#11

PRELIMINARY FOCUSED REMEDIAL INVESTIGATION DATA REPORT

VOLUME I

Pall Corporation
Glen Cove

Site No. 1-30-053B
Nassau County

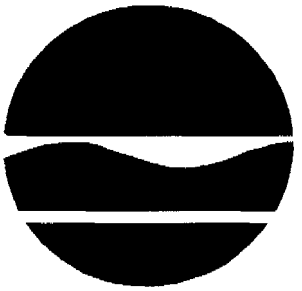

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TABLE OF CONTENTS

TABLE OF CONTENTS (CONT'D)

TABLE OF CONTENTS (CONT'D)

TABLE OF CONTENTS (CONT'D)

FIGURES

APPENDICES

1.00 INTRODUCTION

This report presents the results of the Preliminary Focused Remedial Investigation completed by TAMS Consultants, Inc. (TAMS) and GZA GeoEnvironmental of New York (GZA) at the Pall Corporation (Pall) Inactive Hazardous Waste Site (NYSDEC Site No. 1-30-053B) located at 30-36 Sea Cliff Avenue, Glen Cove, North Hempstead, Nassau County, New York (see Figure 1). The work was completed for the New York State Department of Environmental Conservation (NYSDEC) under NYSDEC Superfund Standby Program (SSP) Contract Work Assignment No. D003060-19. The objective of this preliminary focused remedial investigation (PFRI) was to provide a characterization of the nature and extent of on-site contamination related to the Pall Site. The information gathered and presented thus far provides data for completing an interim data report. This report is subject to the limitations in Appendix A.

2.00 BACKGROUND

2.10 SITE DESCRIPTION

The Pall Corporation Site consists of approximately 5 ½ acres of property. The Site is mostly covered with asphalt pavement except for small landscaped areas around the Site building and parking area. Grass and trees border Glen Cove Creek along its entire length where it borders the Site. The Site topography is relatively flat with an estimated downward slope across the Site of less than 3 percent to the north. Locally, the Site is situated in a low valley at an approximate elevation of 60 feet above mean sea level (MSL). East and west of the Site, the topography rises to elevations of 160 to 180 feet above MSL. A locus plan is included as Figure 1.

The Site is bordered to the north by the Carney Well Field, a child care facility and another industrial facility, the August Thomsen portion of the Site. [Note: The August Thomsen property was once owned by the Pall Corporation. Additional detail on the August Thomsen property is contained in following sections.] The Site is bordered to the east by the Glen Cove Arterial Highway and residential with commercial areas situated further to the east. South of the Site is Sea Cliff Avenue. Industrial property, the Photocircuits Corporation site and the Pass and Seymour site, are south of Sea Cliff Avenue. The west side of the Site borders on Glen Cove Creek. An industrial facility, Associated Draperies, is situated west of the Creek.

2.20 HISTORY

The Site is located in the Sea Cliff Avenue Industrial Area which has been documented as an area of variable industrial uses from the 1940s to the present. Pall Corporation has operated the facility at Sea Cliff Avenue since the early 1950s. The Pall Corporation facility is currently used as a research and development facility for the manufacture of

filtration products. The August Thomsen property was owned by Pall Corporation until 1971, when August Thomsen bought the property. During the period that the Pall Corporation owned the August Thomsen property, it was used by its subsidiary, Glen Components, Inc., as a precision machine shop providing parts to Pall's other division, primarily Aircraft Porous Media, Inc. A Site Plan is included as Figure 2.

Based on a Pall report (Reference 2), there are no chlorinated solvents currently being used at the Site. However, during a site visit on February 23, 1998, GZA observed several two-liter amber bottles in an on-site shed, which possibly contain solvents. Chlorinated solvents were reportedly used at the Site until approximately 1971.

Pall reportedly used an on-site well to pump water for air conditioning in the past. The water was diffused back into the subsurface through several diffusion wells. In 1988 the flow rate was reported as 65,000 gallons per day (in season). The pump wells was reported to be about 160 feet deep and the diffusion wells ranged in depth from 30 to 180 feet deep. Additionally, tetrachloroethene (PCE) was detected at 5.2 parts per billion (ppb) and trichloroethene was detected at 16 ppb in Pall Corporation air conditioning recharge water in 1977 (Reference 5).

Industrial activities have occurred in the past and are currently occurring on neighboring properties, which include Photocircuits Corporation, Pass and Seymour (currently owned by Photocircuits), and Associated Draperies. These industrial properties are subject to NYSDEC regulatory enforcement action. The Pall Corporation, Photocircuits Corporation, and the former Pass and Seymour properties are listed as Class 2 Inactive Hazardous Waste Disposal Sites (IHWDS) by the NYSDEC. Additionally, Associated Draperies is listed as a NYSDEC Spills site.

Several previous reports completed at the Site and the surrounding properties are listed below.

- Source Area Investigation, Sea Cliff Industrial Area Glen Cove, New York, September, 1992. Prepared by H2M Group.

- Groundwater Sampling and Analysis Report, Pall Corporation, 30 Sea Cliff Avenue, Glen Cove, New York. GT Engineering, P.C., March 13, 1996.

- Groundwater Sampling and Analysis Report, Pall Corporation, 30 Sea Cliff Avenue, Glen Cove, New York. Flour Daniel GTI, Inc., December 30, 1996.

- Engineering Investigations at Inactive Hazardous Waste Sites Preliminary Site Assessment, Prepared by Nassau County Department of Public Works, dated March, 1994.

2.30 HISTORIC ATLAS REVIEW

GZA requested Sanborn Fire Insurance Maps of Parcel 1 from Vista Information Solutions, Inc. (Vista). The available maps provided to GZA were dated 1931, 1947 and 1972 and are included in Appendix B. The following summary provides mapped site conditions.

- 1931: The southeast area of the Site was noted to be occupied by Knickerbocker Ice Company. The adjoining properties to the west and south appeared vacant. Sea Cliff Coal and Lumber Company, as well as residential dwellings were shown west of the Site. Additionally, three gas tanks were shown approximately 500 feet west of the Site. The areas to the east and north were not shown on the map.

- 1947: The Site building appeared the same as the previous map. However, F.R. Hormann Company, Inc., a manufacturer of metal tanks, is noted as occupying the facility. A dwelling and a small contractor building were shown east of the Site. Additional residences were noted to the west.

- 1972: The Site was shown to be occupied with a large building, utilized by Pall Corporation Micro Metallic Division. The dwelling and contractor's building, shown east of the Site in 1947, was not present. Northeast of the Site is Glen Components Corp. (an electronic manufacturing company), and a shop (no name visible) was noted to the west. South of the Site was a large, unlabeled building, and to the southwest was Slater Electrical Manufacturing Co., a manufacturer of electrical equipment. Additionally, west of the Site is shown an auto sales and service facility, Comar Corp., a manufacturer of optical equipment, and Sea Cliff Coal and Lumber Company.

2.40 REGULATORY DATABASE REVIEW

The following section is based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases. These databases provide information about the regulatory status of a facility and incidents involving use, storage, spilling or transportation of oil or hazardous materials. Information was gathered by GZA personnel and by a professional data search service, Vista. The federal and state regulatory information collected, including a description of the databases searched, is presented in Appendix C. A discussion of the reviewed information is presented in the following sections.

2.40.1 Federal Database Review

Six federal databases were provided by Vista and reviewed by GZA. These reports and the search distance used to review these databases are presented in Appendix C.

A review of the federal databases indicated that Pall Corporation was listed on the RCRA-large quantity generator database. No additional information was available from

the database. The following is a list of nearby facilities listed on the federal databases reviewed that are located within the indicated search radii.

- Photocircuits Corp., at 31 Sea Cliff Avenue, was listed on the CERCLIS/NFRAP, CORRACTS, RCRA-TSD (as a storage/treatment facility), and RCRA-large quantity generator databases. Photocircuits is located approximately 50 feet south of the Site.

- Planet Waste Management, Inc. at 45B Sea Cliff Avenue, was listed on the RCRA-small quantity generator database. This facility is located 500 to 800 feet west-southwest of the Site.

- Slater Electric Inc. at 45 Sea Cliff Avenue, was listed on the RCRA-large quantity generator database. Additionally, Slater Electric was listed on the ERNS database for a spill which occurred in January, 1987. Reportedly, 2,000 gallons of #2 fuel oil was released and affected water. No additional information was available on this spill. This facility is located 500 to 800 feet west-southwest of the Site.

2.40.2 State Agency Database Review

Five state databases were provided by Vista and reviewed by GZA. These reports and the search distance used to review these databases are presented in Appendix C.

A review of the state databases indicated that Pall Corporation was listed on the State Priority List (SPL) database as having miscellaneous chemicals as pollutants. The Site was also listed on the NY Spills database, for a 20 gallon gasoline spill in 1987, and on the above ground storage tank (AST) (above ground storage tank) database. No additional information was available on the state databases reviewed.

The following is a list of nearby facilities listed on the state databases reviewed that are located within the indicated search radii.

- Photocircuits Corp. at 31 Sea Cliff Avenue, was listed on the SPL database for having miscellaneous chemical pollutants. This facility was also listed two times on the Spills databases for a petroleum spill of unknown amount in 1993, and a #2 fuel oil spill of unknown amount in 1989. Additionally, the facility was listed as a registered AST facility, containing 285 ASTs of various sizes and contents.

- Pass and Seymour at 45 Sea Cliff Avenue was listed on the SPL database for having miscellaneous chemical pollutants. This facility is located 500 to 800 feet west-southwest of the Site.

- Harbor Fuel at 10 Sea Cliff Avenue, was listed on the LUST database for having a diesel tank failure in May, 1987. The spill was listed as open. Additionally, the facility was also listed as having one registered waste oil AST. This facility is located approximately 600 feet east of the Site.

- ANG's S/S at 73 Cedar Swamp Road, was listed on the LUST database for having a gasoline leak in December, 1990. This spill was listed as open. The facility is located 1000 feet northeast of the Site.

- Land Rover of Glen Cove, at 70 Cedar Swamp Road, was listed on the AST database for having three active ASTs. This facility is approximately 900 feet east of the Site.

- Man Products at 100 Carney Street, was listed on the Spills database for a #2 fuel oil spill in 1987. This facility is 900 feet north of the Site.

- Keyco Motor Frieght at 45B Sea Cliff Avenue was listed on the LUST database. The LUST resulted from a diesel tank failure in April, 1988. The facility was listed as case closed/cleanup complete. This facility is 800 feet west-southwest of the Site.

- Sunrise Oil at 45 Sea Cliff Avenue, was listed on the Spills database resulting from a release of an unknown quantity of #2 fuel oil. This facility is located 500 to 800 feet west-southwest of the Site.

- Planet Waste Management, Inc. at 45B Sea Cliff Avenue was listed the Spills database for a #2 fuel oil spill, of unknown quantity, which occurred in 1990. Additionally, the facility was listed as having three, active ASTs. This facility is located 500 to 800 feet west-southwest of the Site.

- Slater Electric, Inc. at 45 Sea Cliff Avenue was listed three times on the NY Spills database, twice in 1987 and once in 1988. Additionally, two registered, closed or removed ASTs were listed at the facility. This facility is located 500 to 800 feet west-southwest of the Site.

- Lilco, Glen Cove Gas Plant on Stanco and Grove Streets was listed on the SCL database for having metal pollutants. This facility is located 1300 feet north of the Site.

- LI Tungsten at 63 Herbhill Road was listed on the SPL database for arsenic, nickel and miscellaneous pollutants. This facility is located approximately 1 mile northwest of the Site.

3.00 SCOPE OF WORK

This Preliminary Focused Remedial Investigation (PFRI) was intended to obtain site-specific data pertaining to the extent of on-site contamination and the extent to which releases or potential releases from the site pose a threat to human health and the environment. The specific objectives of this portion of the project are to assess the Site geology; assess the hydrogeology; evaluate areal and vertical extent of contamination, including transport mechanisms; and assess the potential source(s) or source areas.

To accomplish the above stated objectives, the Site investigation work tasks completed during the PFRI included the following activities:

- Surface Water Sampling;
- Creek Bed Sediment Sampling;
- Shallow, Deep and Interior Geoprobes;
- Piezometer Installation;
- Hydraulic Conductivity Testing;
- Monitoring Well Sampling;
- Groundwater Level Measurement; and
- Preparation of this Draft Report;

The PFRI was completed in general accordance with the NYSDEC approved Field Activity Plan dated February 2, 1998 (Reference 8). The work completed is described in the following sections. The site work plan was modified in the field as needed, with the approval of the NYSDEC Project Manager, Mr. Richard Gaborow. Modifications are noted in the text of this report.

Field procedures and laboratory quality assurance and quality control procedures were specified in the NYSDEC approved Quality Assurance Project Plan (QAPjP) (Reference 9). The field work was conducted between February 17 and March 16, 1998.

3.10 SURFACE WATER SAMPLING

Surface water sampling was done to evaluate the surface water contamination in Glen Cove Creek, which is classified by NYSDEC as a Class C Surface Water Body. Three samples were collected from Glen Cove Creek. The samples were retrieved from an upstream location (SW-1), near the edge of the property; a midstream location (SW-2); and a downstream location (SW-3), near the edge of the property. Figure 3 depicts the locations of the water samples.

The unpreserved sample bottles were lowered below the water surface and allowed to fill. The samples were collected from about mid-depth and mid-channel in Glen Cove Creek. The samples were collected sequentially from the farthest downstream sample to the farthest upstream sample. The surface water sampling were collected prior to the collection of the associated sediment samples.

3.20 CREEK BED SEDIMENT SAMPLING

Glen Cove Creek bed sediment sampling was done to evaluate the extent of sediment contamination in the Creek. Three samples of creek bed sediment were collected from the east side of the creek, from an upstream location (SED-1) at the edge of the property; a midstream location (SED-2); and a downstream location (SED-3), near the edge of the property. Figure 3 depicts the locations of the sediment samples.

Sediment samples were collected using a stainless steel spoon directly from the eastern side of the Creek bed. Samples for volatile organic compound (VOC) were placed directly into the laboratory container and sealed.

3.30 SHALLOW, DEEP AND INTERIOR GEOPROBES

Geoprobes were advanced into the overburden and soil samples were collected using a truck mounted Geoprobe unit equipped with a two inch outside diameter (OD) by four foot long sampler. The Geoprobe unit included a hydraulic push/hammer that is used to advance the sampler. Fifty geoprobes were done at the Site. Geoprobes were originally designated in the FAP as shallow (SGB), deep (DGB), and auger probes (APW). However, based on field conditions and discussions with the NYSDEC, the depths of retrieved water samples varied as needed based on field screening. Of the 50 completed, 39 were designated as shallow (SGB), eight were designated as deep (DGB) and three were designated as interior (APW).

Soil samples were retrieved from the geoprobe locations at various depths, ranging from 8 to 12 feet below ground surface. The locations of the geoprobes are shown on Figure 3.

Soil samples were classified by TAMS/GZA in the field by visual examination in accordance with the New York State Department of Transportation Soil Description Procedure. Table 1 contains a summary log of each probe hole.

Groundwater samples were collected using a pre-cleaned stainless steel SP15 screen point sampler. To collect groundwater using this sampler, a pre-cleaned stainless steel SP15 unit was threaded onto the leading end of a probe rod and driven to the desired sampling interval. Once at the desired depth, the tool string was retracted while the screen was held in place. The O-ring at the drive head maintained the seal at the top of the screen.

Liquids entering the sampler passed through the screen. The screen point sampler utilized a screen with a slot size of 0.004 inches and an exposed length of up to 41 inches.

The water sample was brought to the surface using dedicated polyethylene tubing fitted with a pre-cleaned stainless steel check valve. By oscillating the tube up and down, the water was brought to the surface. The water sample was then placed in laboratory supplied containers, preserved as appropriate, and placed in a cooler.

3.40 SOIL SCREENING

Soil screening was performed in two ways: by holding the probe of the photoionization detector (PID) directly over the sample, and by headspace screening with the PID. The PID Thermo-Environmental Model 580B was calibrated daily, to zero air and 250 parts per million (ppm) isobutylene/air mixture to the equivalent of 130 (ppm) benzene in air, in accordance with manufacturer's requirements. Prior to screening, the soil samples were allowed to equilibrate to ambient temperature. For headspace screening, a hole was made in the lid of the sample jar and 30 ml of sample air was withdrawn from the headspace using a gas tight syringe. The test sample was injected into the PID and the peak response was recorded. A response of less than 1 part per million (ppm) above ambient background using this method, was not considered significant and was reported as not detected. A syringe blank was run between test samples to check that extraneous contamination was not carried over.

3.50 GROUNDWATER SAMPLE FIELD SCREENING

Groundwater sample field screening was conducted in the field and in the office of GZANY using a static headspace method on selected groundwater samples. These samples were tested with a portable gas chromatograph (GC) (Photovac Model 10S50) standardized for the following target compounds: PCE, TCE, and 1,2-DCE (trans and cis). A three point calibration was completed on standard samples for each target compound, and a correlation coefficient of greater than or equal to 95% was developed. The typical reporting detection limit for these compounds was about 0.01 parts per million (ppm).

Groundwater samples for field/office screening were collected in 40 ml vials The vials were filled until overflowing, and a convex meniscus was formed. The vials were capped, inverted, and inspected for the presence of air bubbles. If bubbles were present, the vial was refilled until no bubbles were observed. To prepare the sample for testing, a 15 ml headspace was created in the vial. The vial was then placed in a thermostatically controlled water bath at approximately 30°C. After the sample temperature reached approximately 30°C, the vial was removed from the water bath. A sample of the headspace gas was extracted from the vial using a gas tight syringe. The contents of the syringe were then injected into the GC. Compound identification and concentrations were determined based on comparing the target compound standards to the sample results.

Blank samples of clean air were run between samples that contained detectable levels of target compounds. A mid-point calibration was analyzed once every ten samples or daily, whichever was more frequent. The relative percent difference was less than or equal to 30% compared to the three point calibration. The standard samples were run a minimum of twice per day to calibrate the instrument (at the start and end of each work day). Additionally, duplicate analysis was run on 10% of the samples.

3.60 PIEZOMETER INSTALLATION

Piezometers were constructed of ¾ inch I.D. flush coupled Schedule 40 polyvinylchoride (PVC) riser and screen. The piezometer screens were installed to depths of about 10 to 15 feet below ground surface. The screen consists of five to 10 foot long sections. Following placement of the assembled screen and riser, the borehole was backfilled. This included the placement of a sand filter around the piezometer screen. A one foot layer of bentonite pellets were placed above the sand filter, to a depth of about one foot below ground surface, and allowed to hydrate. Each piezometer was completed by placing a locking road box casing over the riser set at the ground surface. Concrete was then placed in the borehole around the protective casing. A schematic of piezometer construction details is included in Appendix D. Table 2 summarizes the piezometer installation details. The approximate locations of the 9 piezometers installed are shown in Figure 3.

3.70 HYDRAULIC CONDUCTIVITY

Hydraulic conductivity testing was done to assess the hydraulic conductivity of the overburden materials near the monitoring wells. Eleven monitoring wells are present on-site. These monitoring wells were installed during previous on-site work completed by others. Hydraulic conductivity testing was done using a rising head test method or a single well pump test method. The rising head tests were completed by removing water from the well with a pump. The recovery of the initial water level was measured with respect to time. Single well pump tests were completed by pumping the well at a constant rate and measuring the response of the water level within the well with respect to time. Data obtained using these test procedures was evaluated using the "Bouwer and Rice Slug Test - An Update" (Reference 10). A summary of results is included in Table 3.

3.80 MONITORING WELL SAMPLING METHOD

Bailers were used for sample collection and were equipped with a check valve. Bailers were dedicated disposable Teflon bailers. Bailers were purchased new for this project and were in the factory provided wrapping upon arrival at the site. Bailers were lowered gently with limited water agitation into the well with dedicated polyethylene line.

Groundwater samples were collected by slowly lowering the bailer into the monitoring wells to limit the amount of suspended sediment in the sample. The volume of water in a monitoring well was calculated based on measurements of the "standing" water column in the well. A minimum of three times the calculated well volume of water was evacuated from the well. This was done using a pump and dedicated tubing. Measurements of pH, turbidity, specific conductance and temperature were made after each well volume was removed.

The first bailer of water, after purging, was collected for volatile organic compound (VOC) analysis. A portion of the first bailer was also retained for field measurements of pH, temperature, turbidity, and specific conductance. Three 40-ml glass vials (with Teflon septa) were used to collect samples for volatile organic analysis (VOC). The vials were filled by gently pouring water from the top of the bailer into the vial until overflowing and a convex meniscus was formed. The vial was then capped, inverted and inspected for air pockets/bubbles that may have been present on the inside surfaces of the vial. If any bubbles or aggregate of bubbles was observed, then a new sample was obtained, using the same vial. Samples for VOCs were generally not chemically preserved. [Note: At the project on-set, laboratory jars sent to the site were preserved with hydrochloric acid (HCl). GZA contacted the laboratory to send non-preserved jars. However, preserved jars were used for sample collection until the non-preserved jars arrived.] Sampling was conducted in accordance with the QAPjP.

3.90 WATER LEVEL MEASUREMENTS

GZA installed four stream gauges (designated SG-1 through SG-4, see Figure 3) within Glen Cove Creek west of the Site. A benchmark attached at each location was established to serve as a reference point for water level measurements.

Three rounds of water level data were collected. The water level measurements included measuring the depth of water within the monitoring wells and piezometers from a monitoring point of known elevation established at the top of the riser. The depth to surface water was measured relative to the stream gauge monitoring point. The water elevations were calculated based on the known elevation of the monitoring point and measured depth to water. Wells were allowed to equilibrate a minimum of 24 hours after purging or testing, prior to measuring the water level.

The first round of water level measurements was completed on February 26, 1998 and included the existing monitoring wells, stream gauges and installed piezometers. These data were used to assist in locating additional piezometers.

Additional rounds of water level measurements were completed March 12, 1998 and March 19, 1998. A summary of water level measurements and the calculated elevations is included as Table 4. Due to the presence of standing water at MW-4P, the water level on in this well were not measured for the March 19, 1998 round.

3.100 SURVEY

A professional land surveyor (YEC, Inc.) was subcontracted to measure the site topography, vertical and horizontal locations of new piezometers and geoprobe locations, and existing monitoring wells, as well as surface water/sediment sample locations, stream gauges, select site features and the limits of the property. Vertical measurements were measured relative to the National Geodetic Vertical Datum (Mean Sea Level).

