REMEDIAL INVESTIGATION REPORT

BULOVA CORPORATE CENTER

JACKSON HEIGHTS, NEW YORK

Prepared for

Bulova Corporation

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Remedial Investigation Report

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1.0 INTRODUCTION

Pursuant to the Voluntary Cleanup Agreement (VCA) and on behalf of Bulova Corporation Shaw Environmental and Infrastructure (Shaw) has prepared this Remedial Investigation (RI) Report covering site investigation activities at the Bulova Corporate Center, 75-20 Astoria Boulevard, Jackson Heights, Queens, New York. This work has been completed pursuant to VCA # W2-0854-9906 between the New York State Department of Environmental Conservation (NYSDEC), Bulova Corporation (Bulova), and LaGuardia Corporate Center Associates, LLC (LaGuardia). This RI summarizes the investigative work performed at the site, presents pertinent conclusions on the nature and extent of the contamination, and presents a preliminary evaluation of the remedial alternatives.

1.1 Site Description

The site is located at 75-20 Astoria Boulevard, Jackson Heights, Queens County, New York City, New York, Figure 1. Jackson Heights is located near the north shore of Queens County. The property is listed as block number 1027 and lot number 50. The site is bordered to the south by 25th Avenue, to the east by 77th Street, to the north by Astoria Boulevard and Grand Central Parkway, and to the west by the Brooklyn-Queens Expressway and a retail center.

The site encompasses approximately 17 acres and contains one building. The building is a multistory building measuring approximately 350 feet by 450 feet with loading docks on the south side. Parking lots are located on all sides of the building. A site map depicting the voluntary cleanup area is presented as Figure 2.

There has been a considerable number of subsurface investigations completed at the site since the late 1990s. Based on these investigations, the subsurface can be generally characterized as fill material consisting of soil (sands and silts) and construction debris (i.e. brick, concrete, wood) in the upper 10-15 feet; underlying these fill materials is a low permeability silt/clay layer which is approximately 20 feet thick. This silt/clay layer is underlain by fine sands to the maximum depth of the investigations completed at the site (i.e. 68 feet below ground surface).

Shallow groundwater flow is in a generally southeasterly direction across the site. Depth to groundwater is approximately 15 feet below ground surface and is first encountered

either in the fill as minor perched zones on top of the silt/clay layer, or within the silt/clay layer.

1.2 Site Vicinity

The surrounding areas include residential and commercial properties. A retail center is located to the west, residential properties and a park to the east and south, and the Grand Central Parkway to the north.

The closest body of water to the site is Bowery Bay, located approximately 3,000 feet to the north-northeast. Flushing Bay and the East River are located approximately 8,000 feet to the northeast and north-northwest, respectively.

2.0 UNDERGROUND STORAGE TANK INVESTIGATION

Previous investigations have identified underground storage tanks (USTs) related to petroleum and chemical storage at the site. The following provides a synopsis of the investigation/closure activities associated with the USTs. Figure 3 depicts actual locations or approximate locations of active, closed and removed USTs.

1986 and 1989 Environmental Site Assessments- Kaselaan & D'Angelo Associates, Inc.

A Phase I Site Assessment was performed on the site during June 1986 and a Level I Environmental Assessment was performed on the site during September 1989 by Kaselaan & D'Angelo Associates (K&D). The following summarizes what they observed with regard to the USTs.

- The 1986 Phase I Site Assessment suggests that there were up to nine tanks on the property; however, the 1989 Level I Environmental Assessment states that seven underground storage tanks were formerly operational at the site and were abandoned. The tanks included two (2) 20,000-gallon fuel oil tanks, one (1) 3,000-gallon gasoline tank, and three (3) 550-gallon chemical storage tanks.

- Twelve soil borings were collected from around the former UST's. One soil sample was collected from each boring and submitted for laboratory analysis of Total Petroleum Hydrocarbons (TPH). Soil concentrations of TPH ranged from 40 ppm to 9,300 ppm. These results were reported to NYSDEC and no action was required.

ARCADIS Geraghty and Miller Investigation

Currently, there are three active USTs on the site, which were installed by the current owner in 1986. They consist of two 20,000 gallon fuel oil USTs, and one 10,000 gallon fuel oil UST. ARCADIS Geraghty & Miller conducted an investigation of the existing USTs during November 1997 because of two failed tank tightness tests during September 1997. Further investigations of these USTs determined that the cause of the tightness test failure was faulty piping associated with the USTs. Following repair and upgrade of the piping, petroleum impacted soil was observed surrounding the open bung hole of the south 20,000 gallon UST and the feed and return lines of the northeast 10,000 gallon UST. Approximately 7.5 cubic yards of impacted soil adjacent to the south UST were removed and disposed of at an off-site disposal facility. Laboratory analysis of endpoint

soil samples from the south UST indicated that they were within NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 guidance values. Approximately 7 cubic yards of impacted soil adjacent to the northeast UST were removed and disposed of at an off-site disposal facility. Due to the presence of underground utilities adjacent to the northeast UST, not all of the impacted soil could be removed. Therefore, a hand auger was utilized to collect additional samples. Due to the presence of residual SVOC concentrations in the soil adjacent to the northeast UST above the New York State Recommended Soil Cleanup Objectives (RSCO) guidance values, a 2-inch diameter PVC well (shown as MW-19 on the site plan) was installed on January 15, 1998. The groundwater analytical results for VOCs and SVOCs from MW-19 were below Class GA standards. In a NYSDEC letter dated July 28, 1998, the Department indicated that the reported leaks from the existing fuel oil tank piping systems had been cleaned up to acceptable levels.

IT Corporation Investigation

A geophysical investigation was conducted by NAEVA Geophysics, Inc. of Congers, NY on July 29, 2002 and August 27, 2002 on behalf of IT Corporation (predecessor to Shaw). The purpose was to verify the presence or absence of the three former 550-gallon chemical storage USTs at the site identified in the 1989 Level I Environmental Assessment.

An area approximately 75 feet by 100 feet was investigated using a Fisher TW-6 Pipe and Cable Locator (a type of metal-detector) and Sensors & Software Smart Cart ground penetrating radar (GPR) system.

The geophysical investigation did not locate the 3 former 550-gallon USTs. It was concluded that the three 550-gallon USTs may have been previously excavated and removed from the site.

However, the geophysical investigation did identify an area approximately 22 feet by 45 feet where previously unknown USTs appeared to be located. Within this area were eight parabolic reflections, which potentially represented eight individual USTs.

FPM Group Ltd Investigations

As a follow up to the geophysical investigation completed on behalf of IT, and on behalf of LaGuardia, FPM Group Ltd (FPM) investigated the presence and contents of the newly discovered USTs pursuant to the approved Subsurface Investigation Workplan dated September 19, 2002.

Eight USTs were found in the suspected UST area confirming the results of the geophysical investigation described above. Each tank was accessed and its status determined. Following testing the tanks were sealed and the excavation area restored.

The USTs ranged from an estimated volume of 1,000 gallons (tank 8) to 2,000 gallons (tanks 1-7). Tanks 2 and 6 contained water/petroleum mixtures and tanks 7 and 8 contained contaminated water. Tank 1 was empty and tanks 3, 4, and 5 were filled with concrete slurry. Analytical results from the liquids in tanks 2, 6, 7, and 8 indicated the presence of petroleum compounds. No chlorinated solvents such as DCA or TCA were detected.

The results of this investigation were described in a letter dated May 2, 2003, from FPM to NYSDEC. That letter also proposed a closure plan for the tanks which was subsequently submitted and included in the Subsurface Investigation Workplan dated September 25, 2003, and approved by e-mail on October 10, 2003.

Tank removal operations took place from November 7-8, 2003, and restoration of the excavation area was completed November 9-10, 2003. Prior to initiating work, all tanks to be removed were registered with NYSDEC. Three USTs (tanks 3-5), which had been previously abandoned by filling with concrete, were not registered. During removal, a ninth UST, 1000-gallons in size, was identified and removed. FPM prepared a closure plan dated December 16, 2003, documenting the closure of the USTs.

In accordance with the approved closure plan, soil samples were collected from areas where indications of potential leakage were noted. Various VOCs were detected in the soil samples. Concentrations of petroleum-related compounds (benzene, toluene, ethyl-benzene and xylenes) were noted in several of the sidewall samples. However, since no impacts to groundwater (based on historical monitoring data) were observed that were related to petroleum constituents, FPM concluded that the amount of petroleum-impacted soil was limited.

3.0 PREVIOUS REMEDIAL INVESTIGATIONS

Investigations have been conducted at the site since the late 1980's. The data base established across the site is considerable. Twenty eight monitoring wells and over 50 borings have been completed to date across the site. Boring logs and as-built well construction diagrams are provided in Appendix A to this report. The following is a list of earlier reports, data and correspondence regarding this site.

- Groundwater Sampling-February 1995, MAC Consultants, Inc.
- Monitoring Well Installation and Groundwater Sampling, MAC Consultants, July 20, 1995.
- Groundwater Sampling, Groundwater Technology, Inc. April 1996.
- Draft Voluntary Cleanup Site Assessment Report and Additional Investigation and Remediation Workplan, Fluor Daniel GTI, March 5, 1997.
- Draft Voluntary Cleanup Supplemental Site Assessment Report, IT Corporation, February 21, 2002.

A summary of findings from these investigations is presented below:

MAC Consultants Investigations

In February of 1995, MAC Consultants, Inc. (MAC) collected soil and groundwater samples from monitoring wells MW-1 through MW-9/9A (Figure 4) for analysis of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Total benzene, toluene, ethylbenzene and xylene (BTEX) concentrations in groundwater ranged from non-detect (ND) to 15 ug/l (ppb). Total chlorinated VOCs in groundwater ranged from 21 ppb to 2,777 ppb. Total SVOCs in groundwater ranged from ND to 8.8 ppb.

In June of 1995, MAC installed four additional monitoring wells (MW-10, MW-11, MW-12 and MW-13); sampled six (6) monitoring wells (MW-2, MW-9/9A, MW-10, MW-11, MW-12 and MW-13); and collected soil samples from MW-13. Total VOCs in groundwater were detected at concentrations of 13 ppb, 3 ppb, and 2 ppb from MW-11, MW-12, and MW-13, respectively. No VOCs were detected in MW-10. Wells MW-2 and MW-9/9A were not sampled for VOCs. Total SVOCs in groundwater were detected

at concentrations of 7 ppb, 708 ppb, and 2 ppb from MW-11, MW-12, and MW-13, respectively. Samples from wells MW-2, MW-9/9A and MW-10 did not contain any SVOCs.

Groundwater Technology Investigation

Groundwater Technology, Inc. (GTI) conducted a site investigation during March 1996. The scope of work included the following:

- Collection of liquid level data from all monitoring wells;
- Groundwater sample collection from MW-1 through MW-5, MW-9/9A, and MW-12 and analysis for VOCs and SVOCs; and
- Survey of the top of the casing elevations of all monitoring wells.

The results of investigation were as follows:

- No measurable liquid phase hydrocarbons (free product) were present in site wells;
- Groundwater flow was to the east-southeast;
- VOC concentrations exceeded NYSDEC class GA standards in MW-1 through MW-5, and MW-9/9A with the highest concentration being 1,1-Dichloroethane (DCA);
- SVOC concentrations were within NYSDEC class GA standards; and
- Benezene at a concentration of 3.2 ppb in MW-4 was the only petroleum hydrocarbon above class GA standards.

Fluor Daniel GTI Investigation

Fluor Daniel GTI conducted an additional site investigation during November 1996. The scope of work included the following:

- Installation of five Geoprobe® wells (MW-14 through MW-18);
- Ten soil borings (B-1 and B-3 through B-11);
- Collection of liquid level data from all monitoring wells (MW-1 through MW-18);
- Collection of soil samples for analysis of VOCs

- Collection of groundwater from the five new Geoprobe® wells and analysis for VOCs (MW-14 through MW-18).

Figure 17 is a site plan showing the boring locations. Based upon the results of this investigation, Fluor Daniel GTI concluded the following:

- The soil at the site consists of fill material containing silty and clayey sand, medium sand, gravel and construction debris (i.e.: concrete, brick and wood) overlying marsh deposits and silt/clay from approximately 16 to 20 feet below grade, underlain by sand;

- The groundwater may be perched or partially perched above the clay layer. This is likely since groundwater flow beneath the site is apparently to the southeast and easterly direction, while regional groundwater flow is to the north.

- All soil samples were below state standards with the exception of two samples, B-8 (12'-17' below grade surface (bgs)) and B-10 (15'-18' bgs), that contained elevated levels of DCA;

- No source locations for VOCs were obvious in the area around the former USTs, except for an area in the vicinity of the former supply line location;

- Along the downgradient side of the property and off site, concentrations of DCA exceeded Class GA standards in MW-14, MW-15, MW-16, MW-17 and MW-18 and 1,1,1-Trichloroethane (TCA) concentrations exceeded class GA standards in MW-14, MW-15, and MW-16. All other parameters were below Class GA standards in the downgradient wells.

IT Corporation Investigation

A report entitled, "Voluntary Cleanup Supplemental Site Assessment Report", (February 21, 2002) was submitted to NYSDEC describing the results of additional investigations at the site.

A soil boring program was conducted in February 2001 to delineate VOCs in the soil in the vicinity of the suspected chemical storage supply lines. Figure 18 is the site plan showing the boring locations. The supply lines consisted of underground piping that distributed product from the former chemical storage underground storage tanks to the building. Replacement of monitoring wells MW-6, MW-7 and MW-8 due to groundwater recharge issues was also completed. Groundwater samples were also obtained from the soil borings and from monitoring wells across the site as part of the supplemental assessment.

The soil borings did not indicate levels of VOCs above RSCO. SVOCs and metals were detected above RSCO but these were determined to be unrelated to the presence of chemical USTs at the site.

In the groundwater samples elevated levels of chlorinated VOCs were reported. SVOCs, pesticides and PCBs were either not detected or were below groundwater standards, and metals were also determined to be unrelated to the presence of USTs at the site, but were related to sediment loading in the groundwater samples.

Based on the results of the investigation, IT Corporation recommended quarterly sampling and reporting for VOCs to allow for trend analysis and determination of the stability of the plume.

On April 29, 2002, the NYSDEC sent a comment letter on the above investigation requiring additional investigative activities at the site, including additional boring/monitoring well installation; soil gas sampling; and the preparation of a qualitative exposure assessment. A subsequent meeting was held with the NYSDEC to discuss the Department's requirements. Based on those discussions, additional activities have been conducted, which are described in the following sections of this report.

4.0 RECENT INVESTIGATIONS

Since the completion of the February 2002 Supplemental Site Assessment Report and discussions with the NYSDEC, additional investigative activities have been conducted at the site to provide a more focused assessment of the nature and extent of contamination. The NYSDEC has been kept apprised in monthly progress reports, quarterly status reports, and investigation workplans that have summarized site activities and results. The following describes the site activities and the results of the recent investigations at the site.

4.1 Monitoring Well Installation, and Soil and Groundwater Sampling

Since completion of the February 2002 Supplemental Site Assessment Report five additional monitoring wells have been installed at the site (Figure 4).

- Two of the monitoring wells, MW-23 and MW-24, were installed in earlier geoprobe borings (GP-2 and GP-3, respectively, which were completed as part of the February 2002 Supplemental Site Assessment) on January 27, 2003.

- MW-25 and MW-26 were installed on January 27, 2003, and March 14, 2003, respectively, to provide monitoring to support vertical delineation of the constituents at the site. In particular, MW-26 was drilled and screened beneath the silt/clay layer at the site.

- MW-27 was installed off-site in the downgradient direction of groundwater flow on January 28, 2003.

The boreholes for the monitoring wells were advanced using 4¼-inch ID hollow-stem augers. At each borehole, following advancement to the requisite depth, a PVC monitoring well was installed. Monitoring wells were constructed of one-inch Schedule 40 PVC riser and factory-slotted screen. A sand pack was incorporated around the well screen and extended to 3 feet above the top of the screen. A minimum of three feet of bentonite was then placed above the sand pack. All wells were completed with a flush-mount roadbox fitted into a concrete apron.

A groundwater-sampling event was conducted on April 15, 2003. During this sampling event groundwater samples were collected from all existing monitoring wells, including

the recently installed monitoring wells identified as MW-23 through MW-27. Groundwater samples were analyzed for VOCs.

Table 1 summarizes historical groundwater elevation data and Figure 5 depicts a groundwater contour map based on the April 2003 sampling event. Consistent with historical observations from previous investigations at the site, groundwater flow is in a generally southeasterly direction.

Laboratory analytical results for this sampling event have been summarized in Table 2. The laboratory analytical results summary is provided in Appendix B. While there are a number of VOC constituents detected in the groundwater, the major contaminants at the site are DCA and TCA, which is consistent with historical observations at the site.

Laboratory analysis identified significantly elevated concentrations within monitoring well MW-26 (deep well) relative to the concentrations detected in the shallow wells. In particular, a concentration of 11,000 ppb of DCA was detected in MW-26, which was many times higher than concentrations detected in the shallow wells across the site. Resampling of this well was conducted during May 2003, which confirmed the elevated concentrations (Table 2).

During the original drilling of MW-26, the silt/clay layer was penetrated by the advancement of drill augers through the stratum. The high concentrations identified based on the April 2003 and May 2003 sampling suggested a potential for the presence of Dense Non Aqueous Phase Liquids (DNAPLs) and a concern that a pathway for DNAPL to migrate beneath the silt/clay layer may have been created. Accordingly, MW-26 was subsequently abandoned on June 24, 2003. To abandon MW-26, the monitoring well was first removed and the borehole over-drilled to a depth of 47 feet bgs. The resulting open borehole was then filled with Portland-bentonite grout from 47 feet bgs to 12 feet bg. Well sand was then installed from 12 bg to grade surface. Prior to well abandonment activities, a vacuum truck was utilized to capture VOC-impacted groundwater from within and surrounding the monitoring well. A total of 70 gallons of water was captured over a two-hour period.

Following the abandonment of MW-26, a replacement well, MW-26R, was installed on October 22, 2003, as a double-cased monitoring well to eliminate the possibility of creating a pathway through the silt/clay layer. MW-26R was installed upgradient of MW-26 to eliminate concerns of being within the zone of influence of MW-26. During the installation of this double cased well, a six-inch diameter casing was installed and set approximately two feet into the silt/clay layer. The outside of this six-inch casing was then grouted. Following the installation of the six-inch outer casing, a one-inch monitoring well was installed within the center of the six-inch diameter casing and through the silt/clay layer. Well sand was incorporated to three feet above the well screen, with a minimum of three feet of bentonite above and the remainder grouted to the surface.

Concurrent with the installation of MW-26R, an additional well MW-28 was installed on top of the silt/clay layer adjacent to MW-26R (Figure 4). The purpose of this installation was to determine the presence or absence of a DNAPL on top of the silt/clay layer. Measurements were taken with a free product interface probe and samples were taken for VOC analysis before and after purging. The interface probe did not indicate the presence of free product, and concentrations of VOCs before and after purging were similar (i.e. several hundred parts per billion) indicating that no DNAPL existed on the top of the silt/clay layer at that location.

VOC levels in MW-26R were found to be comparable to those in MW-26 which indicated that the previous drilling of MW-26 through this layer did not result in the migration of contamination from the shallow to deeper groundwater regimes. This led to the conclusion that the silt/clay layer is not impermeable in the sense of it being a layer that is an effective barrier to the downward migration of contamination from shallower to deeper zones.

Based on the above, additional investigations were initiated to delineate the horizontal and vertical extent of contamination beneath the silt/clay layer. The scope of work that was approved by the Department called for the collection of groundwater samples from borings beneath the silt/clay layer at approximately 25 foot intervals, north, east, and west of MW-26R.

During the March 2004 investigation, nine borings (GW-1 through GW-9) were completed north, east and west of MW-26R at 25-foot intervals for the purpose of delineating the contamination. Each boring was drilled using hollow stem augers. At each location, 4¼" augers were drilled to a depth in which the silt/clay layer was identified (approximately 25 to 30 feet below ground surface). Following identification of the silt/clay layer, the 4¼" augers were removed and 10¼" augers drilled into the silt/clay layer. The boring was then completed by advancing 4¼" augers inside of the 10¼" augers to the extent explored. This was completed to avoid cross contamination from the upper groundwater aquifer to the lower groundwater aquifer. Split spoon soil samples were collected every five feet. All split spoon soil samples were screened with a photo ionization detector (PID), inspected and logged.

One soil sample was selected from each boring for analysis of volatile organic compounds (VOCs) in accordance with EPA Method 8260. The soil sample selected for laboratory analysis was based on PID results. If PID readings above ambient levels were not detected, the soil sample from the interface of the silt/clay and lower sandy aquifer was selected.

Groundwater samples were collected using a hydropunch sampler. At each boring location, a hydropunch sampler was driven to 49 feet below grade surface (bgs). It was then retracted to 47 feet bgs to allow the hydropunch sampler point to drop out and to

allow groundwater to flow into the hydropunch sampler. The groundwater sample collected in this manner would be representative of 47 to 49 feet bgs. In the event the hydropunch sampler was removed and either the hydropunch sampler point did not drop out, or water was not present, the hydropunch sampler was re-driven to 51 feet bgs and pulled up to 49 feet bgs. The groundwater sample collected in this manner would be representative of 49 to 51 feet bgs. At all borings locations in which the augers penetrated the silt/clay layer into the lower sandy zone, the boreholes were grouted from the extent explored to approximately 15 feet bgs (top of clay). The borehole was then brought up to grade with clean sand.

During drilling activities through the silt/clay layer, elevated PID readings (>2000 parts per million) were detected. In addition, there were olfactory indications of soil impacts within the silt/clay. Accordingly, soil and groundwater samples were obtained from within this unit in addition to groundwater samples beneath the silt/clay as originally proposed. A groundwater sample was collected from within the silt/clay layer through the use of a two-inch temporary well with the well screen residing completely in the clay strata, utilizing a disposable bailer.

A soil sample obtained from the installation of GW-8 at 25 feet bgs (corresponding to 10 feet into the silt/clay layer) contained total VOCs of 2,127,000 ppb; of this total, the concentration of TCA was 2,100,000 ppb (Table 3). A groundwater sample obtained from GW-8 within the silt/clay layer (15-25 feet bgs or 0-10 feet into the clay) exhibited total VOCs of over 315,000 ppb with TCA comprising the majority of the contamination (310,000 ppb) (Table 4). These elevated detections coupled with high PID readings (>2000 ppm) and odor suggested a possible source area of the VOC contamination (i.e., free product) at the site.

Based on these initial results, additional investigations were conducted during the April and May 2004 investigation; 22 borings (GW-10 through GW-31) were completed. The borings were completed in 25-foot increments in all directions until the extent of the impact was delineated. Each boring was drilled using hollow stem augers. Sixteen (16) borings were completed using 4¼" augers drilled to the bottom of the silt/clay layer (approximately 25 to 30 feet bgs), collecting split spoon soil samples continuously from 5 feet bgs to 2 feet below the bottom of the silt/clay layer. Groundwater samples were collected within the silt/clay layer using a temporary well and disposable bailers. If PID readings were below 50 ppm, then the boring was continued to 45 feet with the 4¼" augers. If a PID reading of 50 ppm or above were detected, the 4¼" augers were then removed and 10¼" augers were drilled into the silt/clay layer to avoid cross contamination from the upper groundwater aquifer to the lower groundwater aquifer. The 4¼" augers were then advanced within the 10¼" augers to the required depth (approximately 45 feet bgs). Split spoon soil samples were collected continuously from five feet to 47 feet bgs.

Groundwater samples from the deep aquifer were then collected using the same hydropunch groundwater sampling methodology as conducted in the March 2004 sampling activities.

All split spoon soil samples were screened with a PID. One soil sample was selected from each boring for laboratory analysis based on the PID results. If PID readings above ambient levels were not detected, the soil sample located at the interface of the silt/clay and lower sandy aquifer was selected.

All soil and groundwater samples were analyzed for VOCs in accordance with EPA Method 8260 by ChemTech Laboratories in Mountainside, New Jersey.

Boring locations GW-8 and GW-11 were tested more extensively for vertical groundwater delineation on May 18 and May 5, 2004, respectively. Each boring was drilled using the 4¼"-auger within 10¼"-auger method previously described to prevent cross-contamination between the upper and lower groundwater aquifers. The 4¼" augers were advanced into the sandy aquifer for collection of groundwater samples at 10-foot intervals and soil samples collected at five-foot intervals. At approximately 60' bgs, additional clay was identified in GW-8. Two additional split spoon soil samples were collected immediately beneath the 60-foot soil sample to confirm the presence of the additional clay, at which time a final groundwater sample was collected and the augers removed. At boring location GW-11, groundwater samples were collected at 10-foot intervals and soil samples were collected at five-foot intervals in the deep sandy zone to a depth of 70 feet bgs. Following completion of these two borings, the boreholes were grouted to approximately 15 feet bgs (top of clay) and filled to grade with clean sand.

All borings completed were logged for physical and lithologic characteristics as well as other information pertaining to drilling. All soil was classified using the Unified Soil Classification System. A qualified geologist recorded a descriptive log of the following:

- Texture of geologic material
- Color of geologic material
- Voids
- Zones of incomplete sample recovery
- Depth at which water is encountered
- Type and size of drilling/excavation equipment
- Drilling rate (blow counts)
- Start and stop times for drilling/excavation
- Names of field personnel
- Date, time, weather conditions

Figures 8-17 summarize the results of the refocused investigation that was conducted March –May 2004. Tables 3, 4, and 5 summarize the VOC analytical results for the soil,

shallow groundwater, and deep groundwater, respectively. In total, thirty-one borings, GW-1 through GW-31, were completed; locations of the borings are shown on Figure 6. Figure 7 summarizes the analytical data (total VOCs) for silt/clay and deep groundwater and for soil samples obtained within the silt/clay unit.

