114(12')	R6457	Nickel, Percent Solids
		SB-114(4')	R6458	VOCs, Nickel, Percent Solids
		SB-114(20')	R6459	Metals, Mercury, Percent Solids
		SB-113B(16-20')	R6460	Metals, Mercury, Percent Solids
		SB-113C(12-16')	R6461	Metals, Mercury, Percent Solids
		SB-117(0-4')	R6462	VOCs, Percent Solids
		SB-117(12')	R6463	PCBs, Metals, Mercury, Percent Solids
	11/30/00	SB-118(17.5-20.0')	R6505	Percent Solids
		SB-118(4')	R6506	VOCs, Percent Solids
		SB-118(8-12')	R6507	PCBs, Metals, Mercury, pH, Percent Solids
		SB-120(12-16')	R6508	Nickel, pH, Percent Solids
		SB-120(4-8')	R6509	VOCs, Percent Solids
		SB-120(24')	R6510	VOCs, Percent Solids
		SB-119(0-4')	R6511	VOCs, Percent Solids
		SB-119(12-16'), MS/MSD	R6512	Nickel, Percent Solids
		SB-120D(12-16') Dup (SB-120 (12-16')	R6513	Nickel, Percent Solids
		Trip Blank A	R6514	VOCs
	12/1/00	SB-124(12-16')	R6527	Nickel, Percent Solids
		SB-124(0-4')	R6528	VOCs, Percent Solids
		SB-125(4')	R6529	VOCs, Metals, Mercury, Percent Solids
		SB-125(16-20')	R6530	VOCs, Percent Solids (On Hold)
		SB-125D(0-4') Dup (SB-125 (4'))	R6531	VOCs, Percent Solids
		SB-121(0-4')	R6532	VOCs, Percent Solids
		SB-121(18-20')	R6533	PCBs, Nickel, Percent Solids
		SB-122(12-16')	R6534	VOCs, Nickel, Percent Solids
		SB-123(0-4')	R6535	VOCs, Percent Solids
		SB-123(8-12')	R6536	Nickel, Percent Solids
		SB-129(2-3')	R6537	Nickel, pH, Percent Solids
		Trip Blank	R6538	VOCs*

Table 1-1. *Sample cross reference list*

Package ID	Date Collected	Client ID	Laboratory ID	Analysis Requested
OBG SDGs 7552, 7559	12/4/00	SB-148(8-11.5')	R6625	Nickel, Percent Solids
		SB-148(9')	R6626	Percent Solids
		SB-148(4-8')	R6627	VOCs, Percent Solids
		SB-149(6')	R6628	Nickel, Percent Solids
		SB-149(8-12')	R6629	VOCs, Percent Solids
		SB-150(1-2')	R6630	Nickel, Percent Solids
		SB-150(8-12')	R6631	VOCs, Percent Solids
		SB-151(1')	R6632	Percent Solids
		SB-151(1-2')	R6633	Nickel, Percent Solids
		SB-151(8-12')	R6634	VOCs, Percent Solids
		SB-151D(8-12') Dup (SB-151 (8-12'))	R6635	VOCs, Percent Solids
		SB-152(1-2')	R6636	PCBs, Metals, Mercury, Percent Solids
		SB-152(0-4')	R6637	VOCs, Percent Solids
		SB-152, 1'(8-14')	R6638	Percent Solids
		SB-153(0.5-2')	R6639	Nickel, Percent Solids
		SB-153(0-4')	R6640	VOCs, Percent Solids
		SB-153D(8-16') Dup (SB-153 (0.5-2'))	R6641	Nickel, Percent Solids
		SB-154(4-8')	R6642	Nickel, Percent Solids
		SB-154(0-4')	R6643	VOCs, Percent Solids
		SB-146A(1')	R6644	Nickel, Percent Solids
		SB-146A(0-4')	R6645	VOCs, Percent Solids
		SB-146B(0-4')	R6646	VOCs, Percent Solids
		SB-146B(1')	R6647	Nickel, Percent Solids
		SB-146C(2')	R6648	VOCs, Percent Solids
		SB-146C Dup (SB-146C (2'))	R6649	VOCs, Nickel, Percent Solids
		Trip Blank	R6690	VOCs
	12/3/00	SB-141(16-20')	R6650	PCBs, Metals, Mercury, pH, Percent Solids
		SB-141(12-16')	R6651	VOCs, Percent Solids
		SB-142(16-20')	R6652	VOCs, Percent Solids
		SB-142(8-12')	R6653	PCBs, Metals, Mercury, pH, Percent Solids
		SB-143(4-8')	R6654	PCBs, Metals, Mercury, pH, Percent Solids
		SB-143(16-20')	R6655	VOCs, Percent Solids
		SB-138(16-20')	R6656	Nickel, Percent Solids
		SB-138(8-12')	R6657	VOCs, Percent Solids
		SB-139(4')	R6658	VOCs, PCBs, Nickel, Percent Solids
		SB-140(4')	R6659	VOCs, PCBs, Nickel, Percent Solids
		Trip Blank	R6660	VOCs

Table 1-1. *Sample cross reference list*

Package ID	Date Collected	Client ID	Laboratory ID	Analysis Requested
OBG SDGs 7584, 7597, 7603, 7606	12/5/00	MW-1	R6837	Nickel, pH
	12/6/00	SB-147(16-20')	R6823	VOCs, Nickel, Percent Solids
		SB-155(4-8')	R6824	VOCs, Nickel, Percent Solids
		SB-157(12-16')	R6825	Nickel, Percent Solids
		SB-157(0-4')	R6826	VOCs, Percent Solids
		SB-156(0-4')	R6827	VOCs, Percent Solids
		SB-156D(16-20') Dup (SB-156 (4-8'))	R6828	pH, Percent Solids
		SB-156(4-8')	R6829	Nickel, pH, Percent Solids
		SB-144(0-4')	R6830	VOCs, Percent Solids
		SB-144D(16-20') Dup (SB-144 (5-6'))	R6831	PCBs, Percent Solids
		SB-144(6')	R6832	Percent Solids
		SB-144(5-6')	R6833	PCBs, Nickel, Percent Solids
		SB-159(8-12')	R6834	PCBs, Nickel, pH, Percent Solids
		SB-159(0-4')	R6835	VOCs, Percent Solids
		SB-130(16-20')	R6836	VOCs, Percent Solids
	12/7/00	SB-131(0-4')	R6894	VOCs, Percent Solids
		SB-131(4-8')	R6895	Metals, Mercury, pH, Percent Solids
		SB-131D(16-20'), MS/MSD	R6896	Metals, Mercury, Percent Solids
		SB-127(0-4')	R6897	VOCs, Nickel, pH, Percent Solids
		SB-133(0-4')	R6898	VOCs, Nickel, Percent Solids
		SB-133D(16-20') Dup (SB-133 (0-4'))	R6899	Nickel, Percent Solids
		SB-134(0-4')	R6900	VOCs, Percent Solids
		SB-134(12-16')	R6901	Nickel, Percent Solids
		SB-134D(16-20') Dup (SB-134 (12-16'))	R6902	Percent Solids
		SB-128(0-4')	R6903	VOCs, Nickel, Percent Solids
		SB-128D(16-20') Dup (SB-128 (0-4'))	R6904	VOCs, Percent Solids
		SB-132(1')	R6905	Percent Solids
		SB-135(8-12')	R6906	VOCs, Nickel, Percent Solids
		Trip Blank	R6907	VOCs*
	12/9/00	SB-145(20')	R6935	VOCs, PCBs, Nickel, pH, Percent Solids
		SB-145(8')	R6936	VOCs, PCBs, Nickel, pH, Percent Solids
		SB-145(12-16')	R6937	Fluoride, Percent Solids
		SB-169(12-16')	R6938	Percent Solids
		SB-170(16-20')	R6939	VOCs, Percent Solids