4.00 ENVIRONMENTAL SAMPLING PROGRAM

Samples of soil, groundwater, surface water and sediment were collected and submitted to CompuChem Environmental (Cary, North Carolina; NYS Department of Health Environmental Laboratory Approval program #10065) for analytical testing as part of this report. Sample locations are identified on Figure 3. Environmental sampling occurred between February 17, 1998 and March 16, 1998. Information regarding the sample program and date on which each analytical sample was collected is included on Table 5.

Samples were analyzed in accordance with Analytical Services Protocol (ASP), October, 1995, and Superfund Contract Laboratory Program (CLP) methods. Analytical data were validated by URS Griener, Inc. (URS). Specific test method information is included in the QAPjP.

4.10 SOIL SAMPLES

A total of 34 soil samples were collected from a depth of about 2 to 12 feet below ground surface in the shallow geoprobe locations. Additionally, eight soil samples were collected from two to seven feet below the ground surface in the deep geoprobe locations and three soil samples were collected from 2.5 to 3.5 feet below ground surface in the interior geoprobe locations. The purpose of the soil samples was to characterize contamination in the soils above and near the water table. Each of these samples were tested for Target Compound List Volatile Organic Compounds (TCL-VOC).

A total of six soil samples were collected from the shallow geoprobe locations and tested for TCL semi-volatile organic compounds (SVOCs) and Target Analyte List (TAL) inorganics. These samples included SGB-7-2, SGB-21-2, SGB-22-3, SGB-22-3R, SGB-23-3R, and SGB-30. The purpose of the inorganic testing was to assess soils for the presence of inorganic contamination.

Samples DGB-1A-7, DGB-3A-3, DGB-7A-7, SGB-23-6 and SGB-30 were tested for Total Organic Carbon (TOC).

Three duplicate soil samples were collected. The first at SGB-5A-3 and labeled SGB-5B1, the second at SGB-16-3 and labeled SGB-16D, and the last was a duplicate of APW-1-2.5 and labeled APW-DUP.

4.20 GROUNDWATER SAMPLES

Groundwater samples from each of the eleven monitoring wells and 104 groundwater samples from geoprobe locations were collected. This sampling and testing was done to assess the presence of site related contamination at shallow, intermediate and deep overburden groundwater. At times, the depths of the sampling varied (upper and lower) between locations. Consequently, the following four zones have been designated to assist in the discussion.

Zone Description	Groundwater Sample Depth	Sample Location
Shallow Groundwater	Less than 20 feet.	Geoprobe groundwater samples designated with an "A", and monitoring wells MW-1P, MW-2P, MW-3P, MW-5P, MW-7P, MW-1A, and MW-2A.
Upper Intermediate Groundwater [1]	Between 21 and 30 feet.	Geoprobe groundwater samples designated with a "B", and monitoring wells MW-4P, MW-1H, MW-2H.
Lower Intermediate Groundwater	Between 31 and 45 feet.	Geoprobe groundwater samples SGB-2C, 3C, 4C, 5C, 7C, 8C, 9C, 10C, 11C, 12C, 13C, 14C, 16C, 17C, 20C, 21D, 22C, 23C, 25C, 26C, 31C, 32C, 33C, 34C, 35C, 36C, 37C, 38C, 39C, DGB-1C, DGB-3C, DGB-4C, DGB-5C, DGB-6C, DGB-7C and DGB-8C. No monitoring wells.
Deep Groundwater	Greater than 46 feet.	Monitoring well MW-6P and geoprobe groundwater samples SGB-5E, SGB-17E & E, SGB-25D, SGB-33E, DGB-1D, DGB-4E.

A total of six shallow groundwater samples were collected from the geoprobe and monitoring well locations and tested for TCL SVOCs and TAL Inorganics. These samples included SGB-22A, SGB-23AR, IGW-30, DGB-4A, MW-2P and MW-7P. Additionally, MW-6P, the deep monitoring well, was also tested for SVOCs and Inorganics.

[1] Groundwater wells in the Upper Intermediate Groundwater zone extend into the shallow groundwater zone.

A total of seven duplicate samples were also collected and are listed below.

- SGB-5A labeled as SGB-5D;
- SGB-20C labeled as SGB-20D;
- SGB-34A labeled as SGB-34D;
- SGB-36A labeled as SGB-36D;
- DGB-4C labeled as DGB-4D;
- APW-1 labeled as APW-DUP;
- MW-2P labeled as DUP1.

4.30 SURFACE WATER/SEDIMENT SAMPLES

A total of three paired sets of surface water and sediment samples were collected near stream gauge locations SG-1 (SW/SED-1), SG-3 (SW/SED-2) and SG-4 (SW/SED-3). The purpose of these samples was to determine if contamination is present in Glen Cove Creek, and to assess whether contaminants are migrating off-Site. Each of the surface water and sediment samples were tested for VOCs. Additionally, sediment sample SED-3 was tested for total organic carbon (TOC).

Surface water samples were collected by lowering a laboratory-clean analytical container into the running water of Glen Cove Creek and allowing it to fill.

Sediment samples were collected from about 0 to 6 inches deep along the east bank of the Creek, using a stainless steel slotted spoon. Samples were transferred into the analytical laboratory supplied sample container.

One trip blank was collected for surface water samples (TB-1). One duplicate sample for surface water was collected at location SW-3 and labeled SW4, and one duplicate sample was collected at location SED3R and labeled SEDDUP.

5.00 REGIONAL ENVIRONMENTAL SETTING

5.10 REGIONAL GEOLOGY AND SOILS

The geologic unit underlying the Site and surrounding area is the Upper Glacial Aquifer, which consists of two general zones. The upper zone is comprised of sandy and silty glacial till deposits, approximately 50 to 80 feet in thickness. This till zone is underlain by sand and gravel. The upper portion of the sand and gravel zone consists of fine to medium sand and is approximately 60 feet thick. The lower portion of the zone is predominately fine to coarse sand and fine gravel, and extends about 150 to 300 feet below the ground surface, down to the Port Washington Confining Unit. The sand and

gravel zone also contains thin discontinuous beds of silt and clay in varying amounts (Reference 3 and 5).

The surface of the Port Washington Confining Unit represents the base of the Upper Glacial Aquifer. The Port Washington Confining Unit generally consists of silts and clays. Underlying the Port Washington Confining Unit is the Port Washington Aquifer (Reference 5).

5.20 REGIONAL GROUNDWATER HYDROLOGY

Based upon a northwesterly to southeasterly trending axis in the buried valley of the Port Washington Confining Unit, the regional horizontal groundwater flow direction in the Upper Glacial Aquifer is towards the northwest, paralleling the valley axis. Groundwater movement in the Upper Glacial Aquifer is predominately through the sand and gravel units. Vertical groundwater movement is restricted by the Port Washington Confining Unit. Drinking water wells in the Carney Street Public Supply Wells reportedly draws water from the Upper Glacial Aquifer (Reference 5). The Carney Street Public Supply Wells are at a depth ranging from approximately 60 to 100 feet below ground surface.

6.00 SITE ENVIRONMENTAL SETTING

6.10 SITE GEOLOGY AND SOILS

Subsurface conditions at the Pall Corporation were investigated during previous Site studies and during this investigation. The following information is based upon work completed on-Site.

The subsurface materials consist of topsoil or asphalt overlying silty sand, which generally grades to a gravely sand with depth. The topsoil, where encountered, extended approximately three to six inches below ground surface and is described as brown silty, gravely sand with peat or organic matter. In areas of the Site which are paved, the asphalt layer and underlying crushed stone extended from depths of six to 18 inches below ground surface.

The natural material at the Site consists of sand. This is consistent with the description of the Upper Glacial Aquifer. The sand generally consists of silty fine to coarse sand which grades to a gravely sand to the geoprobe typical depth of 12 feet. Additionally, several deep soil samples were retrieved during previous monitoring well installation efforts. In general, sand was encountered to the full depth drilled (about 65 feet) in the boring logs reviewed. Soil sampler refusal was encountered with the geoprobe at depths ranging from about 54 to 68 feet below ground surface.

6.20 SITE GROUNDWATER HYDROLOGY

Groundwater was encountered at each geoprobe location, with the exception of SGB-30, in the sand material at depths below ground surface of approximately 3½ feet to 8 feet. Groundwater was encountered at a depth of about 11½ feet at SGB-30. Water level measurements are summarized on Table 4.

Hydraulic conductivity testing was done in each of the previously installed monitoring wells. The hydraulic conductivity of the shallow sand material, less than 20 feet below ground surface, ranged from 5×10^{-4} (MW-1A) to 4×10^{-2} (MW-5P) centimeters per second (cm/sec). In the two intermediate wells, approximately 26 feet below ground surface, hydraulic conductivity ranged from 9×10^{-5} (MW-2H) to 7×10^{-3} (MW-1H) cm/sec. At one deep well, MW-6P at approximately 65 feet below ground surface, a hydraulic conductivity of 6×10^{-5} cm/sec was measured. Hydraulic conductivity results are summarized on Table 3.

A groundwater contour plan is included as Figure 4. The generalized groundwater flow direction in the sand appears to be toward the northwest, based on the shallow overburden monitoring wells, piezometers, and stream gauge water level measurements.

The surface water level measurements suggests that Glen Cove Creek serves as both a groundwater recharge source and a groundwater discharge location. The Creek appears to be a recharge source between stream gauges SG-1 (near Sea Cliff Avenue) to SG-3 (near the south end of the August Thompsen Building). [Note: The extent of recharge could extend beyond these limits.] At some point, north of SG-3, the groundwater apparently discharges into Glen Cove Creek.

6.20.1 Groundwater Velocity Rates

The velocity of groundwater flow through the aquifer at the Site has been estimated using Darcian mechanics (Reference 6). This rate is dependent upon the hydraulic characteristics (hydraulic conductivity) presented in the prior section and upon the hydraulic gradient measured from the groundwater contour maps. Estimated ranges of groundwater flow velocities in the shallow groundwater at the Site are 300 to 2,000 feet per year.

6.20.2 Flow Rates of Contaminants in the Groundwater

The flow of contaminants are affected by sorption and chemical reactions. Sorption is a process which involves the exchange of a dissolved contaminant from the groundwater onto a soil particle, or vice versa, termed adsorption or desorption, respectively. This process is a function of several factors such as organic carbon content of the soil, groundwater quality and soil type. Sorption serves to attenuate the rate of contaminant migrating. The rate of contaminate migration, considering sorption, is referred to as the relative velocity.

The relative velocity is based upon the organic carbon content of the soil, octanol/water partition coefficient and physical properties of the soil (Reference 6). Measurements of total organic carbon content were made on selected soil samples collected during the subsurface exploration program. The calculated relative velocities for the volatile organic compounds of interest at the Site are shown below.

Volatile Organic Compound	Velocity with Respect to Groundwater Velocity	Contaminant Flow Rates	
		lower estimate (ft/year)	higher estimate (ft/year)
Tetrachloroethene	0.08	20	200
Trichloroethene	0.2	60	400
Total 1,2 Dichloroethene	0.7	200	1500
Vinyl Chloride	1.0 (same rate as groundwater)	300	2000

Other factors that impact the migration of contamination are degradation, advection and dilution.

6.30 SITE SURFACE WATER HYDROLOGY

Asphalt or buildings cover most of the surface at the Site. The Site slopes to the north. Several catch basins are present throughout the parking area. Surface water runoff generally travels to the nearby catch basins.. At the northeast area of the Site, a ponded water area was observed on the asphalt surface at certain times. Additionally, the western portion of the Site appears to slope to the west, and surface water runoff apparently drains to Glen Cove Creek.

7.00 SUMMARY OF ANALYTICAL RESULTS

Environmental Samples were collected by GZA and tested by an analytical laboratory (CompuChem environmental, Cary, North Carolina). Samples were collected and tested as generally specified in the QAPjP. A summary of samples collected and analytical testing completed is included as Table 5. A summary of analytical test results is included on Tables 6 to 16. The validated data (Form I) and Chain of Custody forms are included in Appendix E and the laboratory data qualifiers are included as Appendix F. A site plan showing the sample locations is included as Figure 3.

Soil sample results were compared to the "Recommended Soil Cleanup Objectives" (RSCO) in the NYSDEC Division of Technical and Administrative Guidance Memorandum on the Determination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 (Technical Administrative Guidance Memorandum (TAGM) 4046).

Groundwater and surface water sample results were compared to 6NYCRR Part 703 (Surface Water Class C and Groundwater Quality Class GA Standards). Guidance Values (published in Division of Water Technical and Operational Series [TOGS] 1.1.1) (Reference 11) were used where standards have not been established.

Sediment sample results were compared to Division of Fish and Wildlife, Technical Guidance for Screening Contaminated Sediments, Human Health BioAccumulation Sediment Criteria, July 1994 (NYSDEC Sediment Criteria).

7.10 SOIL SAMPLE RESULTS

Soil testing completed during this study included 45 samples submitted for analytical testing; and 101 samples (from 48 locations) were screened in the field with a photoionization detector (PID). The "VOCs of greater concern", PCE, TCE, 1,2-DCE and vinyl chloinde (VC), are shown on Figure 5. PID screening results are included on Table 1. Table 6 shows the detected VOCs compound and Table 7 depicts the detected SVOC compounds. Additionally, inorganics are shown on Table 8 and Total Organic Carbon values are shown on Table 9.

7.10.1 VOCs

VOCs were detected above the RSCO in geoprobe boring SGB-30. Total xylenes were detected at 2300 micrograms per kilogram (µg/kg) and the concentration of benzene was 82 µg/kg. No other compounds were found to exceed TAGM 4046 guidance values. Table 6 depicts these results.

7.10.2 SVOCs

SVOCs above RSCO were detected in four of the six soil samples tested including: pentachlorophenol (SGB-22-3R at 1800J µg/kg); and polynuclear aromatic hydrocarbons (PAHs), benzo(a)anthracene (SGB-21-2 at 350 µg/kg), benzo(k)fluoranthene (SGB-21-2 at 1200NJ µg/kg), benzo(a)pyrene (SGB-21-2 at 630 µg/kg and SGB-30 at 130J µg/kg), and dibenzo(a,h)anthracene (SGB-21-2 at 80J µg/kg). No additional SVOCs were found above the RSCO. Refer to Table 7 for a list and concentration of the detected compounds.

7.10.3 Metals

Detectable concentrations of metals were noted in each of the six soil samples tested for metals. This is expected since metals are naturally occurring compounds in soil. The reported concentrations were compared to the NYSDEC RSCO for metals[2]. From this comparison, it was found that beryllium, iron and zinc exceeded the RSCO at most of the locations. However, with the exception of zinc in two soil samples, these metals were within eastern USA background ranges, as cited in TAGM 4046 (Reference 12). Additionally, SGB-22-3R and SGB-30 exhibited several metal concentrations which exceeded the RSCO, but were within the eastern USA background range. Background metal concentrations were not determined for the Site. Inorganic parameter concentrations are included on Table 8.

7.10.4 Total Organic Carbon

The total organic carbon (TOC) content of selected soil samples was made. Refer to Table 9 for the results.

7.20 SEDIMENT SAMPLE RESULTS

Three sediment samples were retrieved from Glen Cove Creek near SG-1 (SED1R), SG-3 (SED2R) and SG-4 (SED3R). Analytical test results for these samples are summarized on Table 10.

VOCs were detected at only one of the sediment sample locations (SED3R). TCE and PCE were detected at concentrations of 100 µg/kg and 2100 µg/kg, respectively. These values exceed the NYSDEC Sediment Criteria calculated Human Health BioAccumulation Sediment Criteria of 8.5 µg/kg for TCE and 3.4 µg/kg for PCE. Sediment sample SED3R was the furthest downstream sample location in Glen Cove Creek.

7.30 SURFACE WATER SAMPLE RESULTS

Three surface water samples were collected from Glen Cove Creek and were tested for VOCs. Analytical test results for these samples are summarized on Table 11.

VOCs were detected in surface water sample SW3. These detected compounds included 1,1-dichloroethane (1 µg/l), vinyl chloride (2 µg/l), 1,2-dichloroethene (28 µg/l), trichloroethene (29 µg/l), and tetrachloroethene (77 µg/l). There are no Class C Surface Water Standards for these compounds. The Class C guidance value for TCE is 11 ug/l and 1 ug/l for PCE. SW3 was the furthest downstream sample location in Glen Cove Creek.

[2] Several metals do not have recommended soil cleanup objectives.

Other VOCs also were detected in each of the surface water samples. Acetone was detected at concentrations ranging from 14 µg/l to 28 µg/l. Additionally, methylene chloride was detected in SW2 at a concentration of 1 µg/l. It should be noted that both methylene chloride and acetone are common laboratory contaminants.

7.40 GROUNDWATER SAMPLE RESULTS

Groundwater samples submitted for analytical testing included 11 groundwater samples from monitoring wells and 104 groundwater samples from geoprobe locations. Analytical results for detected VOCs are summarized on Table 12 for monitoring wells and Table 13 for geoprobe locations. Additionally, Table 14 shows a summary of trichlorotrifluoroethane tentatively identified compound (TIC) readings. Other TICs identified are shown on Form Is in Appendix E. A summary of detected SVOC results are include on Table 15 and the inorganic parameters found in groundwater are shown on Table 16. The results of the VOCs of greater concern are depicted on Figure 6. The extent of groundwater contamination related to past activities at the Site was assessed by comparing groundwater conditions in the apparent upgradient geoprobe and monitoring well locations versus the downgradient geoprobe and monitoring wells. Based on an interpretation of the water level data, the apparent upgradient, on-site locations are located nearest to the southern and southeastern property limits (along Sea Cliff Avenue and Turnpike Road).

Groundwater sample screening was conducted on 100 geoprobe water samples in the field and in the office of GZA. Screening was conducted using a portable GC, standardized for the following target compounds: PCE, TCE and 1,2-DCE. Refer to Appendix G for results of this screening.

7.40.1 VOCs

VOCs were encountered in several geoprobe and monitoring well groundwater samples throughout the Site. Detected VOC compounds included bromomethane, vinyl chloride (VC), chloroethane, methylene chloride, acetone, 1,1-dichloroethene, 1,1-dichloroethane, chloroform, 1,2-dichloroethane, 2-butanone, 1,1,1-trichloroethane, 1,2-dichloropropane, trichloroethene (TCE), 1,1,2-trichloroethane, benzene, tetrachloroethene (PCE), toluene, chlorobenzene, ethylbenzene, xylenes (total), and 1,2-dichloroethene (total) (1,2-DCE).

Compounds which exceeded the Class GA Groundwater Standard included VC, chloroethane, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,2-dichloropropane, TCE, 1,1,2-trichloroethane, benzene, PCE, toluene, ethylbenzene, xylenes (total), and 1,2-DCE. Based on the prevalence and concentrations detected, the "VOCs of greater concern" are VC, 1,2-DCE, TCE, and PCE. These compounds were detected at the four sampled groundwater zones. Refer to Figure 6 and Tables 12 and 13 for concentrations of these compounds.

Shallow Groundwater

VOCs were detected in several geoprobe and monitoring well samples. The VOCs of greater concern were detected above the Class GA Standard in 32 Shallow geoprobe locations and three monitoring well locations. The highest concentrations of PCE was noted to be 140,000 µg/l (SGB-35A); highest concentration of TCE was 9,600 µg/l (SGB-29A); highest concentration of 1,2-DCE was 15,000 µg/l (SGB-38A); and the highest concentration of VC was found to be 690 µg/l (SGB-29A). The VOCs of greater concern were not present above Class GA Standards, in the Shallow (less than 16 feet), southern or eastern groundwater at the Site. These VOCs are discussed in Section 8.00. Refer to Figure 6 and Tables 12 and 13 for the concentrations of the compounds. Additionally, a tentatively identified compound (TIC) trichlorotrifuoroethane was found in various locations and depths, as well as in several shallow groundwater samples. Refer to Table 14 for the concentration and location of this compound.

Aromatic compounds, typically found in petroleum products, were also detected above Class GA Standards in six of the samples. Most notable were chlorobenzene, ethyl benzene, and xylene (total). Concentrations of chlorobenzene ranged from 330 µg/l (DGB-2A) to 2 µg/l (IGW-29). Concentrations of ethlybenzene ranged from 820 µg/l (DGB-2A) to 4 µg/l (SGB-23A) and concentrations of total xylenes ranges from 410 µg/l (IGW-29) to 6 µg/l (SGB-25A). Examination of the spatial distribution of detectable concentrations of these compounds in the shallow groundwater indicates these compounds tend to be elevated in three areas. The first area is near DGB-2 and SGB-5, located at the southeast area of the Site, in an upgradient portion of the Site. The second area of elevated concentrations includes the area north of the drum storage area, and the third area is at the northwest corner of the August Thomsen portion of the Site. Formerly, USTs, containing jet fuel, were stored in this area.

Upper Intermediate Groundwater Samples

The VOCs of greater concern were detected above the Class GA Standard in 11 of the 13 Upper Intermediate geoprobe groundwater samples and one of the three Upper Intermediate monitoring well samples. The higher concentrations of the VOCs of greater concern were noted to be 1,300 µg/l (DGB-6B) for PCE; 130 µg/l (DGB-6B) for TCE; 15,000 µg/l (SGB-33B) for 1,2-DCE; and 480 µg/l (SGB-33B) for VC. Trichlorotrifluoroethane was also found in many Upper Intermediate groundwater samples.

Lower Intermediate Groundwater

The VOCs of greater concern were detected in 34 of the 36 Lower Intermediate groundwater samples. Geoprobe borings were located throughout the Site. The higher concentrations of the VOCs of greater concern were noted to be 1,700 µg/l (SGB-21D); 950 µg/l (SGB-4C); 300 µg/l (SGB-37C); and 43 µg/l (DGB-4C). Several Lower Intermediate groundwater samples were also identified to contain trichlorotrifluoroethane.

Deep Groundwater Samples

The VOCs of greater concern above the Class GA Standard were detected in all seven Deep geoprobe groundwater samples and one deep monitoring well. Concentrations of PCE ranged from 920 µg/l (SGB-17D) to 6 µg/l (MW-6P); concentrations of TCE ranged from 120 µg/l (SGB-17D) to 11 µg/l (MW-6P); concentrations of 1,2-DCE ranged from 140 µg/l (DGB-4D and SGB-25D) to 33 µg/l (MW-6P); and concentrations of VC ranged from 14 µg/l (SGB-25D) to 73 µg/l (SGB-33E). Trichlorotrifluoroethane was also identified in four of the deep groundwater samples.