The primary VOC contaminants in the soil at the site are DCA and TCA in terms of concentrations detected and the number of locations where RSCO values for these constituents were exceeded. There were also sporadic detections of other VOCs (e.g. 1,1-DCE, TCE, and PCE) that exceeded RSCOs but concentrations were generally lower than the DCA and TCA levels. These detections occurred at those locations where DCA and TCA were most elevated.

Figure 8 summarizes the soil concentrations of DCA and TCA across the site within the silt/clay unit. The highest concentrations of DCA and TCA were detected at locations GW-3, GW-8 and GW-17. DCA concentrations in at these 3 boring locations ranged from 6,300 ug/kg (ppb) at GW- 3 to 11,000 ppb at GW-8. TCA concentrations were highest in GW-8 where 2,100,000 ppb of this constituent was detected. GW-3 and GW-17 exhibited TCA concentrations of 170,000 ppb and 1,000,000 ppb, respectively. These concentrations were well in excess of the RSCOs.

A review of Figure 8 indicates that delineation of the elevated DCA and TCA has been completed insofar as concentrations north, south, east and west of the elevated detections are non detect or at concentrations below RSCO. The one exception was at GW-31, which is the southern most boring where DCA was detected at a concentration of 850 ppb versus a RSCO value of 200 ppb.

Tables 4 and 5 summarize the detections of VOCs in the silt/clay and deep groundwater, respectively, across the site. Within the context of this investigation, the silt/clay groundwater refers to the zone encountered within the silt/clay unit and generally at a depth of 15-25 feet below ground surface. The deep groundwater refers to the sandy zone beneath the silt/clay layer where groundwater samples were obtained at 47-49 feet below ground surface. (The groundwater from GW-6 was obtained from 49-51 feet below ground surface.) Similar to the soil analytical results, the highest VOC detections were associated with DCA and TCA. With few exceptions, the silt/clay and deep groundwater samples exhibited DCA and TCA concentrations above groundwater quality standards. Other VOCs detected above groundwater quality standards included chloroethane, 1,1 DCE and TCE. Elevated detections of these constituents were associated with the most contaminated groundwater sample locations for DCA and TCA.

Figures 9 through 12 depict the distribution of the DCA and TCA in the silt/clay and deep groundwater. The distribution of the DCA and TCA in silt/clay groundwater (Figures 9 and 10) reflects the most conductive migratory pathways within the silt/clay layer. This layer, while predominantly characterized as a fine grained silt and clay, consists of coarser textural components of sand, and stringers and seams that would promote

migration of contamination from GW-3 and GW-8, the most significant source areas. While the distribution is not uniform it does suggest that the main contaminant mass resides along a roughly north-south axis.

It should be noted that the distribution of DCA and TCA in the silt/clay groundwater (Figures 9 and 10) differs from the depiction of DCA and TCA in shallow groundwater as shown in Figures 6 and 7. Figures 6 and 7 represent data from monitoring wells. These wells represent groundwater that is, for the most part, perched on top of the silt/clay. In fact, many of the wells are screened at the water table and do not extend to the silt/clay. Figures 9 and 10 reflect groundwater quality within the silt/clay.

The highest DCA concentrations in the silt/clay groundwater were detected in GW-3, GW-14, GW-16, GW-18 and GW-25 where concentrations ranged from 13,000 ppb (GW-3) to 55,000 ppb at GW-25 (Figure 9). TCA concentrations were more elevated, with concentrations in the most contaminated samples ranging from 22,000 ppb at GW-18 to 600,000 ppb at GW-16 (Figure 10).

Both DCA and TCA concentrations were in some cases orders of magnitude less in the deep groundwater (Figures 11 and 12). For example in GW-25, DCA concentrations decreased from 55,000 ppb in the silt/clay groundwater sample to 89 ppb in the deep sample (Figures 9 and 11). Likewise TCA concentrations decreased in GW-25 from 280,000 ppb (Figure 10) to 10 ppb (Figure 12). Across the site concentrations generally decreased from the tens of thousands or hundreds of thousands ppb in the silt/clay groundwater to several thousands or hundreds ppb in the deep groundwater at the same location.

In addition to obtaining groundwater from the 47-49 foot bgs interval, additional groundwater samples were taken at deeper depths at 2 locations, GW-8, and GW-11 to vertically delineate the contamination. This was due to the relatively high detections of VOCs (DCA and TCA) at the groundwater sample taken beneath the clay at the 47-49 foot bgs interval. At GW-8, samples were taken at 57-59 feet bgs and 66-68 feet bgs. There was a substantial decrease of DCA and TCA at 57-59 feet, where the concentration of DCA decreased from 4200 ppb (47'-49' bgs) to 26 ppb (57'-59' bgs) and where TCA decreased from 2800 ppb (47'-49' bgs) to 27 ppb (57'-59' bgs). However at the 66-68 foot bgs interval concentrations increased to 5200 ppb and 6500 ppb for DCA and TCA, respectively. At GW-11 concentrations of DCA and TCA were 10,000 ppb and 71,000 ppb respectively at 47' to 49' bgs during sampling completed in April 2004. Subsequent sampling in May 2004 showed significantly lower DCA and TCA concentrations at 75 ppb and 190 ppb, respectively, at the same sampling interval. Concentrations at the deeper intervals (60'-62' bgs, and 68'-70' bgs) were comparable to the lower May 2004 sampling, suggesting that the higher April analytical results may have been anomalous.

Cross sectional perspectives of the relative distribution of VOCs is provided in Figures 13 through 15. Figure 13 presents the locations of geologic cross sections A-A'

which traverses the site in an east west direction; B-B' provides a north to south cross sectional perspective. The continuity and stratigraphic correlations of the fill, silt and clay, and underlying fine sand deposits as well as the distribution of DCA and TCA, are shown in Figures 14 (cross section A-A[1]) and 15 (cross section B-B[1]). The vast majority of the contaminant mass resides in the silt/clay layer (15'-35' bgs) which, although not impermeable, does serve to hinder the downgradient migration of contamination into the deeper groundwater regime.

4.2 Soil Gas Sampling and Analysis

On July 29, 2002, collection of soil gas samples was conducted from soil gas point locations SGP-1 through SGP-6, located along the southern and eastern borders of the Site (See Figure 16). On January 29, 2003, soil gas samples SGP-7 through SGP-10 were obtained adjacent to the residential properties located near the southeast corner of the Site. Additionally, to verify analytical results from the first sampling event, SGP-6 was resampled. At each location, soil gas samples were collected at depths of five and 10 feet below grade surface.

All soil gas points were sampled utilizing a truck-mounted Geoprobe® unit. To collect the soil gas samples, the Geoprobe® unit drove down an expendable drive point to the desired sampling depth. After the drive point had reached the desired depth, the Geoprobe® rods were retracted approximately 3 to 4 inches to create a void. The void allowed the migration of soil gas vapor into the bottom of the drive point. Polyethylene tubing (¼" in diameter) was then attached to a stainless steel adapter. This adapter was then attached to the expendable drive point to make a seal.

To collect the soil gas samples, 1L SUMMA canisters were utilized. Prior to collection of the soil gas sample, a vacuum was applied to the drive point to evacuate a minimum of one well volume of vapor. A flow controller attached to the SUMMA canister limited the sample rate to 0.1 liters per minute. For each sample location, new polyethylene tubing, flow controller, and filter were used to eliminate the possibility of cross-contamination.

Following collection of the soil gas samples, the samples were shipped via an overnight carrier to Air Toxics, Ltd. of Folsom, California. These samples were later analyzed for VOCs in accordance with EPA Method TO-14.

Figure 16 summarizes the analytical results of the soil gas sampling program which was submitted to both the NYSDEC and the New York State Department of Health (DOH) in March 2003. Table 6 summarizes the soil gas detections in each of the samples.

The analytical results indicate some detections of VOCs. In particular, DCA and TCA were detected at the most elevated concentrations in several of the borings. This is consistent with the contaminant concentrations in groundwater which also showed DCA and TCA as the most elevated constituents.

SGP-6 exhibited the highest concentrations (12,000 ug/m^3 of DCA and 6,300 ug/m^3 of TCA). Other chlorinated compounds detected included lower levels of TCE, PCE and DCE.

In summary, Shaw completed soil gas sampling along the southeast border of the site and along the western border of the first four residential homes (represented by the borings along the eastern side of the park). As approved by the NYSDOH, the purpose of the soil gas sampling that was conducted in the park was to assess the magnitude of the soil gas concentrations, and to assist in determining which of the residential properties (if any) required soil gas sampling.

Those January 2003 sampling results from the park show non-detectable levels of each of the chlorinated solvents of concern, at each of the four soil gas points, at both 5' and 10' bgs. Further, although the July 2002 sampling along the southeast border of the site did show VOC concentrations, the readings for each of the chlorinated solvents of concern, at each of the three soil gas points, at both 5' and 10' bgs, are all below the screening levels in EPA's draft guidance for indoor air sampling (with one relatively minor exception). In the absence of state guidance or standards, the EPA guidance has been used.

These data justify the conclusion that sampling of indoor air is not required at any of the nearby residences. Accordingly, we recommend that any further investigation on the residential properties be limited to soil, groundwater, and exterior soil gas sampling.

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5.0 QUALITATIVE EXPOSURE ASSESSMENT

The following presents a qualitative exposure assessment pertaining to the site. The purpose of this assessment is to determine whether there are any completed pathways for exposure to on-site contamination.

The assessment consists of characterizing the exposure setting and identifying exposure pathways. The exposure pathway describes the means by which exposure to contamination may result, and consists of 5 elements: 1) contaminant source; 2) contaminant release and transport mechanisms; 3) point of exposure; 4) route of exposure and, 5) receptor population exposed to the contaminants.

5.1 Groundwater

CONTAMINANT SOURCE

The source of contamination is the material that has been released to the environment (for example, from a waste disposal area or other point of discharge). Based on previous investigations completed at the site, the source of the contamination was identified in soils. It appears that contamination has spread somewhat from the original chemical storage tanks.

The class of contaminants at the site are VOCs, with DCA and TCA being the predominant contaminants detected in the soil and groundwater across the site. The nature and extent of the contamination both on-site and off site are discussed in Sections 3 and 4.

CONTAMINANT RELEASE AND TRANSPORT MECHANISMS

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed. The conceptual model of groundwater flow provides the framework to assess the fate and transport of contamination at the site. In this regard, the previous contaminant releases at the site have impacted groundwater quality by migrating vertically downward and into the silt and clay unit and groundwater. The contaminants detected in the groundwater at the site are subject to natural attenuation mechanisms, specifically advection and dispersion that reduces contaminant concentration in the downgradient direction of groundwater flow as the contamination

migrates through the soil medium. Accordingly, concentrations of DCA and TCA decrease from the source area to downgradient off site areas.

Groundwater contamination could also migrate along conduits created by underground utilities. However, there are no underground utilities located beneath the groundwater table; therefore, underground utilities do not pose a potential pathway for contaminated groundwater.

POINT OF EXPOSURE

The point of exposure is the location where actual or potential human contact with the contamination could occur. Accordingly, the point of exposure would be those locations in the downgradient groundwater flow direction from the site where groundwater may be used. A well search was conducted by IT Corporation at the offices of NYSDEC to locate surrounding public supply wells and industrial or private wells. The site and surrounding area are supplied by the City of New York water supply system. This water originates from reservoirs located in upstate New York. There are no public supply wells located within a 1-mile radius of the site. There were no records that could be obtained to determine the presence or absence of any historical residential wells, and according to NYSDEC there is no mechanism to document the existence or status of any such installations.

Several industrial wells were located upgradient and cross-gradient to the property at a distance no closer than 1/5 mile. It is unknown if these wells are still in operation. Three industrial wells were installed on the property itself, but were later abandoned due to poor yields. There were no indications that records of private wells were ever installed on the property.

ROUTE OF EXPOSURE

The route of exposure is the manner in which the contaminant actually enters or contacts the body. Exposure is evaluated either through ingestion or incidental exposure (inhalation; dermal contact) through showering or other water uses from groundwater wells completed in the aquifer.

RECEPTOR POPULATION

The receptor population is the people who are or may be exposed to contaminants at the point of exposure. For this evaluation it would be the population which resides downgradient of the site and which uses groundwater supplies.

EVALUATION OF EXPOSURE PATHWAY FOR GROUNDWATER

The exposure pathway is complete when all 5 elements of an exposure pathway are documented. Within this context, the following evaluation is presented.

Based on the groundwater sampling conducted in April 2003 and the more recent investigations completed March-May 2004, VOCs in excess of groundwater quality standards were detected off site. Specifically, in the April 2003 sampling event, DCA was detected at a concentration of 58 ppb (the duplicate analysis was 63 ppb) in MW-27 located on 77th Street. VOCs including DCA and TCA were also detected above standards in the silt/clay and deep groundwater immediately south of the site in the park.

While the presence of private residential wells downgradient from the site that are currently active cannot be ruled out, it is highly unlikely that they would be used as a drinking water supply since all of Queens is on the New York City public water system that originates from upstate reservoirs. While the use of such wells (if they indeed exist) for other purposes (e.g. lawn watering, car washing) also cannot be ruled out, it is highly unlikely that such wells would be installed in the same strata where elevated concentrations have been found (silt and clay or fine sands) because of poor yield. As indicated above, previous industrial wells drilled at the site were subsequently abandoned because of poor yield. Industrial wells that have been identified are located upgradient or cross gradient of the site and as such, are not located in the downgradient direction of groundwater flow. Accordingly, these wells would not be impacted by any contaminated groundwater migrating from the site.

Since there are no documented points of exposure, it is concluded that an exposure pathway for groundwater contamination cannot be documented. In addition, natural attenuation mechanisms (advection and dispersion) would decrease contaminant concentrations in the downgradient direction of groundwater flow to levels that could approach or meet groundwater quality standards.

5.2 Soil Vapor

CONTAMINANT SOURCE

The source of contamination is the material that has been released to the environment (for example, from a waste disposal area or other point of discharge). As indicated above, the contaminant source for the soil gas would be the same as that identified for the groundwater.

CONTAMINANT RELEASE AND TRANSPORT MECHANISMS

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed. Volatile organic compounds (VOCs), because of their low vapor pressures, volatilize from the free or dissolved phases and move as vapors through soils in response to concentration and pressure gradients.

VOC vapors will migrate in the subsurface primarily by two modes, advection and diffusion. Advection is the physical movement in response to density or pressure

gradients whereas diffusion occurs in response to concentration gradients. These are similar processes to groundwater movement. Advective gradients can result from induced air pressure changes in the subsurface. Movement of vapors by diffusion in the vadose zone results from random molecular motion and is driven by concentration gradients. The net result is a tendency for diffusive components to spread in the subsurface away from zones of high concentration to zones of low concentration.

The highest soil gas concentrations are detected closest to the potential source areas with rapid attenuation in areas more distant from the source.

POINT OF EXPOSURE

The exposure point is the location where actual or potential human contact with the contamination could occur. Accordingly, a potential point of exposure would be the corporate office building and the downgradient residential properties adjacent to the site.

ROUTE OF EXPOSURE

The route of exposure is the manner in which the contaminant actually enters or contacts the body. For soil vapors, the route of exposure would be through inhalation.

RECEPTOR POPULATION

The receptor population is the people who are or may be exposed to contaminants at the point of exposure. The population potentially exposed to the contaminants would be the occupants of the corporate office building and the inhabitants residing within the downgradient residential properties immediately adjacent to the site.

EVALUATION OF EXPOSURE PATHWAY FOR SOIL VAPOR

As discussed in Section 4.2, the available soil vapor data does not show a soil vapor pathway.

6.0 SUMMARY AND CONCLUSIONS AND FURTHER ACTION

Based on the investigations completed at the site, the following summary and conclusions are presented.

- The general stratigraphy at the site can be described as fill materials containing sands and gravels, and construction debris overlying marsh deposits and a silt/clay unit. Underlying the silt/clay unit is a fine textured sand.

- A geophysical investigation identified nine (9) previously unidentified USTs at the site. Closure activities associated with the USTs have been completed.

- Soil and groundwater at the site is contaminated with VOCs with the most prevalent being the chlorinated constituents DCA and TCA.

- Concentrations of DCA and TCA and observations during drilling activities at the site (e.g., high PID readings, odor), suggest the presence of free product (non-aqueous phase liquids) in several locations (e.g. GW-3 and GW-8). These areas are the source areas.

- The highest VOC concentrations and the majority of the contamination reside in the soil and groundwater within the silt/clay unit. Beneath the silt/clay unit, groundwater contamination is much lower, typically by orders of magnitude.

- Accordingly, this silt/clay unit is not an impermeable barrier to the vertical migration of contamination, but acts as an impeding layer slowing the migration of contamination into the deeper strata and groundwater flow regime beneath the silt/clay.

- No exposure pathways have been identified based on all available data.

- Subsequent remedial activities will focus on the silt/clay unit where the majority of the contamination exists. Remediation of the contamination within this unit will minimize potential migration of contamination into the deeper groundwater flow regime.

6.1 Preliminary Remedial Alternatives

As described in this report, a DNAPL source area resides in a low permeability silt/clay zone. The presence of this contamination in a low permeability layer eliminates serious consideration of certain remedial technologies such as pump and treat or air sparging/ soil vapor extraction. However, a review of the contaminant distribution in groundwater suggests that natural degradation processes are occurring in the aquifer, and as such, remedial approaches that take advantage of these processes may be effective towards clean up of the site.

The DNAPL source consists primarily of TCA and DCA. However, PCE, TCE, 1,1-DCE and vinyl chloride (VC) have also been detected in the soil and groundwater as well as in the underlying sandy aquifer, likely due to leaching and diffusion of DNAPL contaminants from the clay.

The presence of DCA and chloroethane (CA) indicate that anaerobic biodegradation of TCA is likely occurring. The presence of cis-1,2-dichloroethene (1,2-DCE), a daughter product of PCE and TCE anaerobic biodegradation, further indicates that reducing conditions are present within the clay source area. The presence of 1,1-DCE, a dechlorination product of abiotic degradation of TCA, suggests that abiotic transformation of TCA is also occurring at the site. The VC is likely due to the anaerobic biodegradation of PCE and TCE, and/or the abiotic degradation of TCA and 1,1-DCE.

Current soil and groundwater data indicate that TCA and DCA are being naturally degraded via biotic and abiotic mechanisms, but at rates that are insufficient to prevent the migration of dissolved contaminants to the underlying aquifer. The present degradation rates are also likely insufficient to remove the DNAPL sources in a reasonable timeframe.

Consideration of potential treatment options includes evaluation of several site-specific factors. These factors include:

Target contaminants - Proposed treatments need to be effective for removal of TCA and DCA. In addition, the proposed treatment needs to be technically and economically feasible for the amount of contaminants that are present at the site.

Hydrogeologic conditions – Any proposed remedy needs to be effective in low permeability soils, where amendment distribution and/or contaminant recovery is often difficult; and

Biogeochemical conditions – Proposed remedies that require drastic alterations to naturally occurring biogeochemical conditions (e.g., pH, native microorganism populations) must be carefully evaluated before full or pilot scale implementation.

Based on these factors, various technologies were considered, taking into account the contaminant concentration, permeability of the subsurface strata, and the microbial populations that are present. The objective of treatments evaluated for the silt/clay source area is to dissolve and treat DNAPL sources in-situ. These proposed treatments must be relatively easy to implement in low permeability soils.

Following review of the available information, in situ biostimulation and chemical oxidation are the treatment approaches being considered for this site. In situ biostimulation involves stimulating the degradative activity of indigenous microbial populations by introducing oxygen, a co-metabolite, electron donor, and/or nutrients into the subsurface. The assumption with this approach is that the indigenous microbial population is competent to degrade the target compounds at a site, but is unable to maintain high levels of degradative activity due to unfavorable reduction-oxidation potential (redox) or other geochemical conditions. In-situ chemical oxidation is an abiotic treatment option that involves the use of chemical oxidants to chemically degrade the target compounds at a site. The effectiveness of these approaches in the subsurface will depend on several site-specific factors, including soil/groundwater chemistry, the presence of additional organic or inorganic compounds (e.g., non-target or unidentified compounds), and target compound dissolved concentrations.

Treatability studies are currently being performed to screen in-situ biostimulation and chemical oxidation technologies. A treatability study report and recommendations will be submitted as part of the Remedial Action Workplan for the site.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

TABLES

TABLE 1
HISTORICAL GROUNDWATER ELEVATIONS

Bulova Corporation
75-20 Astoria Boulevard
Jackson Heights, NY

Well ID	Casing Elevation ft. msl	Monitoring Date	Depth to Water (ft)	Depth to Liq. Phase (ft)	Liq. Phase Thickness (ft)	Groundwater Elevation (ft)
MW-1	39.47	07/26/01	11.71	-	-	27.76
		09/25/01	11.85	-	-	27.62
		04/02/02	Dry	-	-	NA
		07/30/02	Dry	-	-	NA
		10/29/02	11.82	-	-	27.65
		4/15/2003	11.34	-	-	28.13
MW-2	39.82	07/26/01	12.15	-	-	27.67
		09/25/01	12.33	-	-	27.49
		04/02/02	13.19	-	-	26.63
		07/30/02	12.76	-	-	27.06
		10/29/02	11.14	-	-	28.68
		4/15/2003	11.78	-	-	28.04
MW-3	NS	07/26/01	NA	-	-	NA
		09/25/01	NA	-	-	NA
		04/02/02	NA	-	-	NA
		07/30/02	13.68	-	-	NA
		10/29/02	13.23	-	-	NA
		4/15/2003	12.81	-	-	NA
MW-4	39.82	07/26/01	12.06	-	-	27.76
		09/25/01	12.18	-	-	27.64
		04/02/02	13.14	-	-	26.68
		07/30/02	12.62	-	-	27.20
		10/29/02	12.19	-	-	27.63
		4/15/2003	11.71	-	-	28.11
MW-5	40.19	07/26/01	12.33	-	-	27.86
		09/25/01	12.50	-	-	27.69
		04/02/02	13.48	-	-	26.71
		07/30/02	12.96	-	-	27.23
		10/29/02	12.44	-	-	27.75
		4/15/2003	12.05	-	-	28.14
MW-6	40.62	07/26/01	13.46	-	-	27.16
		09/25/01	13.07	-	-	27.55
		04/02/02	13.56	-	-	27.06
		07/30/02	13.32	-	-	27.30
		10/29/02	12.91	-	-	27.71
		4/15/2003	12.44	-	-	28.18
MW-6A	NS	07/26/01	NI	-	-	NA
		09/25/01	NA	-	-	NA
		04/02/02	NA	-	-	NA
		07/30/02	13.08	-	-	NA
		10/29/02	NA	-	-	NA
		4/15/2003	12.5	-	-	NA

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Jackson Heights, NY

Well ID	Casing Elevation ft. msl	Monitoring Date	Depth to Water (ft)	Depth to Liq. Phase (ft)	Liq. Phase Thickness (ft)	Groundwater Elevation (ft)
MW-7	40.86	07/26/01	13.38	-	-	27.48
		09/25/01	13.08	-	-	27.78
		04/02/02	14.15	-	-	26.71
		07/30/02	13.72	-	-	27.14
		10/29/02	13.12	-	-	27.74
		4/15/2003	12.86	-	-	28
MW-7A	NS	07/26/01	NI	-	-	NA
		09/25/01	NA	-	-	NA
		04/02/02	13.89	-	-	NA
		07/30/02	13.90	-	-	NA
		10/29/02	13.21	-	-	NA
		4/15/2003	12.89	-	-	NA
MW-8	40.37	07/26/01	13.01	-	-	27.36
		09/25/01	13.08	-	-	27.29
		04/02/02	13.83	-	-	26.54
		07/30/02	13.55	-	-	26.82
		10/29/02	13.35	-	-	27.02
		4/15/2003	12.55	-	-	27.82
MW-8A	NS	07/26/01	NI	-	-	NA
		09/25/01	NA	-	-	NA
		04/02/02	NA	-	-	NA
		07/30/02	NA	-	-	NA
		10/29/02	NA	-	-	NA
		4/15/2003	NA	-	-	NA
MW-9A	NS	07/26/01	NI	-	-	NA
		09/25/01	14.31	-	-	NA
		04/02/02	14.67	-	-	NA
		07/30/02	14.49	-	-	NA
		10/29/02	13.41	-	-	NA
		4/15/2003	13.41	-	-	NA
MW-10	40.64	07/26/01	10.80	-	-	29.84
		09/25/01	11.22	-	-	29.42
		04/02/02	12.74	-	-	27.90
		07/30/02	11.65	-	-	28.99
		10/29/02	11.23	-	-	29.41
		4/15/2003	10.40	-	-	30.24
MW-11	41.45	07/26/01	11.81	-	-	29.64
		09/25/01	12.02	-	-	29.43
		04/02/02	13.26	-	-	28.19
		07/30/02	12.66	-	-	28.79
		10/29/02	19.91	-	-	21.54
		4/15/2003	11.09	-	-	30.36