Table 1-1. *Sample cross reference list*

Package ID	Date Collected	Client ID	Laboratory ID	Analysis Requested
	12/8/00	SB-126(0-4'), MS/MSD	R6945	VOCs, Percent Solids
		SB-126(4-8'), MS/MSD	R6946	Nickel, Percent Solids
		SB-126(16-20'), MS/MSD	R6947	Percent Solids
		SB-160(0-4')	R6948	Percent Solids
		SB-161(0-4')	R6949	Percent Solids
		SB-162(0-4'), MS/MSD	R6950	Percent Solids
		SB-163(0-4')	R6951	Percent Solids
		SB-164(0-4')	R6952	Percent Solids
		SB-165(0-4')	R6953	Percent Solids
		SB-161D(16-20') Dup (SB-161 (0-4'))	R6954	Percent Solids
		SB-166(8-12')	R6955	VOCs, Metals, Mercury, Percent Solids
		SB-158(16-20')	R6956	VOCs, PCBs, Metals, Mercury, Percent Solids
		SB-158D(8-12') Dup (SB-158 (16-20'))	R6957	PCBs, Percent Solids
		SB-136(0-4'), MS/MSD	R6958	VOCs, Nickel, Percent Solids
		SB-137(0-4')	R6959	VOCs, Percent Solids
		Trip Blank A	R6960	VOCs*
		Trip Blank B	R6961	VOCs*

Note:
VOCs - volatile organic compounds
PCBs - polychlorinated biphenyls
TB – trip blank.
MS/MSD - matrix spike/matrix spike duplicate.

Metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

* Indicates that the trip blank was not listed on the chain-of-custody but was analyzed by the laboratory.

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 system and especially to samples, their measurement, and the actual data output. This report outlines deviations from the applicable QC criteria outlined in the following documents:

- NYSDEC. 1995. *Analytical Services Protocol (ASP),* October 1995 Revisions. Albany, New York.

- O'Brien & Gere Engineers, Inc. 2000. *Supplement to the Approved Work Plan (QAPP - Appendix C) Former Sylvania Electric Products Incorporated Facility, Cantiague Rock Road.* Syracuse, New York.

- APHA, AWWA, WPCF, 1992. *Standard Methods for the Examination of Water and Wastewater*, 18th Edition. Washington, D.C.

Excursions from the QA/QC criteria were qualified based on guidance provided in the following documents:

- *United States Environmental Protection Agency Region II Evaluation of Metals Data for the Contract Laboratory Program (CLP) 3/90* (USEPA 1992b), and

- *United States Environmental Protection Agency Region II Contract Laboratory Program (CLP) Organics Data Review, SOP No. HW-6, Revision #11* (USEPA 1996).

1.3. Analytical methods

The environmental samples collected for this investigation were submitted to O'Brien & Gere Laboratories, Inc. of Syracuse, New York for analysis of VOCs, PCBs, metals (consisting of aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc), mercury, fluoride, and pH using NYSDEC Methods and USEPA Methods. The analytical data generated for this investigation were evaluated by O'Brien & Gere using the QA/QC criteria established in the NYSDEC ASP Methods and the *Supplement to the Approved Work Plan (QAPP - Appendix C) Sylvania Electric Products Incorporated Facility, Cantiague Rock Road, Hicksville, New York* (O'Brien & Gere 2000) as guidance.

The methods used in this investigation are presented in Table 1-2.

Table 1-2. *Analytical method references*

Parameter	Method	Reference
VOCs	USEPA Method 8260B/ NYSDEC ASP Exhibit E	1
PCBs	USEPA Method 8082/ NYSDEC ASP Exhibit E	1
Metals *	USEPA Method 6010B/ NYSDEC ASP Exhibit E	1
Mercury	USEPA Method 7470A/ NYSDEC ASP Exhibit E	1
Fluoride	USEPA Method 340.2	1
pH**	USEPA Method 9040B	1
Percent Solids	USEPA Method 2540-G	2

Note:
1. NYSDEC. 1995. *Analytical Services Protocol (ASP) Methods,* October 1995 Revisions. Albany, New York.
2. APHA, AWWA, WPCF. 1992. *Standard Methods for the Examination of Water and Wastewater,* 18th Edition, Washington, D.C.

* - Metals consist of aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.
** - pH analyses were not evaluated during the validation process

The following chapters of this document address distinct aspects of the validation process. Chapter 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 Chapter 3. Data completeness and usability are discussed in Chapter 4. Finally, the answers to the questions presented by the DUSR are presented in Chapter 5.

2. Data validation protocols

2.1. Sample analyses parameters

The validation of NYSDEC ASP analyses for this project used guidance presented in the QAPP (O'Brien & Gere 2000), and the analytical methodology, and the data validation guidelines referenced in Chapter 1 herein. The following QA/QC parameters were evaluated for the VOC analyses:

- Holding times, sample preservation, and percent solids,
- GC/MS tuning criteria,
- Initial and continuing calibration,
- Blank analysis,
- Surrogate recovery,
- MS/MSD analysis,
- Laboratory control sample (LCS) analysis,
- Internal standards performance,
- Field duplicate analysis,
- Analyte identification, quantitation, and reported detection limits,
- System performance, and
- Documentation completeness.

The following QA/QC parameters were evaluated for the PCB analyses:

- Holding times, sample preservation, and percent solids,
- GC performance,
- Analytical sequence,
- Initial and continuing calibration,
- Blank analysis,
- Surrogate recovery,
- MS/MSD analysis,
- LCS analysis,
- Field duplicate analysis,
- Analyte identification, quantitation, and reported detection limits,
- Cleanup efficiency verification,
- System performance, and
- Documentation completeness.

The following QA/QC parameters were evaluated for the metal, mercury, and fluoride analyses (where applicable):

- Holding times, sample preservation, and percent solids,
- Contract required detection limit (CRDL) standard analysis criteria,
- Initial and continuing calibration,
- Blank analysis,
- Inductively coupled plasma (ICP) interference check sample analysis,
- MS analysis,
- LCS analysis,
- Laboratory duplicate analysis,
- ICP serial dilution analysis,
- Field duplicate analysis,
- Verification of instrument parameters,
- Instrument detection limits,
- Linear ranges,
- Analyte quantitation, and reported detection limits, and
- Documentation completeness.

2.2. Data validation qualifiers

In accordance with the USEPA guidance, and using professional judgment, the following qualifiers are used in this data validation to qualify environmental samples:

"R" Indicates that the reporting limit or sample result has been determined to be unusable due to a major deficiency in the data generation process. The data should not be used for any qualitative or quantitative purposes.

"U" Indicates that the analyte was analyzed for, but was not detected. The sample quantitation limit is presented. This qualifier is also used in the validation process to signify that the detection limit of an analyte was raised due to blank contamination.

"J" Indicates that concentration of the result should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process. The laboratory also applies this qualifier when the analyte concentration was greater than the method detection limit (MDL) but less than the reported detection limit. In this case, during the validation process, the "J" flag was retained since the concentration is considered to be approximate.

The following guidelines are used regarding the assignment of qualifiers and the use of qualified data:

- The data quality evaluation results in only one qualifier for each analyte; in a case when several qualifiers are applicable to the same analyte; the cumulative effect of the various QA/QC excursions is employed in assigning the final data qualifiers.

- QA/QC excursions that do not result in the qualification of an analyte are not discussed, unless the situation observed through the validation process warrants noting.

- Qualifiers are applied to environmental samples. Trip blanks and MS/MSD samples are used to evaluate environmental samples and are not qualified due to detected excursions.