7.40.2 SVOCs

SVOCs were detected in four of the eight groundwater sample test locations. Phenol was detected in DGB-4A at a concentration of 2 µg/l, which exceeds the groundwater Class GA Standards of 1 µg/l. No other compound was detected above Class GA Standards. Other detected SVOCs include naphthalene, 2-methylnaphthalene, and bis(2-ethylhexyl)phthalate. Refer to Table 15 for a list and the concentrations of detected compounds.

7.40.3 Metals

To identify elevated metals concentrations, the metals concentration data for the six samples was compared to NYSDEC Groundwater Class GA Standards. From this comparison, it was found that iron and manganese exceeded the Class GA standard at all of the locations and sodium exceeded the standard at most of the locations, with the exception of MW-2P. Additionally, DGB-4A, SGB-22A, SGB-23AR, and IGW-30 exhibited several metal concentrations which exceeded the standards. It should be noted that the water samples were not filtered and sediment was visible in the geoprobe boring water samples. Background metal concentrations were not determined for the Site. Refer to Table 16.

8.00 DISTRIBUTION OF CONTAMINATION

8.10 APPARENT ON-SITE SOURCE AREAS

Nine potential on-site source areas were identified in the Work Plan. It appears that at least three of these areas are source areas, based on the VOCs detected in the Shallow groundwater. In addition, a fourth area, not identified in the Work Plan, is apparent (refer to Figure 7). For discussion purposes, the four areas follow.

1. Abandoned Jet Fuel USTs and Former PCE AST

   This area contains two USTs which were closed in-place and formerly contained jet fuel. Also, a former AST, reported to have been used to store PCE, was also present in the area. PCE was detected at a concentration of 59,000 µg/l at SGB-29, proximate to the former PCE AST. The water solubility of PCE at 25°C is 150,000 µg/l. The near-saturation level of PCE at this location suggests the possible presence of dense non-aqueous phase liquid (DNAPL).

2. Low-lying Area

   This low-lying area is classified as an apparent source area because the PCE level in groundwater at SGB-35 was 140,000 µg/l. No known industrial activity or chemical storage occurred in this area. However, the topography of this area is depressed. Consequently, this area serves as a collection area for surface storm water run-off. As such, surface spills of chemical on-Site could have drained to this area. The concentration of the PCE is near saturation. It is suspected that DNAPL is present at this location.

3. Storage Yard

   The storage yard is currently used to store equipment. However, this area was noted in a previous report (Reference 4) to have been suspected to be a former possible drum storage area. The concentration of VOCs at this location includes 1,2-DCE at 15,000 µg/l.

4. Drum Storage Area

   The drum storage area is an active facility used for chemical storage. VOCs are present around the periphery of the area at concentrations exceeding 1,000 µg/l (e.g. Groundwater from SGB-22A contained 1,2-DCE at 7,100 µg/l).

Other source areas could be present on-site. However, the sources identified were the "major" areas of impacted groundwater based on shallow groundwater contamination.

8.20 GROUNDWATER

The distribution of contamination in the groundwater is discussed below for the VOCs. The VOCs of greater concern for the Site are PCE, TCE, 1,2-DCE and VC based on their prevalence and concentration.

8.20.1 Shallow Groundwater

In general, "hot spots" of shallow groundwater contamination were present proximate to the source areas described in Section 8.10 (see Figure 7). A review of the spatial VOC distribution (see Figure 7) indicates that the "hot spots" in the shallow groundwater are generally at significantly higher levels of VOCs than upgradient groundwater samples tested. Groundwater downgradient from the source areas indicates that contamination is migrating from the source areas. There is also indications that the plume(s) are moving into the deeper groundwater zones. For example, SGB-38A, at a depth of 8 to 12 feet, contains 1,000 µg/l of PCE. A downgradient geoprobe boring , SGB-17D, at a depth of 47 to 51 feet, contains 920 µg/l of PCE.

8.20.2 Upper/Lower Intermediate Groundwater Zone

The upper/lower intermediate zone generally contains lower levels of VOCs than the shallow groundwater zone at and proximate to the apparent source areas. For example, the PCE levels at SGB-35 decrease with depth as follows.

Depth (ft)	PCE Concentration (µg/l)
8 - 12	140,000
23 - 27	140
38 - 42	86

A decreasing concentration with depth is expected in close proximity to a surficial or near surface spill or chemical release area with PCE [Note: PCE product is denser than water and will tend to sink through the aquifer. The depth of penetration is dependent upon the mass of PCE product released]. However, at a distance from the source and even in close proximity, increasing PCE concentration profiles with depth can be observed (including other VOCs that are denser than water).

Intermediate groundwater on-site near the south portion of the Site, near Sea Cliff Avenue, is contaminated with PCE, TCE, 1,2-DCE and VC at levels generally less than 100 µg/l. The shallow groundwater does not contain significant VOC levels (i.e., no exceedance of the NYS groundwater standards at sampling locations MW-1P, DGB-8,

SGB-37, MW-7P, and DGB-2). Since there are also no documented on-Site source areas in this location of the Site, the potential for an upgradient source(s) is possible.

8.20.3 Deep Groundwater

Deep groundwater (greater than 46 feet) is also contaminated with PCE, TCE, 1,2-DCE and VC. The highest levels detected were reported at SGB-17 with PCE at 920 µg/l. The spatial distribution of deep groundwater samples (Figure 5) is not sufficient to develop a comprehensive understanding on the lateral extent of contamination in the deep groundwater. However, the groundwater near the southern portion of the Site indicates a potential upgradient source(s).

8.30 SOIL

The soil contamination detected did not indicate elevated VOC levels in the unsaturated soils. However, it is difficult to locate a source area since the location of chemical spills does not a appear to be well documented. Based on the unsaturated soil sample analytical test results, it appears unlikely what widespread unsaturated soil contamination exists on-Site. Contamination concentrations in soils in the unsaturated soil zone resulting from possible historic spills may be reduced due to surface water and groundwater movement through this zone. This condition could result from several factors including shallow groundwater table fluctuations, site flooding by Glen Cove Creek, and the releases from subsurface sources such as sewers. Additionally, the age of the spills would impact present soil contamination concentrations.

8.40 SURFACE WATER AND SEDIMENT

Surface water and sediment contamination was apparent at one location (SW-3/SED3R) at the furthest downstream sampling point in Glen Cove Creek. The contamination detected includes PCE, TCE, 1,2-DCE and VC at concentrations less than 100 µg/l for the water samples. The sediment sample (SED-3R) contained PCE at 2,100 µg/kg and TCE at 100 µg/kg. This appears to be consistent with a groundwater discharge into the Creek near the apparent UST/AST source area. Upstream contamination by these compounds was not apparent in the surface water or sediment samples collected and tested.

9.00 SUMMARY AND CONCLUSIONS

The Pall Corporation Site consists of approximately 5½ acres of property. The Site topography is relatively flat, with an estimated slope across the Site of less than 3 percent to the north. Locally, the Site is situated in a downward valley, at an approximate elevation of 60 feet above mean sea level (MSL).

The Site is bordered to the north by the Carney Well Field, a child care facility and an industrial facility, the August Thomsen portion of the Site. [Note: The August Thomsen property was once owned by the Pall Corporation.] The Site is bordered to the east by the Glen Cove Arterial Highway, and residential with commercial areas situated further to the east. South of the Site is Sea Cliff Avenue. Industrial properties, including the Photocircuits Corporation site and the Pass and Seymour site, are south of Sea Cliff Avenue. The west side of the Site borders on Glen Cove Creek. An industrial facility, Associated Draperies, is situated west of the Creek.

The Site investigation work tasks completed during the preliminary focused remedial investigation included the following activities: surface water and sediment sampling; shallow, intermediate, and deep geoprobe installation; sampling of soil and groundwater on-Site, at the Associated Draperies property and at the August Thomsen property; piezometer installation; hydraulic conductivity testing; analytical testing [Note: Analytical testing consisted primarily of TCL VOCs; although, selected samples were analyzed for TCL SVOCs, and TAL metals and cyanide]; monitoring well sampling; groundwater level measurement; and preparation of this draft report.

9.10 SITE GEOLOGY AND SOILS

Subsurface conditions at the Pall Corporation were investigated during previous Site studies and during this investigation. The following information is based upon work completed on-Site.

The subsurface materials consist of topsoil or asphalt overlying silty sand, which generally grades to a gravely sand with depth. The topsoil, where encountered, extended approximately 3 to 6 inches below ground surface, and is described as brown silty, gravely sand with peat or organic matter. In areas of the Site which are paved, the asphalt layer and underlying crushed stone extended from depths of 6 to 18 inches below ground surface.

The natural material encountered at the Site to depth of about 12 feet consists of silty fine to coarse sand. This is consistent with the description of the upper zone of the Upper Glacial Aquifer. Additionally, several deep soil samples were retrieved during previous monitoring well installation efforts. Sand was encountered to the full depth drilled. Geoprobe soil sampler refusal was encountered at depths ranging from 54 to 68 feet below ground surface (possible top of lower Upper Glacial Aquifer zone).

9.20 SOIL VOCs

Soil testing completed during this study included 45 samples submitted for analytical testing. Based on the prevalence and concentrations detected in groundwater, the "VOCs of greater concern", were determined to be PCE, TCE, 1,2-DCE and VC. The concentrations of the "VOCs of greater concern" are summarized on Figure 5.

Volatile organic compounds (VOCs) were detected above the NYSDEC TAGM 4046 in geoprobe boring SGB-30. Total xylenes were detected at 2300 micrograms per kilogram (µg/kg) and the concentration of benzene was 82 µg/kg. No other compounds were found to exceed TAGM 4046 guidance values. Table 6 depicts these results.

9.30 GROUNDWATER VOCs

The groundwater was sampled at various depths. For discussion purposes, the groundwater aquifer has been arbitrarily subdivided into four zones, as shown below.

Zone Description	Groundwater Sample Depth	Sample Location
Shallow Groundwater	Less than 20 feet.	Geoprobe groundwater samples designated with an "A", and monitoring wells MW-1P, MW-2P, MW-3P, MW-5P, MW-7P, MW-1A, and MW-2A.
Upper Intermediate Groundwater [3]	Between 21 and 30 feet.	Geoprobe groundwater samples designated with a "B", and monitoring wells MW-4P, MW-1H, MW-2H.
Lower Intermediate Groundwater	Between 31 and 45 feet.	Geoprobe groundwater samples SGB-2C, 3C, 4C, 5C, 7C, 8C, 9C, 10C, 11C, 12C, 13C, 14C, 16C, 17C, 20C, 21D, 22C, 23C, 25C, 26C, 31C, 32C, 33C, 34C, 35C, 36C, 37C, 38C, 39C, DGB-1C, DGB-3C, DGB-4C, DGB-5C, DGB-6C, DGB-7C and DGB-8C. No monitoring wells.
Deep Groundwater	Greater than 46 feet.	Monitoring well MW-6P and geoprobe groundwater samples SGB-5E, SGB-17E & E, SGB-25D, SGB-33E, DGB-1D, DGB-4E.

VOCs were encountered at several geoprobe and monitoring well groundwater samples collected at locations throughout the Site. Detected VOC compounds included bromomethane, vinyl chloride (VC), chloroethane, methylene chloride, acetone, 1,1-dichloroethene, 1,1-dichloroethane, chloroform, 1,2-dichloroethane, 2-butanone, 1,1,1-trichloroethane, 1,2-dichloropropane, trichloroethene (TCE), 1,1,2-trichloroethane, benzene, tetrachloroethene (PCE), toluene, chlorobenzene, ethylbenzene, xylenes (total), and 1,2-dichloroethene (total) (1,2-DEC).

[3] Groundwater wells in the Upper Intermediate Groundwater zone extend into the shallow groundwater zone.

Compounds which exceeded the Class GA Groundwater Standard included VC, chloroethane, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,2-dichloropropane, TCE, 1,1,2-trichloroethane, benzene, PCE, toluene, ethylbenzene, xylenes (total), and 1,2-DCE. Refer to Figure 6 and Tables 12 and 13 for concentrations of these compounds.

The distribution of contamination in the groundwater is discussed below for the VOCs. The VOCs of greater concern for the Site are PCE, TCE, 1,2-DCE and VC.

9.30.1 Shallow Groundwater

In general, "hot spots" of shallow groundwater contamination were present proximate to the four major source areas identified (see Figure 7). A review of the spatial VOC distribution indicates that the "hot spots" in the shallow groundwater appear to be isolated. VOC contamination detected in groundwater samples at upgradient on-Site locations is generally at significantly lower or at not-detected levels. VOC contamination in groundwater samples from areas downgradient of the four major source areas indicate that the contamination appears to be migrating from these source areas.

9.30.2 Upper/Lower Intermediate Groundwater Zone

The intermediate groundwater zone generally contains lower levels of VOCs than the shallow groundwater zone, at and proximate to the apparent source areas.

Groundwater samples collected on-Site near the south (upgradient portion) from locations designated MW-1P, DGB-8, SGB-37, MW-7P, and DGB-2, are generally contaminated with PCE, TCE, 1,2-DCE and VC at levels generally less than 100 µg/l. The shallow groundwater at these locations does not contain significant VOC levels (i.e., no exceedance of the NYSDEC groundwater standards at sampling locations). Since there are also no documented on-Site source areas at this location, the potential for an upgradient source(s) is possible.

9.30.3 Deep Groundwater

The deep groundwater zone (greater than 46 feet) also appears to be contaminated with PCE, TCE, 1,2-DCE and VC based on our sampling and testing program. The highest concentration detected in the deep groundwater zone was at SGB-17, with PCE at 920 µg/l. The spatial distribution of deep groundwater samples (Figure 6) is not sufficient to develop a comprehensive understanding of the lateral extent of contamination in this zone due to the limited number of sampling points. Contaminant distribution may have been influenced by historic pumping of the on-Site well formerly used for air conditioning, which is located in the deep groundwater zone. This water was diffused into the subsurface by several diffusion wells, located at various depths.

Additionally, the groundwater contaminant concentrations near the southern portion of the Site indicates a potential upgradient source(s).

10.00 POTENTIAL ON-SITE SOURCE AREAS

Four potential on-Site source areas were identified.

1. Abandoned Jet Fuel USTs and Former PCE AST

   This area contains two USTs which were closed in-place and formerly contained jet fuel. Also, a former AST, reported to have been used to store PCE, was present. PCE was detected at a concentration of 59,000 µg/l at SGB-29, the shallow groundwater sample proximate to the former PCE AST. The water solubility of PCE at 25°C is 150,000 µg/l. The near-saturation level of PCE at this location suggests the possible presence of a dense non-aqueous phase liquid (DNAPL).

2. Low-Lying Area

   This low-lying area is identified as an apparent source area because the PCE level in shallow groundwater at SGB-35 was 140,000 µg/l. No known industrial activity or chemical storage occurred in this area. However, the topography of this area is depressed and is a low spot on the Site. Consequently, this area serves as a collection area for storm water run-off. As such, surface spills of chemical on-Site could have drained to this area. The concentration of the PCE is near saturation. It is suspected that DNAPL is present at this location.

3. Storage Yard

   The storage yard is currently used to store equipment. However, this area was noted in a previous report (Reference 4) to have been suspected to be a former possible drum storage area. The concentration of VOCs at this location includes 1,2-DCE at 15,000 µg/l.

4. Drum Storage Area

   The drum storage area is an active facility used for chemical storage. VOCs are present around the periphery of the area at concentrations exceeding 1,000 µg/l (e.g. Groundwater from SGB-22A contained 1,2-DCE at 7,100 µg/l).

10.10 SOIL

The soil contamination detected did not indicate elevated VOC levels in the unsaturated soils. However, it is difficult to locate a source area since the location of chemical spills does not a appear to be well documented. Based on the unsaturated soil sample analytical test results, it appears unlikely what widespread unsaturated soil contamination exists on-Site. Contaminant concentrations in soils in the unsaturated soil zone resulting from possible historic spills may be reduced due to surface water and groundwater movement through this zone. This condition could result from several factors including shallow groundwater table fluctuations, site flooding by Glen Cove Creek, and the releases from subsurface sources such as sewers. Additionally, the age of the spills would impact present soil contamination concentrations.

10.20 SURFACE WATER AND SEDIMENT

Surface water and sediment contamination was apparent at one location (SW-3/SED3R), the furthest downstream sampling point in Glen Cove Creek. The contamination detected includes PCE, TCE, 1,2-DCE and VC at concentrations less than 100 µg/l for the water samples. The sediment sample (SED-3R) contained PCE at 2,100 µg/kg and TCE at 100 µg/kg. This appears to be consistent with a groundwater discharge into the Creek near the apparent UST/AST source area. Upstream contamination by these compounds was not apparent in the surface water or sediment samples collected and tested.

11.00 RECOMMENDATIONS

GZA/TAMS recommends further study of the groundwater, air and soil quality at and around the Site. The soil and groundwater sampling and testing is deemed necessary to evaluate the contaminant conditions resulting from the four apparent on-Site groundwater sources. This would include evaluating the lateral and vertical extent of groundwater contamination on-Site and downgradient of the on-Site source areas.

Additional groundwater evaluation upgradient of the site is also deemed necessary to assess the potential contaminants migrating on-Site. Proposed geoprobe and monitoring well locations are shown on Figure 8.

The groundwater appears to be contaminated with compounds that are denser than water. Thus, it is possible that relatively high VOC concentrations are present at depth. The work should also include groundwater sampling from multiple depths. We are proposing to sample to depths of up to 100 feet to attempt to delineate the vertical extent of contamination. The overall depth could be varied (shallower or deeper). The 100 foot depth effectively doubles the current depth of assessment. Groundwater sampling should be completed to assess the groundwater conditions relative to their ability to degrade and attenuate (aerobic/anaerobic conditions) contamination.

Additional, work should include: hydraulic conductivity testing, air monitoring in on Site and nearby facilities, groundwater level monitoring, and additional surface water and sediment monitoring downstream of the Site.

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TABLES

TABLE 1
SUMMARY OF GEOPROBE BORINGS

PALL CORPORATION
GLEN COVE, NEW YORK

Geoprobe Location	Soil Sample (ft.)	Soil Description	PID Reading (ppm)	Approximate Groundwater Depth (ft.)	Analytical Samples					
					Soil Sample Depth (ft.)	Groundwater Sample Depth (ft.)				
						A	B	C	D	E
Shallow Geoprobe Locations										
SGB-1	0-4	Topsoil (6"); Silty, Gravelly, f/c SAND, moist.	ND	7.5-8	11.5-12	9-13				
	4-8	Gravelly SAND, wet, with organic root matter (5.5').	ND							
	8-12	Gravelly f/c SAND, wet.	1.1							
SGB-2	0-4	Asphalt (12"); f/c SAND; Silty, Clayey fine SAND, plastic, tr. organics	ND	4-5	2	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-3	0-4	Asphalt (12"); Gravelly, f/c SAND; Clayey Silt w/ roots, wet at 4'.	ND	4	3	8-12		38-42		
	4-8	Gravelly, f/c SAND, wet.	ND							
SGB-4	0-4	Asphalt (12"); f/c SAND; Gravelly f/c SAND; Clayey SILT w/ roots, wet.	ND	3.5-4	2	8-12		38-42		
	4-8	Gravelly, f/c SAND, wet. [possible solvent odor]	0.1							
SGB-5	0-4	Asphalt (6"); Gravelly fine SAND, moist.	ND	5	3	6-10	23-27	38-42		50-54
	4-8	Fine SAND to Gravelly SAND, wet at 5'.	ND							
SGB-6	0-4	Gravelly, f/c SAND, moist, with organic root matter.	ND	7.5-8		9-13				
	4-8	Silty fine SAND to Gravelly SAND, wet at 7.5'.	ND							
	8-12	Gravelly f/c SAND, wet.	ND							
SGB-7	0-4	Asphalt (12"); Gravelly f/c SAND, moist, with roots [solvent odor].	94	4-5	2	8-12		38-42		
	4-8	Gravelly SAND, wet. [faint solvent odor]	2.2							
SGB-8	0-4	Asphalt (12"); Gravelly f/c SAND, moist; Silty fine SAND.	ND	4	2	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-9	0-4	Asphalt (12"); Gravelly f/c SAND, moist; Silty fine SAND.	ND	4	2	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-10	0-4	Asphalt (12"); Gravelly f/c SAND, moist; Silty SAND with roots.	ND	4	3	8-12		38-42		
	4-8	Fine SAND, wet.	ND							
SGB-11	0-4	Asphalt (12"); Silty f/c SAND to Silty, Clayey fine SAND, moist.	ND	4	2	8-12		38-42		
	4-8	f/c SAND, wet [faint petroleum odor].	ND							
SGB-12	0-4	Topsoil (6"); Gravelly f/c SAND, wet; fine SAND.	ND	3.5	2	8-12		38-42		
	4-8	f/c SAND to Clayey f/c SAND, low plastic, wet.	ND							
SGB-13	0-4	Asphalt (12"); f/c SAND, moist to wet.	ND	4	2	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							

See Notes on Page 4.