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Jackson Heights, NY

Well ID	Casing Elevation ft. msl	Monitoring Date	Depth to Water (ft)	Depth to Liq. Phase (ft)	Liq. Phase Thickness (ft)	Groundwater Elevation (ft)
MW-13	52.25	07/26/01	22.50	-	-	29.75
		09/25/01	22.47	-	-	29.78
		04/02/02	24.69	-	-	27.56
		07/30/02	23.90	-	-	28.35
		10/30/02	22.04	-	-	30.21
		4/15/2003	21.97	-	-	30.28
MW-14	NS	07/26/01	NA	-	-	NA
		09/25/01	13.22	-	-	NA
		04/02/02	13.59	-	-	NA
		07/30/02	13.55	-	-	NA
		10/30/02	12.92	-	-	NA
		4/15/2003	12.27	-	-	NA
MW-15	38.62	07/26/01	13.87	-	-	24.75
		09/25/01	13.91	-	-	24.71
		04/02/02	14.32	-	-	24.30
		07/30/02	14.22	-	-	24.40
		10/30/02	13.41	-	-	25.21
		4/15/2003	13.23	-	-	25.39
MW-16	39.02	07/26/01	14.23	-	-	24.79
		09/25/01	14.35	-	-	24.67
		04/02/02	14.72	-	-	24.30
		07/30/02	14.66	-	-	24.36
		10/30/02	14.13	-	-	24.89
		4/15/2003	13.55	-	-	25.47
MW-19	NS	07/26/01	14.55	14.27	0.28	NA
		09/25/01	13.97	13.96	0.01	NA
		04/02/02	15.28	15.20	0.08	NA
		07/30/02	14.51	14.47	0.04	NA
		10/30/02	14.45	14.33	0.12	NA
		4/15/2003	13.89	-	-	NA
MW-20	NS	07/26/01	NI	-	-	NA
		09/25/01	12.47	-	-	NA
		04/02/02	10.55	-	-	NA
		07/30/02	13.80	-	-	NA
		10/30/02	10.21	-	-	NA
		4/15/2003	6.91	-	-	NA
MW-21	NS	07/26/01	NI	-	-	NA
		09/25/01	12.12	-	-	NA
		04/02/02	14.41	-	-	NA
		07/30/02	14.19	-	-	NA
		10/29/02	13.59	-	-	NA
		4/15/2003	13.09	-	-	NA

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HISTORICAL GROUNDWATER ELEVATIONS

Bulova Corporation
75-20 Astoria Boulevard
Jackson Heights, NY

Well ID	Casing Elevation ft. msl	Monitoring Date	Depth to Water (ft)	Depth to Liq. Phase (ft)	Liq. Phase Thickness (ft)	Groundwater Elevation (ft)
MW-22	NS	07/26/01	NI	-	-	NA
		09/25/01	12.21	-	-	NA
		04/02/02	13.89	-	-	NA
		07/30/02	13.59	-	-	NA
		10/29/02	13.05	-	-	NA
		4/15/2003	12.64	-	-	NA
MW-23	NS	07/26/01	NI	-	-	NA
		09/25/01	NI	-	-	NA
		04/02/02	NI	-	-	NA
		07/30/02	NI	-	-	NA
		10/29/02	NI	-	-	NA
		4/15/2003	12.11	-	-	NA
MW-24	NS	07/26/01	NI	-	-	NA
		09/25/01	NI	-	-	NA
		04/02/02	NI	-	-	NA
		07/30/02	NI	-	-	NA
		10/29/02	NI	-	-	NA
		4/15/2003	12.72	-	-	NA
MW-25	NS	07/26/01	NI	-	-	NA
		09/25/01	NI	-	-	NA
		04/02/02	NI	-	-	NA
		07/30/02	NI	-	-	NA
		10/29/02	NI	-	-	NA
		4/15/2003	13.43	-	-	NA
MW-26	NS	07/26/01	NI	-	-	NA
		09/25/01	NI	-	-	NA
		04/02/02	NI	-	-	NA
		07/30/02	NI	-	-	NA
		10/29/02	NI	-	-	NA
		4/15/2003	16.76	-	-	NA
MW-27	NS	07/26/01	NI	-	-	NA
		09/25/01	NI	-	-	NA
		04/02/02	NI	-	-	NA
		07/30/02	NI	-	-	NA
		10/29/02	NI	-	-	NA
	NS	4/15/2003	11.35	-	-	NA

Notes:
NA = Not available.
NS = Not surveyed.
NI = Not installed.
Dry = Monitoring well did not contain water.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Bulova Corporation
75-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS GW Standard	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-6A	MW-7	MW-7A	MW-8	MW-8A	MW-9A	MW-10	MW-11	MW-13	MW-14	MW-15	MW-16
Chloromethane	**	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	2	**4.2 J**	**4.6 J**	**2.7 J**	**11**	10 U	NS	10 U	NS	10 U	10 U	NS	**20**	10 U	10 U	10 U	1.5 J	1.8 J	**2.3 J**
Bromomethane	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5 POS	**32**	**21**	2.7 J	**26**	10 U	NS	10 U	NS	10 U	10 U	NS	**16**	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5 POS	3.0 J	2.8 J	10 U	1.2 J	1.7 J	NS	0.99 J	NS	10 U	10 U	NS	**13**	10 U	10 U	10 U	1.3 J	1.4 J	1.3 J
Acetone	50 GV	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	**	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	5 POS	10 U	10 U	10 U	0.88 J	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5 POS	**720**	**380**	**49**	**320**	**86**	NS	**54**	NS	**6.6 J**	3.0 J	NS	**310**	10 U	10 U	1.8 J	**79**	**51**	**83**
2-Butanone	**	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	5 POS	**6.0 J**	**9.3 J**	**10**	**18**	2.8 J	NS	1.4 J	NS	0.93 J	2.3 J	NS	**24**	10 U	10 U	10 U	4.4 J	**7.4 J**	**9.3 J**
Chloroform	7	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	5 POS	**160**	**100**	**5.2 J**	**39**	**8.8 J**	NS	**6.8 J**	NS	1.9 J	10 U	NS	**52**	10 U	10 U	10 U	3.8 J	1.0 J	1.5 J
Benzene	1	10 U	10 U	10 U	0.80 J	10 U	NS	10 U	NS	10 U	10 U	NS	**1.8 J**	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5 POS	**17**	**14**	4.2 J	**10 J**	**5.5 J**	NS	1.9 J	NS	1.4 J	10 U	NS	**8.8 J**	10 U	3.6 J	10 U	1.4 J	1.0 J	1.4 J
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50 GV	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	**	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
t-1,3-Dichloropropene	0.4*	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4*	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50 GV	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50 GV	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5 POS	1.4 J	2.9 J	10 U	1.4 J	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethyl Benzene	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
m/p-Xylenes	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
o-Xylene	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50 GV	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	5 POS	10 U	10 U	10 U	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TOTAL (October 28, 2003)	**																		
TOTAL (May 21, 2003)	**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL (April 15, 2003)	**	943.6	534.6	73.8	428.28	104.8	NS	65.09	NS	10.83	5.3	NS	445.6	0	3.6	1.8	91.4	63.6	98.8
TOTAL (October 30, 2002)	**	377.3	252.9	118	416.4	11	0	NS	5.8	NS	0	NS	529.3	0	0	5.2	88.1	66	114.3
TOTAL (July 30, 2002)	**	NS	572.51	64	471.9	17.9	NS	26.7	11.7	NS	8.3	NS	524	0	2.9	5.3	95.8	85.2	59.5
TOTAL (April 2, 2002)	**	NS	468.3	214.1	895.2	13.7	NS	24.5	0	NS	34.3	NS	698	7.5	3.8	7.9	77.7	49.6	68.1
TOTAL (September 25, 2001)	**	1275.3	251.8	32.5	162.3	120.9	NS	24.9	NS	30	19.7	NS	509.2	0	1.2	0	95.2	84	92.7
TOTAL (March 29, 2001)	**	NS	185	54	175.6	37	NS	NI	NS	NI	NS	NI	NI	0	0	0	NS	82	122

Notes:
Results reported in micrograms per liter (ug/L, equivalent to parts per billion).
GV indicates that the value listed is a Guidance Value rather than a Standard.
POS indicates that the value listed is a Principal Organic Contaminant Standard rather then a GA Standard.
* = Standard applied to the sum of the *cis* and *trans* isomers.
** = No standard or guidance value available.
Bold = Exceeds the applicable NYS groundwater standard/GV.

NS = Not sampled.
ND = Not detected at laboratory detection limit.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.
NI= Not Installed
(Before) - Before Purging
(After) - After Purging

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Bulova Corporation
75-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS GW Standard	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-26R	MW-27	MW-28 (before)	MW-28 (after)	DUPLICATE (MW-27)	Trip Blank
Chloromethane	**	NS	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
Vinyl Chloride	2	NS	10 U	**16**	**89**	**17**	**4.1 J**	**25**	**44**	**24**	10 U	**16**	**19**	10 U	10 U
Bromomethane	5 POS	NS	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
Chloroethane	5 POS	NS	10 U	**270**	**550**	**310**	4.3 J	**90**	**170**	**670**	10 U	**120**	**130**	10 U	10 U
1,1-Dichloroethene	5 POS	NS	10 U	**67**	**27**	3.4 J	10 U	**37**	**370**	**68**	10 U	**6.9 J**	**7.5 J**	10 U	10 U
Acetone	50 GV	NS	10 U	10 U	**2000**	10 U	10 U	10 U	140	**270**	10 U	**200**	**180**	10 U	50 U
Carbon Disulfide	**	NS	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	5 POS	NS	10 U	10 U	10 U	10 U	10 U	10 U	**26**	**19**	10 U	2.2 J	2.5 J	10 U	10 U
trans-1,2-Dichloroethene	5 POS	NS	10 U	10 U	1.1 J	10 U	10 U	0.57 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5 POS	NS	10 U	**1300**	**2100**	**340**	**120**	**690**	**11000**	**9500**	**58**	**220**	**230**	**63**	10 U
2-Butanone	**	NS	10 U	10 U	17	10 U	10 U	10 U	83	4500	10 U	46 J	33 J	10 U	50 U
Carbon Tetrachloride	5	NS	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
cis-1,2-Dichloroethene	5 POS	NS	10 U	**34**	**26**	**5.8 J**	**6.3 J**	**33**	**110**	**96**	2.2 J	**15**	**15**	2.4 J	10 U
Chloroform	7	NS	10 U	10 U	10 U	10 U	10 U	0.55 J	**16**	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	5 POS	NS	10 U	**320**	**760**	**92**	**5.9 J**	**120**	**1200**	10 U	1.9 J	**15**	**12**	2.0 J	10 U
Benzene	1	NS	10 U	**1.4 J**	**6.0 J**	10 U	10 U	**2.5 J**	**2.0 J**	**2.6 J**	10 U	**3.6 J**	**3.5 J**	10 U	10 U
1,2-Dichloroethane	0.6	NS	10 U	**1.4 J**	**1.9 J**	10 U	10 U	**1.0 J**	**55**	**25**	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5 POS	NS	10 U	**20**	**27**	**6.5 J**	3.5 J	**10**	**35**	**9.0 J**	0.93 J	3.7 J	3.0 J	1.1 J	10 U
1,2-Dichloropropane	1	NS	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
Bromodichloromethane	50 GV	NS	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
4-Methyl-2-Pentanone	**	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Toluene	5 POS	NS	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
t-1,3-Dichloropropene	0.4*	NS	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
cis-1,3-Dichloropropene	0.4*	NS	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	1	NS	10 U	10 U	10 U	10 U	10 U	10 U	**4.6 J**	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50 GV	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Dibromochloromethane	50 GV	NS	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
Tetrachloroethene	5 POS	NS	10 U	**5.8 J**	4.8 J	0.67 J	10 U	0.73 J	2.9 J	1.8 J	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5 POS	NS	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
Ethyl Benzene	5 POS	NS	10 U	10 U	1.0 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
m/p-Xylenes	5 POS	NS	10 U	10 U	1.8 J	10 U	10 U	10 U	10 U	1.9 J	10 U	10 U	10 U	10 U	10 U
o-Xylene	5 POS	NS	10 U	10 U	0.68 J	10 U	10 U	10 U	10 U	1.9 J	10 U	10 U	10 U	10 U	10 U
Styrene	5 POS	NS	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
Bromoform	50 GV	NS	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
1,1,2,2-Tetrachloroethane	5 POS	NS	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
TOTAL (October 28, 2003)	**	NS	--	--	--	--	--	--	NI	15189.2	--	648.4	635.5	--	0
TOTAL (May 21, 2003)	**	NS	--	--	--	--	--	--	13258.5	NI	--	NI	NI	--	--
TOTAL (April 15, 2003)	**	NS	0	2035.6	5613.28	775.37	144.1	1010.35	16767.62	NI	63.03	NI	NI	68.5	2.2
TOTAL (October 30, 2002)	**	NS	0	1714.5	2765.9	NI	NI	NI	NI	NI	NI	NI	NI	NI	0
TOTAL (July 30, 2002)	**	NS	33.4	1218.3	2722	NI	NI	NI	NI	NI	NI	NI	NI	NI	3.1
TOTAL (April 2, 2002)	**	NS	76.1	2636	7894.4	NI	NI	NI	NI	NI	NI	NI	NI	NI	0
TOTAL (September 25, 2001)	**	NS	0	1473.2	3032.1	NI	NI	NI	NI	NI	NI	NI	NI	NI	21.3
TOTAL (March 29, 2001)	**	NS	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0

Notes:
Results reported in micrograms per liter (ug/L, equivalent to parts per billion).
GV indicates that the value listed is a Guidance Value rather than a Standard.
POS indicates that the value listed is a Principal Organic Contaminant Standard rather then a GA Standard.
* = Standard applied to the sum of the *cis* and *trans* isomers.
** = No standard or guidance value available.
Bold = Exceeds the applicable NYS groundwater standard/GV.

NS = Not sampled.
ND = Not detected at laboratory detection limit.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.
NI= Not Installed
(Before) - Before Purging
(After) - After Purging

TABLE 3
SOIL ANALYTICAL RESULTS
BULOVA CORPORATION
75-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS Soil Guidance Value	MW-26R 25' 03/23/04	GW-1 20'-22' 04/12/04	GW-2 25' 03/23/04	GW-3 25' 03/18/04	GW-4 15'-17' 04/12/04	GW-5 25'-27' 04/14/04	GW-5 35'-37' 04/15/04	GW-6 25' 03/18/04	GW-7 25'-27' 04/19/04	GW-8 25' 03/15/04	GW-8 60'-62' 05/18/04	GW-9 25' 03/17/04	GW-9 30'-32' 03/22/04	GW-10 25'-27' 04/13/04
Chloromethane															
Vinyl Chloride	200	17	6.7	3.5 J			12			10					
Bromomethane															
Chloroethane	1900	92	140	40	750		150								11
1,1-Dichloroethene	400	190	120	66	230		77				**7100**		22 J	23	14
Acetone	200					**550**		20 J		25 J				180	
Carbon Disulfide	2700	2.6 J		2.1 J		2.6 J								9.1	
Methylene Chloride	100	3.7 J	3.9 J			3.7 J	2.6 J			2.5 J				8.1	2.3 J
trans-1,2-Dichloroethene							2.8 J								
1,1-Dichloroethane	200	**1500 D**	**1300 D**	**2000 D**	**6300**	**9.5**	**310 D**		**2700**	8.5	**11000**	27	**350**	**940 D**	**380 D**
2-Butanone						170									
Carbon Tetrachloride															
cis-1,2-Dichloroethene	**	190	64	31			53							3.1 J	20
Chloroform	300													3.0 J	
1,1,1-Trichloroethane	800		130		**170000 D**			18	**2400**		**2100000**	17	**870**	**390 D**	
Benzene	60	2.6 J	2.6 J	1.5 J											
1,2-Dichloroethane	100	5.2 J					6.8							14	
Trichloroethene	700	2.4 J	52	13				2.2 J			**6200**			**7.5**	
1,2-Dichloropropane															
Bromodichloromethane															
4-Methyl-2-Pentanone															
Toluene	1500		7.0											3.2 J	
t-1,3-Dichloropropene															
cis-1,3-Dichloropropene															
1,1,2-Trichloroethane															
2-Hexanone															
Dibromochloromethane															
Tetrachloroethene	1400		35	2.8 J				2.9 J			**2700**		30 J	3.2 J	
Chlorobenzene															
Ethyl Benzene	5500		5.3 J											8	
m/p-Xylenes	1200		8.8											30	
o-Xylene	1200		10											21	
Styrene															
Bromoform															
1,1,2,2-Tetrachloroethane															
TOTAL	10000	2005.5	1885.3	2159.9	177280	735.8	614.2	43.1	5100	46	2127000	44	1272	1643.2	427.3

Notes:
Soil guidance values for NYSDEC TAGM 4046, Table 1, Rec. Soil Cleanup Objective
**: No soil guidance value identified for compound
Results in ug/Kg (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
NS = Not sampled.
ND = Not detected at laboratory detection limit.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.
NI= Not Installed
(Before) - Before Purging
(After) - After Purging

TABLE 3
SOIL ANALYTICAL RESULTS
BULOVA CORPORATION
75-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS Soil Guidance Value	GW-11 30'-32' 04/19/04	GW-11 50'-52' 05/05/04	GW-12 29'-31' 04/16/04	GW-13 30'-32' 04/19/04	GW-14 20'-22' 04/21/04	GW-15 24'-26' 04/22/04	GW-16 30'-32 04/23/04	GW-17 20'-22' 04/26/04	GW-18 20'-22' 04/29/04	GW-19 5'-7' 04/30/04	GW-19 28'-30' 04/30/04
Chloromethane												
Vinyl Chloride	200											
Bromomethane												
Chloroethane	1900				4.0 J	230				210		63
1,1-Dichloroethene	400	7.0 J			5.8	300 D			**4900**	**420 D**		72
Acetone	200	70 J			100					59		**310**
Carbon Disulfide	2700				3.8 J						2.6 J	
Methylene Chloride	100	7.3 J			1.6 J	8.1				3.1 JB		6.8 B
trans-1,2-Dichloroethene												
1,1-Dichloroethane	200	34			83	**370 D**		32	**8700**	**670 D**		**2000 D**
2-Butanone					37							
Carbon Tetrachloride												
cis-1,2-Dichloroethene	**				3.5 J	96				41		24
Chloroform	300					15						
1,1,1-Trichloroethane	800	45			36	**15000 D**		330 D	**1000000 D**	**4400 D**		**8700 D**
Benzene	60					4.5 J						
1,2-Dichloroethane	100					45				8.9		20
Trichloroethene	700				4.6 J	**1200 D**		18	**10000**	**820 D**	23	**980 D**
1,2-Dichloropropane												
Bromodichloromethane												
4-Methyl-2-Pentanone												
Toluene	1500										13	
t-1,3-Dichloropropene												
cis-1,3-Dichloropropene												
1,1,2-Trichloroethane						9.8						
2-Hexanone												
Dibromochloromethane												
Tetrachloroethene	1400					230 D		26	**7900**	300 JD		120
Chlorobenzene												
Ethyl Benzene	5500										60	
m/p-Xylenes	1200										90	
o-Xylene	1200										170	
Styrene											26	
Bromoform												
1,1,2,2-Tetrachloroethane												
TOTAL	10000	163.3	0	0	279.3	17508.4	0	406	1031500	6932	384.6	12295.8

Notes:
Soil guidance values for NYSDEC TAGM 4046, Table 1, Rec. Soil Cleanup Objective
**: No soil guidance value identified for compound
Results in ug/Kg (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
NS = Not sampled.
ND = Not detected at laboratory detection limit.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.
NI= Not Installed
(Before) - Before Purging
(After) - After Purging

TABLE 3
SOIL ANALYTICAL RESULTS
BULOVA CORPORATION
75-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS Soil Guidance Value	GW-20 24'-26' 05/03/04	GW-21 30'-32' 05/04/04	GW-22 22'-24' 05/10/04	GW-23 16'-18' 05/11/04	GW-24 18'-20' 05/11/04	GW-25 26'-28' 05/12/04	GW-26 20'-22' 05/13/04	GW-27 16'-18' 05/14/04	GW-28 22'-24' 05/19/04	GW-29 18'-20' 05/20/24	GW-30 26'-28' 05/20/04	GW-31 26'-28' 05/21/04
Chloromethane													
Vinyl Chloride	200												
Bromomethane													
Chloroethane	1900												
1,1-Dichloroethene	400					4.2 J							10
Acetone	200	**300**	73										
Carbon Disulfide	2700												6.7 J
Methylene Chloride	100				16	15		5.8 J					5.2 J
trans-1,2-Dichloroethene													
1,1-Dichloroethane	200	**540 D**		87		46	**310**						**850 D**
2-Butanone			20 J										
Carbon Tetrachloride													
cis-1,2-Dichloroethene	**					3.9 J							
Chloroform	300												
1,1,1-Trichloroethane	800	210					**1500**						32
Benzene	60												
1,2-Dichloroethane	100												12
Trichloroethene	700	56											13
1,2-Dichloropropane													
Bromodichloromethane													
4-Methyl-2-Pentanone													
Toluene	1500												
t-1,3-Dichloropropene													
cis-1,3-Dichloropropene													
1,1,2-Trichloroethane													
2-Hexanone													
Dibromochloromethane													
Tetrachloroethene	1400	22											
Chlorobenzene													
Ethyl Benzene	5500												
m/p-Xylenes	1200												
o-Xylene	1200												
Styrene													
Bromoform													
1,1,2,2-Tetrachloroethane													
TOTAL	10000	1128	93	87	16	69.1	1810	5.8	0	0	0	0	928.9

Notes:
Soil guidance values for NYSDEC TAGM 4046, Table 1, Rec. Soil Cleanup Objective
**: No soil guidance value identified for compound
Results in ug/Kg (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
NS = Not sampled.
ND = Not detected at laboratory detection limit.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.
NI= Not Installed
(Before) - Before Purging
(After) - After Purging

TABLE 4
SILT/CLAY GROUNDWATER ANALYTICAL RESULTS
BULOVA CORPORATION
47-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS GW Standard	MW-26R 15'-25' 03/23/04	GW-1 15'-25' 04/12/04	GW-2 15'-25' 03/23/04	GW-3 15'-25' 03/18/04	GW-4 15'-25' 04/12/04	GW-5 15'-25' 04/14/04	GW-6 15'-25' 03/18/04	GW-7 15'-25' 04/19/04	GW-8 15'-25' 03/15/04	GW-9 15'-25' 03/17/04	GW-10 15'-25' 04/13/04	GW-11 15'-25' 04/14/04	GW-12 15'-25' 04/16/04	GW-13 16'-26' 04/19/04	GW-14 16'-26' 04/21/04
Chloromethane	**															
Vinyl Chloride	2	**29**	**24**	**42**	**67 J**	**6.6**	**36**	**10**	**5.6**		**7.3**		**6.2**	**7.9**	**34**	**66 D**
Bromomethane	5 POS															
Chloroethane	5 POS	**570 D**	**1100 D**	**480 D**	**3300**	**36**	**1900 D**	**98**		**300 J**	**85**	**61**	**110**	**180**	**1100 D**	**12000 D**
1,1-Dichloroethene	5 POS	**120**	**100**	**190 D**	**550**	**27**	**56**	**32**		**2000**	**19**	**18**	**14**	4.3 J	**80**	**27000 D**
Acetone	50 GV															
Carbon Disulfide	**															
Methylene Chloride	5 POS		1.2 J									1.9 J			4.1 J	
trans-1,2-Dichloroethene	5 POS								1.2 J							
1,1-Dichloroethane	5 POS	**2100 D**	**1800 D**	**1900 D**	**13000 D**	**540 D**	**2500 D**	**1300 D**	**7.0**	**1900**	**370 D**	**340 D**	**190 D**	**290 D**	**2700 D**	**35000 D**
2-Butanone	**															
Carbon Tetrachloride	5					29										
cis-1,2-Dichloroethene	5 POS	**75**	**41**	**79**	**230**		**39**	**14**	**19**		15	7.1	**12**	**8.9**	**88**	**640 D**
Chloroform	7											0.74 J				**110 JD**
1,1,1-Trichloroethane	5 POS	**150 D**	**170**	**600 D**	**61000 D**		**130**	**2800 D**		**310000**	**610 D**	**49**	**37**	**61**	**61**	**420000 D**
Benzene	1	**2.7 J**	**3.8 J**	**5.1**			**4.5 J**	**8.1**								
1,2-Dichloroethane	0.6						**3.3 J**					2.4 J			**5.6**	
Trichloroethene	5 POS	**9.0**	**10**	**20**	**530**		**8.2**	**52**	**6.0**	**1200**	**20**	1.6 J	3.6 J	**16**	**6.2**	**3800 D**
1,2-Dichloropropane	1															
Bromodichloromethane	50 GV															
4-Methyl-2-Pentanone	**															
Toluene	5 POS						2.4 J									**18**
t-1,3-Dichloropropene	0.4*															
cis-1,3-Dichloropropene	0.4*															
1,1,2-Trichloroethane	1															**45**
2-Hexanone	50 GV															
Dibromochloromethane	50 GV															
Tetrachloroethene	5 POS	2.4 J	2.7 J	3.7 J	**270**			**5.5**	**0.59 J**	**260 J**	**7.2**			1.9 J	1.6 J	**1800 D**
Chlorobenzene	5 POS															
Ethyl Benzene	5 POS															4.4 J
m/p-Xylenes	5 POS										1.5 J					**7.9**
o-Xylene	5 POS										1.2 J					**5.8**
Styrene	5 POS										1.2 J					
Bromoform	50 GV															
1,1,2,2-Tetrachloroethane	5 POS															
TOTAL	**	3058.1	3252.7	3319.8	78947	638.6	4679.4	4319.6	39.39	315660	1137.4	481.74	372.8	570	4080.5	500497.1

Notes:
Groundwater standards from NYSDEC TOGS 1.1.1, GA standards.
**: No standard referenced.
Results in ug/L (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.