2.3. DUSR questions

The DUSR determines whether or not the data meet site specific criteria for data quality and use. The DUSR was developed by reviewing and evaluating the analytical data packages. During the course of this review 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?

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 section in Chapter 5

3. Data quality evaluation

3.1. Criteria

This chapter summarizes the QA/QC parameters, validation criteria, and qualifications performed on the sample data when the QA/QC parameters specified in Chapter 2 did not meet criteria. Samples that required qualification are described in the following sections, and are identified by the description documented on the sample chain-of-custody records.

3.1.1. Documentation completeness

The following chain-of-custody issues were detected during the validation process and were reported to the Project Manager.

- The chain-of-custody associated with samples collected 11/28/00 was incomplete. The dates of sample collection for samples SB-111 (0-4'), SB-111 (18'), SB-111 (0-4') 4', SB-111 (0-4') 2', SB-112 (4-8'), SB-112 (8-12'), SB-112 (2-3') and SB-112 (0-4') were not documented on the chain-of-custody. In addition, the times of sample collection for samples SB-112 (2-3') and SB-112 (0-4') were not documented on the chain-of-custody. The date of collection listed on the chain-of-custody for sample SB-111 (21-22') was 11/18/00. However, the laboratory noted that the date listed on the sample container was 11/28/00. The laboratory used the collection date for the above-mentioned samples as 11/28/00 based on the information listed on the sample bottles.

- The chain-of-custody associated with samples collected 11/28/00 was incomplete. The courier, Federal Express, was not listed on the accompanying After Hours Chain-of-Custody Laboratory form.

- The chain-of-custody associated with samples collected 12/7/00 was incomplete. The date of sample collection for samples SB-131 (4-8'), SB-131D (16-20') MS/MSD, SB-127 (0-4'), SB-133 (0-4'), SB-133D (16-20'), SB-134 (0-4'), SB-134 (12-16'), SB-134D (16-20'), SB-128 (0-4'), SB-128D (16-20'), and SB-132 (1') were not documented on the chain-of-custody. In addition, the time of sample collection for samples SB-131 (4-8') and SB-131D (16-20') MS/MSD were not documented on the chain-of-custody. The laboratory used the collection date for the above-mentioned samples as 12/7/00 based on the information listed on the sample bottles.

- The chain-of-custody associated with samples collected 12/8/00 was incomplete. The dates of sample collection for samples SB-126 (0-4') MS/MSD, SB-126 (4-8') MS/MSD, SB-126 (16-20') MS/MSD, SB-160 (0-4'), SB-161 (0-4'), SB-162 (0-4') MS/MSD, SB-163 (0-4'), and SB-164 (0-4') were not documented on the chain-of-custody. In addition, the times of sample collection for samples SB-126 (0-4') MS/MSD, SB-126 (4-8') MS/MSD, and SB-126 (16-20') MS/MSD were not documented on the chain-of-custody. The laboratory used the collection date for the above-mentioned samples as 12/8/00 based on the information listed on the sample bottles.

- The chain-of-custody associated with samples collected 12/8/00 was incomplete. The date of sample collection for samples SB-166 (8-12'), SB-158 (16-20'), SB-158D (8-12'), SB-136 (0-4') MS/MSD, and SB-137 (0-4') were not documented on the chain-of-custody. In addition, the time of sample collection for sample SB-136 (0-4') MS/MSD was not documented on the chain-of-custody. The laboratory used the collection date for the above-mentioned samples as 12/9/00 based on the information listed on the sample bottles.

The following method and analysis issue was detected during the validation process and was reported to the Project Manager.

- The laboratory indicated that a combination of the USEPA and NYSDEC ASP method quality control limits were used during the analysis of samples for this project. The laboratory used the NYSDEC ASP methods for calibration and instrument tuning. The USEPA methods were used for the remaining quality control requirements. As a result, either the laboratory control limits or the method control limits were used by the laboratory to evaluate the data. During the validation process, the limits used by the laboratory were also used by the validation team to evaluate the data.

3.2. VOC analyses

The QA/QC parameters presented in Section 2.1 for VOCs were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times, sample preservation, and percent solids,
- GC/MS tuning criteria,
- Initial calibration,
- MS/MSD analysis,
- Field duplicate analysis,
- Analyte identification and quantitation,
- System performance.

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.2.1. Continuing calibration

The percent difference (%D) for analytes in continuing calibrations analyzed for volatiles exceeded the method criterion. As a result of the continuing calibration excursions the results for analytes in samples associated with the calibrations were qualified as approximate (UJ) to indicate minor compromises in calibration linearity. The following table presents the calibration excursions:

Table 3-1. *Continuing calibration excursions for VOC analyses*

Continuing calibration ID	Analyte	Excursion	Affected samples	Action
MS2 12/13/00 0908	Bromomethane	36.8 %D	SB-127(0-4')	UJ
	Carbon tetrachloride	55.5 %D		
	Trans-1,3-dichloropropene	29.9 %D		
	Dibromochloromethane	26.0 %D		
	Bromoform	32.0 %D		
MS3 12/14/00 2120	Bromoform	28.0 %D	SB-126(0-4')	UJ
	1,1,2,2-Tetrachloroethene	44.8 %D	SB-158(16-20')	
			SB-136(0-4')	
			SB-137(0-4')	
			SB-145(8')	
			SB-135(8-12')	
MS2 12/15/00 0929	Bromomethane	30.7 %D	SB-166(8-12')	UJ
	Carbon tetrachloride	30.8 %D		
MS3 12/2/00	Vinyl chloride	28.5 %D	SB-110(18-20')	UJ
			SB-111(0-4')	
			SB-112(4-8')	
			SB-113(0-4')	
			SB-115(12-16')RE	
			SB-116(4-8')	
			SB-114(4')	
			SB-117(0-4')	
			SB-118(4')	
			SB-120(4-8')	
			SB-119(0-4')	
MS3 12/5/00	Vinyl chloride	26.9 %D	SB-120(24')	UJ
			SB-124(0-4')	
			SB-121(0-4')	

Note: %D indicates percent difference.

3.2.2. Blank analysis

Trip blanks are to be included in each cooler containing samples submitted for VOC analysis. Trip blanks were not included in the coolers containing samples submitted for VOC analysis, which were collected 11/28/00, 11/29/00, and 12/6/00. Therefore, sample contamination due to sample shipment issues was not evaluated for those samples.

Target analytes were detected in blanks analyzed for VOCs in this investigation. Samples that contained common laboratory contaminants at less than ten times the associated blank concentration and the remaining analytes at less than five times the associated blank concentration were qualified as undetected due to the blank contamination, as required by the USEPA Region II data validation guidelines. The blank excursions are summarized in the following table:

Table 3-2. *Blank excursions for VOC analyses*

Blank ID	Analyte	Detected Concentration	Affected Sample Results	Action
PB121400S1	Tetrachloroethene	1.4 µg/Kg	SB-145(20')	3U
			SB-170(16-20')	3U
			SB-131(0-4')	3U
PB121400S5	Acetone	4.9 µg/Kg	SB-126(0-4')	10U
			SB-158(16-20')	10U
			SB-136(0-4')	11U
			SB-137(0-4')	11U
			SB-145(8')	11U
			SB-135(8-12')	10U
	Methylene chloride	1.1 µg/Kg	SB-126(0-4')	8U
			SB-158(16-20')	6U
			SB-136(0-4')	3U
			SB-137(0-4')	3U
			SB-145(8')	7U
	Styrene	1.1 µg/Kg	SB-158(16-20')	3U
Trip Blank 12/3/00	Acetone	6.0 µg/L	SB-142(16-20')	34U
			SB-138(8-12')	15U
	Tetrachloroethene	1.0 µg/L	SB-138(8-12')	5U

Note: PB indicates preparation blank.