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PALL CORPORATION
GLEN COVE, NEW YORK

Geoprobe Location	Soil Sample (ft.)	Soil Description	PID Reading (ppm)	Approximate Groundwater Depth (ft.)	Analytical Samples					
					Soil Sample Depth (ft.)	Groundwater Sample Depth (ft.)				
						A	B	C	D	E
SGB-14	0-4	Asphalt (12"); f/c SAND, wet, with organic root matter.	0.3	4	3	8-12		32-36		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-15	0-4	Silty, Gravelly f/c SAND, moist, with Peat.	ND	7.5-8		9-13				
	4-8	Gravelly f/c SAND, moist.	ND							
	8-12	Gravelly f/c SAND, wet.	ND							
SGB-16	0-4	Asphalt (6"); f/c SAND to fine SAND, Gravelly, moist, with roots.	ND	4	3	8-12		38-42		
	4-8	Gravelly, f/c SAND, wet.	ND							
SGB-17	0-4	f/c SAND, moist, with organic matter [possible sulfer odor].	ND	5-6	3	8-12	23-27	38-42	47-51	57-61
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-18	0-4	Silty, Gravelly f/c SAND, wet.	ND	4		5-9				
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-19	0-4	Asphalt (8"); Gravelly f/c SAND, wet.	ND	4	3.5-4	6-10				
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-20	0-4	Asphalt (6"); Gravelly f/c SAND, moist; Silty fine SAND, wet at 3.5'.	ND	3.5-4	3	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-21	0-4	Asphalt (6"); Gravelly f/c SAND, moist; Silty fine SAND, wet at 4'.	5	4	2	8-12			38-42	
	4-8	Gravelly f/c SAND, wet [slight solvent odor].	1							
SGB-22	0-4	Asphalt (6"); f/c SAND; Silty fine SAND with roots, wet [solvent odor].	53	4	3	8-12		38-42		
	4-8	Silty f/c SAND, wet.								
SGB-23	0-4	Asphalt (6"); Gravelly f/c SAND; Silty fine SAND, wet [petroleum odor].	45	4	3	8-12		38-42		
	4-8	Gravelly f/c SAND, wet [sheen on sample, petroleum odor].	147		6					
SGB-24		Geoprobe not sampled. Location was inaccessible.								
SGB-25	0-4	Asphalt (6"); Gravelly f/c SAND, wet; Silty fine SAND, wet.	ND	3.5-4	2.5	8-12	23-27	38-42	47-51	
	4-8	Gravelly f/c SAND, wet; Silty fine SAND, wet	ND							
SGB-26	0-4	Asphalt (6"); Gravelly f/c SAND, moist.	ND	5	3	8-12		38-42		
	4-8	Silty, Clayey SAND, low plastic, wet; Gravelly SAND, wet.	ND							

See Notes on Page 4.

TABLE 1
SUMMARY OF GEOPROBE BORINGS

PALL CORPORATION
GLEN COVE, NEW YORK

Geoprobe Location	Soil Sample (ft.)	Soil Description	PID Reading (ppm)	Approximate Groundwater Depth (ft.)	Analytical Samples					
					Soil Sample Depth (ft.)	Groundwater Sample Depth (ft.)				
						A	B	C	D	E
SGB-27	0-4	Topsoil (3"); Gravelly f/c SAND, moist;	ND	5		12-16				
	4-8	Gravelly, Clayey SILT and f. SAND; Gravelly Clayey f/c SAND; Gravelly, Sandy SILT, wet.	ND							
	8-12	Sandy, Gravelly SILT, wet; Gravelly f/c SAND, wet.	ND							
SGB-28		Geoprobe not sampled. Location was inaccessible.								
SGB-29	0-4	Silty fine SAND, Gravelly, moist (Fill).	ND	7-8		5-9				
	4-8	Silt, Gravelly f/c SAND, wet [sheen on sample, petroleum odor].	266							
SGB-30	0-4	Topsoil (3"); Gravelly f/c SAND, moist;	ND	11.5	10-11	11-15				
	4-8	Gravelly f/c SAND, moist [petroleum odor at 8'].	124							
	8-12	f/c SAND, wet; Silty fine SAND with roots, wet [petroleum odor].	120							
SGB-31	0-4	Asphalt (6"); Gravelly f/c SAND, moist.	ND	4	3.5	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-32	0-4	Asphalt (6"); f/c SAND, moist; Gravelly Silty fine SAND, wet.	ND	4	3	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-33	0-4	Asphalt (6"); Gravelly f/c SAND, moist; Silty f/c SAND, wet.	ND	3.5-4	3	8-12	23-27	38-42		64-68
	4-8	Gravelly f/c SAND, wet, with organic matter.	ND				odor			
SGB-34	0-4	Asphalt (6"); Gravelly, Silty PEAT, moist.	ND	5	3.5	8-12		38-42		
	4-8	Gravelly f/c SAND, wet, with organic matter.	ND							
SGB-35	0-4	Asphalt (12"); Gravelly f/c SAND; black, Silty fine Sand, wet at 4'.	ND	4	3	8-12	23-27	38-42		
	4-8	Gravelly f/c SAND, wet [solvent odor/petroleum odor].	757							
SGB-36	0-4	Asphalt (12"); Gravelly f/c SAND; Silty, Clayey fine Sand, plastic, wet.	ND	4	2	8-12	23-27	38-42		
	4-8	f/c SAND, wet [petroleum or stale solvent odor].	ND							
SGB-37	0-4	Gravelly f/c SAND; Clayey SILT, low plastic, wet.	ND	3.5	2.5	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
SGB-38	0-4	Topsoil (12"); Gravelly f/c SAND; Silty f. SAND, wet, with roots.	ND	3.5	2	8-12		38-42		
	4-8	Gravelly f/c SAND, wet [slight petroleum odor].	ND							
SGB-39	0-4	Gravelly f/c SAND (Fill); Silty f. SAND, wet.	ND	3.5	2.5	8-12		38-42		
	4-8	Gravelly f/c SAND, wet.	ND							

See Notes on Page 4.

TABLE 1
SUMMARY OF GEOPROBE BORINGS

PALL CORPORATION
GLEN COVE, NEW YORK

Geoprobe Location	Soil Sample (ft.)	Soil Description	PID Reading (ppm)	Approximate Groundwater Depth (ft.)	Analytical Samples					
					Soil Sample Depth (ft.)	Groundwater Sample Depth (ft.)				
						A	B	C	D	E
Deep Geoprobe Locations										
DGB-1	0-4	Asphalt (6"); Silty, Gravelly f/c SAND, moist.	ND	8	3.5	8-12	23-27	38-42	46-50	
	4-8	Gravelly, Silty f/c SAND, wet.	ND		7					
DGB-2	0-4	Asphalt (6"); Silty, Clayey, Gravelly f/c SAND, moist; Clayey Silt, wet.	36	4	3	6-10				
	4-8	Gravelly f/c SAND, wet [petroleum odor and sheen].	186							
DGB-3	0-4	Asphalt (6"); Gravelly f/c SAND, moist.	ND	4	3	8-12	23-27	38-42		
	4-8	Gravelly f/c SAND, wet.	ND		7					
DGB-4	0-4	Asphalt (6"); Silty SAND, moist, with organic matter.	ND	4	3	8-12	23-27	38-42		47-51
	4-8	Gravelly f/c SAND, wet.	ND							
DGB-5	0-4	Asphalt (6"); Gravelly f/c SAND; Gravelly, Silty f. SAND, wet.	0.5	4	2	6-10	23-27	38-42		
	4-8	Gravelly f/c SAND, wet.	ND							
DGB-6	0-4	Asphalt (8"); Gravelly f/c SAND, moist [petroleum odor].	1	6	4	9-13	23-27	35-39		
	4-8	Gravelly f/c SAND, wet [faint petroleum odor].	0.9							
DGB-7	0-4	Asphalt (6"); Gravelly f/c SAND, moist.	ND	6	4	8-12	23-27	38-42		
	4-8	Gravelly f/c SAND, wet.	0.6		7					
DGB-8	0-4	Gravelly f/c SAND (Fill); Clayey, Silty f. SAND, plastic, wet.	ND	4	2.5	8-12	23-27	38-42		
	4-8	f/c SAND, wet.	ND							
Interior Geoprobe Locations										
APS-1	0-4	Concrete (6"); Gravelly Silty f/c SAND, moist, with roots [solvent odor].	3	4	2.5	8-12				
	4-8	Clayey, Silty, Gravelly f/c SAND, wet [solvent odor].	1							
APS-2	0-4	Concrete (6"); Gravelly f/c SAND, moist; Silty f. SAND, with roots.	ND	4	2.5	8-12				
	4-8	Gravelly f/c SAND, wet [stale solvent odor].	ND							
APS-3	0-4	Concrete (6"); Gravelly f/c SAND (Fill); Gravelly Silty f/c SAND, moist.	ND	4	3.5	8-12				
	4-8	Gravelly f/c SAND, wet [stale solvent odor].	0.5							

NOTES:

f/c = fine to course
f = fine
tr. = trace
w/ = with

See Notes on Page 4.

TABLE 2

SUMMARY OF MONITORING WELL AND PIEZOMETER INSTALLATION DETAILS

PALL CORPORATION

GLEN COVE, NEW YORK

Well/ Boring Identification	Approximate Date of Installation [1]	Ground Surface Elevation (ft.)	Ref. Elev. (ft.)	Depth of Boring [1] (ft. BGS)	Depth to Bottom of Well [1] (ft.)	Length of Well Screen [1] (ft.)	Well Intake Depth/Elevations [1]				Notes
							Top of Sandpack		Bottom of Sandpack		
							Depth (ft) (ft BGS)	Elev. (ft.)	Depth (ft) (ft BGS)	Elev. (ft).	
Monitoring Well Locations											
MW-1P	01/21/1992	56.12	55.71	16.0	15.0	10.0	3.0	53.1	16.0	40.1	Bottom of well measured on 2/25/98 and 3/14/98 was 12.53 feet.
MW-2P	01/22/1992	54.70	54.17	15.0	14.0	10.0	2.0	52.7	15.0	39.7	Bottom of well measured on 2/25/98 and 3/14/98 was 12.35 feet.
MW-3P	01/21/1992	53.87	53.54	15.0	14.0	11.0	2.0	51.9	15.0	38.9	Bottom of well measured on 2/25/98 and 3/14/98 was 15.39 feet.
MW-4P	01/20/1992	52.93	52.58	24.0	23.0	10.0	11.0	41.9	24.0	28.9	Bottom of well measured on 2/25/98 and 3/14/98 was 24.24 feet and 24.34 feet, resp.
MW-5P	01/20/1992	51.65	51.19	14.0	13.0	10.0	2.0	49.7	14.0	37.7	Bottom of well measured on 2/25/98 and 3/14/98 was 13.8 feet.
MW-6P	08/14/1992	57.03	56.67	65.0	60.0	10.0	43.0	14.0	65.0	-8.0	Bottom of well measured on 2/25/98 and 3/14/98 was 58.08 feet.
MW-7P	11/18/1996	57.05	56.42	20.0	18.0	15.0	2.0	55.1	20.0	37.1	Bottom of well measured on 2/25/98 and 3/14/98 was 14.8 feet.
MW-1A	01/23/1992	54.20	53.52	14.0	13.0	10.0	2.0	52.2	14.0	40.2	Bottom of well measured on 2/25/98 and 3/14/98 was 12.47 feet.
MW-2A	01/23/1992	50.90	50.02	14.0	13.0	10.0	2.0	48.9	14.0	36.9	Bottom of well measured on 2/25/98 and 3/14/98 was 14.92 feet.
MW-1H [2]	not provided	58.53	57.89	26.3	26.3	20.0	11.0	47.5	26.3	32.2	Bottom of well measured on 2/25/98 and 3/14/98 was 26.26 feet.
MW-2H [2]	not provided	58.52	58.29	26.9	26.9	5.0	11.0	47.5	26.9	31.6	Bottom of well measured on 2/25/98 and 3/14/98 was 26.86 feet.

TABLE 2
SUMMARY OF MONITORING WELL AND PIEZOMETER INSTALLATION DETAILS

PALL CORPORATION
GLEN COVE, NEW YORK

Well/ Boring Identification	Approximate Date of Installation [1]	Ground Surface Elevation (ft.)	Ref. Elev. (ft.)	Depth of Boring [1] (ft. BGS)	Depth to Bottom of Well [1] (ft.)	Length of Well Screen [1] (ft.)	Well Intake Depth/Elevations [1]				Notes
							Top of Sandpack		Bottom of Sandpack		
							Depth (ft) (ft BGS)	Elev. (ft.)	Depth (ft) (ft BGS)	Elev. (ft).	
Piezometer Location											
SGB-2p	03/10/1998	55.68	55.44	12.0	12.0	5.0	2.0	53.7	12.0	43.7	
SGB-11p	03/10/1998	56.13	55.91	12.0	12.0	5.0	2.0	54.1	12.0	44.1	
SGB-13p	03/11/1998	55.32	55.19	12.0	12.0	5.0	2.0	53.3	12.0	43.3	
SGB-15p	02/19/1998	57.74	57.69	15.0	15.0	10.0	2.0	55.7	15.0	42.7	
SGB-17p	02/26/1998	54.66	54.61	12.0	12.0	5.0	2.0	52.7	12.0	42.7	
SGB-18p	02/19/1998	52.75	52.57	10.0	10.0	5.0	2.0	50.8	10.0	42.8	
SGB-26p	03/04/1998	53.76	53.68	12.0	12.0	5.0	2.0	51.8	12.0	41.8	
SGB-32p	03/02/1998	52.47	52.30	12.0	12.0	5.0	2.0	50.5	12.0	40.5	
SGB-34p	03/03/1998	52.40	52.39	12.0	12.0	5.0	2.0	50.4	12.0	40.4	

NOTES:

1) Well data based upon well installation reports provided by the NYSDEC, provided in previous reports (References 1 and 4), and field observations made by GZA/TAMS.

2) The actual measurements for the monitoring wells were not provided on the log. Depths are estimated based upon field measurements and well detail sheet.

3) NA = not applicable.

4) ft. BGS= feet below ground surface.

TABLE 3
SUMMARY OF HYDRAULIC CONDUCTIVITY RESULTS

PALL CORPORATION
GLEN COVE, NEW YORK

Monitoring Well	Screened Zone	Hydraulic Conductivity Test Method	Test Results (cm/sec)	
			pump test	rising head
MW-1P	Overburden	rising head		4E-03
MW-2P	Overburden	rising head		1E-03
MW-3P	Overburden	rising head		2E-04
MW-4P	Overburden	pump test	3E-01	
MW-5P	Overburden	pump test	5E-02	
MW-6P	Overburden	rising head/pump test	4E-05	6E-05
MW-7P	Overburden	rising head		3E-04
MW-1A	Overburden	rising head		5E-04
MW-2A	Overburden	rising head		3E-03
MW-1H	Overburden	rising head		5E-03
MW-2H	Overburden	rising head		9E-05

Notes:

1) Data calculated using the H. Bouwer, 1989 method (rising head), or Hvorslev's equations for constant head in monitoring wells as documented in Lambe & Whitman (1969) "Soil Mechanics" p. 284-286 (pump test).

2) Pump Test data for MW-6P obtained from well development data on the CA Consultants, Inc. boring logs.

TABLE 4
SUMMARY OF GROUNDWATER AND SURFACE WATER ELEVATIONS

PALL CORPORATION
GLEN COVE, NEW YORK

Location	Well Number	Reference Elev. (ft.)	February 26, 1998		March 11, 1998		March 12, 1998		March 13, 1998		March 19, 1998	
			Depth(ft.)	Elev (ft.)	Depth(ft.)	Elev (ft.)	Depth	Elev (ft.)	Depth(ft.)	Elev (ft.)	Depth(ft.)	Elev (ft.)
Pall Corporation	MW-1P	55.71	4.32	51.39	5.91	49.80	4.28	51.43	4.38	51.33	3.74	51.97
	MW-2P	54.17	3.09	51.08	2.89	51.28	3.05	51.12	3.02	51.15	2.33	51.84
	MW-3P	53.54	3.12	50.42	2.87	50.67	2.60	50.94	2.73	50.81	2.57	50.97
	MW-4P	52.58	2.94	49.64	1.84	50.74	1.92	50.66	2.06	50.52	See Note 5	
	MW-5P	51.19	0.94	50.25	0.73	50.46	0.83	50.36	0.96	50.23	0.40	50.79
	MW-6P	56.67	3.65	53.02	3.53	53.14	3.52	53.15	3.53	53.14	3.54	53.13
	MW-7P	56.42	3.09	53.33	3.13	53.29	3.17	53.25	3.27	53.15	2.55	53.87
August Thomson	MW-1A	53.52	2.81	50.71	2.58	50.94	2.62	50.90	2.84	50.68	2.24	51.28
	MW-2A	50.02	1.32	48.70	1.18	48.84	1.11	48.91	1.40	48.62	0.62	49.40
Associated Properties	MW-1H	57.89	6.71	51.18	9.52	48.37	6.69	51.20	6.82	51.07	6.26	51.63
	MW-2H	58.29	7.17	51.12	6.92	51.37	6.94	51.35	7.24	51.05	7.04	51.25
Pall Corporation	SGB-2p	55.44	NM	-	3.92	51.52	4.10	51.34	NM	-	3.64	51.80
	SBG-11p	55.91	NM	-	NM	-	2.87	53.04	NM	-	2.76	53.15
	SGB-13p	55.19	NM	-	NM	-	3.41	51.78	NM	-	3.21	51.98
	SGB-15p	57.69	7.12	50.57	NM	-	7.12	50.57	NM	-	6.65	51.04
	SGB-17p	54.61	NM	-	3.39	51.22	3.44	51.17	NM	-	2.50	52.11
	SGB-18p	52.57	2.17	50.40	2.01	50.56	2.22	50.35	NM	-	1.33	51.24
	SGB-26p	53.68	NM	-	2.62	51.06	2.40	51.28	NM	-	2.27	51.41
	SGB-32p	52.30	NM	-	1.41	50.89	1.52	50.78	NM	-	1.22	51.08
	SGB-34p	52.39	NM	-	1.94	50.45	2.03	50.36	NM	-	1.56	50.83
Stream Guages	SG-1	56.40	3.60	52.80	NM	-	3.64	52.76	NM	-	2.78	53.62
	SG-2	52.58	1.24	51.34	NM	-	1.33	51.25	NM	-	0.62	51.96
	SG-3	51.66	1.24	50.42	NM	-	1.25	50.41	NM	-	0.28	51.38
	SG-4	51.56	3.91	47.65	NM	-	3.80	47.76	NM	-	3.13	48.43

Notes:
1) See Figure No. 2 for Locations.
2) Survey information provided by YEC.
3) Elevations based on the 1929 adjustment of the National Geodetic Vertical Datum.
4) Depth measurements referenced to the top of the PVC riser for monitoring wells and piezometers, and top of lath for stream gauge locations.
5) The well was covered with water due to heavy rainfall event.
6) NM = Not Measured.

TABLE 5
SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
Surface Water Samples								
SW1	SW1	NA	02/17/1998	Surface Water	1			
SW2	SW2	NA	02/17/1998	Surface Water	1			
MS/MSD	SW2	NA	02/17/1998	Surface Water	2			
SW3	SW3	NA	02/17/1998	Surface Water	1			
Dup of SW3	SW4	NA	02/17/1998	Surface Water	1			
Sediment Samples								
SED-1	SED1	NA	02/17/1998	Sediment	1			
	SED1R	NA	03/14/1998	Sediment	1			
MS/MSD	SED1R	NA	03/14/1998	Sediment	2			
SED-2	SED2	NA	02/17/1998	Sediment	1			
MS/MSD	SED2	NA	02/17/1998	Sediment	2			
	SED2R	NA	03/14/1998	Sediment	1			
SED-3	SED3	NA	02/17/1998	Sediment	1			1
	SED3R	NA	03/14/1998	Sediment	1			
Dup of SED-3	SED4	NA	02/17/1998	Sediment	1			
Dup of SED-3R	SEDDUP	NA	03/14/1998	Sediment	1			
Shallow Geoprobe borings								
SGB-1	SGB-1	11.5-12	02/19/1998	Soil	1			
	IGW-1	9-13	02/19/1998	Groundwater	1			
SGB-2	SGB-2-2	2	03/10/1998	Soil	1			
	SGB-2A	8-12	03/10/1998	Groundwater	1			
	SGB-2C	38-42	03/10/1998	Groundwater	1			
SGB-3	SGB-3-3	3	03/11/1998	Soil	1			
	SGB-3A	8-12	03/11/1998	Groundwater	1			
	SGB-3C	38-42	03/11/1998	Groundwater	1			
SGB-4	SGB-4-2	2	03/11/1998	Soil	1			
	SGB-4A	8-12	03/11/1998	Groundwater	1			
	SGB-4C	38-42	03/11/1998	Groundwater	1			
SGB-5	SGB-5A-3	3	02/25/1998	Soil	1			
Dup of SGB-5A-3	SGB-5B1	3	02/25/1998	Soil	1			
	SGB-5A	6-10	02/25/1998	Groundwater	1			
	SGB-5B	23-27	02/25/1998	Groundwater	1			
	SGB-5C	38-42	02/25/1998	Groundwater	1			
MS/MSD	SGB-5C	38-42	02/25/1998	Groundwater	2			
Dup of SGB-5A	SGB-5D	6-10	02/25/1998	Groundwater	1			
	SGB-5E	50-54	02/27/1998	Groundwater	1			
SGB-6	IGW-6	9-13	02/19/1998	Groundwater	1			
SGB-7	SGB-7-2	2	03/06/1998	Soil	1	1	1	
	SGB-7A	8-12	03/06/1998	Groundwater	1			
	SGB-7C	38-42	03/06/1998	Groundwater	1			
SGB-8	SGB-8-2	2	03/06/1998	Soil	1			
	SGB-8A	8-12	03/06/1998	Groundwater	1			
	SGB-8C	38-42	03/06/1998	Groundwater	1			
SGB-9	SGB-9-2	2	03/06/1998	Soil	1			
	SGB-9A	8-12	03/06/1998	Groundwater	1			
	SGB-9C	38-42	03/06/1998	Groundwater	1			