TABLE 4
SILT/CLAY GROUNDWATER ANALYTICAL RESULTS
BULOVA CORPORATION
47-20 Astoria Boulevard
Jackson Heights, NY

Compound	NYS GW Standard	GW-15 16'-26' 04/22/04	GW-16 16'-26' 04/23/04	GW-17 16'-26' 04/26/04	GW-18 16'-26' 04/29/04	GW-19 16'-26' 04/30/04	GW-20 16'-26' 05/03/04	GW-21 16'-26' 05/04/04	GW-22 16'-26' 05/10/04	GW-23 16'-26' 05/11/04	GW-24 16'-26' 05/11/04	GW-25 16'-26' 05/12/04	GW-26 16'-26' 05/13/04	GW-27 14'-24' 05/14/04	GW-28 12'-22' 05/19/04	GW-29 16'-26' 05/20/24	GW-30 16'-26' 05/20/04	GW-31 16'-26' 05/21/04
Chloromethane	**		880															
Vinyl Chloride	2	**2.1 J**	**760**	**140**			**18**		**3.5 J**	1.7	**12**			**6.7**			**12**	
Bromomethane	5 POS																	
Chloroethane	5 POS			**1000 JD**	**3700**	**6200**	**580 D**	**13**	**13**	**37**	**110**					**110**		
1,1-Dichloroethene	5 POS	0.90 J	**3400 D**	**770 JD**	**3200**	**14000**	**170**	2.2 J	**28**	**32**	**43**	**16000 D**	3.1 J	**80**		**67**	**2300 JD**	**12**
Acetone	50 GV	5.6 J					42	5.4 J		9.2 J	13 J	1600		14 J			470	
Carbon Disulfide	**																	
Methylene Chloride	5 POS			**67**			2.3 J					110 J					36	
trans-1,2-Dichloroethene	5 POS						1.8 J							1.9 J				
1,1-Dichloroethane	5 POS	**85**	**16000 D**	**3300 D**	**13000**	**9200**	**2000 D**	**32**	**110**	**170**	**960 D**	**55000 D**	**54**	**330 D**	3.9 J	**230 JD**	**4600 JD**	
2-Butanone	**						8.7 J										40	
Carbon Tetrachloride	5																	
cis-1,2-Dichloroethene	5 POS	3.9 J		**1100 JD**	**330 J**		**55**	1.7 J	3.5 J	**7.5**	40		5.9	56		**7.2**	**27**	2.3 J
Chloroform	7		**320**	**65**		**59 J**	2.9 J	**7.9**				**72 J**					**56**	
1,1,1-Trichloroethane	5 POS		**600000 D**	**40000 D**	**22000 D**	**110000 D**	**1100 D**	2.3 J	**100 D**	**61**	47	280000 D	5.0	**48**	**5.2**	56	**72000 D**	2.4 J
Benzene	1												**4.3 J**					
1,2-Dichloroethane	0.6						**7.1**							5.0		1.5 J	**41**	
Trichloroethene	5 POS		**6100 D**	**620 JD**	**740**	**430 J**	**82**		4.2 J	4.1 J	**6.1**	**1600**	0.74 J	**5.7**	1.9 J	**3.6 J**	**110 D**	1.6 J
1,2-Dichloropropane	1																	
Bromodichloromethane	50 GV																	
4-Methyl-2-Pentanone	**																	
Toluene	5 POS		**32 J**										3.6 J	1.1 J				
t-1,3-Dichloropropene	0.4*																	
cis-1,3-Dichloropropene	0.4*																	
1,1,2-Trichloroethane	1			**3.5 J**			**1.1 J**											
2-Hexanone	50 GV																	
Dibromochloromethane	50 GV																	
Tetrachloroethene	5 POS		**570 D**	**220 JD**	**290 J**	**260 J**	**8.1**			0.79 J		2000				1.0 J	**110**	
Chlorobenzene	5 POS																	
Ethyl Benzene	5 POS												0.91 J					
m/p-Xylenes	5 POS												3.3 J	1.2 J				
o-Xylene	5 POS												2.2 J	0.71 J				
Styrene	5 POS																	
Bromoform	50 GV																	
1,1,2,2-Tetrachloroethane	5 POS																	
TOTAL	**	97.5	628062	47285.5	43260	140149	4079	64.5	262.2	323.29	1231.1	356382	83.05	550.31	11	475.3	79911	18.3

Notes:
Groundwater standards from NYSDEC TOGS 1.1.1, GA standards.
**: No standard referenced.
Results in ug/L (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.

TABLE 5
DEEP GROUNDWATER ANALYTICAL RESULTS
BULOVA CORPORATION
Jackson Heights, NY

Compound	NYS GW Standard	MW-26R 10/28/03	MW-26R 03/08/04	GW-1 49'-51' 03/02/04	GW-2 47'-49' 03/03/04	GW-3 49'-51' 03/04/04	GW-4 47'-49' 03/08/04	GW-5 47'-49' 03/09/04	GW-6 49'-51' 03/11/04	GW-7 47'-49' 03/12/04	GW-8 47'-49' 03/16/04	GW-8 57'-59' 05/18/04	GW-8 66'-68' 05/18/04
Chloromethane	**	47	49										
Vinyl Chloride	2	**24**	**3.2 J**		**2.4 J**					**3.3 J**	1.6 J		5.8
Bromomethane	5 POS												
Chloroethane	5 POS	**670**	**99**	**9.8**	**17**	**11**		**25**	2.6 J				21
1,1-Dichloroethene	5 POS	**68**	**19**	**13**	**36**	**11**	**16**	**16**	**6.2**	**44**	**110**	**5.6**	**730 D**
Acetone	50 GV	**270**							21 J		**720**		**260**
Carbon Disulfide	**												
Methylene Chloride	5 POS	**19**	**8.4**								**51**		**35**
trans-1,2-Dichloroethene	5 POS												0.95 J
1,1-Dichloroethane	5 POS	**9500**	**2200**	**190**	**320**	**240**	**26**	**160**	**210**	**570**	**4200**	**26**	**5200 D**
2-Butanone	**	4500							18 J		85		57
Carbon Tetrachloride	5												
cis-1,2-Dichloroethene	5 POS	**96**	**22**	**6.7**	**13**	4.3 J	**5.7**	4.9 J	4.7 J	**5.4**	**41**	**1.7 J**	**46**
Chloroform	7					1.0 J		0.64 J	2.4 J		**18**	**0.84 J**	**23**
1,1,1-Trichloroethane	5 POS			**31**	**30**	**240**		**300**	**410**	**29**	**2800**	**27**	**6500 D**
Benzene	1	**2.6 J**											
1,2-Dichloroethane	0.6	**25**				**1.2 J**			**2.2 J**		**82**		**54**
Trichloroethene	5 POS	**9.0 J**	**2.0 J**	**11**	**8.5**	**22**	**10**	**26**	**15**	**15**	**36**	**40**	**79**
1,2-Dichloropropane	1												
Bromodichloromethane	50 GV												
4-Methyl-2-Pentanone	**												
Toluene	5 POS												2.6 J
t-1,3-Dichloropropene	0.4*												
cis-1,3-Dichloropropene	0.4*												
1,1,2-Trichloroethane	1										**5.4**		
2-Hexanone	50 GV										2.6 J		
Dibromochloromethane	50 GV												
Tetrachloroethene	5 POS	1.8 J						0.86 J	1.2 J		4.3 J		38
Chlorobenzene	5 POS												
Ethyl Benzene	5 POS												0.95 J
m/p-Xylenes	5 POS	1.9 J											
o-Xylene	5 POS	1.9 J											
Styrene	5 POS												
Bromoform	50 GV												
1,1,2,2-Tetrachloroethane	5 POS												
TOTAL	**	15189.2	2353.6	261.5	426.9	530.5	57.7	533.4	693.3	666.7	8156.9	101.14	13053.3

Notes:
Groundwater standards from NYSDEC TOGS 1.1.1, GA standards.
**: No standard referenced.
Results in ug/L (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.

TABLE 5
DEEP GROUNDWATER ANALYTICAL RESULTS
BULOVA CORPORATION
Jackson Heights, NY

Compound	NYS GW Standard	GW-9 49'-51' 03/22/04	GW-10 47'-49' 04/13/04	GW-11 47'-49' 04/19/04	GW-11 47'-49' 05/05/04	GW-11 60'-62' 05/05/04	GW-11 68'-70' 05/06/04	GW-12 47'-49' 04/16/04	GW-13 47'-49' 04/20/04	GW-14 47'-49' 04/21/04	GW-15 47'-49' 04/22/04	GW-16 47'-49' 04/23/04	GW-17 47'-49' 05/07/04
Chloromethane	**												
Vinyl Chloride	2			**39**	1.3 J			1.9 J	**1.5 J**		1.0 J		
Bromomethane	5 POS												
Chloroethane	5 POS			**160 JD**					**31**	**99**			
1,1-Dichloroethene	5 POS	**10**	**16**	**1200 D**	**22**	**9.0**		**42**	**33**	**76**	**82**	**2400 D**	3.2 J
Acetone	50 GV												
Carbon Disulfide	**				12		10						
Methylene Chloride	5 POS			**73**					**1.7 J**	**2.8 J**			
trans-1,2-Dichloroethene	5 POS												
1,1-Dichloroethane	5 POS	**210 JD**	**61**	**10000 D**	**75**	**63**	**31**	**130**	**290 D**	**520 D**	**120**	**1500 D**	**13**
2-Butanone	**			260									
Carbon Tetrachloride	5												
cis-1,2-Dichloroethene	5 POS	**8.6**	**4.4 J**	**120**	**4.8 J**	**2.6 J**		**6.8**	**11**	**12**	**7.9**	43 J	2.6 J
Chloroform	7		0.68 J	**120**	**1.0 J**				1.5 J	3.5 J	0.67 J	**9.2 J**	
1,1,1-Trichloroethane	5 POS	**85**	**160**	**71000 D**	**190**	**190**	**28**	**11**	**97**	**4600 D**	**45**	**20000 D**	**19**
Benzene	1												
1,2-Dichloroethane	0.6			**77**					**2.9 J**		**1.2 J**		
Trichloroethene	5 POS		**34**	**430**	**19**	**25**		**11**	**7.8**	**42**	**41**	**850**	**37**
1,2-Dichloropropane	1												
Bromodichloromethane	50 GV												
4-Methyl-2-Pentanone	**												
Toluene	5 POS			2.9 J						1.7 J			
t-1,3-Dichloropropene	0.4*												
cis-1,3-Dichloropropene	0.4*												
1,1,2-Trichloroethane	1			**6.5**									
2-Hexanone	50 GV												
Dibromochloromethane	50 GV												
Tetrachloroethene	5 POS		1.6 J	**190**	1.8 J	1.7 J				16	2.2 J	**270**	
Chlorobenzene	5 POS												
Ethyl Benzene	5 POS			1.1 J									
m/p-Xylenes	5 POS			2.9 J									
o-Xylene	5 POS			1.2 J									
Styrene	5 POS	1.3 J											
Bromoform	50 GV												
1,1,2,2-Tetrachloroethane	5 POS												
TOTAL	**	314.9	277.68	83683.6	326.9	291.3	69	202.7	477.4	5373	300.97	25072.2	74.8

Notes:
Groundwater standards from NYSDEC TOGS 1.1.1, GA standards.
**: No standard referenced.
Results in ug/L (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.

TABLE 5
DEEP GROUNDWATER ANALYTICAL RESULTS
BULOVA CORPORATION
Jackson Heights, NY

Compound	NYS GW Standard	GW-18 47'-49' 04/29/04	GW-19 47'49' 04/30/04	GW-20 47'-49' 05/03/04	GW-21 49'-51' 05/04/04	GW-22 47'-49' 05/10/04	GW-25 47'-49' 05/12/04	GW-26 47'-49' 05/13/04	GW-27 47'-49' 05/14/04
Chloromethane	**								
Vinyl Chloride	2					**3.6 J**			
Bromomethane	5 POS								
Chloroethane	5 POS		14	**6.4**	2.9 J				
1,1-Dichloroethene	5 POS	**3.4 J**	**54**	2.7 J	**15**		**13**	**32**	**9.3**
Acetone	50 GV			25 J	48				28
Carbon Disulfide	**					8.9			
Methylene Chloride	5 POS				1.3 J				
trans-1,2-Dichloroethene	5 POS								
1,1-Dichloroethane	5 POS	**11**	**77**	**47**	**93**	**170**	**89**	**26**	**53**
2-Butanone	**	4.3 J		3.4 J	8.7 J				
Carbon Tetrachloride	5								
cis-1,2-Dichloroethene	5 POS	3.5 J	4.8 J	2.8 J	3.8 J		2.7 J	10	**9.8**
Chloroform	7	0.75 J	1.5 J		2.2 J				
1,1,1-Trichloroethane	5 POS	**6.2**	**430 D**	**17**	**79**	**1.8 J**	**10**		**24**
Benzene	1								
1,2-Dichloroethane	0.6				**1.1 J**				**1.6 J**
Trichloroethene	5 POS	**13**	**20**	**7.9**	**7.9**				**8.9**
1,2-Dichloropropane	1								
Bromodichloromethane	50 GV								
4-Methyl-2-Pentanone	**	7.0 J							
Toluene	5 POS								1.2 J
t-1,3-Dichloropropene	0.4*								
cis-1,3-Dichloropropene	0.4*								
1,1,2-Trichloroethane	1								
2-Hexanone	50 GV	7.3 J			4.1 J				
Dibromochloromethane	50 GV								
Tetrachloroethene	5 POS	0.86 J	1.1 J	1.2 J					
Chlorobenzene	5 POS								
Ethyl Benzene	5 POS						2.9 J		1.9 J
m/p-Xylenes	5 POS								
o-Xylene	5 POS								0.79 J
Styrene	5 POS	0.95 J							
Bromoform	50 GV								
1,1,2,2-Tetrachloroethane	5 POS								
TOTAL	**	58.26	602.4	113.4	267	184.3	117.6	68	138.49

Notes:
Groundwater standards from NYSDEC TOGS 1.1.1, GA standards.
**: No standard referenced.
Results in ug/L (ppb)
Bold = Exceeds the applicable NYS groundwater standard/GV.
J = Concentration identified is estimated.
D = Concrentration identifed is from diluted sample.

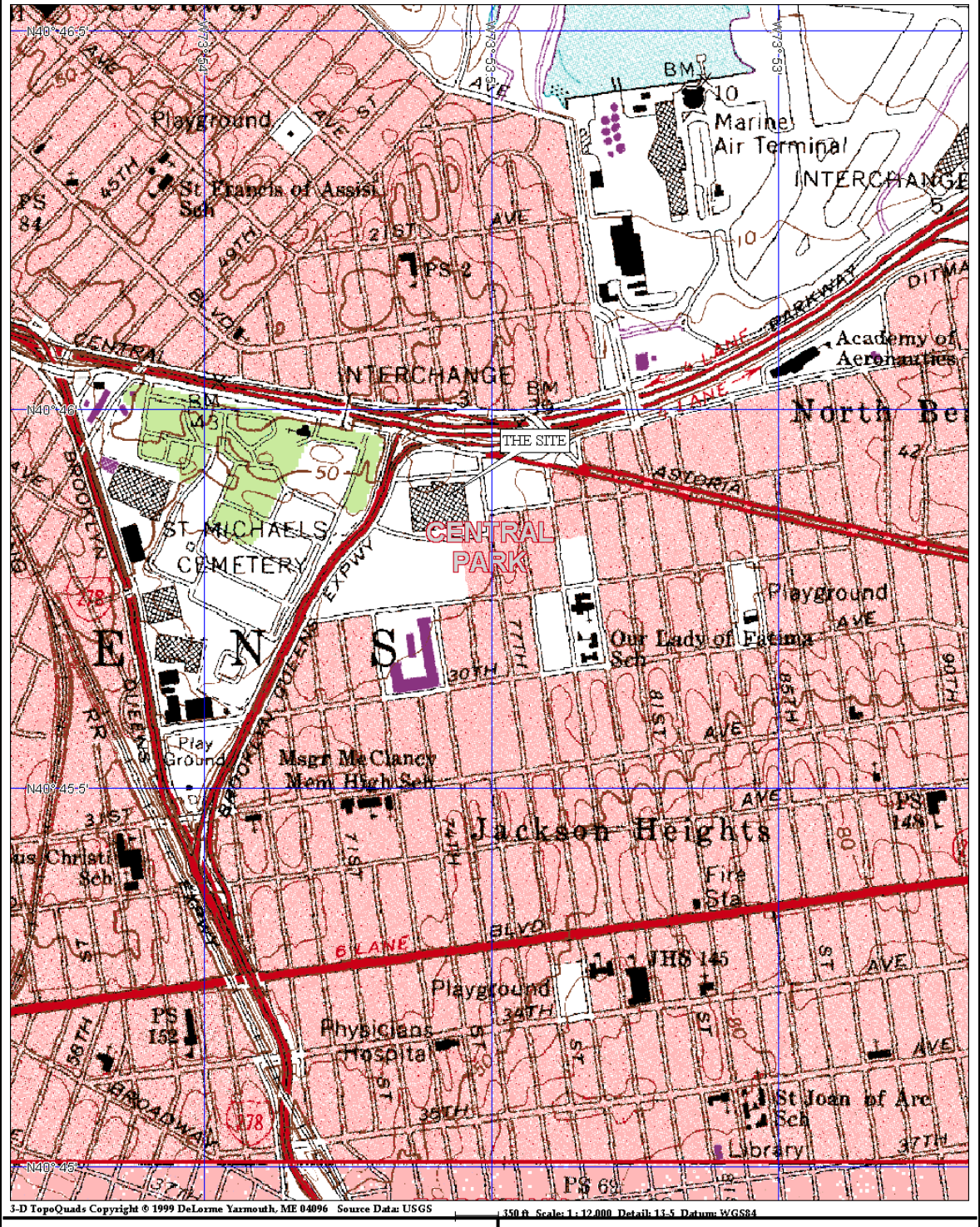
TABLE 6
SOIL GAS ANALYTICAL RESULTS
JULY 29, 2002

Bulova Corporation
75-20 Astoria Boulevard
Jackson Heights, NY

Sample ID	SGP-1		SGP-2		SGP-3		SGP-4		SGP-5		SGP-6					SGP-7		SGP-8		SGP-9		SGP-10		Ambient	Ambient
Depth	5'	10'	5'	10'	5'	10'	5'	10'	5'	10'	5'	5' (Dup)	5'	10'	10'	5'	10'	5'	10'	5'	10'	5'	10'		
COMPOUND	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	7/29/02	1/29/03	7/29/02	1/29/03	1/29/03	1/29/03	1/29/03	1/29/03	1/29/03	1/29/03	1/29/03	1/29/03	7/29/02	1/29/03
Freon 12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**75**	**83**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	**28**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**	**340**	**220**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ND	**53**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	**840**	**2000**	**770**	**2300**	**580**	**2700**	**760**	**220**	ND	ND	ND	ND	**1200**	**10000**	**12000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	**42**	ND	**35**	ND	**25**	ND	ND	ND	ND	ND	ND	**44**	**450**	**460**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**34**	**56**	ND	**76**	**45**	**120**	ND	ND	ND	ND	ND	ND	ND	ND	**57**	ND	**68**	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	**620**	**880**	**710**	**750**	**250**	**1200**	**260**	**120**	**48**	ND	ND	ND	**480**	**6300**	**5400**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**21**	**29**	**20**	**30**	**20**	**26**	**32**	**62**	**44**	**37**	**25**	**25**	**16**	ND	ND	ND	**17**	ND	**22**	ND	ND	**16**	**15**	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**160**	**160**	**74**	**120**	ND	**100**	**33**	ND	ND	ND	ND	ND	**190**	**1500**	**2100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	**170**	**210**	**160**	**210**	**170**	**230**	**190**	**260**	**200**	**220**	**180**	**180**	**32**	**180**	**38**	**50**	**39**	**39**	**39**	**41**	ND	**31**	**44**	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	**37**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**74**	**220**	**510**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21**	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**54**	ND	ND
Ethyl Benzene	**53**	**56**	**44**	**58**	**43**	**49**	**37**	**52**	**42**	**42**	**50**	**46**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**27**	ND	ND	ND
m,p-Xylene	**210**	**220**	**170**	**230**	**170**	**190**	**140**	**210**	**180**	**150**	**190**	**180**	**50**	**130**	ND	**48**	**32**	**23**	**34**	**31**	ND	**60**	ND	ND	ND
o-Xylene	**91**	**92**	**74**	**100**	**66**	**77**	**47**	**84**	**71**	**56**	**75**	**72**	ND	**58**	ND	ND	ND	ND	ND	ND	ND	**19**	ND	ND	ND
Styrene	ND	ND	**26**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	**44**	**43**	**32**	**57**	**41**	**43**	ND	**45**	**35**	**29**	**41**	**37**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	**150**	**160**	**120**	**180**	**160**	**160**	**86**	**170**	**140**	**93**	**160**	**140**	ND	**92**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
a-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	ND	**35**	ND	ND	ND	ND	**130**	**440**	**180**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	**130**	**150**	**90**	**180**	**120**	**82**	**180**	**350**	**140**	**340**	**310**	**300**	**84**	**140**	**120**	**260**	**160**	**110**	**350**	**100**	ND	**60**	**73**	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**380**	ND	**840**	**460**	**1500**	**1000**	**1500**	**1200**	**45**	**180**	**960**	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl Ethyl Ketone)	ND	ND	ND	ND	ND	ND	ND	ND	ND	**80**	**64**	**58**	ND	ND	**63**	ND	**78**	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	**110**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**74**	ND	ND	**1600**	ND	ND	ND
Tetrahydrofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	**220**	**350**	**220**	**340**	**200**	**360**	**160**	**240**	**220**	**290**	**230**	**220**	ND	**370**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	ND	**95**	ND	**110**	**93**	**98**	ND	**100**	ND	ND	**95**	**92**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**48**	**44**	**43**	ND	ND	ND	ND	ND	ND	ND	ND	ND	66	43	ND	ND
Methyl tert-Butyl Ether	ND	**110**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total	**2853**	**4769**	**2547**	**4776**	**1958**	**5460**	**2055**	**2353**	**1300**	**1385**	**1464**	**1393**	**2570**	**19855**	**21828**	**881**	**1816**	**1172**	**2097**	**1372**	**45**	**2059**	**1210**	**0**	**0**

Notes:
1) Samples analyzed in accordance with EPA Method TO-14.
2) All results reported in micrograms per cubic meter (ug/m3).
3) ND - Not detected at or above laboratory detection limit.

FIGURES



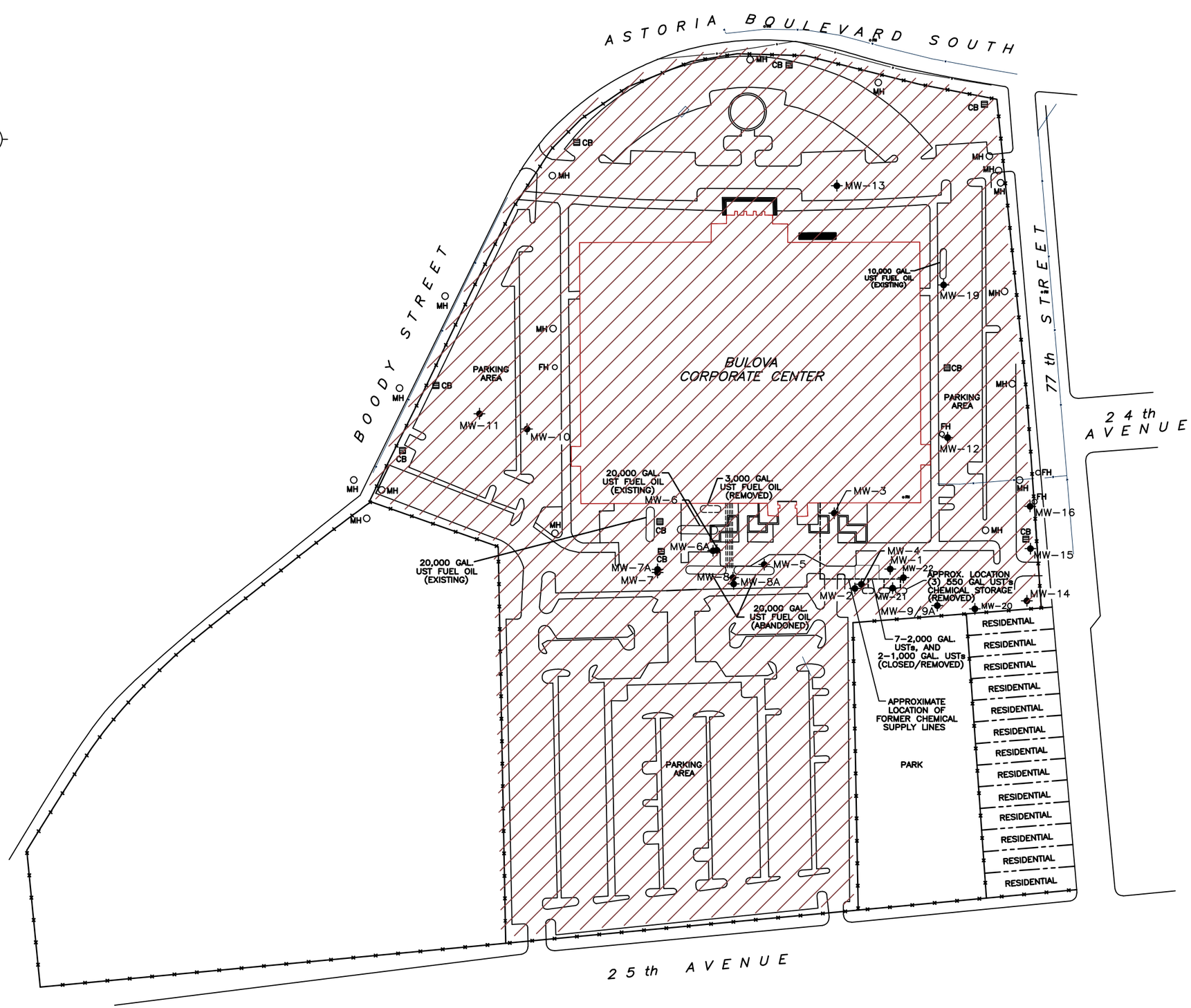
Scale: 1:12,000

Reference:
DeLorme 3-D Topo Quads
Yarmouth, Me.
1999
Datum WGS84

Figure 1
Site Location Map

75-20 Astoria Blvd.
Jackson Heights, New York

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
New Rochelle, NY	TS/ED/SSH 12-20-01	E. Gustafson 07/21/04	E. Gustafson 11/10/04	821687-FIG2



LEGEND

- MONITORING WELL
- SOIL BORING
- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CHAIN LINK FENCE
- AREA COVERED UNDER THE VOLUNTARY CLEANUP APPLICATION
- PROPERTY BOUNDARY (APPROXIMATE) *(CHAIN LINK FENCE)*