3.2.3. Surrogate recovery

The surrogate recovery was outside of the laboratory control limits for sample SB-142 (16-20') submitted for VOC analyses. Reanalysis confirmed the initial surrogate responses. As a result, the target analytes detected in the sample were qualified as approximate (UJ, J) to indicate biased low results based on the decreased response of the surrogate. The following table presents the target analytes qualified as a result of surrogate recovery excursion:

Table 3-3. *Surrogate excursions for VOC analyses*

Sample ID	Surrogate	Excursion	Affected analytes	Action
SB-142(16-20')	Dibromofluoromethane	61 %R	Target analytes	UJ, J

Note: %R indicates percent recovery.

3.2.4. LCS analysis

The laboratory recovery criteria for VOCs in LCS analyses were exceeded. As a result of the LCS excursions, the results in the associated samples were qualified as approximate (UJ) to indicate minor accuracy excursions. The following table presents the target analytes qualified as a result of the LCS excursions:

Table 3-4. *LCS excursions for VOC analyses*

LCS ID	Analyte	Excursion	Affected Sample	Action
L121300S9	Carbon tetrachloride	53 %R	SB-127(0-4')	UJ
	Trans-1,3-dichloropropene	72 %R		
	Dibromochloromethane	69 %R		
	Bromoform	64 %R		
L121500S9	Carbon tetrachloride	66 %R, 58 %R	SB-166(8-12')	UJ
	Trans-1,3-dichloropropene	82 %R, 66 %R		

Note:
%R indicates percent recovery.

3.2.5. Internal standards performance

The recoveries for internal standards in samples analyzed for VOCs were lower than the validation control limits. Repeated analyses confirmed the internal standard excursions. In accordance with USEPA Region II data validation guidelines, the results for target analytes associated with internal standard area recoveries greater than 25 percent but less than the lower control limit were qualified as approximate (UJ, J) to indicate lower instrument response. The results for non-detected target analytes associated with internal standard area recoveries less than 25 percent were rejected (R) to indicate a major decrease in instrument response. The internal standard recovery excursions are summarized in the following table:

Table 3-5. *Internal standard area excursions for VOC analyses*

Sample ID	Internal standard	Excursion	Affected Analytes	Action
SB-147(16-20')	Fluorobenzene	26 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	31 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	26 %R	See affected analytes listed below	UJ
SB-133(0-4')	1,4-Difluorobenzene-d4	45 %R	See affected analytes listed below	UJ
SB-128(0-4')	Fluorobenzene	30 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	35 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	21 %R	See affected analytes listed below	(1)R
SB-134(0-4')	Fluorobenzene	27 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	28 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	21 %R	See affected analytes listed below	(1)R
SB-155(4-8')	Fluorobenzene	26 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	30 %R	See affected analytes listed below except Tetrachloroethene	UJ, J
	1,4-Difluorobenzene-d4	23 %R	See affected analytes listed below	(1)R
SB-155(4-8')DL	Chlorobenzene-d5	38 %R	Tetrachloroethene	J
SB-157(0-4')	Fluorobenzene	25 %R	See affected analytes listed below	UJ, J

Table 3-5. *Internal standard area excursions for VOC analyses*

Sample ID	Internal standard	Excursion	Affected Analytes	Action
	Chlorobenzene-d5	28 %R	See affected analytes listed below except Tetrachloroethene	UJ, J
	1,4-Difluorobenzene-d4	24 %R	See affected analytes listed below	(1)R
SB-157(0-4')DL	Chlorobenzene-d5	37 %R	Tetrachloroethene	J
SB-130(16-20")RE	Fluorobenzene	48 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	48 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	48 %R	See affected analytes listed below	UJ
SB-159(0-4')DL	Fluorobenzene	21 %R	See affected analytes listed below	(22)R, J
	Chlorobenzene-d5	22 %R	See affected analytes listed below	(5) R, J
	1,4-Difluorobenzene-d4	20 %R	See affected analytes listed below	(1) R
SB-156(0-4')	Fluorobenzene	45 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	45 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	39 %R	See affected analytes listed below	UJ
SB-148(4-8')RE	1,4-Difluorobenzene-d4	47 %R	See affected analytes listed below	UJ
SB-150(8-12')	1,4-Difluorobenzene-d4	47 %R	See affected analytes listed below	UJ
SB-134(0-4')	Fluorobenzene	45 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	42 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	35 %R	See affected analytes listed below	UJ
SB-152(0-4')RE	1,4-Difluorobenzene-d4	43 %R	See affected analytes listed below	UJ
SB-151D(8-12')	Fluorobenzene	40 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	37 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	31 %R	See affected analytes listed below	UJ
SB-153(0-4')	1,4-Difluorobenzene-d4	48 %R	See affected analytes listed below	UJ
SB-154(0-4')	Fluorobenzene	22 %R	See affected analytes listed below	(26)R
	Chlorobenzene-d5	21 %R	See affected analytes listed below	(7)R
	1,4-Difluorobenzene-d4	19 %R	See affected analytes listed below	(1)R
SB-146A(0-4')	1,4-Difluorobenzene-d4	43 %R	See affected analytes listed below	UJ
SB-146B(0-4')	1,4-Difluorobenzene-d4	46 %R	See affected analytes listed below	UJ
SB-146C(2')	1,4-Difluorobenzene-d4	38 %R	See affected analytes listed below	UJ
SB-142(16-20')RE	1,4-Difluorobenzene-d4	45 %R	See affected analytes listed below	UJ
SB-143(16-20')	1,4-Difluorobenzene-d4	49 %R	See affected analytes listed below	UJ
SB-138(8-12')	Fluorobenzene	40 %R	See affected analytes listed below	UJ, J
	Chlorobenzene-d5	39 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	35 %R	See affected analytes listed below	UJ
SB-111(0-4')	1,4-Difluorobenzene-d4	33 %R	See affected analytes listed below	UJ
SB-112(4-8')	1,4-Difluorobenzene-d4	44 %R	See affected analytes listed below	UJ
SB-116(4-8')	1,4-Difluorobenzene-d4	25 %R	See affected analytes listed below	UJ
SB-114(4')	1,4-Difluorobenzene-d4	45 %R	See affected analytes listed below	UJ
SB-120(4-8')	Chlorobenzene-d5	36 %R	See affected analytes listed below except Tetrachloroethene	UJ, J
	1,4-Difluorobenzene-d4	29 %R	See affected analytes listed below	UJ
SB-120(24')	Fluorobenzene	48 %R	See affected analytes listed below	UJ
	1,4-Difluorobenzene-d4	47 %R	See affected analytes listed below	UJ
SB-121(0-4')	Fluorobenzene	29 %R	See affected analytes listed below	UJ,J
	Chlorobenzene-d5	29 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	25 %R	See affected analytes listed below	UJ
SB-119(0-4')	1,4-Difluorobenzene-d4	41 %R	See affected analytes listed below	UJ
SB-124(0-4')	1,4-Difluorobenzene-d4	42 %R	See affected analytes listed below	UJ
SB-125D(0-4')	1,4-Difluorobenzene-d4	44 %R	See affected analytes listed below	UJ
SB-123 (0-4')RE	Fluorobenzene	32 %R	See affected analytes listed below	UJ,J
	Chlorobenzene-d5	29 %R	See affected analytes listed below	UJ, J
	1,4-Difluorobenzene-d4	26 %R	See affected analytes listed below	UJ

Table 3-5. *Internal standard area excursions for VOC analyses*

Sample ID	Internal standard	Excursion	Affected Analytes	Action

Note: DL - dilution analysis.
(1) indicates the number of rejected target analytes in the associated sample.