TABLE 5
SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
SGB-10	SGB-10-3	3	03/05/1998	Soil	1			
	SGB-10A	8-12	03/05/1998	Groundwater	1			
	SGB-10C	38-42	03/05/1998	Groundwater	1			
SGB-11	SGB-11-2	2	03/10/1998	Soil	1			
	SGB-11A	8-12	03/10/1998	Groundwater	1			
	SGB-11C	38-42	03/10/1998	Groundwater	1			
SGB-12	SGB-12-2	2	03/05/1998	Soil	1			
	SGB-12A	8-12	03/05/1998	Groundwater	1			
	SGB-12C	38-42	03/05/1998	Groundwater	1			
SGB-13	SGB-13-2	2	03/10/1998	Soil	1			
	SGB-13A	8-12	03/10/1998	Groundwater	1			
	SGB-13C	38-42	03/10/1998	Groundwater	1			
SGB-14	SGB-14-3	3	03/09/1998	Soil	1			
	SGB-14A	8-12	03/09/1998	Groundwater	1			
	SGB-14C	32-36	03/09/1998	Groundwater	1			
SGB-15	IGW-15	9-13	02/19/1998	Groundwater	1			
SGB-16	SGB-16-3	3	03/05/1998	Soil	1			
	SGB-16A	8-12	03/05/1998	Groundwater	1			
	SGB-16C	38-42	03/05/1998	Groundwater	1			
Dup of SGB-16-3	SGB-16D	3	03/05/1998	Soil	1			
SGB-17	SGB-17-3	3	02/26/1998	Soil	1			
	SGB-17A	8-12	02/26/1998	Groundwater	1			
	SGB-17B	23-27	02/26/1998	Groundwater	1			
	SGB-17C	38-42	02/26/1998	Groundwater	1			
	SGB-17D	47-51	02/26/1998	Groundwater	1			
	SGB-17E	57-61	02/27/1998	Groundwater	1			
SGB-18	IGW-18	5-9	02/19/1998	Groundwater	1			
SGB-19	SGB-19	3.5-4	02/19/1998	Soil	1			
	IGW-19	6-10	02/19/1998	Groundwater	1			
SGB-20	SGB-20-3	3	03/04/1998	Soil	1			
	SGB-20A	8-12	03/04/1998	Groundwater	1			
	SGB-20C	38-42	03/04/1998	Groundwater	1			
MS/MSD	SGB-20C	38-42	03/04/1998	Groundwater	2			
Dup of SGB-20C	SGB-20D	38-42	03/04/1998	Groundwater	1			
SGB-21	SGB-21-2	2	03/05/1998	Soil	1	1	1	
MS/MSD	SGB-21-2	2	03/05/1998	Soil	2	2	2	
	SGB-21A	8-12	03/05/1998	Groundwater	1			
	SGB-21D	38-42	03/04/1998	Groundwater	1			
SGB-22	SGB-22-3	3	03/03/1998	Soil	1	1	1	
MS/MSD	SGB-22-3	3	03/03/1998	Soil			2	
	SGB-22-3R	3	03/04/1998	Soil	1	1	1	
	SGB-22A	8-12	03/03/1998	Groundwater	1	1	1	
	SGB-22C	38-42	03/03/1998	Groundwater	1			
SGB-23	SGB-23-3	3	03/03/1998	Soil	1			
	SGB-23-3R	3	03/04/1998	Soil		1	1	
	SGB-23-6	6	03/04/1998	Soil	1			1
MS/MSD	SGB-23-6	6	03/04/1998	Soil				2
	SGB-23A	8-12	03/03/1998	Groundwater	1			
	SGB-23AR	8-12	03/04/1998	Groundwater		1	1	

TABLE 5
SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
MS/MSD	SGB-23AR	8-12	03/04/1998	Groundwater			2	
	SGB-23C	38-42	03/03/1998	Groundwater	1			
SGB-24	Access not available							
SGB-25	SGB-25-2.5	2.5	02/26/1998	Soil	1			
	SGB-25A	8-12	02/26/1998	Groundwater	1			
	SGB-25B	23-27	02/26/1998	Groundwater	1			
	SGB-25C	38-42	02/26/1998	Groundwater	1			
	SGB-25D	47-51	02/27/1998	Groundwater	1			
SGB-26	SGB-26-3	3	03/04/1998	Soil	1			
	SGB-26A	8-12	03/04/1998	Groundwater	1			
	SGB-26C	38-42	03/04/1998	Groundwater	1			
SGB-27	IGW-27	12-16	02/20/1998	Groundwater	1			
SGB-28	Access not available							
SGB-29	IGW-29	5-9	02/20/1998	Groundwater	1			
SGB-30	SGB-30	10-11	02/20/1998	Soil	1	1	1	
MS/MSD	SGB-30	10-11	02/20/1998	Soil		2	2	
	SGB-30			Soil				1
MS/MSD	SGB-30			Soil				2
	IGW-30	11-15	02/20/1998	Groundwater	1	1	1	
MS/MSD	IGW-30	11-15	02/20/1998	Groundwater			2	
SGB-31	SGB-31-3.5	3.5	03/02/1998	Soil	1			
	SGB-31A	8-12	03/02/1998	Groundwater	1			
	SGB-31C	38-42	03/03/1998	Groundwater	1			
MS/MSD	SGB-31C	38-42	03/03/1998	Groundwater	2			
SGB-32	SGB-32-3	3	03/02/1998	Soil	1			
	SGB-32A	8-12	03/02/1998	Groundwater	1			
	SGB-32C	38-42	03/02/1998	Groundwater	1			
SGB-33	SGB-33-3	3	03/02/1998	Soil	1			
	SGB-33A	8-12	03/02/1998	Groundwater	1			
	SGB-33B	23-27	03/02/1998	Groundwater	1			
	SGB-33C	38-42	03/02/1998	Groundwater	1			
	SGB-33E	64-68	02/27/1998	Groundwater	1			
SGB-34	SGB-34-3.5	3.5	03/03/1998	Soil	1			
	SGB-34A	8-12	03/03/1998	Groundwater	1			
	SGB-34C	38-42	03/03/1998	Groundwater	1			
Dup of SGB-34A	SGB-34D	8-12	03/03/1998	Groundwater	1			
SGB-35	SGB-35-3	3	03/06/1998	Soil	1			
	SGB-35A	8-12	03/06/1998	Groundwater	1			
	SGB-35B	23-27	03/06/1998	Groundwater	1			
	SGB-35C	38-42	03/06/1998	Groundwater	1			
SGB-36	SGB-36-2	2	03/09/1998	Soil	1			
	SGB-36A	8-12	03/09/1998	Groundwater	1			
	SGB-36B	23-27	03/09/1998	Groundwater	1			
	SGB-36C	38-42	03/09/1998	Groundwater	1			
MS/MSD	SGB-36C	38-42	03/09/1998	Groundwater	2			
Dup of SGB-36A	SGB-36D	8-12	03/09/1998	Groundwater	1			
SGB-37	SGB-37-2.5	2.5	03/11/1998	Soil	1			
	SGB-37A	8-12	03/11/1998	Groundwater	1			
	SGB-37C	38-42	03/11/1998	Groundwater	1			

TABLE 5
SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
SGB-38	SGB-38-2	2	03/12/1998	Soil	1			
	SGB-38A	8-12	03/12/1998	Groundwater	1			
	SGB-38C	38-42	03/12/1998	Groundwater	1			
SGB-39	SGB-39-2.5	2.5	03/12/1998	Soil	1			
	SGB-39A	8-12	03/12/1998	Groundwater	1			
	SGB-39C	38-42	03/12/1998	Groundwater	1			
Deep Geoprobe borings								
DGB-1	DGB-1A-3.5	3.5	02/24/1998	Soil	1			
	DGB-1A-7	7	02/24/1998	Soil				1
	DGB-1A	8-12	02/24/1998	Groundwater	1			
	DGB-1B	23-27	02/24/1998	Groundwater	1			
	DGB-1C	38-42	02/25/1998	Groundwater	1			
	DGB-1D	46-50	02/26/1998	Groundwater	1			
DGB-2A	DGB-2A-3	3	02/24/1998	Soil	1			
	DGB-2A	6-10	02/24/1998	Groundwater	1			
DGB-3	DGB-3A-3	3	02/24/1998	Soil	1			
	DGB-3A-7	7	02/24/1998	Soil				1
	DGB-3A	8-12	02/24/1998	Groundwater	1			
	DGB-3B	23-27	02/24/1998	Groundwater	1			
	DGB-3C	38-42	02/24/1998	Groundwater	1			
DGB-4	DGB-4A-3	3	02/25/1998	Soil	1			
MS/MSD	DGB-4A-3	3	02/25/1998	Soil	2			
	DGB-4A	8-12	02/25/1998	Groundwater	1	1	1	
MS/MSD	DGB-4A	8-12	02/25/1998	Groundwater	2		2	
	DGB-4B	23-27	02/25/1998	Groundwater	1			
	DGB-4C	38-42	02/25/1998	Groundwater	1			
Dup of DGB-4C	DGB-4D	38-42	02/25/1998	Groundwater	1			
	DGB-4E	47-51	02/25/1998	Groundwater	1			
DGB-5	DGB-5A-2	2	02/23/1998	Soil	1			
	DGB-5A	6-10	02/23/1998	Groundwater	1			
	DGB-5B	23-27	02/24/1998	Groundwater	1			
	DGB-5C	38-42	02/24/1998	Groundwater	1			
DGB-6	DGB-6	4	02/20/1998	Soil	1			
	DGB-6A	9-13	02/20/1998	Groundwater	1			
	DGB-6B	23-27	02/20/1998	Groundwater	1			
	DGB-6C	35-39	02/20/1998	Groundwater	1			
DGB-7	DGB-7A-4	4	02/23/1998	Soil	1			
	DGB-7A-7	7	02/23/1998	Soil				1
	DGB-7A	8-12	02/23/1998	Groundwater	1			
	DGB-7B	23-27	02/23/1998	Groundwater	1			
	DGB-7C	38-42	02/23/1998	Groundwater	1			
DGB-8	DGB-8-2.5	2.5	03/12/1998	Soil	1			
	DGB-8A	8-12	03/12/1998	Groundwater	1			
	DGB-8B	23-27	03/12/1998	Groundwater	1			
	DGB-8C	38-42	03/12/1998	Groundwater	1			

TABLE 5
SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
Monitoring Wells								
MW-1P	MW1P	NA	03/13/1998	Groundwater	1			
MW-2P	MW2P	NA	03/13/1998	Groundwater	1	1	1	
MW-3P	MW3P	NA	03/13/1998	Groundwater	1			
MW-4P	MW4P	NA	03/13/1998	Groundwater	1			
MW-5P	MW5P	NA	03/13/1998	Groundwater	1			
MW-6P	MW6P	NA	03/13/1998	Groundwater	1	1	1	
MS/MSD	MW6P	NA	03/13/1998	Groundwater	2	2	2	
MW-7P	MW7P	NA	03/13/1998	Groundwater	1	1	1	
MS/MSD	MW7P	NA	03/13/1998	Groundwater			2	
MW-1A	MW1A	NA	03/13/1998	Groundwater	1			
MW-2A	MW2A	NA	03/13/1998	Groundwater	1			
MW-1H	MW1H	NA	03/14/1998	Groundwater	1			
MW-2H	MW2H	NA	03/14/1998	Groundwater	1			
Dup of MW-2P	DUP1	NA	03/13/1998	Groundwater	1	1	1	
Auger Probe Borings								
AP-1	APS-1-2.5	2.5	03/16/1998	Soil	1			
	APW-1	8-12	03/16/1998	Groundwater	1			
AP-2	APS-2-2.5	2.5	03/16/1998	Soil	1			
MS/MSD	APS-2-2.5	2.5	03/16/1998	Soil	Test not run. Not required for QC.			
	APW-2	8-12	03/16/1998	Groundwater	1			
MS/MSD	APW-2	8-12	03/16/1998	Groundwater	2			
AP-3	APS-3-3.5	3.5	03/16/1998	Soil	1			
	APW-3	8-12	03/16/1998	Groundwater	1			
Dup of APS-1-2.5	APS-DUP		03/16/1998	Soil	1			
Dup of APW-1	APW-DUP	8-12	03/16/1998	Groundwater	1			
Trip Blank								
	TB1		02/17/1998	Trip Blank	1			
	TB2		02/19/1998	Trip Blank	1			
	TB3		02/20/1998	Trip Blank	1			
	TB4		02/23/1998	Trip Blank	1			
	TB5		02/24/1998	Trip Blank	1			
	TB6		02/25/1998	Trip Blank	1			
	TB7		02/26/1998	Trip Blank	1			
	TB8		02/27/1998	Trip Blank	1			
	TB9		03/02/1998	Trip Blank	1			
	TB10		03/03/1998	Trip Blank	1			
	TB11		03/04/1998	Trip Blank	1			
	TB12		03/05/1998	Trip Blank	1			
	TB13		03/06/1998	Trip Blank	1			
	TB14		03/09/1998	Trip Blank	1			
	TB15		03/10/1998	Trip Blank	1			
	TB16		03/11/1998	Trip Blank	1			
	TB17		03/12/1998	Trip Blank	1			
	TB18		03/13/1998	Trip Blank	1			
	TB19		03/13/1998	Trip Blank	1			
	TB20		03/13/1998	Trip Blank	1			
	TB21		03/13/1998	Trip Blank	1			
	TB-22		03/16/1998	Trip Blank	1			

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SUMMARY OF ANALYTICAL TESTING PROGRAM

PALL CORPORATION
GLEN COVE, NEW YORK

Sample Location	Lab Identifier	Depth (ft)	Date Sampled	Matrix	VOCs	SVOCs	TAL Inorganics	TOC
Equipment Rinsate Blanks								
	GWFB		02/20/1998	Rinsate blank of groundwater sampler. Applies to samples from 2/19/98 to 2/24/98.	1	1	1	
	EB2		02/25/1998	Rinsate blank of groundwater sampler. Applies to samples from 2/25/98 to 3/2/98.	1	1	1	
	EB3		02/25/1998	Rinsate blank of geoprobe sampler. Applies to samples from 2/19/98 to 3/5/98.	1			
	EB4		03/03/1998	Rinsate blank of groundwater sampler. Applies to samples from 3/3/98 to 3/12/98.	1	1	1	
MS/MSD	EB4		03/03/1998				2	
	EB-5		03/12/1998	Rinsate blank of groundwater monitoring well bailer. Applies to samples from 3/13/98 and 3/14/98.	1	1	1	
	EB-6		03/16/1998	Rinsate blank of geoprobe sampler. Applies to samples from 3/6/98 to 3/16/98.	1			
	EB-7		03/16/1998	Rinsate blank of groundwater sampler. Applies to samples from 3/13/98 to 3/16/98.	1			
	EB-8		03/16/1998	Rinsate blank of geoprobe sampler. Applies to samples from 3/6/98 to 3/16/98.			1	

NOTES:

1. Sediment samples had to be resampled on March 14, 1998, due to laboratory interferences onthe first samples retrieved on February 17, 1998.
2. Four trip blanks tested on March 13, 1998, because four separate coolers were used to ship samples to Compuchem.

TABLE 6
SUMMARY OF DETECTED VOC COMPOUNDS IN SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft): / Units of Measure: / Detected Compound	RSCO UG/KG	DGB-1A-3.5 3.5 UG/KG	DGB-2A-3 3 UG/KG	DGB-3A-3 3 UG/KG	DGB4A-3 3 UG/KG	DGB-5A-2 2 UG/KG	DGB-6 4 UG/KG	DGB-7A-4 4 UG/KG	DGB-8-2.5 2.5 UG/KG	SGB-1 11.5 to 12 UG/KG	SGB-2-2 2 UG/KG	SGB-3-3 3 UG/KG	SGB-4-2 2 UG/KG	SGB-5A-3 3 UG/KG	SGB-7-2 2 UG/KG	SGB-8-2 2 UG/KG
Tetrachloroethene	1400	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	8 J	11 U
Trichloroethene	700	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	27 U	11 U
1,2-Dichloroethene(Total)	300 [6]	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	17 J	11 U
Vinyl chloride	120	11 U	11 U	11 U	14 U	11 UJ	11 UJ	11 U	12 U	11 UJ	11 U	11 U	11 U	11 U	27 U	11 U
OTHER DETECTED COMPOUNDS																
Methylene chloride	100	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	27 U	11 U
Acetone	200	31 U	16 U	83 U	53 UJ	11 U	73 J	27 U	12 U	16 U	11 UJ	21 UJ	24 U	25 UJ	33 UJ	49 UJ
2-Butanone	300	11 U	12	28	14	11 UJ	17 J	11 J	12 U	11 UJ	11 U	11 U	11 U	11 U	27 UJ	14 J
1,1,1-Trichloroethane	800	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	27 U	11 U
Benzene	60	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 UJ	11 UJ	11 UJ	11 U	27 U	11 U
Toluene	1500	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	27 U	11 U
Ethylbenzene	5500	11 U	11 U	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	56	2 J
Xylenes (Total)	1200	11 U	1 J	11 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	410	15

Notes:
1. DGB = Deep Geoprobe Boring
2. SGB = Shallow Geoprobe Boring
3. Qualifiers defined in Appendix F.
4. RSCO = "Recommended Soil Cleanup Objective" in NYSDEC Division Technical and Administrative Guidance Memorandum on the Detemination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 (TAGM 4046).
5. Blank = No "Recommended Soil Cleanup Objective" standard.
6. Recommended Soil Cleanup Objective standard for 1,2 Dichloroethene (trans).
7. TCL VOCs not listed were not detected in any of the soil samples.

See Notes on Page 1

TABLE 6
SUMMARY OF DETECTED VOC COMPOUNDS IN SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Sample Depth (ft): Units of Measure: Detected Compound	RSCO UG/KG	SGB-9-2 2 UG/KG	SGB-10-3 3 UG/KG	SGB-11-2 2 UG/KG	SGB-12-2 2 UG/KG	SGB-13-2 2 UG/KG	SGB-14-3 3 UG/KG	SGB-16-3 3 UG/KG	SGB-17-3 3 UG/KG	SGB-19 3.5 to 4 UG/KG	SGB-20-3 3 UG/KG	SGB-21-2 2 UG/KG	SGB-22-3 3 UG/KG	SGB-22-3R 3 UG/KG	SGB-23-3 3 UG/KG	SGB-23-6 6 UG/KG
Tetrachloroethene	1400	5 J	11 U	12 U	11 U	11 U	11 U	11 U	1 J	11 U	2 J	430	700	10 J	11 U	120 U
Trichloroethene	700	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	21 J	44 U	11 U	120 U
1,2-Dichloroethene(Total)	300 [6]	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	16	27 U	15 J	5 J	11 U	120 U
Vinyl chloride	120	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 UJ	4 J	27 U	130 U	44 U	11 U	120 U
OTHER DETECTED COMPOUNDS																
Methylene chloride	100	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	130 U	44 U	11 U	120 U
Acetone	200	13 UJ	65 J	35 UJ	13 UJ	11 UJ	14 UJ	64 J	11 UJ	11 U	74 J	27 UJ	380 UJ	44 U	14 UJ	120 UJ
2-Butanone	300	11 UJ	18	11 J	11 U	11 U	11 UJ	19	11 U	11 UJ	24 J	27 U	230	27 J	11 UJ	120 UJ
1,1,1-Trichloroethane	800	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	130 U	44 U	11 U	120 U
Benzene	60	11 U	11 U	12 UJ	11 U	11 UJ	11 U	11 U	11 U	11 U	11 U	27 U	130 U	44 U	11 U	120 U
Toluene	1500	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	14 J	14 J	11 U	120 U
Ethylbenzene	5500	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	130 U	14 J	11 U	17 J
Xylenes (Total)	1200	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	27 U	79 J	150	11 U	96 J

Notes:

See Notes on Page 1

TABLE 6
SUMMARY OF DETECTED VOC COMPOUNDS IN SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Sample Depth (ft): Units of Measure: Detected Compound	RSCO UG/KG	SGB-25-2.5 2.5 UG/KG	SGB-26-3 3 UG/KG	SGB-30 10 to 11 UG/KG	SGB-31-3.5 3.5 UG/KG	SGB-32-3 3 UG/KG	SGB-33-3 3 UG/KG	SGB-34-3.5 3.5 UG/KG	SGB-35-3 3 UG/KG	SGB-36-2 2 UG/KG	SGB-37-2.5RE 2.5 UG/KG	SGB-38-2 2 UG/KG	SGB-39-2.5 2.5 UG/KG	APS-1-2.5 2.5 UG/KG	APS-2-2.5 2.5 UG/KG	APS-3-3.5 3.5 UG/KG
Tetrachloroethene	1400	11 U	11 U	74 U	6 J	11 U	11 U	12 U	11 U	11 U	R	66	11 U	11 U	11 U	1 J
Trichloroethene	700	11 U	11 U	74 U	11 U	11 U	11 U	12 U	11 U	11 U	R	29	11 U	11 U	11 U	11 U
1,2-Dichloroethene(Total)	300 [6]	11 U	11 U	74 U	11 U	11 U	11 U	12 U	11 U	11 U	R	48	11 U	11 U	11 U	3 J
Vinyl chloride	120	11 U	11 U	74 U	11 U	11 U	11 U	12 U	11 U	11 U	R	11 U	11 U	11 U	11 UJ	11 UJ
OTHER DETECTED COMPOUNDS																
Methylene chloride	100	11 UJ	11 U	74 U	11 U	11 U	15	12 U	11 U	11 U	21 UJ	11 U	11 U	11 U	11 U	11 U
Acetone	200	11 UJ	18 UJ	140 U	11 UJ	11 UJ	94 J	12 UJ	11 UJ	32 UJ	R	11 U	11 U	24 UJ	11 U	16 UJ
2-Butanone	300	11 U	11 UJ	74	11 UJ	11 UJ	26 J	12 UJ	11 UJ	11 UJ	R	11 U	11 U	11 UJ	11 U	11 U
1,1,1-Trichloroethane	800	11 U	11 U	74 U	11 U	11 U	11 U	12 U	11 U	11 U	R	2 J	11 U	11 U	11 U	11 U
Benzene	60	11 U	11 U	82	11 U	11 U	11 U	12 U	11 U	11 U	2 J	11 U	11 U	11 U	11 U	11 U
Toluene	1500	11 U	11 U	74 U	11 U	11 U	11 U	12 U	11 U	11 U	R	11 U	11 U	11 U	11 U	11 U
Ethylbenzene	5500	11 U	11 U	400	11 U	11 U	11 U	12 U	11 U	11 U	R	11 U	11 U	11 U	11 U	11 U
Xylenes (Total)	1200	11 U	11 U	2300	11 U	11 U	11 U	12 U	11 U	11 U	R	11 U	11 U	4 J	11 U	11 U

Notes:

See Notes on Page 1

SUMMARY OF SVOC TESTING ON SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Units of Measure: / Compound Description	RSCO UG/KG	SGB-7-2 UG/KG	SGB-21-2 UG/KG	SGB-22-3 UG/KG	SGB-22-3R UG/KG	SGB-23-3R UG/KG	SGB-30 UG/KG
1,2,4-Trichlorobenzene		350 U	1900	420 U	13000 UJ	350 U	480 U
Naphthalene	1300	330 J	340 U	420 U	1300 J	350 U	190 J
2-Methylnaphthalene	36400	350 U	56 J	420 U	3100 J	350 U	120 J
Acenaphthene	50000	350 U	93 J	420 U	13000 UJ	350 U	480 U
Fluorene	50	350 U	340 U	420 U	1900 J	350 U	480 U
Pentachlorophenol	1000	51 J	860 U	1100 U	1800 J	880 U	1200 U
Phenanthrene	50000	350 U	94 J	420 U	2500 J	350 U	77 J
Anthracene	50000	350 U	140 J	420 U	13000 UJ	350 U	480 U
Di-n-butyl phthalate	8100	350 U	340 U	420 U	2200 J	350 U	480 U
Fluoranthene	50000	350 U	780	420 U	13000 UJ	350 U	170 J
Pyrene	50000	350 U	960	420 U	13000 UJ	350 U	180 J
Butyl benzyl phthalate	50000	160 J	340 U	420 U	13000 UJ	350 U	480 U
Benzo(a)anthracene	224	350 U	350	420 U	13000 UJ	350 U	120 J
Chrysene	400	350 U	380	420 U	13000 UJ	350 U	160 J
bis(2-Ethylhexyl)phthalate	50000	750	570	420 U	13000 UJ	350 U	110 J
Benzo(b)fluoranthene	1100	350 U	1000 NJ	420 U	13000 UJ	350 U	250 NJ
Benzo(k)fluoranthene	1100	350 U	1200 NJ	420 U	13000 UJ	350 U	270 NJ
Benzo(a)pyrene	61	350 U	630	420 U	13000 UJ	350 U	130 J
Indeno(1,2,3-cd)pyrene	3200	350 U	310 J	420 U	13000 UJ	350 U	99 J
Dibenzo(a,h)anthracene		350 U	80 J	420 U	13000 UJ	350 U	480 U
Benzo(g,h,i)perylene	50000	350 U	280 J	420 U	13000 UJ	350 U	87 J

Notes:

1. SGB = Shallow Geoprobe Boring
2. **Qualifiers are included in Appendix F.**
3. "Recommended Soil Cleanup Objective" in NYSDEC Division Technical and Administrative Guidance Memorandum on the Detemination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 (TAGM 4046).