SCALE

0 140 280 FEET

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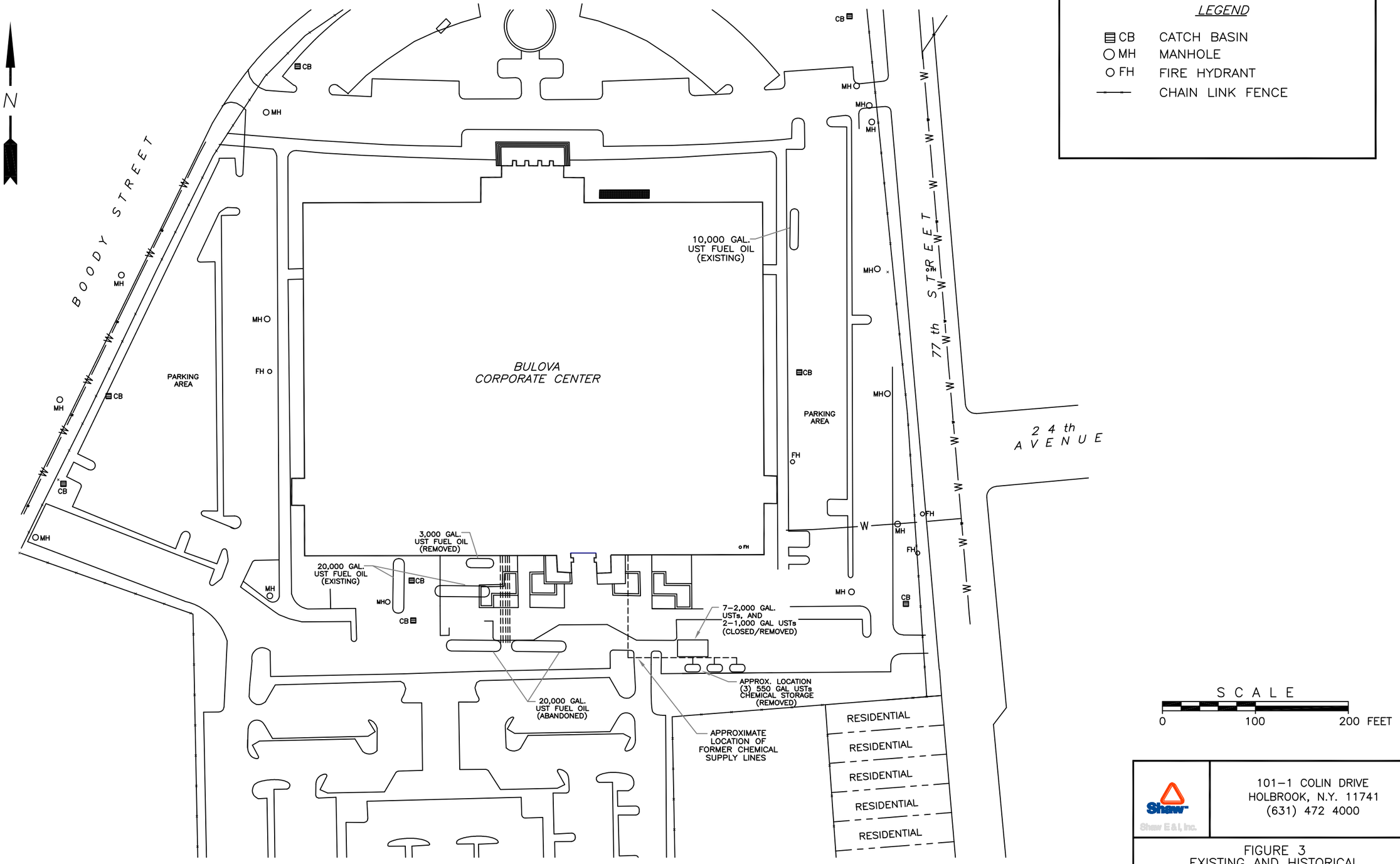
HOLBROOK, N.Y. 11741
(631) 472 4000

FIGURE 2
VOLUNTARY CLEANUP AREA

BULOVA CORPORATE CENTER
75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

XREF Files: IMAGE Files:
File: N:\Bulova\821687-FIG2.dwg
Plot Date/Time: Nov 10, 2004 - 11:01am
Plotted By: randy.tagoff



OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
HOLBROOK, NY	TS/ED 07/13/04	E. Gustafson 07/13/04	E. Gustafson 07/13/04	821687B32

0:\FORMATS\lt-b1-r.dwg Image: .
Plot Date/Time: 06/05/00 09:46am Xref: .
Format Revised: 12/15/99

Shaw E & I, Inc.

101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(631) 472 4000

FIGURE 3
EXISTING AND HISTORICAL
UNDERGROUND STORAGE TANKS
BULOVA CORPORATE CENTER
75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
HOLBROOK, NY	TS/ED	09/25/03	S. Goldberg	09/25/03	S. Goldberg	09/25/03	821687-FIG4

XREF Files:
IMAGE Files:
File: N:\Bulova\821687-FIG4.dwg
Plot Date/Time: Nov 10, 2004 - 10:59am
Plotted By: randy.tagoff

N

BOODY STREET

77th STREET

24th AVENUE

BULOVA CORPORATE CENTER

PARKING AREA

PARKING AREA

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

MW-10

MW-11

MW-12

MW-13

MW-14

MW-15

MW-16

MW-17

MW-18

MW-19

MW-1

MW-2

MW-3

MW-4

MW-5

MW-6

MW-6A

MW-7

MW-7A

MW-8

MW-8A

MW-9/9A

MW-20

MW-21

MW-22

MW-23

MW-24

MW-25

MW-26

MW-26R

MW-27

MW-28

SGP-1

SGP-2

SGP-3

SGP-4

SGP-5

SGP-6

SGP-7

SGP-8

SGP-9

SGP-10

10,000 GAL. UST FUEL OIL (EXISTING)

3,000 GAL. UST FUEL OIL (REMOVED)

20,000 GAL. UST FUEL OIL (EXISTING)

20,000 GAL. UST FUEL OIL (ABANDONED)

7-2,000 GAL. USTs, AND 2-1,000 GAL. USTs (CLOSED/REMOVED)

APPROX. LOCATION (3) 550 GAL UST's CHEMICAL STORAGE (REMOVED)

CB

MH

FH

W

OFH

LEGEND

- PROPOSED MONITORING WELL
- SOIL GAS LOCATION
- MONITORING WELL
- FORMER MONITORING WELL
- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CHAIN LINK FENCE

SCALE

0 100 200 FEET

Shaw

Shaw E & I, Inc.

101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(631) 472 4000

FIGURE 4
MONITORING WELL
AND SOIL GAS SAMPLE LOCATIONS
BULOVA CORPORATE CENTER
75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
HOLBROOK, NY	TS/ED 09/03/03	E. Gustafson 09/03/03	E. Gustafson 07/20/04	821687-FIG5

XREF Files: IMAGE Files:
File: N:\Bulova\821687-FIG5.dwg
Plot Date/Time: Nov 10, 2004 - 10:58am
Plotted By: randy.tagoff

N

BOODY STREET

77th STREET

24th AVENUE

BULOVA CORPORATE CENTER

PARKING AREA

PARKING AREA

10,000 GAL. UST FUEL OIL (EXISTING)

3,000 GAL. UST FUEL OIL (REMOVED)

20,000 GAL. UST FUEL OIL (EXISTING)

20,000 GAL. UST FUEL OIL (ABANDONED)

7-2,000 GAL. USTs, AND 2-1,000 GAL. USTs (CLOSED/REMOVED)

APPROX. LOCATION (3) 550 GAL UST's CHEMICAL STORAGE (REMOVED)

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-6A MW-7 MW-7A MW-8 MW-8A MW-9/9A MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-23 MW-24 MW-25 MW-26 MW-27

SGP-1 SGP-2 SGP-3 SGP-4 SGP-5 SGP-6 SGP-7 SGP-8 SGP-9 SGP-10

CB MH FH W

LEGEND

- SOIL GAS LOCATION
- MONITORING WELL
- FORMER MONITORING WELL
- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CHAIN LINK FENCE

SCALE

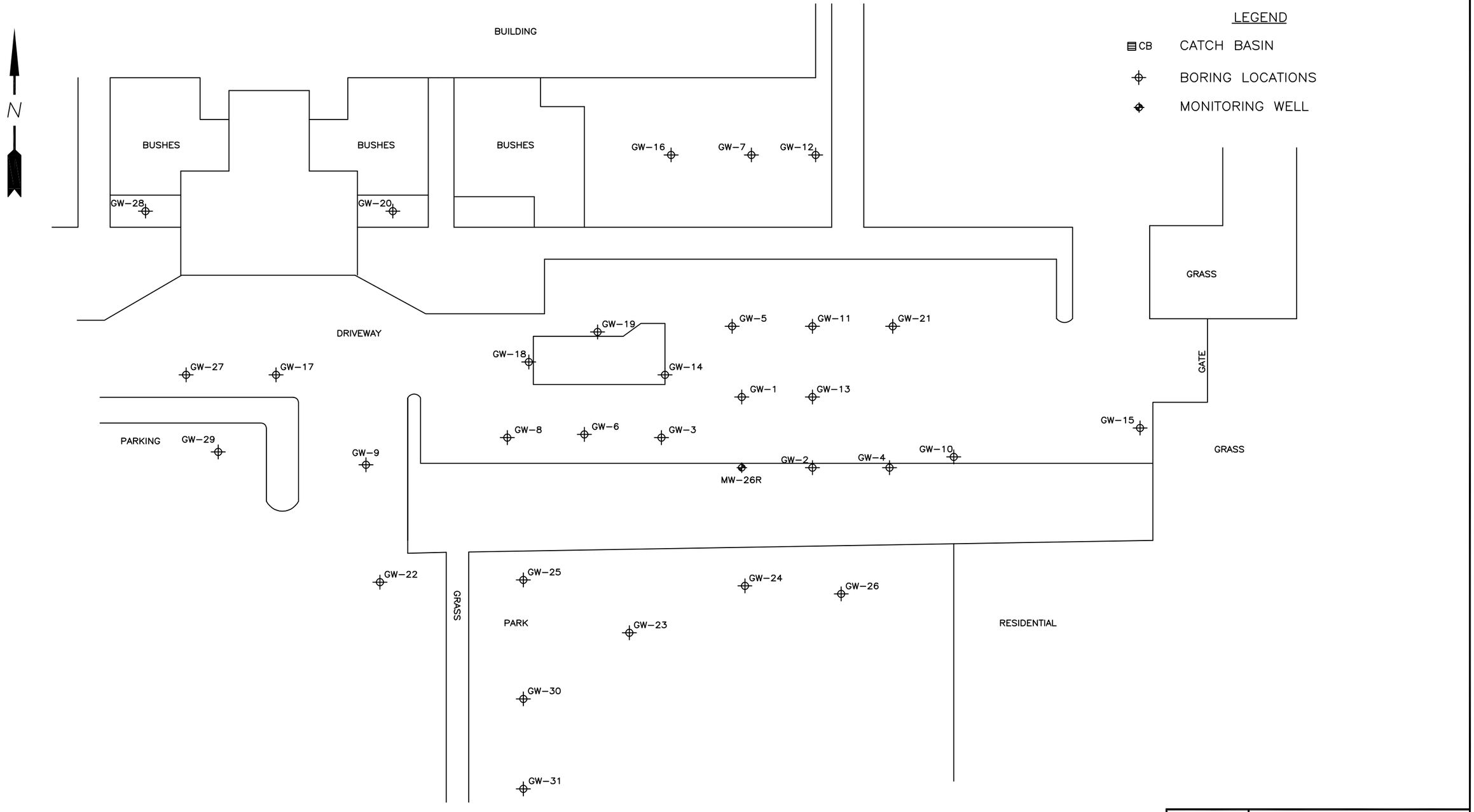
0 100 200 FEET

Shaw E&I, Inc.

101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(631) 472 4000

FIGURE 5
GROUNDWATER CONTOUR MAP
APRIL 2003
BULOVA CORPORATE CENTER
75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY	JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	R. Tagoff	821687	E. Gustafson	E. Gustafson	821687-FIG6



Shaw
Shaw E & I, Inc.

101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(631) 472-4000

FIGURE 6
LOCATION OF GW SERIES BORINGS MARCH-MAY 2004

BULOVA #821687
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY		JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	6/15/04	821687	E. Gustafson	E. Gustafson	821687-FIG7

N

BUILDING

BUSHES

BUSHES

BUSHES

GRASS

GATE

GRASS

DRIVEWAY

PARKING

GRASS

PARK

RESIDENTIAL

GW-12		
SGW	SOIL	DGW
15'-25'	29'-31'	47'-49'
570	0.0	202.7

GW-16		
SGW	SOIL	DGW
16'-26'	30'-32'	47'-49'
628,062	406	25,072.2

GW-7		
SGW	SOIL	DGW
15'-25'	25'-27'	47'-49'
39.39	46	666.7

GW-28		
SGW	SOIL	DGW
12'-22'	22'-24'	–
11	0.0	–

GW-20		
SGW	SOIL	DGW
16'-26'	24'-26'	47'-49
4,079	1,128	113.4

GW-19			
SGW	SOIL		DGW
16'-26'	5'-7'	28'-30'	47'-49'
140,149	384.6	12,295.8	602.4

GW-11						
SGW	SOIL			DGW		
15'-25'	30'-32'	50'-52'	47'-49'		60'-62'	68'-70'
4/14/04	4/19/04	5/5/04	4/19/04	5/5/04	5/5/04	5/6/04
372.8	163.3	0.0	83,683.6	326.9	291.3	69

GW-21		
SGW	SOIL	DGW
16'-26'	30'-32'	49'-51'
64.5	93	267

GW-17		
SGW	SOIL	DGW
16'-26'	20'-22'	47'-49
47,285,5	1,031,500	74.8

GW-27		
SGW	SOIL	DGW
14'-24'	16'-18'	47'-49'
550.31	0.0	138.49

GW-18		
SGW	SOIL	DGW
16'-26'	20'-22'	47'-49
43,260	6,932	58.26

GW-5			
SGW	SOIL		DGW
15'-25'	25'-27'	35'-37'	47'-49
4,679.4	614.2	43.1	533.4

GW-13		
SGW	SOIL	DGW
16'-26'	30'-32'	47'-49
4,080.5	279.3	477.4

GW-15		
SGW	SOIL	DGW
16'-26'	24'-26'	47'-49
97.5	0.0	300.97

GW-14		
SGW	SOIL	DGW
16'-26'	20'-22'	47'-49
500,497.1	17,508.4	5,373

GW-1		
SGW	SOIL	DGW
15'-25'	20'-22'	49'-51'
3,252.7	1,885.3	261.5

GW-10		
SGW	SOIL	DGW
15'-25'	25'-27'	47'-49'
481.74	427.3	277.68

GW-29		
SGW	SOIL	DGW
16'-26'	18'-20'	–
475.3	0.0	–

GW-6		
SGW	SOIL	DGW
15'-25'	25'	49'-51'
4,319.6	5,100	693.3

GW-3		
SGW	SOIL	DGW
15'-25'	25'	49'-51'
78,947	177,280	530.5

MW-26R			
SGW	SOIL	DGW	
15'-25'	25'	10/28/03	3/8/04
3,058.1	2,005.5	15,189.2	2,353.6

GW-2		
SGW	SOIL	DGW
15'-25'	25'	47'-49'
3,319.8	2,159.9	426.9

GW-4		
SGW	SOIL	DGW
15'-25'	15'-17'	47'-49'
638.6	735.8	57.7

GW-9			
SGW	SOIL		DGW
15'-25'	25'	30'-32'	49'-51'
1,137.4	1,272	1,643.2	314.9

GW-8					
SGW	SOIL		DGW		
15'-25'	25'	60'-62'	47'-49'	57'-59'	66'-68'
315,660	2,127,000	44	8,156.9	101.14	13,053.3

GW-22		
SGW	SOIL	DGW
16'-26'	22'-24'	47'-49
262.2	87	184.3

GW-31		
SGW	SOIL	DGW
16'-26'	26'-28'	–
18.3	928.9	–

GW-25		
SGW	SOIL	DGW
16'-26'	26'-28'	47'-49
356,382	1,810	117.6

GW-30		
SGW	SOIL	DGW
16'-26'	26'-28'	–
79,911	0.0	–

GW-23		
SGW	SOIL	DGW
16'-26'	16'-18'	–
323.29	16	–

GW-24		
SGW	SOIL	DGW
16'-26'	18'-20'	–
1,231.1	69.1	–

GW-26		
SGW	SOIL	DGW
16'-26'	20'-22'	47'-49
83.05	5.8	68

LEGEND

- BORING LOCATIONS
- MONITORING WELL
- SGW SHALLOW GROUNDWATER
- DGW DEEP GROUNDWATER

GW-26	BORING ID
SGW	MEDIA
16'-26'	SAMPLE INTERVAL
83.05	TOTAL VOCs

NOTES:

1) SGW AND DGW CONCENTRATIONS IN ug/L

2) SOIL CONCENTRATIONS IN ug/Kg

SCALE

0 30 60 FEET

SCALE: 1"=30'

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(631) 472-4000

FIGURE 7
ANALYTICAL SUMMARY FOR SOIL AND GROUNDWATER MARCH-MAY 2004

BULOVA CORPORATE CENTER
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY		PM	Appvd. By	JOB No.	DRAWING NUMBER
---	Holbrook	E. Dunseath	6/15/04	E. Gustafson	E. Gustafson	821687	821687-FIG8

N

BUILDING

BUSHES

BUSHES

BUSHES

GW-12
29'-31'
ND
ND

GW-16
30'-32'
32
330

GW-7
25'-27'
8.5
ND

GW-28
22'-24'
ND
ND

GW-20
24'-26'
540
210

GW-19 *
5'-7' | 28'-30'
ND | 2,000
ND | 8,700

GW-11
30'-32' | 50'-52'
34 | ND
45 | ND

GW-21
30'-32'
ND
ND

GRASS

GW-27
16'-18'
ND
ND

GW-17
20'-22'
8,700
1,000,000

DRIVEWAY

GW-18
20'-22'
670
4,400

GW-5
25'-27' | 35'-37'
310 | ND
ND | 18

GW-13
30'-32'
83
36

GW-15
24'-26'
ND
ND

GATE

GW-14
20'-22'
370
15,000

GW-1
20'-22'
1,300
130

GW-10
25'-27'
380
ND

PARKING

GRASS

GW-29
18'-20'
ND
ND

GW-9
25' | 30'-32'
350 | 940
870 | 390

GW-6
25'
2,700
2,400

GW-3
25'
6,300
170,000

MW-26R
25'
1,500
ND

GW-2
25'
2,000
ND

GW-4
15'-17'
9.5
ND

GW-8 *
25' | 60'-62'
11,000 | 27
2,100,000 | 17

GW-22
22'-24'
87
ND

GRASS

GW-25
26'-28'
310
1,500

PARK

GW-23
16'-18'
ND
ND

GW-24
18'-20'
46
ND

GW-26
20'-22'
ND
ND

RESIDENTIAL

GW-30
26'-28'
ND
ND

GW-31
26'-28'
850
32

SCALE
0 30 60 FEET
SCALE: 1"=30'

LEGEND

BORING LOCATIONS

MONITORING WELL

GW-24 / 18'-20' / 46 / ND — BORING ID / DEPTH IN FT / DCA CONCENTRATION / TCA CONCENTRATION

NOTES:

1) ALL CONCENTRATIONS IN ug/Kg (PPB)

2) ND – NON DETECTED

3) * – RESULTS FOR SAMPLES ABOVE OR BELOW SILT/CLAY LAYER

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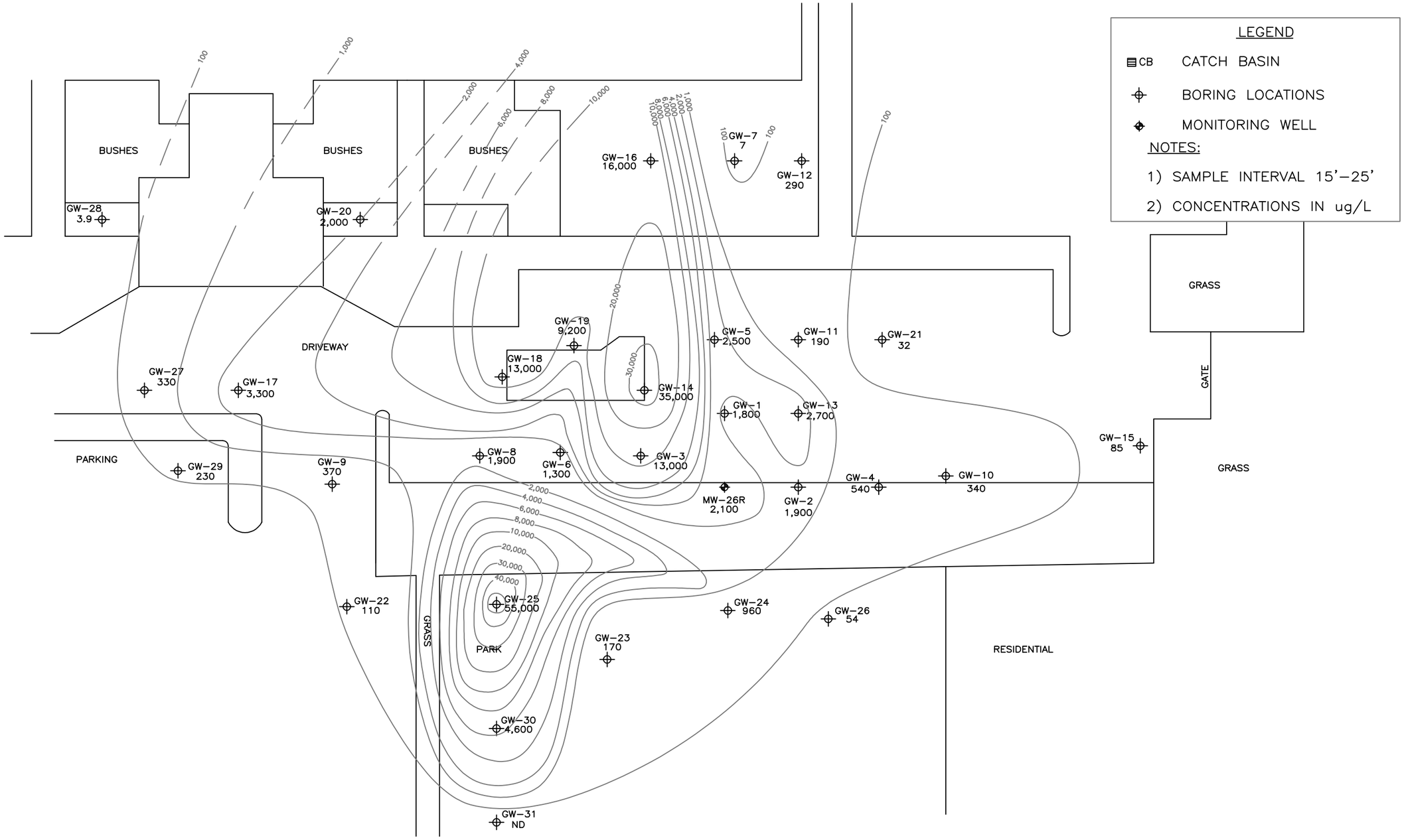
(631) 472-4000

FIGURE 8
SOIL ANALYSIS OF 1,1-DCA AND 1,1,1-TCA WITHIN SILT/CLAY LAYER MARCH-MAY 2004

BULOVA CORPORATE CENTER
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

DRAWING NUMBER	821687-FIG9
Appvd. By	E. Gustafson
PM	E. Gustafson
JOB No.	821687
DRAWN BY	E. Dunseath 7/014/04
OFFICE	Holbrook
X-REF	---



LEGEND

CB CATCH BASIN

BORING LOCATIONS

MONITORING WELL

NOTES:

1) SAMPLE INTERVAL 15'–25'

2) CONCENTRATIONS IN ug/L

SCALE

0 30 60 FEET

SCALE: 1"=30'

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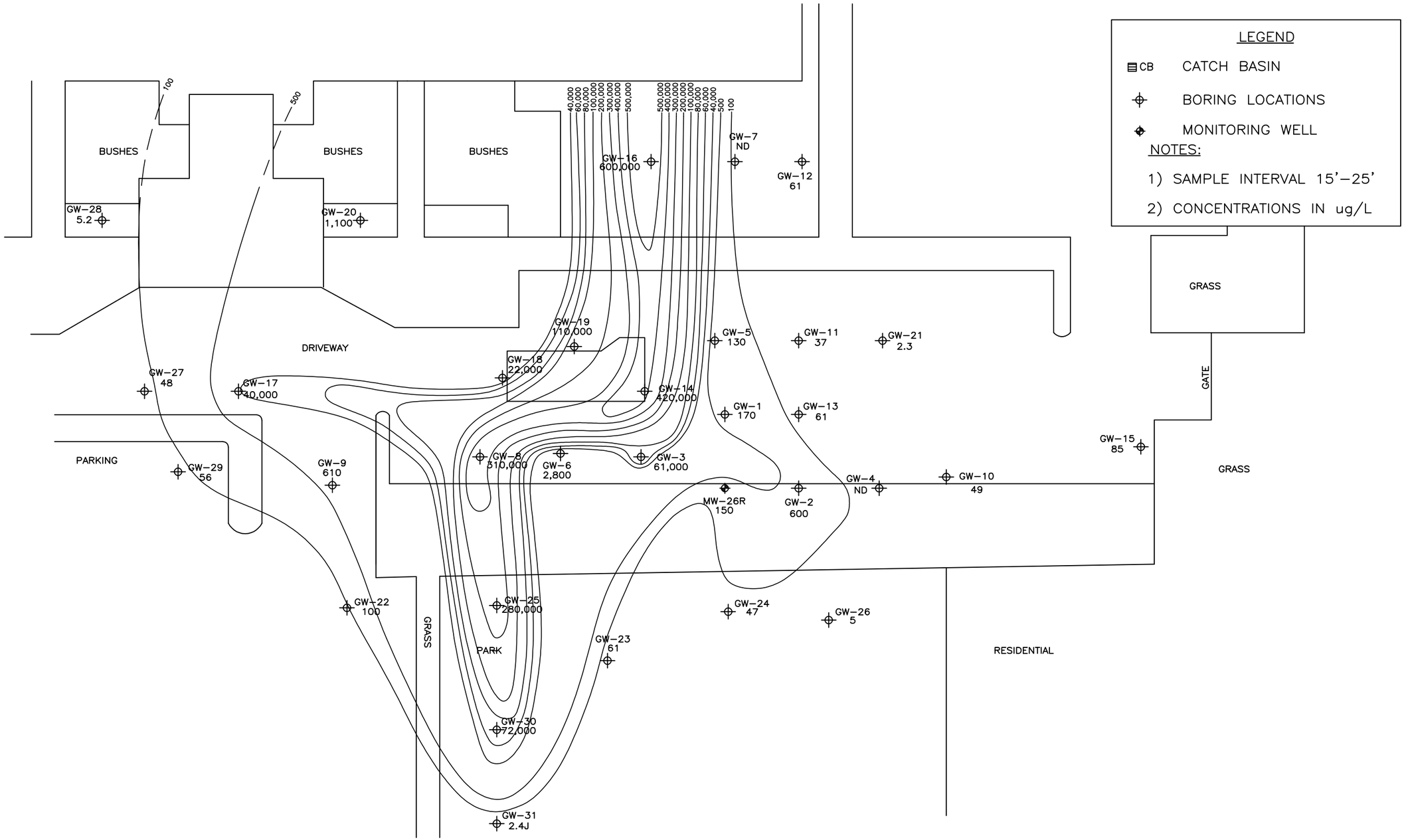
FIGURE 9
1,1–DCA IN SILT/CLAY GROUNDWATER MARCH–MAY 2004