- The analytes affected by internal standard fluorobenzene include: chloromethane, bromomethane, vinyl chloride, chloroethane, methylene chloride, acetone, 1,1-dichloroethene, carbon disulfide, 1,1-dichloroethane, trans-1,2-dichloroethene, cis-1,2-dichloroethene, chloroform, dibromofluoromethane, 1,2-dichloroethane, 2-butanone, 1,1,1-trichloroethane, carbon tetrachloride, bromodichloromethane, 1,2-dichloropropane, cis-1,3-dichloropropene, trichloroethene, benzene, trans-1,3-dichloropropene, 1,1,2-trichloroethane, 4-methyl-2-pentanone, toluene, and 2-hexanone.
- The analytes affected by internal standard chlorobenzene-d5 include: dibromochloromethane, tetrachloroethene, chlorobenzene, ethylbenzene, styrene, xylenes, and bromoform.
- The analyte affected by internal standard 1,4-difluorobenzene-d4 include: 1,1,2,2-tetrachloroethane.

3.2.6. Analyte reported detection limits

Dilutions were performed during the analysis of samples due to high concentrations of target analytes. For some samples, both the concentration from the diluted analysis (for those target analytes that exceeded calibration range) and the remaining results from the lowest dilution analysis were combined in the sample report. The analytes that were analyzed using one or more dilutions are summarized in the following table:

Table 3-6. *Sample reported from diluted VOC analyses*

Sample ID	Reason for dilution
SB-155(4-8')	High concentration of target analytes
SB-157(0-4')	
SB-156(0-4')	
SB-159(0-4')	
SB-127(0-4')	
SB-134(0-4')	
SB-145(8')	
SB-166(8-12')	
SB-139(4')	
SB-110(18-20')	
SB-111(0-4')	
SB-112(4-8')	
SB-116(4-8')	
SB-114(4')	
SB-117(0-4')	
SB-118(4')	
SB-120(4-8')	
SB-119(0-4')	
SB-124(0-4')	
SB-125(4')	
SB-125D(0-4')	
SB-121(0-4')	

The concentrations for target analytes from the dilution analyses for several samples did not compare well with the undiluted results. The sample result from the dilution analysis was reported. The following table summarizes the sample results from the dilution and undiluted analyses. Qualification of sample results was not performed since the discrepancies may have been the result of using two different sample vials during analysis or due to non-homogeneous sample aliquots.

Table 3-7. *Sample results from undiluted and diluted VOC analyses*

Sample ID	Target Analyte	Sample Results From Undiluted Analysis (µg/Kg)	Sample Results From Dilution Results (µg/Kg)
SB-155(4-8')	Tetrachloroethene	1100	380
SB-157(0-4')	Tetrachloroethene	330	100
SB-156(0-4')	Tetrachloroethene	3700	210
SB-133(0-4')	Tetrachloroethene	1400	780
SB-134(0-4')	Tetrachloroethene	9900	2500
SB145(8')	Tetrachloroethene	3800	160
SB-145(8')	Trichloroethene	490	52
SB-111(0-4')	Tetrachloroethene	5100	18000
SB-120(4-8')	Tetrachloroethene	13000	92000
SB-119(0-4')	Tetrachloroethene	5500	16000
SB-125(4')	Tetrachloroethene	69000	9600
SB-125D(0-4')	Tetrachloroethene	32000*	10000
SB-121(0-4')	Tetrachloroethene	46000*	9200

* Medium level analysis used.

The concentration of Tetrachloroethene in the initial and reanalysis of sample SB-130 (16-20') were not comparable. The results from a third analysis of the sample confirmed the re-analysis results but was performed outside of the holding time. Therefore the re-analysis results were reported for that sample.

3.3. PCB analyses

3.3.1. Criteria

The QA/QC parameters presented in Section 2.1 for were applied to samples listed in Table 1-1.

The following QA/QC parameters were found to meet validation criteria:

- Holding times, sample preservation, and percent solids,
- GC performance,
- Analytical sequence,
- Initial and continuing calibration,
- Surrogate recovery,
- Field duplicate analysis,
- Analyte identification, quantitation, and reported detection limits, and
- Cleanup efficiency verification.

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.3.2. Blank analysis

Although required by the QAPP, the instrument blanks generated during the PCB analysis were not included in the data packages. Therefore, instrument blanks were not evaluated during the validation process.

3.3.3. MS/MSD analysis

Although required by the QAPP at a frequency of 5 percent, MS/MSD samples were not collected for PCB analysis during this sampling event. Therefore, the accuracy and precision evaluation for matrix influences on target analytes was not performed during the validation process.

3.3.4. LCS analysis

The QAPP requires that the LCS spike contain Aroclors suspected to be present at the Site. Aroclor 1254 was detected in the samples collected for this sampling event. Aroclor 1254 was not included in the LCS spike solutions. Therefore, the instrument response for Aroclors 1016 and 1260 only were evaluated during the laboratory analysis since these Aroclors were included in the LCS spike solutions.

3.3.5. Analyte reported detection limits

Dilutions were performed during the analysis of samples due to high concentration of target analytes. The samples that were analyzed using one or more dilutions are summarized in the following table:

Table 3-8. *Analytes reported from diluted PCB analyses*

Analysis	Sample ID	Reason for dilution
PCBs	SB-144D(16-20') SB-144(5-6') SB-145(8') SB-152(1-2') SB-140(4')	High concentration of target analytes

3.4. Metals and mercury

3.4.1. Criteria

The QA/QC parameters presented in Section 2.1 for metals (consisting of aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc), mercury, and fluoride, were applied to samples listed in Table 1-1. The following QA/QC parameters were found to meet validation criteria:

- Holding times, sample preservation, and percent solids,
- CRDL standard analysis criteria,
- Initial and continuing calibration,
- Blank analysis,
- ICP interference check sample analysis,
- LCS analysis,
- Laboratory duplicate analysis,
- ICP serial dilution analysis,
- Verification of instrument parameters,
- Instrument detection limits,
- Linear ranges, and
- Analyte quantitation and reported detection limits.

Deviations from QA/QC criteria presented in Section 2.1 are summarized below.

3.4.2. MS analysis

The results for antimony in MS sample SB-131D (16-20') were less than the laboratory control limits. Post-digestion spikes were performed as required and met recovery criteria. In accordance with USEPA Region II data validation guidelines, when the sample concentrations were less than four times the spike concentrations, target analytes with MS recoveries that are greater than 10 percent but less than 200 percent were qualified as approximate (UJ, J) to indicate minor recovery excursions. The MS excursions are summarized in the following table:

Table 3-9. *MS excursions for metal analyses*

MS ID	Analyte	Excursion	Affected Sample Results	Action
SB-131D(16-20')	Antimony	49 %R, 49 %R	SB-166(8-12') SB-131(4-8') SB-110(20-21') SB-111(18') SB-112(16-20') SB-114(20') SB-113B(16-20') SB-113C(12-16') SB-117(12') SB-118(8-12') SB-125(4') SB-152(1-2') SB-141(16-20') SB-142(8-12') SB-143(4-8') SB-158(1-20') SB-131D(16-20')	UJ, J

Note: %R indicates percent recovery.

3.4.3. Field duplicate analysis

The field duplicate RPD requirement, which was specified in the QAPP (RPD less than 100 percent) was not met for nickel in the field duplicate pairs identified as SB-133 (0-4') and SB-133D (16-20'). As a result, the excursions detected results for nickel were qualified as approximate (J) in these samples. Additional qualifications of nickel data were not performed since RPD requirements were met for the other field duplicates collected.

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 PCB, metals, mercury, and fluoride data and approximately 96.6 percent of the VOC data were complete and determined to be usable for qualitative and quantitative purposes.