TABLE 8

SUMMARY OF INORGANIC PARAMETERS IN SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID:	RSCO	SGB-7-2	SGB-21-2	SGB-22-3	SGB-22-3R	SGB-23-3R	SGB-30
Sample Depth (ft.):		2	2	3	3	3	10-11
Units of Measure:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Compound Description							
Aluminum		4680 *J	4010 *J	3500	1500 *J	3720 *J	10900
Antimony		0.71 UNJ	0.71 UNJ	0.83 U	5 BNJ	0.7 UNJ	0.97 UNJ
Arsenic	7.5 *	1.8 B	0.93 B	1.1 B	18.4	0.76 U	8.1
Barium	300 *	28.2 B	19.9 B	43.1 BN*J	1330	26.5 B	70.4
Beryllium	0.16 *	0.18 B	0.21 B	0.34 B	0.13 U	0.18 B	0.76 B
Cadmium	1 *	0.09 U	0.09 U	0.63 B	2.2	0.08 U	0.29 B
Calcium		10900	462 B	3550 *J	9450	502 B	1260 B
Chromium	10 *	9.4	7.3	9.6	16.2	7.3	16.3
Cobalt	30 *	3.5 B	2.8 B	2.2 B	1.8 B	3.4 B	5.6 BJ
Copper	25 *	8	5.3 B	24.9 EJ	166	15.2	33 *
Iron	2000 *	7680	4970	4120	24700	6510	12900
Lead	200-500 **	10.7 *J	5 *J	23.1	2940 *J	8.4 *J	81.2
Magnesium		6780	733 B	2670 *J	836 B	1060 B	1550
Manganese		127 *J	34.3 *J	39.4	83.8 *J	105 *J	213
Mercury	0.1 *	0.05 U	0.05 U	0.29 NJ	1.1	0.05 U	0.32
Nickel	13 *	7.1 B	5.7 B	8 B	8.4 B	7 B	10 B
Potassium		424 B	284 B	363 BJ	294 B	376 B	364 BJ
Selenium	2 *	1.1 NJ	0.73 UN	0.96 B	63.8 NJ	0.84 BNJ	2.7 NJ
Silver		0.13 U	0.13 U	0.15 U	0.67 B	0.13 U	0.18 U
Sodium		111 U	110 U	130 U	763 B	109 U	151 U
Thallium		0.84 U	0.83 U	0.99 U	1.1 B	0.83 U	1.5 B
Vanadium	150 *	10.5 B	9 B	9.5 B	12.4 B	8.9 B	20.7
Zinc	20 *	20.8 EJ	16.2 EJ	123 NJ	299 EJ	19.7 EJ	55.9 EJ
Cyanide		0.51 U	0.53 UJ	0.63 U	0.65 U	0.51 U	0.73 U

Notes:

1. SGB = Shallow Geoprobe Borings
2. Qualifiers are defined in Appendix F.
3. RSCO = "Recommended Soil Cleanup Objective" in NYSDEC Division Technical and Administrative Guidance Memorandum on the Detemination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 (TAGM 4046).
4. Blank = No "Recommended Soil Cleanup Objective" or "Eastern USA Background" standard.
5. * = or Site background
6. ** = Background levles for lead vary widely. Average levles in undeveloped, rural areas may range from 4-61 mg/kg. Average background levles in metropolitan or suburban areas or near highways are much higher and typically range from 200 - 500 mg/kg.

TABLE 9
SUMMARY OF TOTAL ORGANIC CARBON TESTING IN SOIL SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID:	SED-3	DGB-1A-7	DGB-3A-7	DGB-7A-7	SGB-23-6	SGB-23-6	SGB-30
Sample Depth (ft.):		7	7	7	6	6	11-12
Matrix:	SO	SO	SO	SO	SO	SO	SO
Units of Measure:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Organic Carbon	4250	2120	777	2290	2060	3190	>16000*

Notes:

1. SED = Sediment sample
2. DGB = Deep Geoprobe Boring
3. SGB = Shallow Geoprobe Boring
4. * = 16,000 mg/kg is the maximum range a 10 mg sample for TOC soil may read.

TABLE 10

SUMMARY OF DETECTED VOC COMPOUNDS IN SEDIMENT SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Sample Location: Units of Measure: **Detected Compound**	Sediment Criteria UG/KG	SED1R upgradient UG/KG	SED2R midstream UG/KG	SED3R downgradient UG/KG
Tetrachloroethene	3.4	13 U	13 U	2100 D
Trichloroethene	8.5	13 U	13 U	100
1,2-Dichloroethene(Total)		13 U	13 U	12 U
Vinyl chloride		13 U	13 U	12 U

Notes:

1. SED = Sediment sample
2. Qualifiers are defined in Appendix F.
3. Results compaired to Division of Fish and Wildlife, Technical Guidance for Screening Contaminated Sediments, July, 1994 (NYSDEC Sediment Criteria).
4. All samples retrieved from Glen Cove Creek.
5. Sediment samples had to be resampled on March 14, 1998, due to laboratory i: retrieved on February 17, 1998.

TABLE 11

SUMMARY OF DETECTED VOC COMPOUNDS IN SURFACE WATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Units of Measure: / Compound	Class C Standards UG/L	SW1 UG/L	SW2 UG/L	SW3 UG/L
Vinyl chloride		10 U	10 U	2 J
1,1-Dichloroethane		10 U	10 U	1 J
Trichloroethene		10 U	10 U	29
Tetrachloroethene		10 U	10 U	77
Methylene chloride		10 U	1 J	10 U
Acetone		19 J	28 J	14 J
1,2-Dichloroethene(Total)		10 U	10 U	28

Notes:

1. SW = Surface Water Sample
2. U = Not detected
3. J = Estimated value below method detection limit
4. Results compared to 6NYCRR Part 703 (Surface Water Class C Standards).

TABLE 12

SUMMARY OF DETECTED VOC COMPOUNDS IN MONITORING WELL SAMPLES - GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Units of Measure: **Compound**	Class GA Standards UG/L	MW1P UG/L	MW2P UG/L	MW3P UG/L	MW4P UG/L	MW5P UG/L	MW6P UG/L	MW7P UG/L	MW1A UG/L	MW2A UG/L	MW1H UG/L	MW2H UG/L
Tetrachloroethene	5	10 U	10 U	10 U	3 J	62 J	6 J	10 U	10 U	82	10 U	10 U
Trichloroethene	5	10 U	10 U	2 J	2 J	72 J	11	10 U	1 J	10	10 U	10 U
1,2-Dichloroethene(Total)	5	2 J	1 J	37	14	3100	33	10 U	5 J	5 J	2 J	1 J
Vinyl chloride	2	10 U	10 U	16	5 J	130 J	10 U	10 U	6 J	10 U	10 U	10 U
OTHER DETECTED VOCS												
Acetone		10 UJ	10 U	6 J	10 U	220 U	10 UJ	10 UJ	10 U	17 J	10 UJ	5 J
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U	220 U	4 J	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	13	6 J	220 U	9 J	10 U	1 J	2 J	10 U	10 U
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U	220 U	9 J	10 U	10 U	1 J	10 U	10 U
Toluene	5	10 U	10 U	1 J	10 U	220 U	10 U	10 U	10 U	10 U	10 U	10 U

Notes:

1. MW = Monitoring Well
2. Qualifiers are defined in Appendix F.
3. Results compired to 6NYCRR Part 703 (Groundwater Quality Class GA Standards) and/or upgradient background concentrations.

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards UG/L	DGB-1A 8-12 UG/L	DGB-1B 23-27 UG/L	DGB-1C 38-42 UG/L	DGB-1D 46-50 UG/L	DGB-2A 6-10 UG/L	DGB-3A 8-12 UG/L	DGB-3B 23-27 UG/L	DGB-3C 38-42 UG/L	DGB-4A 8-12 UG/L	DGB-4B 23-27 UG/L	DGB-4C 38-42 UG/L	DGB-4E 47-51 UG/L	DGB5A 6-10 UG/L	DGB-5B 23-27 UG/L	DGB-5C 38-42 UG/L	DGB-6A 9-13 UG/L
Tetrachloroethene	5	10 U	10 U	40	15	50 U	10 U	10 U	10 U	10 U	140	10 U	10 U	10 U	30	36	190
Trichloroethene	5	10 U	10 U	85	39	50 U	2 J	1 J	23	10 U	73	42	52	10 U	6 J	21	40
1,2-Dichloroethene(Total)	5 *	1 J	10 U	70	45	50 U	10 U	10 U	18	10 U	380	130	140	2 J	21 J	48	48
Vinyl chloride	2	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25	43	12	10 U	10 U	1 J	5 J
OTHER DETECTED VOCS																	
Bromomethane	5	10 U	10 U	1 J	10 U	50 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	4 J	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride		10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25 U	1 J	10 U	10 U	10 U	10 U	10 U
Acetone	50 (GV)	10 U	10 UJ	8 J	10 U	50 UJ	9 J	10 UJ	28 J	10 UJ	25 U	10 U	10 U	100	10 U	10 UJ	10 U
1,1-Dichloroethene	5	10 U	10 U	2 J	2 J	50 U	10 U	10 U	10 U	10 U	17 J	14	4 J	10 UJ	10 U	2 J	2 J
1,1-Dichloroethane	5	10 U	10 U	6 J	11	50 U	10 U	10 U	10 U	10 U	390	30	28	10 U	28	34	13
Chloroform	7	10 U	10 U	10 UJ	10 U	50 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	5	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	3 J	10 J	9 J	10 U	10 U	10 U	10 U
2-Butanone	50 (GV)	10 UJ	10 UJ	10 UJ	10 U	50 UJ	10 UJ	10 UJ	45 J	10 UJ	25 U	10 U	10 U	10 U	10 U	10 UJ	10 U
1,1,1-Trichloroethane	5	10 U	10 U	10 U	1 J	50 U	10 U	10 U	10 U	10 U	13 J	10 U	10 U	10 U	10 U	10 U	2 J
1,2-Dichloropropane	5	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25 U	6 J	2 J	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	5	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	0.7	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25 U	7 J	2 J	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 UJ	10 U	7 J	10 U	10 U	10 U	10 U	25 U	1 J	2 J	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U	330	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	5	10 U	10 U	10 U	10 U	820	10 U	10 U	10 U	10 U	25 U	10 U	1 J	10 U	10 U	10 U	10 U

Notes:

1. DGB = Deep Geoprobe Boring
2. SGB = Shallow Geoprobe Boring
3. IGW = In-situ groundwater sample
4. Qualifiers defined in Appendix F.
5. Results compaired to 6NYCRR Part 703 (Surface Water Class C and Groundwater Quality Class GA Standards) and/or upgradient background concentrations.
6. * = Class GA Standard applies to oth principal organic contaminant class compounds cis-1,2 Dichloroethene at 5 ug/l and trans-1,2 Dichloroethene at 5 ug/l.
7. GV = Guidance Value: Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values.

See Notes on Page 1

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards UG/L	DGB-6B 23-27 UG/L	DGB-6C 35-39 UG/L	DGB7A 8-12 UG/L	DGB7B 23-27 UG/L	DGB7C 38-42 UG/L	DGB-8A 8-12 UG/L	DGB-8B 23-27 UG/L	DGB-8C 38-42 UG/L	IGW-1 9-13 SGB-1 UG/L	SGB-2A 8-12 UG/L	SGB-2C 38-42 UG/L	SGB-3A 8-12 UG/L	SGB-3C 38-42 UG/L	SGB-4A 8-12 UG/L	SGB-4C 38-42 UG/L	SGB-5A 6-10 UG/L
Tetrachloroethene	5	1300	58 U	100 U	10 U	52	10 U	6 J	36	10 U	10 U	68	6 J	37	10 U	80	10 U
Trichloroethene	5	130	310	100	11	2 J	10 U	14	81	10 U	10 U	93	41	140	5 J	950	10 U
1,2-Dichloroethene(Total)	5 *	100	300	4700 D	1400 D	13	10 U	25	120	10 U	10 U	49	45	300 D	14	360	10 U
Vinyl chloride	2	100 U	50 U	230	96	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4 J	17 J	10 U	67 UJ	10 U
OTHER DETECTED VOCS																	
Bromomethane	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
Chloroethane	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 U	67 UJ	10 U
Methylene chloride		100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
Acetone	50 (GV)	100 U	50 U	71 U	10 U	10 U	10 UJ	10 UJ	10 UJ	7 J	10 UJ	30 J	10 UJ	10 UJ	6 J	67 UJ	10 UJ
1,1-Dichloroethene	5	100 UJ	51 J	16 J	5 J	10 U	10 U	2 J	4 J	10 U	10 U	10 U	3 J	14	1 J	12 J	10 U
1,1-Dichloroethane	5	69 J	21 J	21 J	8 J	2 J	10 U	8 J	10	10 U	10 U	7 J	6 J	91	4 J	23 J	10 U
Chloroform	7	100 U	50 U	71 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
1,2-Dichloroethane	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	8 J	10 U	67 U	10 U
2-Butanone	50 (GV)	100 U	50 U	71 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U	10 UJ	67 U	10 UJ
1,1,1-Trichloroethane	5	100 U	37 J	71 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U	6 J	5 J	10 U	11 J	10 U
1,2-Dichloropropane	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
1,1,2-Trichloroethane	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	10 U	67 U	10 U
Benzene	0.7	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	67 U	2 J
Toluene	5	100 U	50 U	71 U	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	4 J
Chlorobenzene	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
Ethylbenzene	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	10 U
Xylenes (Total)	5	100 U	50 U	71 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	67 U	18

See Notes on Page 1

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards UG/L	SGB-5B 23-27 UG/L	SGB-5C 38-42 UG/L	SGB-5E 50-54 UG/L	IGW-6 9-13 SGB-6 UG/L	SGB-7A 8-12 UG/L	SGB-7C 38-42 UG/L	SGB-8A 8-12 UG/L	SGB-8C 38-42 UG/L	SGB-9A 8-12 UG/L	SGB-9C 38-42 UG/L	SGB-10A 8-12 UG/L	SGB-10C 38-42 UG/L	SGB-11A 8-12 UG/L	SGB-11C 38-42 UG/L	SGB-12A 8-12 UG/L	SGB-12C 38-42 UG/L
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U	3 J	10 U	4 J	4 J	4 J	9 J	2 J	10 U	14	6 J	130
Trichloroethene	5	10 U	78	16	10 U	10 U	2 J	2 J	12	10 U	14	4 J	4 J	10 U	22	1 J	8 J
1,2-Dichloroethene(Total)	5 *	11	81	53	10 U	1 J	3 J	40	16	1 J	4 J	8 J	2 J	10 U	44	10 U	2 J
Vinyl chloride	2	3 J	2 J	10 U	10 U	10 UJ	10 UJ	16	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	2 J	10 UJ	10 UJ
OTHER DETECTED VOCS																	
Bromomethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 UJ
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50 (GV)	10 UJ	5 J	10 U	10 U	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	11 J	10 UJ	10 UJ	10 U
1,1-Dichloroethene	5	10 U	3 J	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 J	10 U	10 U
1,1-Dichloroethane	5	2 J	6 J	6 J	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U	2 J	5 J	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	50 (GV)	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ
1,1,1-Trichloroethane	5	10 U	8 J	18	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	14	10 U	2 J
1,2-Dichloropropane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	0.7	10 U	10 U	10 U	10 U	10 U	10 U	4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	5	1 J	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	22	5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	5	1 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

See Notes on Page 1

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards	SGB-21A 8-12	SGB-21D 38-42	SGB-22A 8-12	SGB-22C 38-42	SGB-23A 8-12	SGB-23C 38-42	SGB-25A 8-12	SGB-25B 23-27	SGB-25C 38-42	SGB-25D 47-51	SGB-26A 8-12	SGB-26C 38-42	IGW-27 12-16 SGB-27	IGW-29 5-9 SGB-29	IGW-30 11-15 SGB-30	SGB-31A 8-12
														UG/L	UG/L	UG/L	UG/L
Tetrachloroethene	5	3300 U	1700	140 J	240 D	10 U	50	10 U	9 J	730 D	92	10 U	53	10 U	59000 D	2500	33 U
Trichloroethene	5	3300 U	140	1500	94	10 U	41	10 U	6 J	95	96	3 J	28	5 J	9600 D	1100	33 U
1,2-Dichloroethene(Total)	5 *	360 J	16 J	7100	120	1 J	140	4 J	30	21	140	50	120	6 J	12000 D	9400	310
Vinyl chloride	2	3300 UJ	100 U	300 J	16	3 J	14 J	2 J	10 U	10 U	14	15	12 J	10 U	690 D	390 J	58
OTHER DETECTED VOCS																	
Bromomethane	5	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
Chloroethane	5	3300 U	100 U	500 U	9 J	10 U	8 J	3 J	10 U	10 U	6 J	10 U	4 J	10 U	10 U	500 U	33 U
Methylene chloride		3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
Acetone	50 (GV)	16000 J	100 UJ	500 UJ	10 UJ	10 UJ	20 UJ	10 U	10 U	10 U	10 U	10 UJ	20 UJ	10 U	16	500 U	33 U
1,1-Dichloroethene	5	3300 U	100 U	500 U	5 J	10 U	7 J	10 U	10 U	10 U	9 J	10 U	5 J	10 U	18	500 UJ	33 U
1,1-Dichloroethane	5	3300 U	100 U	100 J	140	10 U	220	6 J	47	23	83	10 U	260	10 U	10 U	500 U	20 J
Chloroform	7	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
1,2-Dichloroethane	5	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	1 J	10 U	20 U	10 U	10 U	500 U	33 U
2-Butanone	50 (GV)	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
1,1,1-Trichloroethane	5	3300 U	100 U	500 U	10 U	10 U	6 J	10 U	10 U	2 J	5 J	10 U	4 J	10 U	10 U	500 U	33 U
1,2-Dichloropropane	5	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
1,1,2-Trichloroethane	5	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	500 U	33 U
Benzene	0.7	3300 U	100 U	500 U	10 U	1 J	20 U	1 J	10 U	10 U	10 U	10 U	20 U	10 U	2 J	500 U	33 U
Toluene	5	3300 U	100 U	500 U	10 U	1 J	20 U	7 J	10 U	10 U	10 U	10 U	20 U	10 U	11	500 U	33 U
Chlorobenzene	5	3300 U	100 U	500 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	2 J	500 U	33 U
Ethylbenzene	5	3300 U	100 U	500 U	10 U	4 J	20 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	160	500 U	33 U
Xylenes (Total)	5	3300 U	100 U	500 U	10 U	23	3 J	6 J	10 U	10 U	10 U	10 U	20 U	10 U	410	500 U	33 U

See Notes on Page 1

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards UG/L	SGB-31C 38-42 UG/L	SGB-32A 8-12 UG/L	SGB-32C 38-42 UG/L	SGB-33A 8-12 UG/L	SGB-33B 23-27 UG/L	SGB-33C 38-42 UG/L	SGB-33E 64-68 UG/L	SGB-34A 8-12 UG/L	SGB-34C 38-42 UG/L	SGB-35A 8-12 UG/L	SGB-35B 23-27 UG/L	SGB-35C 38-42 UG/L	SGB-36A 8-12 UG/L	SGB-36D Dup of SGB-36A UG/L	SGB-36B 23-27 UG/L	SGB-36C 38-42 UG/L
Tetrachloroethene	5	54	10 U	36	1000 U	2500 U	23	72	8 J	58	140000	140 D	86	170 U	34 J	3 J	2 J
Trichloroethene	5	30	10 U	16	1000 U	2500 U	13	110	17 J	21	1500 J	42	7 J	170 U	510	44	1 J
1,2-Dichloroethene(Total)	5 *	20	2 J	30	8300	15000	150	130	220	99	10000 J	130	67	2400	2000	190	5 J
Vinyl chloride	2	10 U	10 U	10 U	400 J	480 J	5 J	7 J	16 J	10 U	12000 U	9 J	6 J	190	110 J	11	10 U
OTHER DETECTED VOCS																	
Bromomethane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 UJ	10 U	170 U	140 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Methylene chloride		10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Acetone	50 (GV)	10 UJ	10 U	10 U	1000 UJ	2500 UJ	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	380 J	28 J	7 J
1,1-Dichloroethene	5	1 J	10 U	10 U	1000 U	2500 U	1 J	15	31 U	3 J	12000 U	10 U	12 J	170 U	140 U	10 U	10 U
1,1-Dichloroethane	5	4 J	1 J	21	1000 U	2500 U	48	16	5 J	150	12000 U	2 J	10 U	170 U	140 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	8 J	170 U	140 U	10 U	10 U
1,2-Dichloroethane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
2-Butanone	50 (GV)	10 U	10 U	10 U	1000 U	2500 U	10 U	1 J	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
1,1,1-Trichloroethane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 UJ	10 U	170 U	140 U	10 U	10 U
1,2-Dichloropropane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	4 J	31 U	4 J	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
1,1,2-Trichloroethane	5	10 U	10 U	10 U	1000 U	2500 U	10 U	2 J	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Benzene	0.7	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	1 J	10 U	170 U	140 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	10 U	10 U	170 U	140 U	10 U	10 U
Xylenes (Total)	5	10 U	10 U	10 U	1000 U	2500 U	10 U	10 U	31 U	10 U	12000 U	1 J	3 J	170 U	140 U	10 U	10 U