BULOVA CORPORATE CENTER
75–20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY		JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	7/014/04	821687	E. Gustafson	E. Gustafson	821687-FIG10



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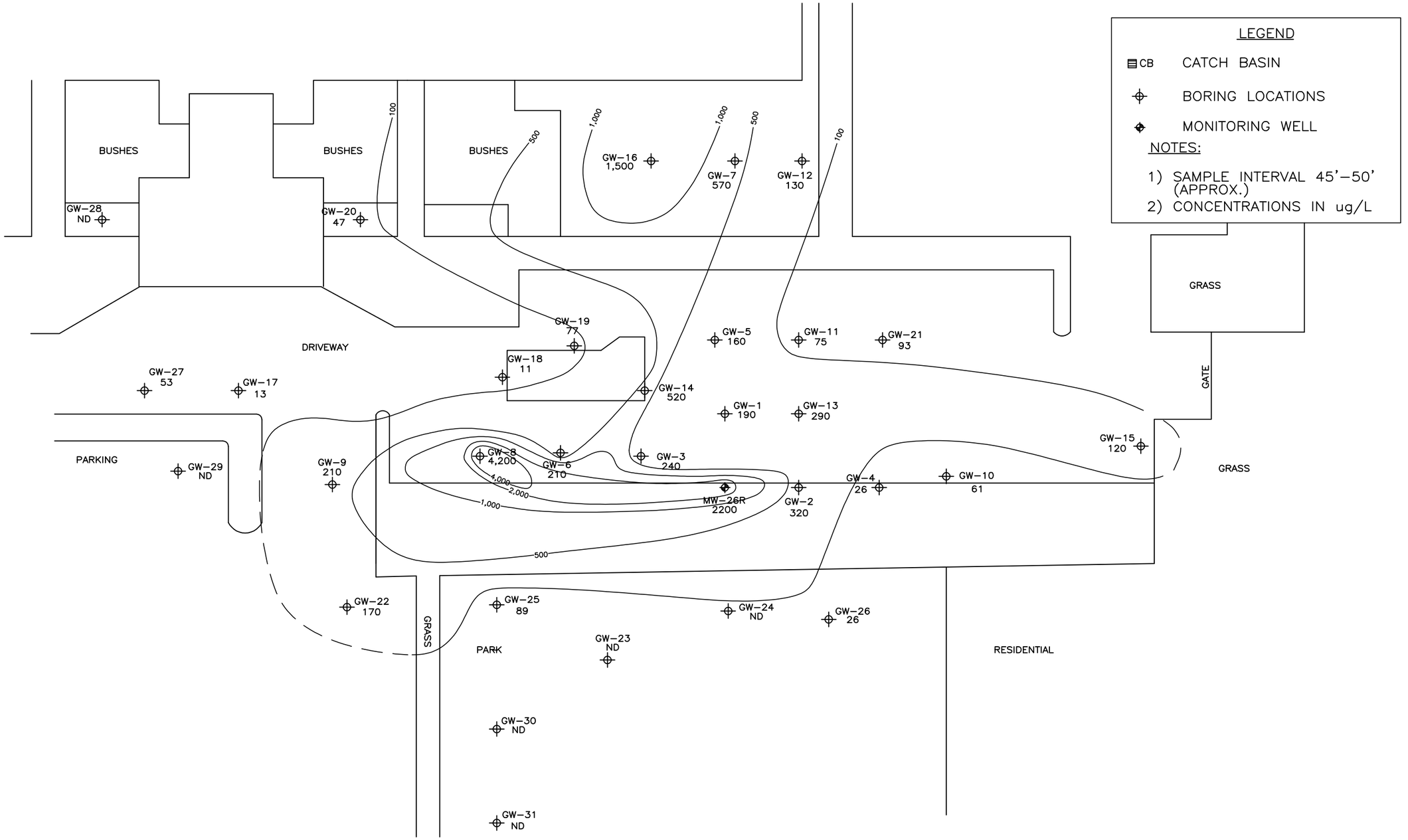
HOLBROOK, N.Y. 11741
(631) 472-4000

FIGURE 10
1,1,1-TCA IN SILT/CLAY GROUNDWATER MARCH-MAY 2004

BULOVA CORPORATE CENTER
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY		JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	7/015/04	821687	E. Gustafson	E. Gustafson	821687-FIG11



SCALE

0 30 60 FEET

SCALE: 1"=30'

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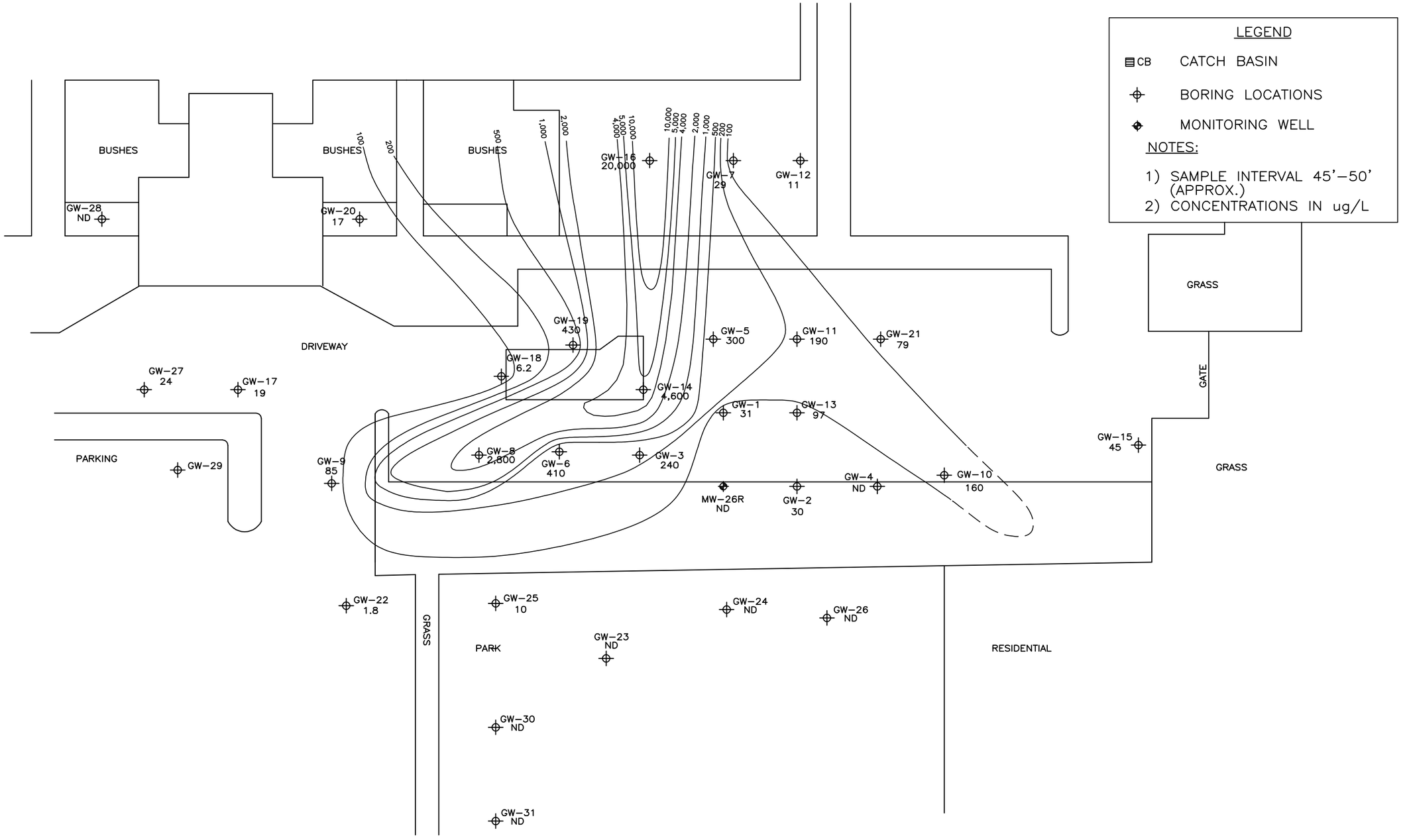
(631) 472–4000

FIGURE 11
1,1–DCA IN DEEP GROUNDWATER
MARCH–MAY 2004

BULOVA CORPORATE CENTER
75–20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY	JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	821687	E. Gustafson	E. Gustafson	821687-FIG12
		7/015/04				



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(631) 472–4000

FIGURE 12
1,1,1–TCA IN DEEP GROUNDWATER MARCH–MAY 2004

BULOVA CORPORATE CENTER
75–20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

DRAWING NUMBER	821687-FIG13
Appvd. By	E. Gustafson
PM	E. Gustafson
JOB No.	821687
DRAWN BY	E. Dunseath 7/014/04
OFFICE	Holbrook
X-REF	---

LEGEND

CB CATCH BASIN

BORING LOCATIONS

MONITORING WELL

BUSHES

BUSHES

BUSHES

GW-16 GW-7 GW-12

GW-28 GW-20

B

GRASS

GATE

DRIVEWAY

GW-19 GW-5 GW-11 GW-21

GW-18 GW-14

GW-27 GW-17

GW-1 GW-13

GW-15

GW-8 GW-6

PARKING

GW-3

GRASS

GW-29 GW-9

GW-2 GW-4 GW-10

MW-26R

A'

A

GW-22

GW-25

GW-24

GW-26

GRASS

PARK

GW-23

RESIDENTIAL

GW-30

B'

GW-31

SCALE

0 30 60 FEET

SCALE: 1"=30'

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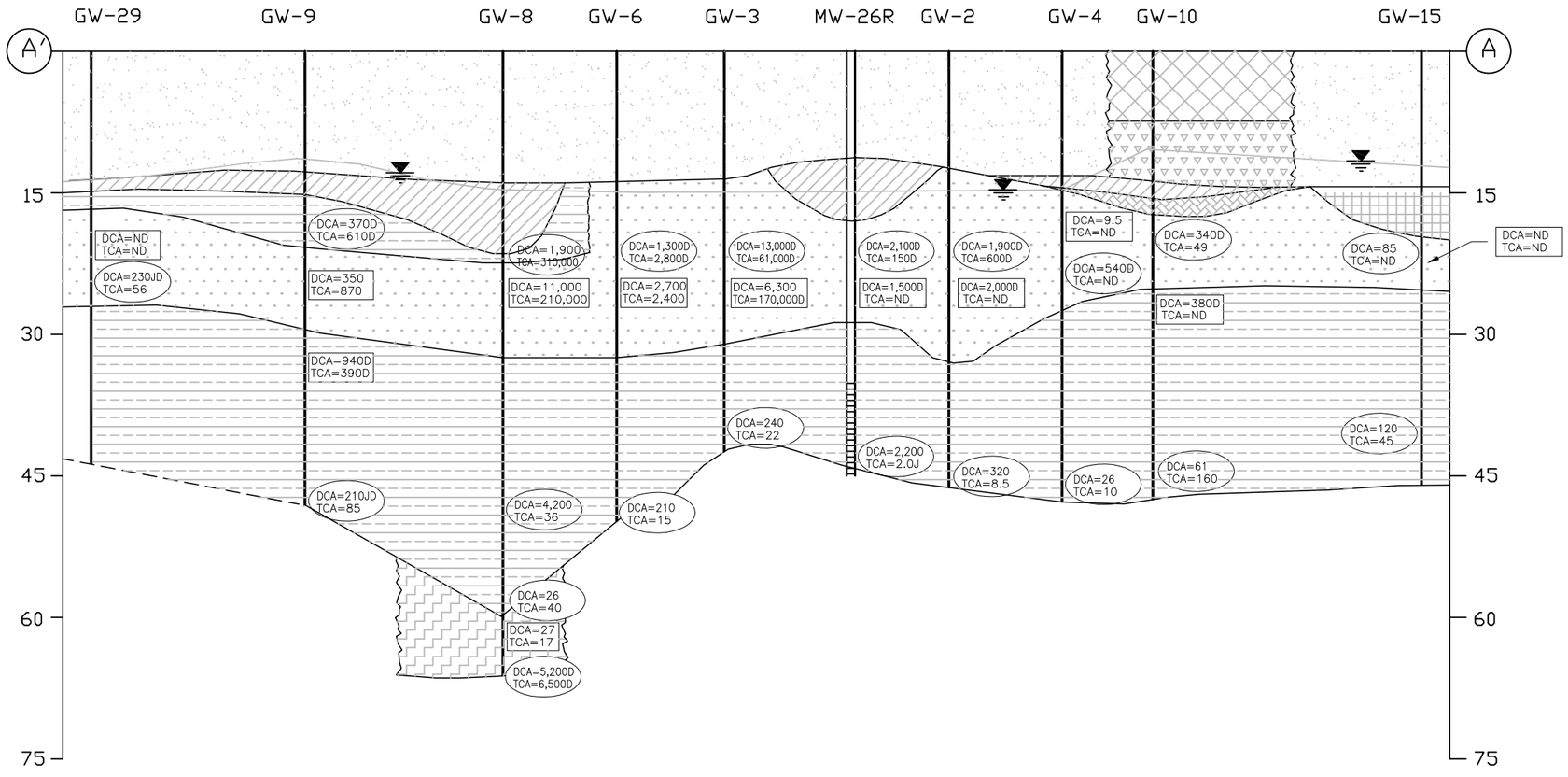
(631) 472-4000

FIGURE 13
LOCATION OF CROSS SECTIONS
MARCH-MAY 2004
BULOVA #821687
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

X-REF	OFFICE	DRAWN BY		JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	7/19/04	821687	E. Gustafson	E. Gustafson	821687-FIG14



HORIZONTAL SCALE

0 30 60 FEET

VERTICAL SCALE

0 15 30 FEET

LEGEND

- FILL: BROWN OR ORANGE/BROWN MEDIUM TO FINE SAND, SOME SILT AND GRAVEL. CONTAINS BRICK AND GRAVEL.
- BLACK OR GRAY/BLACK CLAYEY SILT.
- GRAYISH BROWN OR GREENISH GRAY FINE SAND, SOME SILT.
- BROWN FINE SAND WITH SOME SILT.
- GRAYISH BROWN SILT WITH SOME CLAY.
- GREENISH GRAY AND ORANGE/BROWN INTERBEDDED SILT.
- DARK YELLOW/BROWN FINE SAND.
- GRAYISH BROWN SILT WITH SOME SAND.
- GREENISH GRAY SILT, SOME CLAY.
- DCA=2,700 TCA=2,400 — SOIL ANALYTICAL DATA.
- DCA=340D TCA=49 — GROUNDWATER ANALYTICAL DATA.
- GW-10 — SOIL BORING LOCATION
- GROUNDWATER TABLE
- INFERRED
- GROUNDWATER MONITORING WELL LOCATION

DCA=1,1-DICHLOROETHANE
TCA=1,1,1-TRICHLOROETHANE
J=ESTIMATED CONCENTRATION
ND=NOT DETECTED
D=CONCENTRATION REPORTED FROM DILUTED SAMPLE.
ALL RESULTS IN PARTS PER BILLION (ppb).

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101-1 COLIN DRIVE
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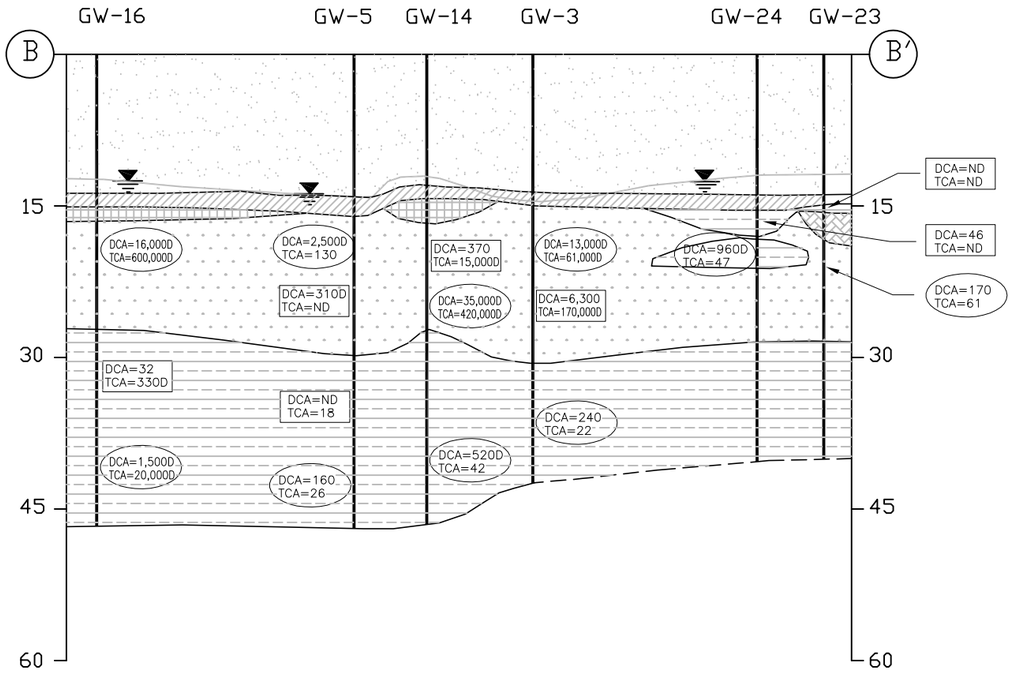
(631) 472-4000

FIGURE 14
STRATIGRAPHIC CROSS SECTION A-A'
MARCH-MAY 2004

BULOVA CORPORATE CENTER
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK



HORIZONTAL SCALE

0 30 60 FEET

VERTICAL SCALE

0 15 30 FEET

LEGEND

- FILL: BROWN OR ORANGE/BROWN MEDIUM TO FINE SAND, SOME SILT AND GRAVEL. CONTAINS BRICK AND GRAVEL.
- BLACK OR GRAY/BLACK CLAYEY SILT.
- GRAYISH BROWN OR GREENISH GRAY FINE SAND, SOME SILT.
- BROWN FINE SAND WITH SOME SILT.
- GRAYISH BROWN SILT WITH SOME CLAY.
- GREENISH GRAY AND ORANGE/BROWN INTERBEDDED SILT.
- DARK YELLOW/BROWN FINE SAND.
- GRAYISH BROWN SILT WITH SOME SAND.
- GREENISH GRAY SILT, SOME CLAY.
- DCA=2,700 TCA=2,400 — SOIL ANALYTICAL DATA.
- DCA=340D TCA=49 — GROUNDWATER ANALYTICAL DATA.
- INFERRED
- GROUNDWATER TABLE
- GW-14 — SOIL BORING LOCATION

DCA=1,1-DICHLOROETHANE
TCA=1,1,1-TRICHLOROETHANE
J=ESTIMATED CONCENTRATION
ND=NOT DETECTED
D=CONCENTRATION REPORTED FROM DILUTED SAMPLE.
ALL RESULTS IN PARTS PER BILLION (ppb).

X-REF	OFFICE	DRAWN BY		JOB No.	PM	Appvd. By	DRAWING NUMBER
---	Holbrook	E. Dunseath	07/20/04	821687	E. Gustafson	E. Gustafson	821687-FIG15

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FIGURE 15
STRATIGRAPHIC CROSS SECTION B-B'
MARCH-MAY 2004
BULOVA CORPORATE CENTER
75-20 ASTORIA BLVD
JACKSON HEIGHTS, NEW YORK

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
HOLBROOK, NY	TS/ED 02/27/03	E. Gustafson 03/03/03	E. Gustafson 03/03/03	821687-FIG16

N

BOODY STREET

77th STREET

24th AVENUE

BULOVA CORPORATE CENTER

PARKING AREA

PARKING AREA

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

RESIDENTIAL

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-6A MW-7 MW-7A MW-8 MW-8A MW-9/9A MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-23 MW-24 MW-25 MW-27

CB MH FH

10,000 GAL. UST FUEL OIL (EXISTING)

3,000 GAL. UST FUEL OIL (REMOVED)

20,000 GAL. UST FUEL OIL (EXISTING)

20,000 GAL. UST FUEL OIL (ABANDONED)

7-2,000 GAL. USTs, AND 2-1,000 GAL USTs (CLOSED/REMOVED)

APPROX. LOCATION (3) 550 GAL UST's CHEMICAL STORAGE (REMOVED)

LEGEND

- SOIL GAS LOCATION
- MONITORING WELL
- FORMER MONITORING WELL
- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CHAIN LINK FENCE

CONCENTRATIONS IN ug/m^3

SGP-1	WELL ID
7/29/02	5'
Vinyl Cl.	ND
1,1 DCE	ND
1,1 DCA	2.1
1,1,1 TCA	5.8
TCE	ND
PCE	ND
Total Xylene	100
TVOC	7.9

DATE/DEPTH
Vinyl Chloride
1,1 Dichloroethene
1,1 Dichloroethane
1,1,1 Trichloroethane
Trichloroethene
Tetrachloroethene
Total Xylene
Total VOCs

SGP-1		
7/29/02	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	28
1,1 DCA	840	2,000
1,1,1 TCA	620	880
TCE	160	160
PCE	ND	ND
Total Xylene	301	312
TVOC	2,853	4,769

SGP-2		
7/29/02	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	770	2,300
1,1,1 TCA	710	750
TCE	74	120
PCE	37	ND
Total Xylene	244	330
TVOC	2,547	4,776

SGP-3		
7/29/02	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	580	2,700
1,1,1 TCA	250	1,200
TCE	ND	100
PCE	ND	ND
Total Xylene	236	267
TVOC	1,958	5,460

SGP-4		
7/29/02	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	760	220
1,1,1 TCA	260	120
TCE	33	ND
PCE	ND	ND
Total Xylene	187	294
TVOC	2,055	2,353

SGP-5		
7/29/02	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	ND	ND
1,1,1 TCA	48	ND
TCE	ND	ND
PCE	ND	ND
Total Xylene	251	206
TVOC	1,300	1,385

SGP-7		
1/29/03	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	ND	ND
1,1,1 TCA	ND	ND
TCE	ND	ND
PCE	ND	ND
Total Xylene	48	32
TVOC	881	1,816

SGP-8		
1/29/03	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	ND	ND
1,1,1 TCA	ND	ND
TCE	ND	ND
PCE	ND	ND
Total Xylene	23	34
TVOC	1,172	2,097

SGP-9		
1/29/03	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	ND	ND
1,1,1 TCA	ND	ND
TCE	ND	ND
PCE	ND	ND
Total Xylene	31	ND
TVOC	1,372	45

SGP-10		
1/29/03	5'	10'
Vinyl Cl.	ND	ND
1,1 DCE	ND	ND
1,1 DCA	ND	ND
1,1,1 TCA	ND	ND
TCE	ND	ND
PCE	ND	ND
Total Xylene	79	ND
TVOC	2,059	1,210

SGP-6	7/29/02		1/29/03	
	5'	10'	5'	10'
Vinyl Cl.	ND	ND	ND	ND
1,1 DCE	ND	340	20	220
1,1 DCA	ND	10,000	1,200	12,000
1,1,1 TCA	ND	6,300	480	5,400
TCE	ND	1,500	190	2,100
PCE	ND	220	74	510
Total Xylene	265	188	ND	ND
TVOC	1,464	19,855	2,570	21,828

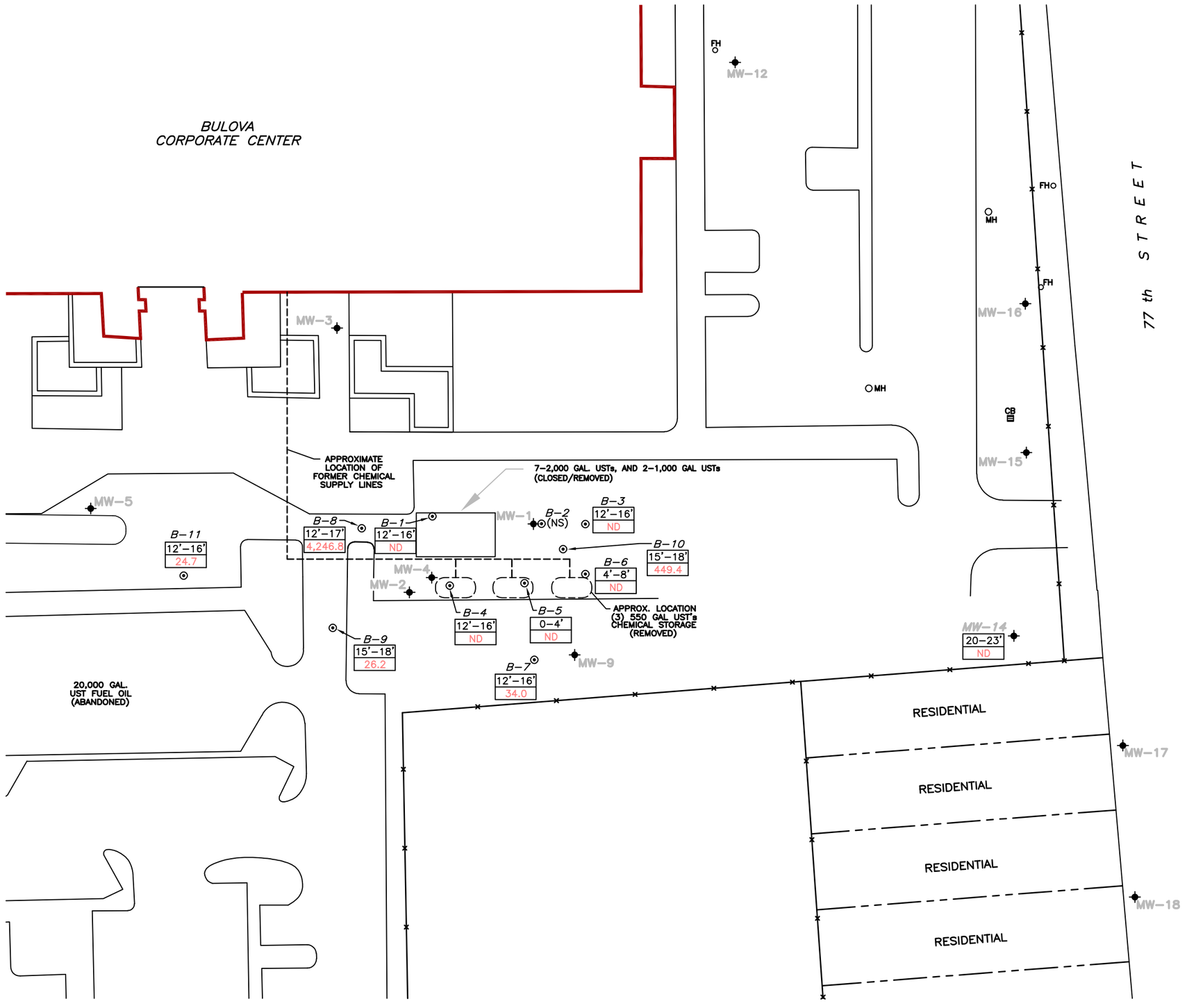
SCALE
0 100 200 FEET

Shaw
Shaw E&I, Inc.