The soil borings and one ground water sample collected at the Cantiague Rock Road (former Sylvania Electric Products Incorporated) Site in Hicksville, New York were evaluated based on QA/QC criteria established by NYSDEC ASP Methods as listed in Section 1-2, by the USEPA Region II guidelines and by the QAPP (O'Brien & Gere 2000) established for this project. Major deficiencies in the data generation process resulted in data being rejected, indicating that the data is considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process resulted in some sample data being characterized as approximate. Identification of a data point as approximate indicates uncertainty in the reported concentration of the chemical, but not its assigned identity. The use of approximated analytical data for quantitative uses is consistent with the guidance presented in the *USEPA Risk Assessment Guidance for Superfund* (USEPA 1992a).

The following paragraphs present the adherence of the data to the precision, sensitivity, accuracy, representativeness, comparability, and completeness (PSARCC) parameters.

Precision is measured through the evaluation of field duplicate samples, laboratory duplicate, and MS/MSD samples. Although required by the QAPP at a frequency of 5 percent, field duplicates were not collected during the sampling event. Therefore, field collection precision was not evaluated during the validation process. None of the VOC, PCB, metal, mercury, and fluoride data were rejected due to precision excursions.

Sensitivity is established by reported detection limits that represent measurable concentrations of analytes which can be determined with a designated level of confidence. Sensitivity requirements with respect to reported detection limits were acceptable for the sample data in this project. Dilutions were performed for several analyses due to high target analytes present in the samples or matrix interference. Overall, with the exception of the dilution analyses used by the laboratory, the majority of the reported detection limits met the project requirements.

Matrix spike samples, internal standard recoveries, surrogate recoveries, LCS recoveries, and initial and continuing calibration criteria indicate the accuracy of the data. For the VOC analyses, 3.4 percent of the data were rejected due to internal standard recovery excursions. None of the PCB, metal, mercury, and fluoride data were rejected due to precision excursions.

Holding times, sample preservation, blank analysis, and compound identification and quantification are indicators of the representativeness of the analytical data. None of the VOC, PCB, metal, mercury, and fluoride data were rejected due to representativeness excursions.

Comparability is not compromised provided that the analytical methods did 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.

The completeness objective of 90 percent, as stated in the QAPP was met.

5. DUSR 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 NYSDEC ASP Category B deliverables be provided by the laboratory for each data package. With some exceptions, this requirement was met. The evaluation of the sample data could be 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 VOC, PCB, metal, mercury, and fluoride analyses.*

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? *The laboratory used the method 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 excursions resulted in the rejection of 3.4 percent of the VOC data due to internal standard recoveries that were less than 25 percent.*

4. Have all of the data been generated using established and agreed upon analytical protocols? *The QAPP required that NYSDEC ASP methods be used in the analysis of samples collected for this sampling event. The laboratory used either NYSDEC ASP or USEPA 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 the raw data confirmed the summary 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 USEPA Region II validation guidelines as listed in Chapter 1.*

References

American Water Works Association, American Public Health Association and Water Pollution Control Federation. 1992. *Standard Methods for the Examination of Water and Wastewater*, 18th Edition, Washington, D.C.

New York State Department of Environmental Conservation (NYSDEC). 1995. *Analytical Services Protocol (ASP),* October 1995 Revisions. Albany, New York.

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). 1992a. *USEPA Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A),* 540/1-891002. Washington, D.C.

_____. 1992b. *USEPA Region II Evaluation of Metals Data for the CLP 3/90.* New York, New York.

United States Environmental Protection Agency (USEPA). 1996. *USEPA Region II CLP Organics Data Review, SOP No. HW-6, Revision #11.* New York, New York.

APPENDIX F

Memorandum (Interpretation of Radiochemistry Data)

O'Brien & Gere Laboratories, Inc.

M E M O R A N D U M

To:	J. Banikowski	**Date:**	February 16, 2001
From:	W. H. Hayes WHH	**File:**	G:\HAYES\Misc\GTE Rad Interpret.wpd
Re:	Interpretation of Radiochemistry Data	**cc:**	MS, MNP

Data have been reported from samples collected from the GTE - Sylvania Site in Hicksville, NY. Certain information should be understood while reviewing and interpreting the reported data. The purpose of this memo is to clarify a few of these points.

Gamma Spectrometry

Monitoring Objective

Activities are measured from photon emitting isotopes which are incorporated within the sample matrices. At the site in question, the principle radiological concerns are isotopes from the uranium, thorium, and actinium series of isotopes (see attachments). In chemically unprocessed radiological contaminants, these chains (series') should have an established equilibrium between parents and progeny. Further, in naturally occurring materials, the comparative fraction of uranium-235, should be about 0.72% of total uranium by mass. The actinium series should be expected to be in equilibrium with the U-235 parent.

Based on previous monitoring and process knowledge, it has been determined that radiological materials at the site were chemically processed; and, therefore, one may expect the series' of interest not to be in equilibrium. One finds elevated lower chain daughters not supported by parents or, conversely, parent and upper chain isotopes not supported by lower chain daughters.

Clean-up criteria have been principally established based on the determination of activities of the following isotopes:

Uranium-238	Uranium Series	parent
Radium-226	Uranium Series	lower chain daughter
Uranium-235	Actinium Series	parent
Thorium-232	Thorium Series	parent

Measurement Problems

The above isotopes may be fairly accurately interpolated from gamma spectrometry data, but, in several cases, may not necessarily or accurately be measured directly. For example, the decay of thorium-232 and uranium-238 do not yield any significant gamma emissions. Further, radium-226 emits a 186 KeV gamma when it decays, and this emission is the only energy for its gamma decay. The problem this poses is that uranium-235 also emits a 186 KeV gamma; and, therefore, interferes with the measurement of radium-226. Because uranium-235 gamma decays have several other emission energies, the interference from radium-226 on its quantification may be measured and corrected.

Reporting Conventions

Data are reported from the laboratory based on the activities measured for each reported isotope regardless of the fact that it is understood that individual isotopic results may be biased as a result of the presence of other isotopes. Results are reported as measured based on the energy and efficiency calibrations applied to the measurement system. Interpretation of data is left to the client. A certain level of understanding of gamma spectrometry data limitations is assumed. Some guidance to be used for this interpretation is attached.

Data Interpretation

Uranium-238 - As previously stated, uranium-238 is not a gamma emitter. As illustrated in the attached uranium series decay chart, its first daughter is thorium-234, which has a half-life of 24.1 days. Its second daughter is protactinium-234m, which has a half-life of 1.17 minutes.

Because the site is no longer in operation as a nuclear fuel fabrication facility, both daughters should be in equilibrium (equal activity with the parent uranium-238). Thorium-234 has gamma emissions at 63 and 93 KeV; protactinium-234m has a principle gamma emission at 1001 KeV. Either daughter could be used for interpolating uranium-238 activity. Each has its pros and cons. The gamma abundance (gammas/disintegration) for thorium-234 is higher than that observed for protactinium-234m - 4% compared with 0.6% - so the detection level for thorium-234 is lower. Conversely, though, there exists several interferences with measurements made at the emission energies from thorium-234. Almost nothing interferes with the protactinium-234m emission energy.

We, therefore, recommend that the reported protactinium-234m activities be used for interpolating the uranium-238 activities unless the Pa-234m activities are less than their detection levels. If their activities are less than detection levels, the Th-234 activities should be used for interpolating uranium-238 activities.

Thorium-232 - As also previously stated, thorium-232 is not a gamma emitter. As illustrated in the attached thorium series decay chart, its first daughter is radium-228, which has a half-life of 6.7 years. Its second daughter is actinium-228, which has a half-life of 6.13 hours. Because radium-228 is also not a gamma emitter, the actinium-228 emissions should be used for interpolating thorium-232 activities. Ac-228 has several emission lines and few interferences.