See Notes on Page 1

TABLE 13

SUMMARY OF DETECTED VOC COMPOUNDS IN GEOPROBE GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: / Sample Depth (ft.) / Units of Measure: / Detected Compound	Class GA Standards UG/L	SGB-37A 8-12 UG/L	SGB-37C 38-42 UG/L	SGB-38A 8-12 UG/L	SGB-38C 38-42 UG/L	SGB-39A 8-12 UG/L	SGB-39C 38-42 UG/L	APW-1 8-12 UG/L	APW-DUP Dup of APW-1 UG/L	APW-2 8-12 UG/L	APW-3 8-12 UG/L
Tetrachloroethene	5	10 U	17 J	1000	220	2 J	50	10 U	10 U	21	710
Trichloroethene	5	1 J	43	1400	19 J	10 U	26	2 J	1 J	25	68
1,2-Dichloroethene(Total)	5 *	10 U	300	#### D	45	10 U	85	8 J	7 J	25	170
Vinyl chloride	2	10 UJ	10 J	1000	25 U	10 U	6 J	10 U	10 U	10	50 U
OTHER DETECTED VOCS											
Bromomethane	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Chloroethane	5	10 UJ	25 U	500 U	25 U	10 U	2 J	10 U	10 U	10 U	50 U
Methylene chloride		10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Acetone	50 (GV)	10 UJ	25 UJ	1400 J	25 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	50 UJ
1,1-Dichloroethene	5	10 U	10 J	500 U	25 U	10 U	3 J	10 U	10 U	10 U	50 U
1,1-Dichloroethane	5	10 U	120	98 J	5 J	10 U	150	1 J	10 U	2 J	50 U
Chloroform	7	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
1,2-Dichloroethane	5	10 U	11 J	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
2-Butanone	50 (GV)	10 U	25 UJ	500 UJ	25 UJ	10 UJ	10 UJ	10 U	10 U	10 U	50 U
1,1,1-Trichloroethane	5	2 J	4 J	96 J	25 U	10 U	2 J	10 U	10 U	10 U	50 U
1,2-Dichloropropane	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
1,1,2-Trichloroethane	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzene	0.7	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Toluene	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Chlorobenzene	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Ethylbenzene	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U
Xylenes (Total)	5	10 U	25 U	500 U	25 U	10 U	10 U	10 U	10 U	10 U	50 U

See Notes on Page 1

TABLE 14

SUMMARY OF TRICHLOROTRIFLUOROETHANE TIC READINGS

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID	Sample Depth (ft)	Concentration (µg/l)
Surface Water Samples		
SW-3	NA	25 J
Deep Geoprobe Borings		
DGB-3A	8-12	10 J
DGB-5B	23-27	26 J
DGB-6A	9-13	1,500 J
DGB-7A	8-12	1,600 J
DGB-7B	23-27	14 J
DGB-7C	38-42	17 J
Shallow Geoprobe Borings		
SGB-2C	38-42	385 J
SGB-12A	8-12	35 J
SGB-16A	8-12	29 J
SGB-16C	38-42	24 J
SGB-17B	23-27	82 J
SGB-17C	38-42	6,102 J
SGB-17D	47-51	813 J
SGB-17E	57-61	549 J
SGB-20C	38-42	3,115 J
SGB-20D	38-42	3,018 J
SGB-21A	8-12	150,480 J
SGB-21D	38-42	285 J
SGB-33A	8-12	5,534 J
SGB-33B	23-27	3,198 J
SGB-33C	38-42	42 J
SGB-35B	23-27	18
SGB-35C	38-42	54
SGB-36A	8-12	282
SGB-36B	23-27	342
SGB-36C	38-42	80
SGB-36D	8-12	4,248
SGB-38A	8-12	787 J
SGB-38C	38-42	218 J
Monitoring Wells		
MW-2A	5-15'	241 J
MW-4P	14-24'	19 NJ
MW-5P	4-14'	1,481 NJ
Auger Probe Borings		
APW-3	8-12	267

TABLE 15

SUMMARY OF DETECTED SVOC COMPOUNDS IN GROUNDWATER SAMPLES

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Sample Depth (ft.): Units of Measure: Compound Description	Class GA Standards UG/L	MW2P UG/L	MW6P UG/L	MW7P UG/L	DGB-4A 8-12 UG/L	SGB-22A 8-12 UG/L	SGB-23AR 8-12 UG/L	IGW-30 11-15 UG/L
Phenol	1	10 U	10 U	10 U	2 J	10 U	10 U	10 U
Naphthalene		10 U	10 U	10 U	10 U	1 J	5 J	2 J
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U	6 J	2 J
bis(2-Ethylhexyl)phthalate	50	10 U	28 U	10 U	10 U	1 J	1 J	10 U

Notes:

1. MW = Monitoring Well
2. DGB = Deep Geoprobe Boring
3. SGB = Shallow Geoprobe Boring
4. Results compared to 6NYCRR Part 703 (Groundwater Quality Class GA Standards) and/or upgradient background concentrations.

TABLE 16

SUMMARY OF INORGANIC PARAMETERS IN GROUNDWATER

PALL CORPORATION
GLEN COVE, NEW YORK

Sample ID: Units of Measure: Compound Description	Class GA Standards UG/L	DGB-4A 8-12 UG/L	SGB-22A 8-12 UG/L	SGB-23AR 8-12 UG/L	IGW-30 11-15 UG/L	MW2P UG/L	MW6P UG/L	MW7P UG/L
Aluminum		83500	75000 EJ	29700	69200 EJ	936	299	50500
Antimony		5 BNJ	3.3 U	5.4 B	6.6 BNJ	3.3 U	6 B	7 BNJ
Arsenic	25	21.2	13.5	10 B	52.6	3.6 U	3.6 U	20.4
Barium	1000	2110 EJ	1820	265	672 EJ	27.3 B	99.5 B	335
Beryllium		9.7 J	13.9	1.3 B	10.9 J	0.5 U	0.5 U	4.6 B
Cadmium	10	1.7 B	0.77 B	1.2 B	6.8	4.4 BJ	4.1 BJ	2.3 B
Calcium		48100	152000 EJ	63300	57000 EJ	20000	50700	21800
Chromium	50	179	235 EJ	130	651 ENJ	3.4 B	3.4 B	113
Cobalt		97.8	23.6 BJ	13.7 B	58.8 EJ	0.8 U	109	36.3 B
Copper	200	197 EJ	53.4 J	76.8	3050	3.7 B	31.5	129
Iron	300	114000	106000 EJ	76400	255000 EJ	8050	685	110000
Lead	25	266 EJ	36.2 J	35.8	96.2 EJ	2.7	2.9	65.1
Magnesium		23000	19000 EJ	22200	18000 EJ	5540	22400	12400
Manganese	300	7480	2070 EJ	2240	3890 EJ	339	625	879
Mercury	2	0.17 B	0.1 U	0.1 U	0.57	0.1 U	0.1 U	0.1 U
Nickel		145	123	68.6	141 EJ	3 B	116	106
Potassium		16100 EJ	22500 EJ	12900 EJ	7480	2360 BEJ	6510 EJ	9940 EJ
Selenium	10	3.4 UN	3.4 U	8.3	10.7 NJ	3.4 U	3.4 U	7.3
Silver	50	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Sodium	20000	119000	185000 EJ	141000	30300 EJ	15700	114000	46000
Thallium		9.1 B	4.2 B	3.9 U	11.5	3.9 U	3.9 U	5.3 B
Vanadium		141	166 EJ	34.2 B	329 EJ	3.5 B	2.4 B	144
Zinc	300	286 EJ	236	387	297 EJ	18.4 BEJ	166 EJ	168
Cyanide	100	10 U	10 U	10 U	10 U	10 U	10 U	R
Turbidity (NTU)		>1,000	>1,000	>1,000	>1,000	>1,000	40	>1,000

Notes:

1. DGB = Deep Geoprobe Borings
2. SGB = Shallow Geoprobe Borings
3. MW = Monitoring Well
4. Qualifiers defined in Appendix F
5. Results compared to 6NYCRR Part 703 (Groundwater Quality Class GA Standards).

FIGURES

NOTE:
BASE MAP ADAPTED FROM U.S.G.S. QUADRANGLE MAPS SEA CLIFF, N.Y. - 1979 AND HICKSVILLE, N.Y. - 1979.

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY

GLEN COVE, NEW YORK

PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

LOCUS PLAN

SCALE IN FEET

0 1000 2000 4000

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DATE: APRIL 1999

PROJECT No. 55189

FIGURE No. 1

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GLEN COVE ARTERIAL HIGHWAY

N

AUGUST THOMSEN
ONE STORY BLOCK BUILDING

PALL CORPORATION
ONE STORY BLOCK BUILDING

ASSOCIATED DRAPERIES

SEA CLIFF AVENUE

GLEN COVE CREEK

NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY;TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND

- MACADAM
- CONCRETE
- CURB
- RETAINING WALL
- STEPS
- CHAIN LINK FENCE
- STOCKADE FENCE
- BOLLARD
- LIGHT POLE
- UTILITY POLE
- ANCHOR
- OVERHEAD WIRE
- ELECTRIC LINE (underground)
- TELEPHONE LINE (underground)
- SEWER MANHOLE
- SEWER LINE (underground)
- HYDRANT
- WATER VALVE
- WATER LINE (underground)
- GAS VALVE
- GAS LINE (underground)
- GAS METER
- DRAINAGE MANHOLE
- CATCH BASIN
- CATCH BASIN FIELD INLET

DRAWN BY: DEW
DATE: APRIL 1999

GZA GeoEnvironmental of New York

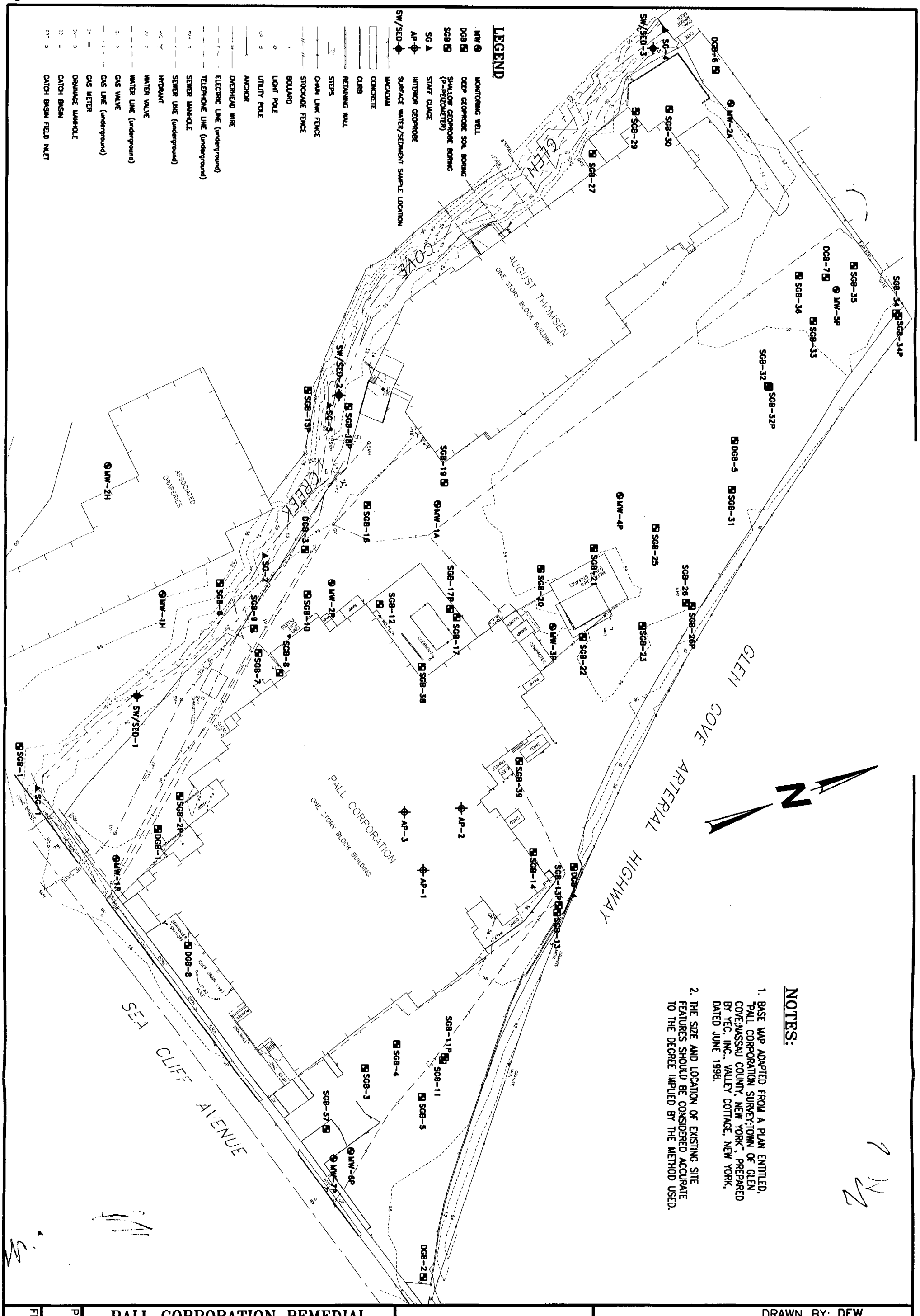
SCALE IN FEET
0 30 60 120

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY
GLEN COVE, NEW YORK
PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

SITE PLAN

PROJECT No.
55189

FIGURE No.
2



NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY:TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.

FIGURE No. 3

PROJECT No. 55189

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY

GLEN COVE, NEW YORK

PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

EXPLORATION LOCATION PLAN

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DATE: APRIL 1999

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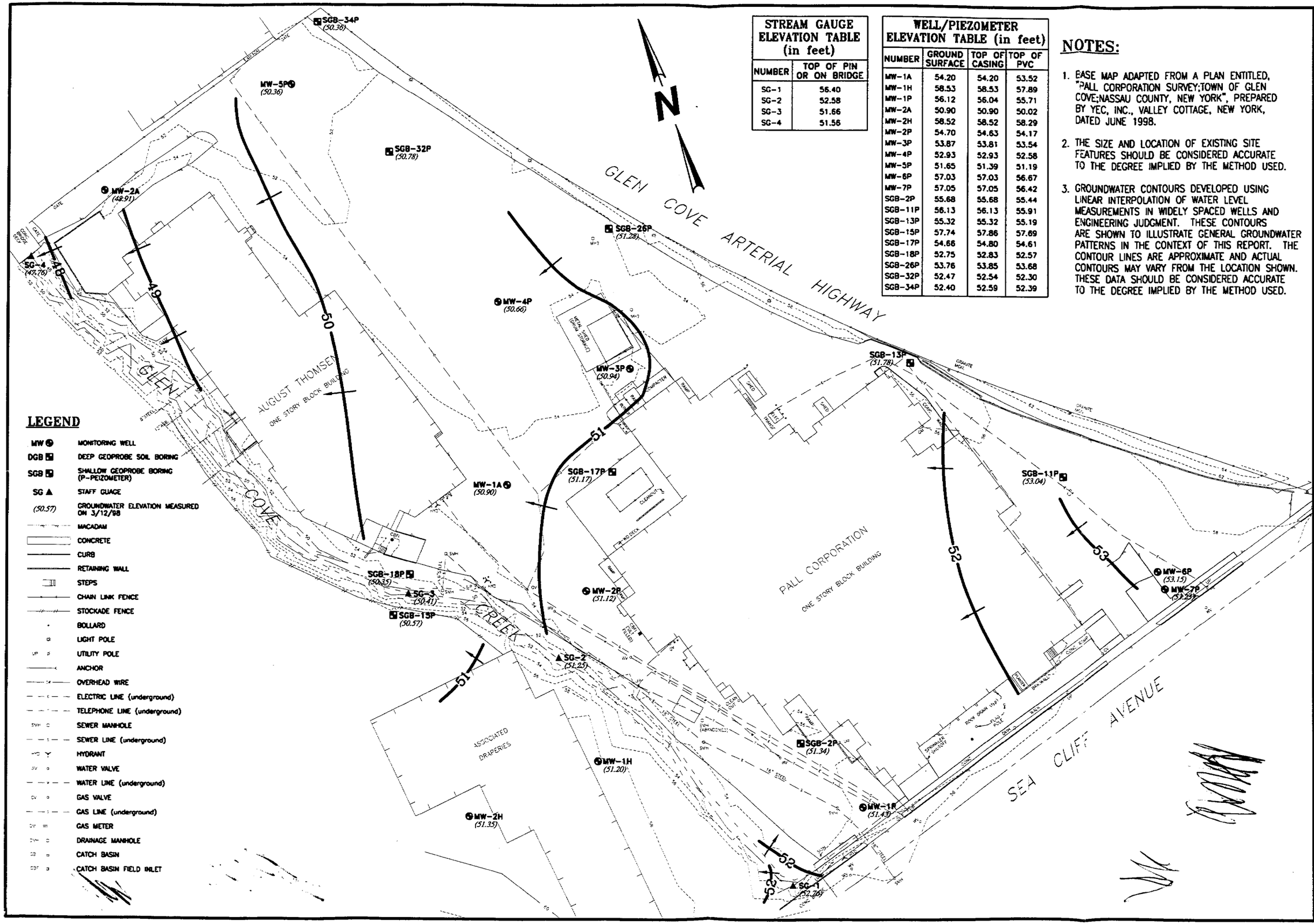

LEGEND

- MW — MONITORING WELL
- DGB — DEEP GEOPROBE SOIL BORING
- SGB — SHALLOW GEOPROBE BORING (P-PEIZOMETER)
- SG ▲ — STAFF GUAGE
- (50.57) — GROUNDWATER ELEVATION MEASURED ON 3/12/98
- MACADAM
- CONCRETE
- CURB
- RETAINING WALL
- STEPS
- CHAIN LINK FENCE
- STOCKADE FENCE
- BOLLARD
- LIGHT POLE
- UTILITY POLE
- ANCHOR
- OVERHEAD WIRE
- ELECTRIC LINE (underground)
- TELEPHONE LINE (underground)
- SEWER MANHOLE
- SEWER LINE (underground)
- HYDRANT
- WATER VALVE
- WATER LINE (underground)
- GAS VALVE
- GAS LINE (underground)
- GAS METER
- DRAINAGE MANHOLE
- CATCH BASIN
- CATCH BASIN FIELD INLET

STREAM GAUGE ELEVATION TABLE (in feet)

NUMBER	TOP OF PIN OR ON BRIDGE
SG-1	56.40
SG-2	52.58
SG-3	51.66
SG-4	51.56

WELL/PIEZOMETER ELEVATION TABLE (in feet)

NUMBER	GROUND SURFACE	TOP OF CASING	TOP OF PVC
MW-1A	54.20	54.20	53.52
MW-1H	58.53	58.53	57.89
MW-1P	56.12	56.04	55.71
MW-2A	50.90	50.90	50.02
MW-2H	58.52	58.52	58.29
MW-2P	54.70	54.63	54.17
MW-3P	53.87	53.81	53.54
MW-4P	52.93	52.93	52.58
MW-5P	51.65	51.39	51.19
MW-6P	57.03	57.03	56.67
MW-7P	57.05	57.05	56.42
SGB-2P	55.68	55.68	55.44
SGB-11P	56.13	56.13	55.91
SGB-13P	55.32	55.32	55.19
SGB-15P	57.74	57.86	57.69
SGB-17P	54.66	54.80	54.61
SGB-18P	52.75	52.83	52.57
SGB-26P	53.76	53.85	53.68
SGB-32P	52.47	52.54	52.30
SGB-34P	52.40	52.59	52.39

NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY;TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.
3. GROUNDWATER CONTOURS DEVELOPED USING LINEAR INTERPOLATION OF WATER LEVEL MEASUREMENTS IN WIDELY SPACED WELLS AND ENGINEERING JUDGMENT. THESE CONTOURS ARE SHOWN TO ILLUSTRATE GENERAL GROUNDWATER PATTERNS IN THE CONTEXT OF THIS REPORT. THE CONTOUR LINES ARE APPROXIMATE AND ACTUAL CONTOURS MAY VARY FROM THE LOCATION SHOWN. THESE DATA SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.