101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(631) 472 4000

FIGURE 16
SOIL GAS ANALYTICAL RESULTS JULY 29, 2002 AND JANUARY 29, 2003
BULOVA CORPORATE CENTER
75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

XREF Files: IMAGE Files:
File: N:\Bulova\821687-FIG16.dwg
Plot Date/Time: Nov 10, 2004 - 11:02am
Plotted By: randy.tagoff



LEGEND

⊕	MONITORING WELL
⊙	SOIL BORING
CB	CATCH BASIN
MH	MANHOLE
FH	FIRE HYDRANT
-x-x-	CHAIN LINK FENCE
NS	NOT SAMPLED
ND	NOT DETECTED

DATA BOX LEGEND

B-10	BORING ID#
15-18'	SAMPLE DEPTH
449.4	TOTAL VOC's (ug/kg)

FDGTI
101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(516) 472-4000

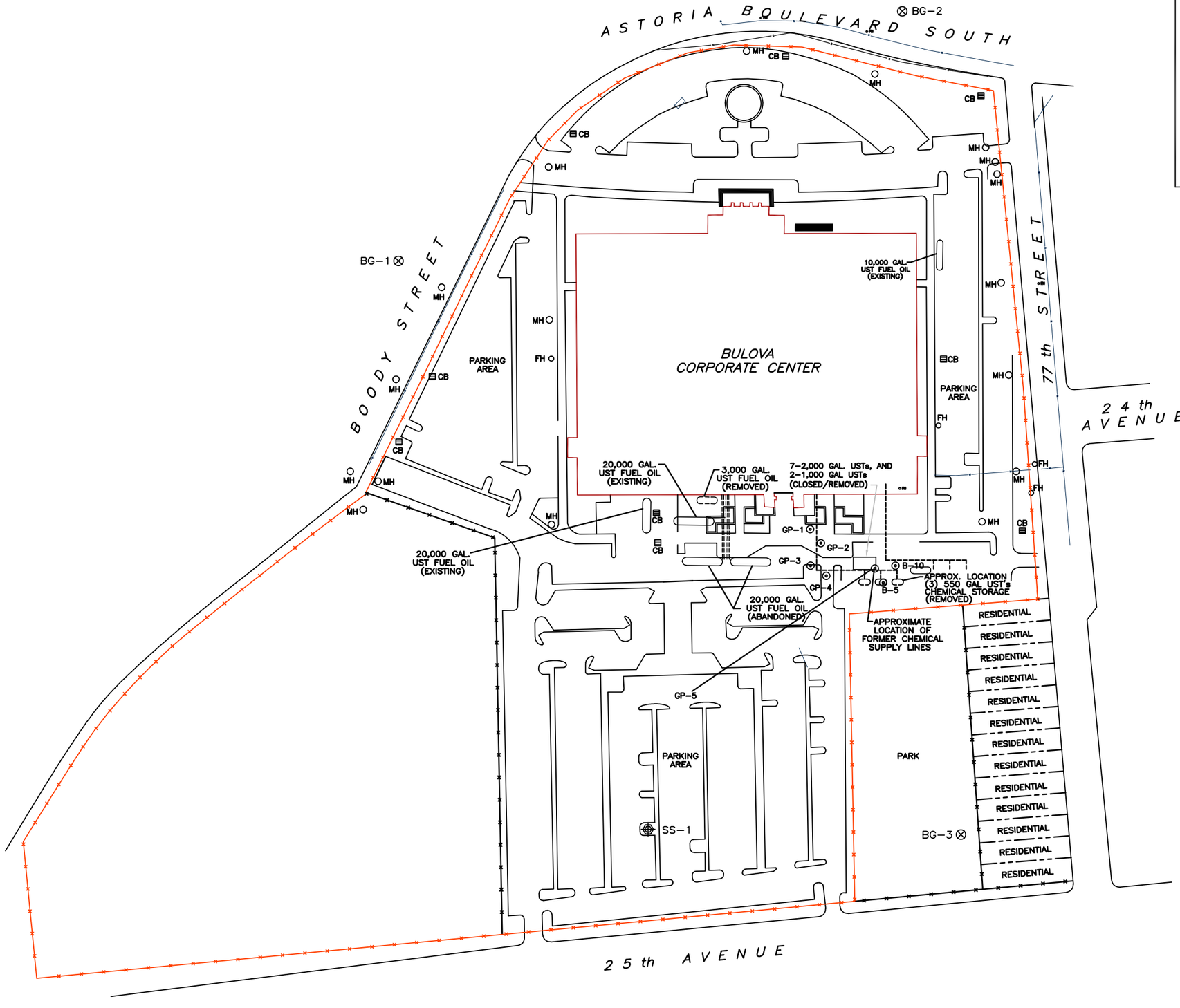
REV. NO.:	DRAWING DATE:	ACAD FILE:
1	2/16/99	0114SAD

SOIL ANALYTICAL DATA
NOVEMBER 7, 8 AND 11, 1996

CLIENT: BULOVA CORPORATION	PM:
LOCATION: BULOVA CORPORATE CENTER 75-20 ASTORIA BOULEVARD JACKSON HEIGHTS, NEW YORK	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
TS	AT	01113-0114	17

XREF Files: IMAGE Files:
File: N:\Bulova\821687-FIG17.dwg
Plot Date/Time: Nov 10, 2004 - 10:56am
Plotted By: randy.tagoff



LEGEND

- SURFICIAL SOIL SAMPLE
- SOIL BORING LOCATION
- BACKGROUND SAMPLE
- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CHAIN LINK FENCE
- PROPERTY BOUNDARY (APPROXIMATE) *(CHAIN LINK FENCE)*

SCALE

0 140 280 FEET

IT CORPORATION

BULOVA CORPORATE CENTER

FIGURE 18
BORING LOCATIONS
FEBRUARY 15 AND 16, 2001

75-20 ASTORIA BOULEVARD
JACKSON HEIGHTS, NEW YORK

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
New Rochelle, NY	TS/ED/SSH 12-20-01	E. Gustafson 11/10/04	E. Gustafson 11/10/04	821687-FIG18

XREF Files:
IMAGE Files:
File: N:\Bulova\821687-FIG18.dwg
Plot Date/Time: Nov 10, 2004 - 11:03am
Plotted By: randy.tagoff

APPENDIX A

BORING LOGS

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-1**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/1/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-1(15'-25') and GW-1 (49'-51'); collected soil sample GW-1(20'-22')Soil.

10"augers drilled to 20'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
					Fill	Hand dig to 5 feet-fill.
5	5.7	5'-7' 25%	1 1 2 6		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick.
10	6.4	10'-12' 10%	9 10 9 4		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick.
15 ▽	10.6	15'-17' 25%	5 7 7 15		Fill OL ML	Fill-Orange brown fine Sand and silt, little fine gravel, brick. Wood fragments mixed with black Silt. Gray black clayey Silt, banded.
20	21.8	20'-22' 75%	5 8 13 15		ML CL	Grayish brown Silt, some fine sand and clay. Grayish brown silty Clay.
25	19.8	25'-27' 50%	9 9 9 17		ML	Grayish brown silty Clay grading into grayish brown Silt, some fine sand and clay.
30	31.3	30'-32' 75%	10 20 40 40		CL ML SM	Grayish brown silty Clay. Grayish brown Silt, some clay, little fine sand, little black and reddish brown clayey silt. Grayish brown fine Sand, some silt.
35	12.8	35'-37' 50%	32 45 50 50		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
40	4.5	40'-42' 100%	15 38 38 38		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
45	2.2	45'-47' 25%	15 25 55 55		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E & I, Inc.

Soil Boring GW-2

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Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No.: 821687

Surface Elev.: NA | Total Hole Depth: 47.0 ft. | North: | East:

Top of Casing: NA | Water Level Initial: ▽ 15.0 ft. | Static: NA | Diameter: 9 in./16 in.

Screen: Dia: NA | Length: NA | Type/Size: NA

Casing: Dia: NA | Length: NA | Type: NA

Fill Material: Grout | Rig/Core: Canterra

Drill Co.: Fenley & Nicol Enviro, Inc. | Method: HSA

Driller: C. Guzzardo | Log By: J. Ferngren | Date: 3/3/04 | Permit #: NA

Checked By: E. Gustafson | License No.:

COMMENTS

Collected water samples GW-2 (15'-25') and GW-2 (47'-49'); collected soil sample GW-2 (25').

10" augers drilled to 25'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Grass Hand dig 5 feet-fill.
5	3.7	5'-7' 25%	6 9 9 6		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick.
10	0.4	10'-12' 15%	5 9 9 7		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick.
15 ▽	0.0	15'-17' 10%	9 2 3 2		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick.
20	0.0	20'-22' 50%	12 20 18 12		Fill	Fill-Orange brown fine Sand and silt, little fine gravel, brick grading into grayish brown fine sand, some silt, little fine gravel.
25	14.2	25'-27' 50%	9 5 10 18		SM	Grayish brown clayey Silt.
30	0.0	30'-32' 25%	9 15 30 40		CL	Grayish brown silty Clay grading into grayish brown fine sand, some silt.
35	0.0	35'-37' 50%	15 18 10 12		SM	Grayish brown fine Sand, some silt, little fine gravel and clay.
40	0.0	40'-42' 40%	15 18 10 12		SM	Grayish brown fine Sand, some silt, little fine gravel.
45	0.0	45'-47' 75%	12 16 29 36		SM	Grayish brown fine and medium Sand, some silt, little fine gravel.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Soil Boring **GW-3**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North ____ East ____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/4/04* Permit # *NA*

Checked By *E. Gustafson* License No. ____

COMMENTS

Collected water samples GW-3 (15'-25') and GW-3 (49'-51'); collected soil sample GW-3 (25').

10" augers drilled to 20".

4 1/4" augers drilled to 47'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt Break through 6 inches asphalt. Hand dig 5 feet.
5	6.8	5'-7' 25%	6 6 8 6		SM	Fill-orange brown fine Sand and silt, little fine gravel, brick.
10	8.8	10'-12' 25%	7 6 6 4		SM	Fill-orange brown fine Sand and silt, little fine gravel, brick.
15 ▽	23.7	15'-17' 50%	4 3 7 10		ML	Grayish brown clayey Silt, little fine sand with band of black clayey silt in middle, strong odor, saturated.
20	53.7	20'-22' 65%	9 10 10 8		ML	Grayish brown clayey Silt, little fine sand.
25	97.5	25'-27' 50%	3 10 25 14		ML	Grayish brown clayey Silt.
30		30'-32' 0%	5 8 14 16			No recovery.
35	9.8	35'-37' 25%	9 23 32 30		SM	Grayish brown fine Sand, some silt.
40	0.0	40'-42' 10%	22 26 27 50		SM	Grayish brown fine Sand, some silt.
45		45'-47' 0%	10 18 32 20			No recovery.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I Inc.

Soil Boring GW-4

Project Bulova Corporate Center — Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 — Proj. No. 821687

Surface Elev. NA — Total Hole Depth 47.0 ft. — North — East —

Top of Casing NA — Water Level Initial ▽ 15.0 ft. — Static NA — Diameter 9 in./16 in.

Screen: Dia NA — Length NA — Type/Size NA

Casing: Dia NA — Length NA — Type NA

Fill Material Grout — Rig/Core Canterra

Drill Co. Fenley & Nicol Enviro, Inc. — Method HSA

Driller C. Guzzardo — Log By J. Ferngren — Date 3/5/04 — Permit # NA

Checked By E. Gustafson — License No. —

COMMENTS

Collected water samples GW-4(15'-25') and GW-4 (47'-49'); collected soil sample GW-4(15'-17')Soil.

10" augers drilled to 20'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Grass Hand dig 5 feet-fill.
5	9.9	5'-7' / 50%	5 6 6 6		SM	Fill-Orange brown fine Sand and silt with black fragments.
10	0.0	10'-12' / 25%	16 11 13 12		SM	Fill-Crushed quartzite, light brown Silt.
15 ▽	9.1	15'-17' / 75%	5 9 11 12		SM CL ML	Grayish brown silty Clay, little fine sand. Black clayey Silt, little fine sand. Grayish green clayey Silt.
20	8.6	20'-22' / 50%	6 7 13 12		ML	Grayish brown Silt, some fine sand and clay, few fine gravel.
25	0.7	25'-27' / 75%	16 20 40 12		ML	Grayish brown clayey Silt.
30	0.0	30'-32' / 10%	3 16 17 40		SM	Grayish brown silty fine Sand.
35	0.0	35'-37' / 40%	12 26 26 38		SM	Grayish brown fine Sand and some silt, few fine gravel.
40	0.0	40'-42' / 50%	22 43 46 85		SM	Grayish brown fine and medium Sand, little silt grading into grayish brown fine Sand, some silt.
45	0.0	45'-47' / 75%	12 27 48 95		SM	Grayish brown fine Sand, some silt, few fine gravel.
50						

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-5**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/9/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-515'-25') and GW-5 (47'-49').; collected soil samples GW-5(25'-27')Soil and GW-5(35'-37')Soil.

10" augers drilled to 20'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig 5 feet-fill.
5	0.0	5'-7' 15%	9 2 3 5		SM	Fill-Orange brown fine Sand and silt, brick fragments.
10	0.0	10'-12' 10%	56 25 35 10		SM	Brick fragments.
15 ▽	6.9	15'-17' 50%	3 4 8 15		SM CL ML	Fill. Black silty Clay. Grayish green clayey Silt.
20	0.9	20'-22' 10%	6 4 6 12		CL	Grayish brown silty Clay.
25	0.9	25'-27' 40%	6 4 6 12		CL	Grayish brown silty Clay.
30	9.6	30'-32' 65%	15 12 15 40		ML SM	Grayish brown Silt, some clay. Grayish brown fine Sand, some silt.
35	34.3	35'-37' 50%	20 20 25 30		SM	Grayish brown fine Sand, some silt.
40	0.0	40'-42' 50%	12 20 28 35		SM	Grayish brown fine Sand, some silt.
45	0.0	45'-47' 50%	16 28 32 40		SM	Grayish brown fine Sand, some silt.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Soil Boring **GW-6**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/10/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-6 (15'-25') and GW-6 (49'-51'); collected soil sample GW-6 (25').

10" auger drilled to 20'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig 5 feet-fill.
5	0.9	5'-7' / 15%	6 9 6 6		SM	Fill-Orange brown fine Sand and silt, little fine gravel.
10	3.1	10'-12' / 25%	12 10 13 6		SM	Fill-Orange brown fine Sand and silt, little fine gravel.
15 ▽	10.6	15'-17' / 25%	10 10 9 7		ML	Grayish brown clayey Silt, little fine sand.
20	19.7	20'-22' / 25%	20 12 6 9		SM	Grayish brown clayey Silt, little fine sand.
25	23.7	25'-27' / 65%	10 10 16 20		CL	Grayish brown silty Clay, little fine sand.
30	51.4	30'-32' / 10%	5 6 12 15		CL	Grayish brown Clay, some silt.
35	9.0	35'-37' / 25%	26 22 36 35		SM	Grayish brown fine Sand, some silt, little fine sand.
40		40'-42' / 0%	23 46 55 53			No recovery.
45	0.9	45'-47' / 25%	23 46 55 53		SM	Grayish brown fine to medium Sand, some silt few fine gravel.
50						

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-7**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North ____ East ____

Top of Casing *NA* Water Level Initial ▽ *22.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/12/04* Permit # *NA*

Checked By *E. Gustafson* License No. ____

COMMENTS

Collected water samples GW-7(15'-25') and GW-7 (47'-49'); collected soil sample GW-7(25'-27') Soil.

10" augers drilled to 25'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Grass Hand dig 5 feet-fill.
5	0.0	5'-7' / 5%	6, 8, 6, 9		Fill	Fragments of brick.
10		10'-12' / 0%	20, 20, 10, 23			No recovery.
15		15'-17' / 0%	43, 83, 28			No recovery. Brick and cobbles seen in augers when pulled.
20 ▽	0.0	20'-22' / 25%	32, 10, 12, 12		Fill SM SM	Fill-Brick with clay and fine sand. Black, green and brown fine Sand and silt. Grayish brown fine Sand, some silt.
25	10.2	25'-27' / 50%	18, 9, 10, 18		ML	Grayish brown Silt, some clay.
30	2.1	30'-32' / 10%	20, 16, 12, 32		ML	Grayish brown Silt, some clay.
35	0.0	35'-37' / 50%	5, 9, 22, 28		SM	Grayish brown fine Sand, some silt.
40	0.0	40'-42' / 50%	8, 16, 13, 27		SM	Grayish brown fine Sand, some silt, little fine gravel.
45		45'-47' / 0%	56, 38, 27, 49			No recovery.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-8**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *66.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/15/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-8 (15'-25') and GW-8 (47'-49'); collected soil sample GW-8 (25').

On 5/18/04 collected water samples GW-8VD(57'-59') and GW-8VD(66'-68'); collected soil sample GW-8VD(60'-62')Soil.

10" augers drilled to 25'.

4 1/4" augers drilled to 64'.

Split spoons collected from 55'-66' were collected using a 300 lb hammer.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig 5 feet-fill.
	0.0	5'-7' 25%			SM	Fill-Orange brown fine Sand and silt, with brick fragments.
10	1.0	10'-12' 50%			SM	Fill-Orange brown fine Sand and silt, with brick fragments.
▽	9.6	15'-17' 50%			ML	Grayish brown clayey Silt, little fine saturated sand.
20	9.7	20'-22' 25%			ML SM	Black and gray clayey Silt. Grayish brown fine Sand, some silt, mica flakes.
	61.3	25'-27' 75%			ML	Grayish brown Silt, some clay, mica flakes.
30	>2000	30'-32' 40%			ML	Grayish brown clayey Silt, some fine sand, few fine gravel.
	160	35'-37' 50%			SM	Grayish brown fine Sand, some silt, few fine gravel.
40	119	40'-42' 50%			SM	Grayish brown fine Sand, some silt.
	133	45'-47' 40%			SM	Grayish brown fine Sand, some silt, little fine gravel.
50						
	0.0	55'-57' 35%			SM	Grayish brown fine Sand, silt, few medium sand and fine gravel.
60	2.1	60'-62' 65%			SM ML ML	Grayish brown fine Sand, silt, few medium sand and fine gravel. Greenish gray Silt, mica flakes.
	2.3 0.0	62'-64' 15%			ML ML ML	Greenish gray Silt, some clay. Greenish gray Silt, some clay. Greenish gray Silt, mica flakes.
		64'-66' 75%				Light gray Silt, some very fine sand.
70						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-9**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in./16 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *3/17/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-9 (15'-25') and GW-9 (49'-51'); collected soil samples GW-9 (25') and GW-9 (30'-32')Soil.

10" augers drilled to 25'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig 5 feet-fill.
5	0.0	5'-7' / 10%	3 6 5 4		SM	Fill-Brown fine Sand and silt, brick and cobble fragments.
10 ▽	0.0	10'-12' / 15%	8 3 6 6		SM	Fill-Brown fine Sand and silt, brick and cobble fragments.
15	3.1	15'-17' / 100%	16 23 26 18		ML ML SM	Black clayey Silt. Gray, light green and black Silt, some clay meca flakes. Grayish brown fine Sand, some silt.
20		20'-22' / 0%	6 9 10 15			No recovery.
25	2.6	25'-27' / 75%	7 12 14 7		ML	Grayish brown Silt, some clay, little fine sand.
30	>2000	30'-32' / 35%	4 8 12		ML SM	Grayish brown clayey Silt. Grayish brown fine Sand, some silt, few fine gravel.
35	49.3	35'-37' / 25%	20 21 12 25		SM	Grayish brown fine Sand, some silt, few fine gravel, odor.
40	51.7	40'-42' / 35%	14 25 25 25		SM	Grayish brown fine Sand, some silt, few fine gravel, odor.
45	39.7	45'-47' / 25%	26 23 23 24		SM	Grayish brown fine Sand, some silt, few fine gravel, odor.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I Inc.

Soil Boring GW-10

Project Bulova Corporate Center | Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No. 821687

Surface Elev. NA | Total Hole Depth 47.0 ft. | North | East

Top of Casing NA | Water Level Initial ▽ 10.0 ft. | Static NA | Diameter 9 in.

Screen: Dia NA | Length NA | Type/Size NA

Casing: Dia NA | Length NA | Type NA

Fill Material Grout | Rig/Core Canterra

Drill Co. Fenley&Nicol Enviro., Inc. | Method HSA

Driller C. Guzzardo | Log By J. Ferngren | Date 4/13/04 | Permit # NA

Checked By E. Gustafson | License No.

COMMENTS

Collected water samples GW-10 (15'-25') and GW-10(47'-49'); collected soil sample GW-10 (25'-27')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	0.0	5'-7' 25%	9 9 9 4		SM	Dark yellowish brown fine Sand, some silt and clay, few fine gravel.
10 ▽	0.0	10'-12' 35%	4 5 5 4		ML	Grayish brown Silt, some fine sand and gravel, little medium sand and clay, saturated.
15	0.0	15'-17' 15%	5 6 10 15		ML / SM	Black clayey Silt. Brown fine Sand, some silt.
	0.0	17'-19' 65%	2 12 13 14		SM / ML	Grayish brown fine and medium Sand, some silt and coarse sand. Grayish brown Silt, some clay, little fine sand.
20	0.0	19'-21' 65%	6 9 13 10		ML	Grayish brown Silt, some clay, little fine sand.
	0.0	21'-23' 50%	3 7 11 10		ML	Grayish brown Silt, some clay and fine sand, grading into grayish brown clayey Silt.
25	0.0	23'-25' 65%	7 10 12 9		ML	Grayish brown clayey Silt, grading into grayish brown Silt, some clay and fine sand. Grayish brown Silt, some clay and fine sand.
	0.0	25'-27' 75%	12 26 26 20		ML / SM	Grayish brown clayey Silt. Grayish brown fine Sand, some medium sand and silt.
30		27'-29' 100%	100/2 in.			No recovery.
35	0.0	35'-37' 50%	57 28 28 42		SM	Grayish brown fine Sand, some medium sand and silt, little fine gravel.
40	0.0	40'-42' 65%	28 47 55 42		SM	Grayish brown fine Sand, some medium sand and silt, little fine gravel.
45	0.0	45'-47' 65%	20 36 45 55		SM	Grayish brown fine Sand, some medium sand and silt, little fine gravel.
50						

Drilling Log

Shaw E&I, Inc.

Soil Boring GW-11

Project: Bulova Corporate Center — Owner: Blumenfeld Development Group, Ltd.
Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 — Proj. No.: 821687
Surface Elev.: NA — Total Hole Depth: 47.0 ft. — North: — East: —
Top of Casing: NA — Water Level Initial: ▽ 12.0 ft. — Static: NA — Diameter: 9 in.
Screen: Dia: NA — Length: NA — Type/Size: NA
Casing: Dia: NA — Length: NA — Type: NA
Fill Material: Grout — Rig/Core: Canterra
Drill Co.: Fenley&Nicol Enviro., Inc. — Method: HSA
Driller: C. Guzzardo — Log By: J. Ferngren — Date: 4/14/04 — Permit #: NA
Checked By: E. Gustafson — License No.:

COMMENTS
Collected water samples GW-11 (15'-25'), GW-11 (47'-49'), GW-11(60'-62') and GW-11(68'-70'); collected soil samples GW-11 (30'-32')Soil and GW-11(50'-52').