Uranium-235 - This isotope is a gamma emitter; has several emission lines; and can be fairly accurately quantified by gamma spectrometry directly.

Radium-226 - This isotope is a gamma emitter, but, as was previously discussed, is interfered with by the presence of uranium-235. The forth daughter of radium-226 is bismuth-214, and the fifth daughter is lead-214. All daughters between radium-226 and lead 214 have very short half-lives, so it may be accurately assumed that daughters are in equilibrium. In addition, all samples were allowed to set in their sealed counting vessels at least 21 days from the time they were dried and ground until they were counted. Therefore, we can attest with much assurance that Pb-214 and Bi-214 were in equilibrium with Ra-226. In that Pb-214 and Bi-214 have multiple emission lines, may be quantified fairly accurately, and have about equal detection levels, we recommend that the average of these two isotopes be used to quantify radium-226. If a conservative approach is deemed desirable, the higher of the lead or bismuth-214 could be used.

Other Considerations

Based on conversations about the interpretation of the data or how the data might be viewed, it became apparent that an understanding about how results are calculated might be necessary. Though the actual calculation is considerably more complicated than what is presented here, the following generally represents how results are calculated from observed data:

$$Activity(pCi/g) = \frac{\gamma\ counts}{2.22 * count\,time * abundance * eff * mass}$$

where:	γ counts	=	observed gamma counts at a given energy
	2.22	=	conversion from dpm to pCi
	count time	=	minutes counted
	abundance	=	γ counts/disintegration for a given isotope's emission
	eff	=	efficiency (γ counts/γ emissions) for a given detector at a given energy
	mass	=	grams of sample aliquot counted

A question arose in conversations about the data that went like this. Hypothetically, if a sample had an observed result based on direct measurement of Ra-226 of 10 pCi/g and had observed results for Bi-214 and Pb-214 of 1.0 pCi/g, it is understood that Bi-214 and Pb-214 are more reliable at interpolating the Ra-226 result than the direct Ra-226 measurement. Therefore, it would be assumed that the Ra-226 activity is 1.0 pCi/g. Again, the high bias for the direct measurement of Ra-226 is caused by the U-235 interference. Therefore, if only 1.0 pCi/g of the Ra-226 result really is from Ra-226, does that mean that 9.0 pCi/g are from U-235?

The answer is no. The explanation comes from the abundance term in the above equation. The abundance for the 186 KeV peak from Ra-226 is 4%. The abundance for the 186 KeV peak from U-235 is 54%. Therefore, in simplistic terms, the 9 pCi/g over reporting of Ra-226 activity in our hypothetical example may have been caused by the presence of only 0.67 pCi/g of U-235 being misclassified.

$$0.67\ pCi/g = 9\ pCi/g * \frac{.04}{.54}$$

The above calculation is, again, not nearly this simplistic, but the example illustrates the point.

Conclusion

We recommend that the above assumptions, as stated in the Data Interpretation section, be used for reporting radiological monitoring data from this site.

Uranium Series (4n + 2)*

Nuclide	Historical name	Half-life	Major radiation energies (MeV) and intensities† α	β	γ
$^{238}_{92}U$	Uranium I	4.51×10^9 y	4.15 (25%) 4.20 (75%)	---	---
$^{234}_{90}Th$	Uranium X_1	24.1d	---	0.103 (21%) 0.193 (79%)	0.063c‡ (3.5%) 0.093c (4%)
$^{234}_{91}Pa^m$ 99.87% / 0.13%	Uranium X_2	1.17m	---	2.29 (98%)	0.765 (0.30%) 1.001 (0.60%)
$^{234}_{91}Pa$	Uranium Z	6.75h	---	0.53 (66%) 1.13 (13%)	0.100 (50%) 0.70 (24%) 0.90 (70%)
$^{234}_{92}U$	Uranium II	2.47×10^5 y	4.72 (28%) 4.77 (72%)	---	0.053 (0.2%)
$^{230}_{90}Th$	Ionium	8.0×10^4 y	4.62 (24%) 4.68 (76%)	---	0.068 (0.6%) 0.142 (0.07%)
$^{226}_{88}Ra$	Radium	1602y	4.60 (6%) 4.78 (95%)	---	0.186 (4%)
$^{222}_{86}Rn$	Emanation Radon (Rn)	3.823d	5.49 (100%)	---	0.510 (0.07%)
$^{218}_{84}Po$ 99.98% / 0.02%	Radium A	3.05m	6.00 (~100%)	0.33 (~0.019%)	---
$^{214}_{82}Pb$	Radium B	26.8m	---	0.65 (50%) 0.71 (40%) 0.98 (6%)	0.295 (19%) 0.352 (36%)
$^{218}_{85}At$	Astatine	~2s	6.65 (6%) 6.70 (94%)	? (~0.1%)	---
$^{214}_{83}Bi$ 99.98% / 0.02%	Radium C	19.7m	5.45 (0.012%) 5.51 (0.008%)	1.0 (23%) 1.51 (40%) 3.26 (19%)	0.609 (47%) 1.120 (17%) 1.764 (17%)
$^{214}_{84}Po$	Radium C'	164μs	7.69 (100%)	---	0.799 (0.014%)
$^{210}_{81}Tl$	Radium C"	1.3m	---	1.3 (25%) 1.9 (56%) 2.3 (19%)	0.296 (80%) 0.795 (100%) 1.31 (21%)
$^{210}_{82}Pb$	Radium D	21y	3.72 (.000002%)	0.016 (85%) 0.061 (15%)	0.047 (4%)
$^{210}_{83}Bi$ ~100% / .00013%	Radium E	5.01d	4.65 (.00007%) 4.69 (.00005%)	1.161 (~100%)	---
$^{210}_{84}Po$	Radium F	138.4d	5.305 (100%)	---	0.803 (0.0011%)
$^{206}_{81}Tl$	Radium E"	4.19m	---	1.571 (100%)	---
$^{206}_{82}Pb$	Radium G	Stable	---	---	---

*This expression describes the mass number of any member in this series, where n is an integer.
Example: $^{206}_{82}Pb$ (4n + 2)......4(51) + 2 = 206

†Intensities refer to percentage of disintegrations of the nuclide itself, not to original parent of series.

‡Complex energy peak which would be incompletely resolved by instruments of moderately low resolving power such as scintillators.

Data taken from: Table of Isotopes and USNRDL-TR-802.

Thorium Series (4n)*

Nuclide	Historical name	Half-life	Major radiation energies (MeV) and intensities† α	β	γ
$^{232}_{90}Th$	Thorium	1.41×10^{10}y	3.95 (24%) 4.01 (76%)	---	---
$^{228}_{88}Ra$	Mesothorium I	6.7y	---	0.055 (100%)	---
$^{228}_{89}Ac$	Mesothorium II	6.13h	---	1.18 (35%) 1.75 (12%) 2.09 (12%)	0.34c‡ (15%) 0.908 (25%) 0.96c (20%)
$^{228}_{90}Th$	Radiothorium	1.910y	5.34 (28%) 5.43 (71%)	---	0.084 (1.6%) 0.214 (0.3%)
$^{224}_{88}Ra$	Thorium X	3.64d	5.45 (6%) 5.68 (94%)	---	0.241 (3.7%)
$^{220}_{86}Rn$	Emanation Thoron (Tn)	55s	6.29 (100%)	---	0.55 (0.07%)
$^{216}_{84}Po$	Thorium A	0.15s	6.78 (100%)	---	---
$^{212}_{82}Pb$	Thorium B	10.64h	---	0.346 (81%) 0.586 (14%)	0.239 (47%) 0.300 (3.2%)
$^{212}_{83}Bi$ 64.0% 36.0%	Thorium C	60.6m	6.05 (25%) 6.09 (10%)	1.55 (5%) 2.26 (55%)	0.040 (2%) 0.727 (7%) 1.620 (1.5%)
$^{212}_{84}Po$	Thorium C'	304ns	8.78 (100%)	---	---
$^{208}_{81}Tl$	Thorium C"	3.10m	---	1.28 (25%) 1.52 (21%) 1.80 (50%)	0.511 (23%) 0.583 (86%) 0.860 (12%) 2.614 (100%)
$^{208}_{82}Pb$	Thorium D	Stable	---	---	---

*This expression describes the mass number of any member in this series, where n is an integer.
Example: $^{232}_{90}Th$ (4n)......4(58) = 232

†Intensities refer to percentage of disintegrations of the nuclide itself, not to original parent of series.