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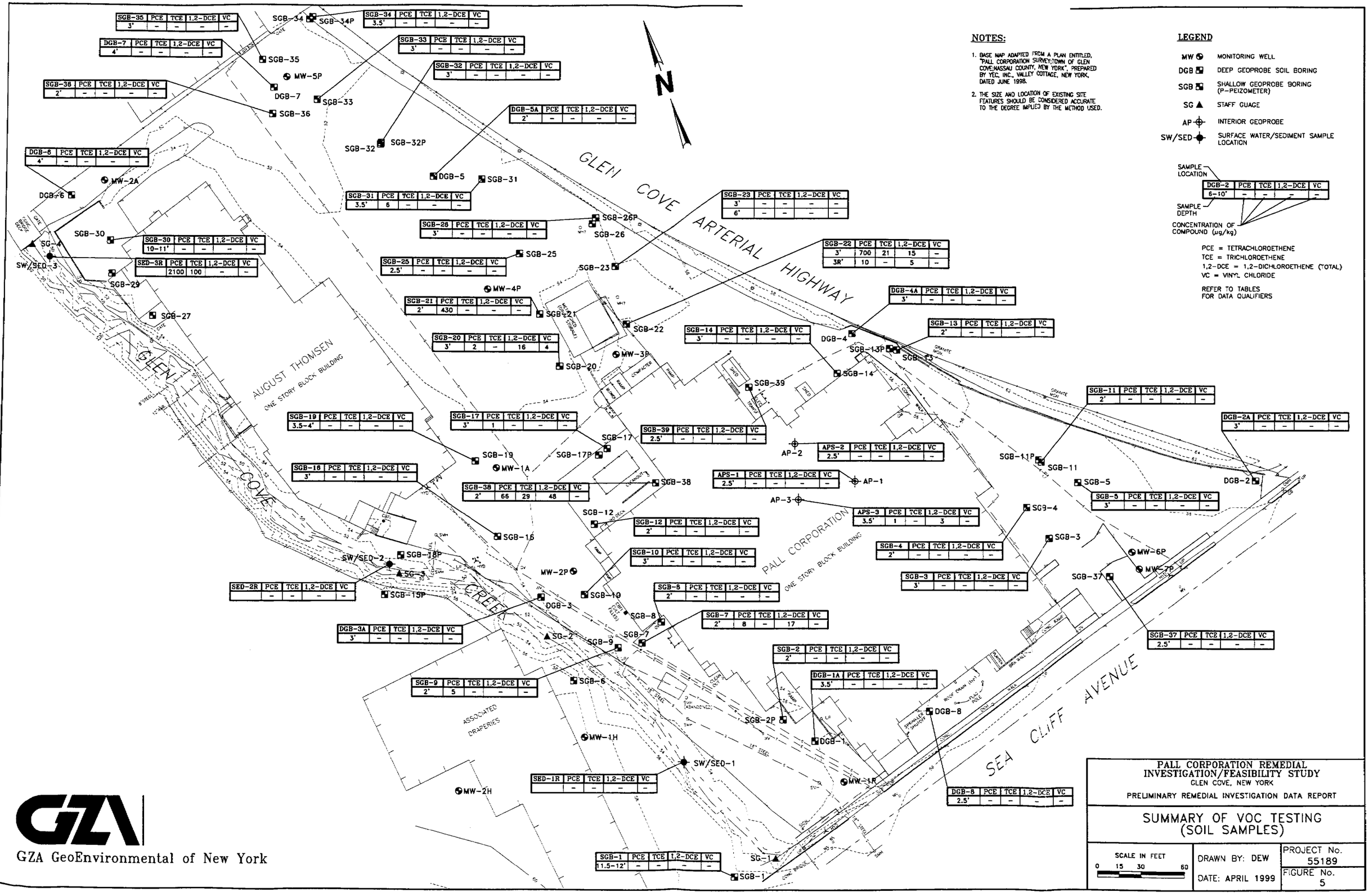
SCALE IN FEET
0 30 60 120

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY
GLEN COVE, NEW YORK
PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

GROUNDWATER CONTOUR PLAN 3/12/98

PROJECT No. 55189

FIGURE No. 4



NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY;TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND

- MW — MONITORING WELL
- DGB — DEEP GEOPROBE SOIL BORING
- SGB — SHALLOW GEOPROBE BORING (P=PEIZOMETER)
- SG — STAFF GUAGE
- AP — INTERIOR GEOPROBE
- SW/SED — SURFACE WATER/SEDIMENT SAMPLE LOCATION

SAMPLE LOCATION

DGB-2	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–

SAMPLE DEPTH

CONCENTRATION OF COMPOUND (µg/kg)

PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
1,2-DCE = 1,2-DICHLOROETHENE (TOTAL)
VC = VINYL CHLORIDE

REFER TO TABLES FOR DATA QUALIFIERS

GZA GeoEnvironmental of New York

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY

GLEN COVE, NEW YORK

PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

SUMMARY OF VOC TESTING (SOIL SAMPLES)

SCALE IN FEET 0 15 30 60

DRAWN BY: DEW

DATE: APRIL 1999

PROJECT No. 55189

FIGURE No. 5

SGB-35	PCE	TCE	1,2-DCE	VC
8-12'	140000	1500	10000	–
23-27'	140	42	130	9
38-42'	86	7	67	6

SGB-34	PCE	TCE	1,2-DCE	VC
8-12'	8	17	220	16
38-42'	58	21	99	–

MW-5P	PCE	TCE	1,2-DCE	VC
	62	72	3100	130

DGB-7	PCE	TCE	1,2-DCE	VC
8-12'	–	100	4700	230
23-27'	–	11	1400	96
38-42'	52	2	13	–

SGB-33	PCE	TCE	1,2-DCE	VC
8-12'	–	–	8300	400
23-27'	–	–	15000	480
38-42'	23	13	150	5
64-68'	72	110	130	7

SGB-36	PCE	TCE	1,2-DCE	VC
8-12'	–	–	2400	190
23-27'	3	44	190	11
38-42'	2	1	5	–

SGB-32	PCE	TCE	1,2-DCE	VC
8-12'	–	–	2	–
38-42'	36	16	30	–

DGB-6	PCE	TCE	1,2-DCE	VC
9-13'	190	40	48	5
23-27'	1300	130	100	–
35-39'	–	310	300	–

MW-2A	PCE	TCE	1,2-DCE	VC
	82	10	5	–

DGB-5	PCE	TCE	1,2-DCE	VC
6-10'	–	–	2	–
23-27'	30	6	21	–
38-42'	36	21	48	1

SGB-31	PCE	TCE	1,2-DCE	VC
8-12'	–	–	310	58
38-42'	54	30	20	–

SGB-28	PCE	TCE	1,2-DCE	VC
8-12'	–	3	50	16
38-42'	53	28	120	12

SGB-23	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	3
38-42'	50	41	140	14

SGB-30	PCE	TCE	1,2-DCE	VC
11-15'	2500	1100	9400	390

SGB-25	PCE	TCE	1,2-DCE	VC
8-12'	–	–	4	2
23-37'	9	6	30	–
38-42'	730	95	21	–
47-51'	92	96	140	14

SGB-22	PCE	TCE	1,2-DCE	VC
8-12'	140	1500	7100	300
38-42'	240	94	120	16

SGB-29	PCE	TCE	1,2-DCE	VC
5-9'	59000	9600	12000	690

MW-4P	PCE	TCE	1,2-DCE	VC
	3	2	14	5

DGB-4	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
23-27'	140	73	380	25
38-42'	–	42	130	43
47-51'	–	52	140	12

SGB-27	PCE	TCE	1,2-DCE	VC
12-16'	–	5	6	–

SGB-21	PCE	TCE	1,2-DCE	VC
8-12'	–	–	360	–
38-42'	1700	140	16	–

SGB-14	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
32-36'	130	110	290	9

SGB-13	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	9	57	120	34

SW-3	PCE	TCE	1,2-DCE	VC
	77	29	28	2

SGB-20	PCE	TCE	1,2-DCE	VC
8-12'	1	2	37	14
38-42'	440	52	47	–

SGB-17	PCE	TCE	1,2-DCE	VC
8-12'	5	27	77	40
23-27'	–	3	9	–
38-42'	8	6	5	–
47-51'	920	120	74	–
57-61'	66	79	91	–

MW-3P	PCE	TCE	1,2-DCE	VC
	–	2	37	16

SGB-39	PCE	TCE	1,2-DCE	VC
8-12'	2	–	–	–
38-42'	50	26	85	6

SGB-11	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	14	22	44	2

MW-1A	PCE	TCE	1,2-DCE	VC
	–	1	5	6

APW-2	PCE	TCE	1,2-DCE	VC
8-12'	21	25	25	10

DGB-2	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–

SGB-19	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	12

SGB-38	PCE	TCE	1,2-DCE	VC
8-12'	1000	1400	15000	1000
38-42'	220	19	45	–

APW-1	PCE	TCE	1,2-DCE	VC
8-12'	–	2	8	–

SGB-5	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–
23-27'	–	–	11	3
38-42'	–	78	81	2
50-54'	–	16	53	–

SGB-16	PCE	TCE	1,2-DCE	VC
8-12'	210	24	22	–
38-42'	370	100	85	–

SGB-12	PCE	TCE	1,2-DCE	VC
8-12'	6	1	–	–
38-42'	130	8	2	–

APW-3	PCE	TCE	1,2-DCE	VC
8-12'	710	68	170	–

SGB-4	PCE	TCE	1,2-DCE	VC
8-12'	–	5	14	–
38-42'	80	950	360	–

MW-2P	PCE	TCE	1,2-DCE	VC
	–	–	1	–

SGB-10	PCE	TCE	1,2-DCE	VC
8-12'	9	4	8	–
38-42'	2	4	2	–

SGB-3	PCE	TCE	1,2-DCE	VC
8-12'	6	41	45	4
38-42'	37	140	300	17

MW-6P	PCE	TCE	1,2-DCE	VC
	6	11	33	–

MW-7P	PCE	TCE	1,2-DCE	VC
	–	–	–	–

SGB-18	PCE	TCE	1,2-DCE	VC
5-9'	–	12	95	–

SW-2	PCE	TCE	1,2-DCE	VC
	–	–	–	–

SGB-15	PCE	TCE	1,2-DCE	VC
9-13'	–	–	2	–

DGB-3	PCE	TCE	1,2-DCE	VC
8-12'	–	2	–	–
23-27'	–	1	–	–
38-42'	–	23	18	–

SGB-8	PCE	TCE	1,2-DCE	VC
8-12'	–	2	40	16
38-42'	4	12	16	–

SGB-7	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	–
38-42'	3	2	3	–

SGB-37	PCE	TCE	1,2-DCE	VC
8-12'	–	1	–	–
38-42'	17	43	300	–

SGB-9	PCE	TCE	1,2-DCE	VC
8-12'	4	–	1	–
38-42'	4	14	4	–

SGB-2	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	68	93	49	–

SGB-6	PCE	TCE	1,2-DCE	VC
9-13'	–	–	–	–

DGB-8	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
23-27'	6	14	25	–
38-42'	36	81	120	–

MW-1H	PCE	TCE	1,2-DCE	VC
	–	–	2	–

SW-1	PCE	TCE	1,2-DCE	VC
	–	–	–	–

DGB-1	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	–
23-27'	–	–	–	–
38-42'	40	85	70	–
46-50'	15	39	45	–

MW-2H	PCE	TCE	1,2-DCE	VC
	–	–	1	–

MW-1P	PCE	TCE	1,2-DCE	VC
	–	–	2	–

SGB-1 (GW-1)	PCE	TCE	1,2-DCE	VC
9-13'	–	–	–	–

NOTES:

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LEGEND

- MW — MONITORING WELL
- DGB — DEEP GEOPROBE SOIL BORING
- SGB — SHALLOW GEOPROBE BORING (P-PEIZOMETER)
- SG — STAFF GUAGE
- AP — INTERIOR GEOPROBE
- SW/SED — SURFACE WATER/SEDIMENT SAMPLE LOCATION

SAMPLE LOCATION — DGB-2 | 6-10' | PCE – | TCE – | 1,2-DCE – | VC –

SAMPLE DEPTH

CONCENTRATION OF COMPOUND (µg/l)

PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
1,2-DCE = 1,2-DICHLOROETHENE (TOTAL)
VC = VINYL CHLORIDE

REFER TO TABLES FOR DATA QUALIFIERS

GLEN COVE ARTERIAL HIGHWAY

AUGUST THOMSEN ONE STORY BLOCK BUILDING

PALL CORPORATION ONE STORY BLOCK BUILDING

GLEN COVE CREEK

SEA CLIFF AVENUE

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GZA GeoEnvironmental of New York

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY

GLEN COVE, NEW YORK

PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

SUMMARY OF VOC TESTING (GROUNDWATER SAMPLES)

SCALE IN FEET 0 15 30 60

DRAWN BY: DEW

DATE: APRIL 1999

PROJECT No. 55189

FIGURE No. 6

SGB-35	PCE	TCE	1,2-DCE	VC
8-12'	140000	1500	10000	–
23-27'	140	42	130	9
38-42'	86	7	67	6

SGB-34	PCE	TCE	1,2-DCE	VC
8-12'	8	17	220	16
38-42'	58	21	99	–

MW-5P	PCE	TCE	1,2-DCE	VC
	62	72	3100	130

DGB-7	PCE	TCE	1,2-DCE	VC
8-12'	–	100	4700	230
23-27'	–	11	1400	96
38-42'	52	2	13	–

SGB-33	PCE	TCE	1,2-DCE	VC
8-12'	–	–	8300	400
23-27'	–	–	15000	480
38-42'	23	13	150	5
64-68'	72	110	130	7

SGB-36	PCE	TCE	1,2-DCE	VC
8-12'	–	–	2400	190
23-27'	3	44	190	11
38-42'	2	1	5	–

SGB-32	PCE	TCE	1,2-DCE	VC
8-12'	–	–	2	–
38-42'	36	16	30	–

DGB-6	PCE	TCE	1,2-DCE	VC
9-13'	190	40	48	5
23-27'	1300	130	100	–
35-39'	–	310	300	–

MW-2A	PCE	TCE	1,2-DCE	VC
	82	10	5	–

DGB-5	PCE	TCE	1,2-DCE	VC
6-10'	–	–	2	–
23-27'	30	6	21	–
38-42'	36	21	48	1

SGB-31	PCE	TCE	1,2-DCE	VC
8-12'	–	–	310	58
38-42'	54	30	20	–

SGB-26	PCE	TCE	1,2-DCE	VC
8-12'	–	3	50	16
38-42'	53	28	120	12

SGB-23	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	3
38-42'	50	41	140	14

SGB-30	PCE	TCE	1,2-DCE	VC
11-15'	2500	1100	9400	390

SGB-25	PCE	TCE	1,2-DCE	VC
8-12'	–	–	4	2
23-37'	9	6	30	–
38-42'	730	95	21	–
47-51'	92	96	140	14

SGB-22	PCE	TCE	1,2-DCE	VC
8-12'	140	1500	7100	300
38-42'	240	94	120	16

SGB-29	PCE	TCE	1,2-DCE	VC
5-9'	59000	9600	12000	690

MW-4P	PCE	TCE	1,2-DCE	VC
	3	2	14	5

DGB-4	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
23-27'	140	73	380	25
38-42'	–	42	130	43
47-51'	–	52	140	12

SGB-27	PCE	TCE	1,2-DCE	VC
12-16'	–	5	6	–

SGB-21	PCE	TCE	1,2-DCE	VC
8-12'	–	–	360	–
38-42'	1700	140	16	–

SGB-14	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
32-36'	130	110	290	9

SGB-13	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	9	57	120	34

SW-3	PCE	TCE	1,2-DCE	VC
	77	29	28	2

SGB-20	PCE	TCE	1,2-DCE	VC
8-12'	1	2	37	14
38-42'	440	52	47	–

SGB-17	PCE	TCE	1,2-DCE	VC
8-12'	5	27	77	40
23-27'	–	3	9	–
38-42'	8	6	5	–
47-51'	920	120	74	–
57-61'	66	79	91	–

MW-3P	PCE	TCE	1,2-DCE	VC
	–	2	37	16

SGB-39	PCE	TCE	1,2-DCE	VC
8-12'	2	–	–	–
38-42'	50	26	85	6

SGB-11	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	14	22	44	2

MW-1A	PCE	TCE	1,2-DCE	VC
	–	1	5	6

SGB-19	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	12

APW-2	PCE	TCE	1,2-DCE	VC
8-12'	21	25	25	10

SGB-38	PCE	TCE	1,2-DCE	VC
8-12'	1000	1400	15000	1000
38-42'	220	19	45	–

APW-1	PCE	TCE	1,2-DCE	VC
8-12'	–	2	8	–

SGB-5	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–
23-27'	–	–	11	3
38-42'	–	78	81	2
50-54'	–	16	53	–

SGB-16	PCE	TCE	1,2-DCE	VC
8-12'	210	24	22	–
38-42'	370	100	85	–

SGB-12	PCE	TCE	1,2-DCE	VC
8-12'	5	1	–	–
38-42'	130	8	2	–

APW-3	PCE	TCE	1,2-DCE	VC
8-12'	710	68	170	–

SGB-4	PCE	TCE	1,2-DCE	VC
8-12'	–	5	14	–
38-42'	80	950	360	–

DGB-2	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–

MW-2P	PCE	TCE	1,2-DCE	VC
	–	–	1	–

SGB-10	PCE	TCE	1,2-DCE	VC
8-12'	9	4	8	–
38-42'	2	4	2	–

SGB-3	PCE	TCE	1,2-DCE	VC
8-12'	6	41	45	4
38-42'	37	140	300	17

MW-6P	PCE	TCE	1,2-DCE	VC
		6	11	33	–

MW-7P	PCE	TCE	1,2-DCE	VC
		–	–	–	–

SGB-18	PCE	TCE	1,2-DCE	VC
5-9'	–	12	95	–

SW-2	PCE	TCE	1,2-DCE	VC
	–	–	–	–

SGB-15	PCE	TCE	1,2-DCE	VC
9-13'	–	–	2	–

DGB-3	PCE	TCE	1,2-DCE	VC
8-12'	–	2	–	–
23-27'	–	1	–	–
38-42'	–	23	18	–

SGB-8	PCE	TCE	1,2-DCE	VC
8-12'	–	2	40	16
38-42'	4	12	16	–

SGB-7	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	–
38-42'	3	2	3	–

SGB-2	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
38-42'	68	93	49	–

SGB-9	PCE	TCE	1,2-DCE	VC
8-12'	4	–	1	–
38-42'	4	14	4	–

SGB-6	PCE	TCE	1,2-DCE	VC
9-13'	–	–	–	–

DGB-8	PCE	TCE	1,2-DCE	VC
8-12'	–	–	–	–
23-27'	6	14	25	–
38-42'	36	81	120	–

MW-1H	PCE	TCE	1,2-DCE	VC
	–	–	2	–

SW-1	PCE	TCE	1,2-DCE	VC
	–	–	–	–

MW-2H	PCE	TCE	1,2-DCE	VC
	–	–	1	–

DGB-1	PCE	TCE	1,2-DCE	VC
8-12'	–	–	1	–
23-27'	–	–	–	–
38-42'	40	85	70	–
46-50'	15	39	45	–

SGB-1 (NON-T)	PCE	TCE	1,2-DCE	VC
9-13'	–	–	–	–

MW-1P	PCE	TCE	1,2-DCE	VC
	–	–	2	–

NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY:TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND

- MW — MONITORING WELL
- DGB — DEEP GEOPROBE SOIL BORING
- SGB — SHALLOW GEOPROBE BORING (P-PEIZOMETER)
- SG — STAFF GUAGE
- AP — INTERIOR GEOPROBE
- SW/SED — SURFACE WATER/SEDIMENT SAMPLE LOCATION

SAMPLE LOCATION — DGB-2 — SAMPLE DEPTH — CONCENTRATION OF COMPOUND (µg/l)

DGB-2	PCE	TCE	1,2-DCE	VC
6-10'	–	–	–	–

PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
1,2-DCE = 1,2-DICHLOROETHENE (TOTAL)
VC = VINYL CHLORIDE

REFER TO TABLES FOR DATA QUALIFIERS

APPARENT SOURCE AREA DELINEATION

GLEN COVE ARTERIAL HIGHWAY

AUGUST THOMSEN ONE STORY BLOCK BUILDING

PALL CORPORATION ONE STORY BLOCK BUILDING

ASSOCIATED DRAPERIES

SEA CLIFF AVENUE

GLEN COVE CREEK

GZA GeoEnvironmental of New York

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY
GLEN COVE, NEW YORK
PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

APPARENT SOURCE AREAS

SCALE IN FEET 0 15 30 60
DRAWN BY: DEW
DATE: APRIL 1999
PROJECT No. 55189
FIGURE No. 7

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS MONITORING WELLS (3 TOTAL)
1 - SHALLOW (24 FEET)
1 - INTERMEDIATE (113 FEET)
1 - DEEP (205 FEET)

CARNEY STREET SUPPLY WELL (8326)

CARNEY STREET SUPPLY WELL (8327)

CARNEY STREET SUPPLY WELL (3466)

MW-14P *(SEE NOTE 4)*

MW-12P

SGP-53

MW-16P

SGP-54

MW-13P

SGP-52

MW-11P

SGP-50

SGP-51

SGP-49

SGP-48

MW-15P

SGP-47

MW-10P

SGP-42

SGP-44

SGP-41

MW-9P

SGP-46

SGP-43

SGP-45

AP-7

SGP-40

AP-5

AP-6

AP-4

MW-8P

GENERATOR BUILDING

WATER DEPARTMENT CONTROL BUILDING

DAY CARE CENTER

EMS GARAGE

GLEN COVE ARTERIAL HIGHWAY

AUGUST THOMSEN ONE STORY BRICK BUILDING

PALL CORPORATION ONE STORY BRICK BUILDING

ASSOCIATED DRAPERIES

SEA CLIFF AVENUE

GLEN COVE CREEK

LEGEND

- PROPOSED SHALLOW MONITORING WELL
- PROPOSED MONITORING WELL COUPLET
- PROPOSED MONITORING WELL TRIPLET
- PROPOSED INTERIOR GEOPROBE
- PROPOSED GEOPROBE SOIL BORING
- MW-S — MONITORING WELL
- DGB-S — DEEP GEOPROBE SOIL BORING
- SGB-S — SHALLOW GEOPROBE BORING (P-PEIZOMETER)
- SG-▲ — STAFF GUAGE
- AP-⊕ — INTERIOR GEOPROBE
- SW/SED-● — SURFACE WATER/SEDIMENT SAMPLE LOCATION

NOTES:

1. BASE MAP ADAPTED FROM A PLAN ENTITLED, "PALL CORPORATION SURVEY;TOWN OF GLEN COVE;NASSAU COUNTY, NEW YORK", PREPARED BY YEC, INC., VALLEY COTTAGE, NEW YORK, DATED JUNE 1998.
2. INFORMATION RELATED TO SITE FEATURES LOCATED IN THE AREA NORTH WEST OF THE PALL CORPORATION SITE (THE CARNEY STREET WELL FIELD AREA) BASED ON A PLAN INCLUDED IN A H2M ASSOCIATES, INC. REPORT ENTITLED, "SOURCE AREA INVESTIGATION;SEA CLIFF INDUSTRIAL AREA", DATED SEPTEMBER 1992.
3. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.
4. AN ADDITIONAL 10 GEOPROBES TO BE LOCATED BASED UPON FIELD FINDINGS.
5. AN ADDITIONAL 4 MONITORING WELL LOCATIONS TO BE LOCATED BASED UPON FIELD FINDINGS.
6. IF APPLICABLE, GZA WILL UTILIZE THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS MONITORING WELLS IN PLACE OF MONITORING WELL MW-14P.

DRAWN BY: DEW
DATE: APRIL 1999

GZA GeoEnvironmental of New York

SCALE IN FEET
0 40 80 160

PALL CORPORATION REMEDIAL INVESTIGATION/FEASIBILITY STUDY
GLEN COVE, NEW YORK
PRELIMINARY REMEDIAL INVESTIGATION DATA REPORT

RECOMMENDATIONS PLAN

PROJECT No.
55189

FIGURE No.
8