‡Complex energy peak which would be incompletely resolved by instruments of moderately low resolving power such as scintillators.

Data taken from: Lederer, C. M., Hollander, J. M., and Perlman, I., Table of Isotopes (6th ed.; New York: John Wiley & Sons, Inc., 1967) and Hogan, O. H., Zigman, P. E., and Mackin, J. L., Beta Spectra (USNRDL-TR-802 [Washington, D.C.: U.S. Atomic Energy Commission, 1964]).

Actinium Series (4n + 3)*

Nuclide	Historical name	Half-life	Major radiation energies (MeV) and intensities†		
			α	β	γ
$^{235}_{92}$U	Actinouranium	7.1 x10^{8}y	4.37 (18%) 4.40 (57%) 4.58c‡ (8%)	---	0.143 (11%) 0.185 (54%) 0.204 (5%)
$^{231}_{90}$Th	Uranium Y	25.5h	---	0.140 (45%) 0.220 (15%) 0.305 (40%)	0.026 (2%) 0.084c (10%)
$^{231}_{91}$Pa	Protoactinium	3.25x10^{4}y	4.95 (22%) 5.01 (24%) 5.02 (23%)	---	0.027 (6%) 0.29c (6%)
$^{227}_{89}$Ac 98.6% 1.4%	Actinium	21.6y	4.86c (0.18%) 4.95c (1.2%)	0.043 (~99%)	0.070 (0.08%)
$^{227}_{90}$Th	Radioactinium	18.2d	5.76 (21%) 5.98 (24%) 6.04 (23%)	---	0.050 (8%) 0.237c (15%) 0.31c (8%)
$^{223}_{87}$Fr	Actinium K	22m	5.44 (~0.005%)	1.15 (~100%)	0.050 (40%) 0.080 (13%) 0.234 (4%)
$^{223}_{88}$Ra	Actinium X	11.43d	5.61 (26%) 5.71 (54%) 5.75 (9%)	---	0.149c (10%) 0.270 (10%) 0.33c (6%)
$^{219}_{86}$Rn	Emanation Actinon (An)	4.0s	6.42 (8%) 6.55 (11%) 6.82 (81%)	---	0.272 (9%) 0.401 (5%)
$^{215}_{84}$Po ~100% .00023%	Actinium A	1.78ms	7.38 (~100%)	0.74 (~.00023%)	---
$^{211}_{82}$Pb	Actinium B	36.1m	---	0.29 (1.4%) 0.56 (9.4%) 1.39 (87.5%)	0.405 (3.4%) 0.427 (1.8%) 0.832 (3.4%)
$^{215}_{85}$At	Astatine	~0.1ms	8.01 (~100%)	---	---
$^{211}_{83}$Bi 0.28% 99.7%	Actinium C	2.15m	6.28 (16%) 6.62 (84%)	0.60 (0.28%)	0.351 (14%)
$^{211}_{84}$Po	Actinium C'	0.52s	7.45 (99%)	---	0.570 (0.5%) 0.90 (0.5%)
$^{207}_{81}$Tl	Actinium C"	4.79m	---	1.44 (99.8%)	0.897 (0.16%)
$^{207}_{82}$Pb	Actinium D	Stable	---	---	---

*This expression describes the mass number of any member in this series, where n is an integer.
Example: $^{207}_{82}$Pb (4n + 3)......4(51) + 3 = 207

†Intensities refer to percentage of disintegrations of the nuclide itself, not to original parent of series.

‡Complex energy peak which would be incompletely resolved by instruments of moderately low resolving power such as scintillators.

Data taken from: Table of Isotopes and USNRDL-TR-802.

Nuclide Name	Nuclide Type	Half Life	Key Line?	Energy (keV)	% Abn
K-40	natural	1.28E+09Y	*	1460.81	10.67
CS-137	fission	30.07Y	*	661.66	85.12
TL-208	natural	1.41E+10Y		277.35	6.31
			*	583.19	84.50
				860.56	12.42
PB-210	natural	1600.00Y	*	46.54	4.25
BI-211	natural	7.04E+08Y	*	351.06	12.91
PB-211	natural	7.04E+08Y	*	404.85	3.78
				832.01	3.52
BI-212	natural	1.41E+10Y	*	727.33	6.58
PB-212	natural	1.41E+10Y		74.82	10.41
				77.11	17.50
				87.09	6.10
			*	238.63	43.30
				300.09	3.28
BI-214	natural	1600.00Y	*	609.31	46.40
				768.36	4.94
				934.06	3.03
				1120.29	15.10
				1238.11	5.78
				1377.67	4.00
				1407.98	2.15
				1509.23	2.11
				1729.59	2.92
				1764.49	15.40
				1847.42	2.11
PB-214	natural	1600.00Y		74.81	4.80
				77.11	8.00
				87.09	2.80
				241.98	7.43
				295.22	19.30
			*	351.93	37.60
FR-223	natural	3.28E+04Y	*	50.10	38.70
				79.72	9.10
				234.81	3.00
RA-223	natural	3.28E+04Y		81.07	15.20
				83.79	25.20
				94.56	8.75
				144.23	3.22
				154.21	5.62
			*	269.46	13.70
				323.87	3.93
RA-224	natural	1.41E+10Y	*	240.99	4.10
RA-226	natural	1600.00Y	*	186.21	3.59
TH-227	natural	3.28E+04Y		50.10	8.60
				85.43	2.08
				88.47	3.40
			*	235.97	12.30
				256.25	7.00
				300.00	2.66
				329.85	2.70

Nuclide Name	Nuclide Type	Half Life	Key Line?	Energy (keV)	% Abn
AC-228	natural	1.41E+10Y		93.35	3.19
				129.07	2.42
				209.25	3.89
				270.24	3.46
				328.00	2.95
				338.32	11.27
				463.01	4.40
				794.95	4.25
			*	911.20	25.80
				964.77	4.99
				968.97	15.80
				1588.19	3.22
PA-231	natural	3.28E+04Y		300.07	2.46
			*	302.65	2.90
TH-231	natural	7.04E+08Y	*	84.22	6.60
PA-234	natural	4.47E+09Y		94.65	14.40
				98.43	23.30
				111.30	5.44
				131.30	18.00
			*	152.72	6.00
				226.90	10.00
				569.30	11.80
				880.50	10.20
				883.24	9.60
				925.00	7.80
				926.72	7.20
				946.00	13.40
PA-234M	natural	4.47E+09Y	*	1001.03	0.84
TH-234	natural	4.47E+09Y	*	63.29	4.80
				92.59	5.58
U-235	natural	7.04E+08Y		89.60	6.00
				93.35	11.00
				105.60	2.40
			*	143.76	10.98
				163.36	5.08
				185.71	57.20
				205.31	5.01