4 1/4" augers drilled to 70'.

Split spoon collected from 65'-72' using a 300lb hammer.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5		5'-7' 0%	50/1 in			No recovery.
10	0.3	10'-12' 15%	6 10 23 24		FILL	Fill-Orange brown silty fine Sand, brick fragments.
	0.0	12'-14' 15%	6 10 50/1 in		FILL	Fill-Brick fragments, saturated.
15	0.0	14'-16' 15%	23 16 8 9		FILL	Fill-Orange brown silty fine and medium Sand, brick fragments.
	0.0	16'-18' 50%	10 9 10 12		FILL	Fill-Dark brown fine and medium Sand.
	0.0	18'-20' 40%	6 7 9 8		CL	Black silty Clay.
20	0.0	20'-22' 25%	7 8 10 15		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand.
	0.4	22'-24' 40%	11 10 14 6		ML	Grayish brown clayey Silt, little fine sand.
	0.0	24'-26' 25%	7 20 30 14		ML	Grayish brown clayey Silt.
25	1.8	26'-28' 50%	15 10 100/6 in		ML	Grayish brown Silt, some clay and few fine sand.
	2.2	28'-30' 15%	33 30 25 30		CL SM	Grayish brown clayey Silt.
30	0.2	30'-32' 65%	20 30 60		SM	Grayish brown Silt, some clay.
	0.3	35'-37' 50%	45 60 40 70		SM	Grayish brown silty Clay.
35		40'-42' 50%				Grayish brown silty Clay. Grayish brown fine Sand, some silt.
40						Grayish brown fine Sand, some medium sand and silt.
	2.1	45'-47' 50%	23 30 35 37		SM	Grayish brown fine Sand, some medium sand and silt.
45						Grayish brown fine Sand, some medium sand and silt.
50						

Continued Next Page

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-11**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
						Continued
50	1.4	50'-52' 65%	38 28 28 60/0 in.		SM	Grayish brown medium and fine Sand, little silt.
55	0.0	55'-57' 15%	70/5 in.		SM	Grayish brown medium and fine Sand, little silt.
60						
65	0.0	65'-67' 50%	4 13 37		SM	Brownish gray fine and medium Sand, some silt, little fine gravel.
70	0.0	70'-72' 50%	9 9 15		ML	Gray Silt, few fine sand.
75						
80						
85						
90						
95						
100						
105						
110						
115						

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-12**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North ____ East ____

Top of Casing *NA* Water Level Initial ▽ *19.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley&Nicol Enviro., Inc.* Method *HSA*

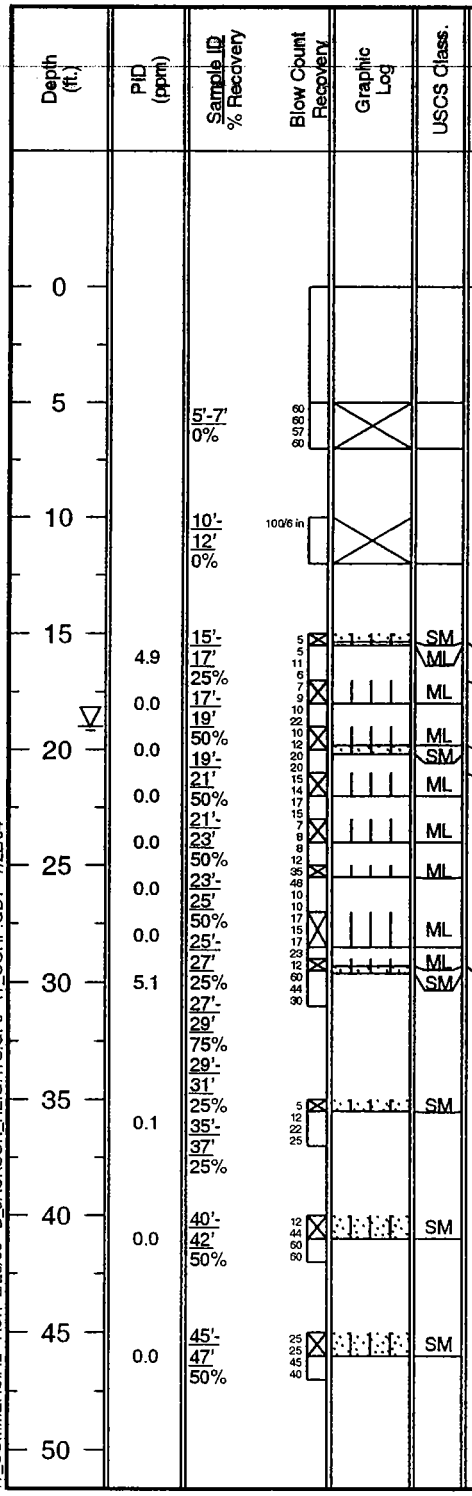
Driller *C. Guzzardo* Log By *J. Ferngren* Date *4/16/04* Permit # *NA*

Checked By *E. Gustafson* License No. ____

COMMENTS

Collected water samples GW-12 (15'-25') and GW-12(47'-49'); collected soil sample GW-12(29'-31)Soil.

4 1/4" augers drilled to 45'.



Description

(Color, Texture, Structure)

Geologic Descriptions are Based on the USCS.

Grass

Hand dig to 5 ft.

No recovery.

No recovery.

Yellowish brown silty fine Sand, some fine gravel, little medium sand.

Black Silt, some clay, little fine sand, organics, odor.

Greenish gray and orange brown interbedded Silt, some clay. Water at 19 ft.

Grayish brown Silt, some clay.

Grayish brown fine Sand, some silt.

Grayish brown Silt, some clay.

Grayish brown Silt, some clay.

Grayish brown Silt, some clay.

Grayish brown Silt, some clay.

Grayish brown Silt, some clay.

Grayish brown fine Sand, some silt and fine gravel, few coarse gravel.

Grayish brown fine Sand, some silt little fine gravel and medium sand.

Grayish brown fine Sand, some silt little fine gravel and medium sand.

Grayish brown fine Sand, some silt little fine gravel and medium sand.

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Drilling Log

Shaw
Shaw E & I, Inc.

Soil Boring GW-13

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Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.
Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No. 821687
Surface Elev. NA | Total Hole Depth 47.0 ft. | North | East
Top of Casing NA | Water Level Initial ▽ 12.0 ft. | Static NA | Diameter 9 in.
Screen: Dia NA | Length NA | Type/Size NA
Casing: Dia NA | Length NA | Type NA
Fill Material Grout | Rig/Core Canterra
Drill Co. Fenley&Nicol Enviro., Inc. | Method HSA
Driller C. Guzzardo | Log By J. Ferngren | Date 4/19/04 | Permit # NA
Checked By E. Gustafson | License No.

COMMENTS
Collected water samples GW-13 (16'-26') and GW-13 (47'-49'); collected soil sample GW-13(30'-32')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
						Asphalt
0						Hand dig to 5 ft.
5	0.0	5'-7' 15%	2 2 2 4		FILL	Fill-Orange brown fine and medium Sand, brick fragments.
10	0.0	10'-12' 15%	6 4 6 5		FILL	Fill-Brick fragments.
▽		12'-14' 0%	2 3 5 10			Spoon full of water. No recovery.
15	0.0	14'-16' 25%	5 5 7 7		FILL	Fill-Orange brown fine and medium Sand, brick fragments.
	0.0	16'-18' 15%	3 6 7 4		SM	Black clayey Silt with organics.
	0.0	18'-20' 50%	5 5 6 12		ML	Grayish brown clayey Silt, little fine sand.
20	0.0	20'-22' 10%	15 10 6 9		ML	Grayish brown clayey Silt, little fine sand.
		22'-24' 0%	10 16 10 12			No recovery.
25	1.4	24'-26' 15%	9 10 12 18		ML	Grayish brown clayey Silt.
	0.0	26'-28' 75%	6 10 14 15		ML	Grayish brown Silt, some clay, little fine sand.
	2.3	28'-30' 50%	10 12 16 45		ML	Grayish brown Silt, some clay, little fine sand.
					SM	Grayish brown fine Sand, some silt, slight odor.
30	14.0	30'-32' 50%	14 12 22 30		SM	Grayish brown fine Sand, some silt, little fine gravel, odor.
35	0.0	35'-37' 15%	7 10 20 20		SM	Grayish brown fine and medium Sand, some silt.
40	0.8	40'-42' 65%	6 40 40 45		SM	Grayish brown fine and medium Sand, some silt, little fine gravel.
45	3.5	45'-47' 50%	20 32 40 60		SM	Grayish brown fine and medium Sand, some silt, little fine gravel.
50						

Drilling Log

Shaw E&I, Inc.

Soil Boring GW-14

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Project Bulova Corporate Center Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 Proj. No. 821687

Surface Elev. NA Total Hole Depth 47.0 ft. North ____ East ____

Top of Casing NA Water Level Initial ▽ 12.0 ft. Static NA Diameter 9 in./16 in.

Screen: Dia NA Length NA Type/Size NA

Casing: Dia NA Length NA Type NA

Fill Material Grout Rig/Core Canterra

Drill Co. Fenley&Nicol Enviro., Inc. Method HSA

Driller C. Guzzardo Log By J. Ferngren Date 4/21/04 Permit # NA

Checked By E. Gustafson License No. ____

COMMENTS

Collected water samples GW-14(16'-26') and GW-14(47'-49'); collected soil sample GW-14(20'-22')Soil.

10" augers drilled to 28'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID & % Recovery	Blow Count	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	1.5	5'-7' 15%	19 10 8 6		FILL	Fill-Brick fragments.
10	2.1	10'-12' 25%	16 8 5 6		FILL	Fill-Brown fine and medium Sand, some Silt, brick fragments.
▽	0.2	12'-14' 25%	6 12 24 8		FILL	Fill-Brown fine and medium Sand, some Silt, brick fragments.
15	0.3	14'-16' 50%	7 3 10 15		FILL	Fill-Brick.
	0.4	16'-18' 50%	6 10 7 17		ML	Black clayey Silt with organics.
	26.8	18'-20' 100%	8 13 13 16		ML	Greenish gray and orange brown interbedded clayey Silt, few fine sand.
20	>2000	18'-20' 100%	6 6 7 8		ML	Greenish gray and orange brown interbedded clayey Silt, few fine sand.
	313	20'-22' 65%	8 8 10 10		ML	Greenish gray and orange brown interbedded clayey Silt, few fine sand.
25	526	22'-24' 100%	5 5 6 6		SM	Pinkish brown Silt, some clay and fine sand.
	109	24'-26' 75%	6 5 10 14		ML	Grayish brown clayey Silt, little fine sand.
	5.8	24'-26' 75%	5 6 10 20		SM	Grayish brown clayey Silt, little fine sand.
30	8.6	26'-28' 90%	8 10 22 20		ML	Grayish brown medium and fine Sand, little silt.
	2.6	28'-30' 75%	9 9 40 40		ML	Grayish brown clayey Silt, little fine sand.
35	2.0	30'-32' 75%	25 16 25 80		SM	Grayish brown clayey Silt, little fine sand.
		32'-35' 50%	10 35 45 36		SM	Grayish brown clayey Silt, little fine sand.
40	6.6	35'-37' 25%				Grayish brown clayey Silt, little fine sand.
		40'-42' 50%	12 15 25 25		SM	Grayish brown medium and fine Sand, little silt.
45	3.6	45'-47' 50%				Grayish brown Silt, some clay and fine sand.
						Grayish brown Silt, some clay, few fine sand.
50						Grayish brown Silt, some clay, few fine sand.
						Grayish brown Silt, some clay, few fine sand.
						Grayish brown fine and medium Sand, some silt.
						Grayish brown fine and medium Sand, some silt.
						Grayish brown fine and medium Sand, some silt.
						Grayish brown fine and medium Sand, some silt.

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-15**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley&Nicol Enviro., Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *4/22/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-15 (16'-26') and GW-15 (47'-49'); collected soil sample GW-15(24'-26')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
		0'-5'				Hand dig to 5 ft.
5	1.8	5'-7' 15%	8 12 12 15		FILL	Fill-Brown medium and fine Sand, some fine gravel and silt.
10		10'-12'	5 6 5 5		FILL	Fill-Brown medium and fine Sand, some fine gravel and silt with brick fragments.
▽	0.0	15%	6 5		FILL	
	0.0	12'-14' 15%	5 5 4 4		FILL	Fill-Brown medium and fine Sand, some fine gravel and silt with brick fragments.
15	0.0	14'-16' 50%	15 14 16 6		ML	Fill.
	0.0	16'-18' 50%	3 7 10 8		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand.
	0.0	18'-20' 50%	8 8 10 10		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand.
20	0.0	18'-20' 50%	6 8 10 12		ML	Greenish gray and orange brown interbedded Silt, few fine sand, some clay, grading into grayish brown Silt, some clay, little fine sand.
	0.0	20'-22' 50%	6 6 14 14		ML	Grayish brown Silt, some clay, little fine sand.
	0.0	22'-24' 75%	9 5 4 12		ML	Grayish brown Silt, some clay, little fine sand.
25	0.0	24'-26' 65%	20 18 6 6		ML	Grayish brown Silt, some clay, little fine sand.
	0.0	26'-28' 50%	9 10 22 20		ML	Grayish brown Silt, some clay, little fine sand.
					SM	Grayish brown medium and coarse Sand, some fine sand, little silt and fine gravel.
30		28'-30' 75%	9 20 22 27		SM	Grayish brown medium and coarse Sand, some fine sand, little silt and fine gravel.
	0.0	30'-32' 50%			ML	Grayish brown Silt, some clay.
		35'-37' 50%	15 26 38 40		SM	Grayish brown fine Sand, some silt, few fine gravel.
35	0.0	40'-42' 75%			SM	Grayish brown fine Sand, some silt, few fine gravel.
40		45'-47' 50%	28 26 14 38		SM	Grayish brown fine Sand, some silt, few fine gravel.
	0.0					
45						
50						

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-16**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley&Nicol Enviro., Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *4/23/04* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS

Collected water samples GW-16 (16'-26') and GW-16 (47'-49'); collected soil sample GW-16 (30'-32')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Grass
		0'-5'				Hand dig to 5 ft.
5	2.0	5'-7' 25%	50/3"		FILL	Fill-Black and brown fine Sand and silt, some medium sand, slight hydrocarbon odor.
					FILL	Fill-Brick.
					FILL	Fill-Light yellowish brown fine Sand, some medium sand, fine gravel, little silt.
10	2.6	10'-12' 35%			FILL	Fill-Black and brown fine Sand and silt, few brick fragments, hydrocarbon odor.
▽	0.0	12'-14' 25%			FILL	Fill-Orange brown fine Sand, some silt and fine gravel, brick fragments. saturated.
15	0.0	14'-16' 25%			ML	Fill-Orange brown fine Sand, some silt and fine gravel, brick fragments. saturated.
	0.0	16'-18' 25%			ML	Greenish gray and orange brown interbedded Silt, some clay.
	0.0	18'-20' 50%			ML	Black clayey Silt.
20	0.0	20'-22' 0%			ML	Greenish gray and orange brown interbedded Silt, some clay few fine sand.
	4.0/21.8	22'-24' 50%			SM	Greenish gray and orange brown interbedded Silt, some clay, few fine sand.
	11.8				ML	Grayish brown Silt, some clay, few fine sand.
25	0.0				ML	No recovery.
	28.1				ML	Grayish brown Silt, some clay, few fine sand.
	3.6	24'-26' 65%			ML	Light brown medium Sand, little fine sand.
	21.8	26'-28' 50%			SM	Grayish brown Silt, some clay, few fine sand.
30	13.0		50/6"		ML	Grayish brown clayey Silt, little fine sand.
		28'-30' 50%			SM	Grayish brown Silt, some clay, little fine sand, odor.
		30'-32' 65%	60/0"		SM	Grayish brown Silt, some clay, little fine sand, odor.
35					ML	Grayish brown Silt, some clay, little fine sand, odor.
					SM	Grayish brown Silt, some clay, little fine sand, odor.
					SM	Grayish brown medium Sand, some silt and fine sand, odor.
40		32'-35' 75%				Grayish brown Silt, some clay, little fine sand, odor.
		34'-36' 75%				Grayish brown fine Sand, some silt.
		36'-38' 25%				Grayish brown fine Sand, some silt.
45	0.0	40'-42' 0%	50/5"		SM	No recovery.
		45'-47' 10%				Grayish brown fine Sand, some silt, rock at bottom of spoon.
50						
55						
60						

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Drilling Log

Shaw E&I, Inc.

Soil Boring GW-17

Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No.: 821687

Surface Elev.: NA | Total Hole Depth: 47.0 ft. | North: | East:

Top of Casing: NA | Water Level Initial: ▽ 12.0 ft. | Static: NA | Diameter: 9 in.

Screen: Dia: NA | Length: NA | Type/Size: NA

Casing: Dia: NA | Length: NA | Type: NA

Fill Material: Grout | Rig/Core: Canterra

Drill Co.: Fenley&Nicol Enviro., Inc. | Method: HSA

Driller: C. Guzzardo | Log By: J. Ferngren | Date: 4/26/04 | Permit #: NA

Checked By: E. Gustafson | License No.:

COMMENTS

Collected water samples GW-17 (16'-26') and GW-17(47'-49'); collected soil sample GW-17 (20'-22')Soil.

4 1/4" augers drilled to 45'.

0'-28' drilled on 4/26/04.

28'-47' drilled on 5/7/04.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	0.3	5'-7' 15%	6 8 10 7		FILL	Fill-Orange brown fine Sand and silt, brick fragments.
10	1.0	10'-12' 15%	55/4 in		FILL	Fill-Orange brown fine Sand and silt, brick fragments.
	1.4	12'-14' 15%	6 50/0 in		FILL	Fill-Orange brown fine Sand and silt, brick fragments.
15	4.8	14'-16' 100%	9 9 13 15		ML	Black Silt, some clay, odor.
	5.8	16'-18' 50%	7 14 22 20		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand and fine gravel, odor.
	219	18'-20' 75%	6 5 7 10		SM	Greenish gray and orange brown interbedded Silt, some clay, few fine sand, odor.
20	249	20'-22' 75%	6 8 7 11		ML	Greenish brown fine Sand, some silt, odor.
	112	20'-22' 100%	15 6 10 12		ML	Greenish gray Silt, some clay, odor.
	54.4	22'-24' 75%	14 6 10 12		SM	Grayish brown fine Sand, some silt, strong odor.
25	53.9	24'-26' 90%	14 6 10 12		ML	Grayish brown Silt, some clay, odor.
	58.2	24'-26' 90%	14 6 10 12		ML	Grayish brown Silt, some clay, little fine sand, odor.
	20.8	26'-28' 50%	14 9 20 25		ML	Grayish brown fine Sand, some silt, strong odor.
30		28'-30' 40%	5 9 10 16		SM	Grayish brown Silt, some clay, little fine sand, odor.
	8.2	30'-32' 50%	7 5 12 12		ML	Grayish brown Silt, some clay, little fine sand.
		35'-37' 50%	10 28 35 45		SM	Grayish brown Silt, some clay, few fine sand.
35	0.0	40'-42' 75%	16 25 25 9		SM	Grayish brown Silt, some clay, few fine sand.
		45'-47' 25%	20 18 15 20		SM	Grayish brown fine Sand, some silt, little fine gravel.
40						Grayish brown clayey Silt.
						Grayish brown fine Sand, some silt, little fine gravel.
45						Grayish brown fine Sand, some silt and medium sand, little fine gravel.
						Grayish brown medium Sand, some silt, little fine sand.
50						Grayish brown medium Sand, some silt, little fine sand.
						Grayish brown fine Sand, some silt, few fine gravel.
						Grayish brown fine Sand, some silt, few fine gravel.

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Drilling Log

Shaw E&I, Inc.

Soil Boring GW-18

Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No.: 821687

Surface Elev.: NA | Total Hole Depth: 47.0 ft. | North: | East:

Top of Casing: NA | Water Level Initial: ▽ 10.0 ft. | Static: NA | Diameter: 9 in./16 in.

Screen: Dia: NA | Length: NA | Type/Size: NA

Casing: Dia: NA | Length: NA | Type: NA

Fill Material: Grout | Rig/Core: Canterra

Drill Co.: Fenley&Nicol Enviro., Inc. | Method: HSA

Driller: C. Guzzardo | Log By: J. Ferngren | Date: 4/29/04 | Permit #: NA

Checked By: E. Gustafson | License No.:

COMMENTS

Collected water samples GW-18 (16'-26') and GW-18 (47'-49'); collected soil sample GW-18(20'-22')Soil.

10" augers drilled to 25'.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	0.5	5'-7' 15%	11 7 6 5		FILL	Fill - Brown and orange brown fine Sand, some silt, little fine gravel.
10 ▽	0.4	10'-12' 10%	11 2 1 2		FILL	Fill - Brown and orange brown fine Sand, some silt, little fine gravel. Water hit at 10ft.
	5.5	12'-14' 20%	2 3 2 4		FILL / ML	Wood.
15	1.8	14'-16' 50%	8 6 10 10		ML	Black clayey Silt with organics, sewage odor.
	1.0	16'-18' 50%	4 5 10 20		ML / SM	Black clayey Silt with organics, sewage odor.
	7.0	18'-20' 50%	8 6 10 6		SM / ML	Greenish grey and orange brown interbedded Silt, some clay, sewage odor.
20	228	18'-20' 50%	6 9 8 15		ML / SM	Greenish grey and orange brown interbedded Silt, some clay, sewage odor.
	65.1	20'-22' 75%	5 8 10 14		ML / SM	Brown fine Sand, some silt, sewage odor.
25	25.8	22'-24' 75%	8 10 15 15		ML / CL	Brown fine Sand, some silt, few medium sand, sewage odor.
	13.4	24'-26' 75%	4 5 3 7		ML / CL	Grayish brown clayey Silt, sewage odor.
	21.3	26'-28' 50%	5 10 15 11		CL	Grayish brown clayey Silt, sewage/chemical odor.
30	22.9	28'-30' 65%	6 14 21 20		CL / SM	Grayish brown fine Sand, some silt.
	0.0	30'-32' 50%	8 12 12 14		SM	Grayish brown clayey Silt.
35		35'-37' 50%	8 12 17 24		SM	Grayish brown fine Sand, little silt.
	0.0	40'-42' 50%				Grayish brown Silt, some clay, little fine sand, odors.
40						Grayish brown Silt, some clay, sewage odor.
	-	45'-47' 0%	12 20 12			Grayish brown silty Clay, little fine sand, slight odor.
45						Grayish brown Silt, some clay, little fine sand, odor.
						Grayish brown silty Clay, slight sewage odor.
50						Grayish brown silty Clay, few fine sand, slight odor.
						Grayish brown silty Clay, slight odor.
						Grayish brown fine Sand, some silt, little medium sand, few gravel.
						Grayish brown fine Sand, some silt, little medium sand, few gravel.
						Grayish brown fine Sand, some silt, little medium sand, few gravel.
						No recovery.

Drilling Log

Shaw E&I, Inc.

Soil Boring GW-19

Project: Bulova Corporate Center — Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 — Proj. No.: 821687

Surface Elev.: NA — Total Hole Depth: 47.0 ft. — North: — East: —

Top of Casing: NA — Water Level Initial: ▽ 10.0 ft. — Static: NA — Diameter: 9 in.

Screen: Dia: NA — Length: NA — Type/Size: NA

Casing: Dia: NA — Length: NA — Type: NA

Fill Material: Grout — Rig/Core: Canterra

Drill Co.: Fenley&Nicol Enviro., Inc. — Method: HSA

Driller: C. Guzzardo — Log By: J. Ferngren — Date: 4/30/04 — Permit #: NA

Checked By: E. Gustafson — License No.:

COMMENTS

Collected water samples GW-19 (16'-26') and GW-19 (47'-49'); collected soil samples GW-19(5'-7') GW-19(28'-30')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	158	5'-7' / 35%	6 7 9 10		FILL	Fill - Orange brown fine Sand and silt, little brick fragments and fine gravel, hydrocarbon odor.
10 ▽	157	10'-12' / 25%	5 6 7 9		ML / ML / SM	Brown Silt, some fine sand and clay. Light brown medium and fine Sand, few fine gravel, hydrocarbon odor.
	24.1	12'-14' / 15%	7 2 2 2		SM	Light brown medium and fine Sand, few fine gravel, gray staining at bottom, hydrocarbon odor.
15	44.1	14'-16' / 65%	3 3 4 6		SM / ML / ML	Gray medium and fine Sand, few fine gravel, hydrocarbon odor. Black Silt, some clay, organics.
	5.5	16'-18' / 75%	6 11 14 16		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand.
	7.4	18'-20' / 75%	7 12 12 7		ML	Greenish gray and orange brown interbedded Silt, some clay, few fine sand. Brown Silt, some clay.
20	9.5	18'-20' / 25%	5 6 10 10		ML	Grayish brown Silt, some clay and fine sand.
	11.9	20'-22' / 75%	8 10 8 10		ML	Grayish brown Silt, some clay and fine sand, very slight odor.
25	10.9	22'-24' / 100%	14 10 12 18		ML	Grayish brown Silt, little clay, few fine sand, very slight odor.
	15.3	22'-24' / 100%	10 14 22 18		ML	Grayish brown Silt, little clay, few fine sand, very slight odor.
	19.7	24'-26' / 75%	7 12 16 18		ML	Grayish brown Silt, some clay, few fine sand.
30	17.7	26'-28' / 75%	7 12 18 30		ML	Grayish brown Silt, some clay.
	6.9	28'-30' / 90%	6 9 17 40		ML	Grayish brown Silt, some clay, little fine sand.
35	10.2	28'-30' / 90%	23 21 26 28		ML / SM	Grayish brown Silt, some clay, little fine sand. Grayish brown fine Sand, some silt, little fine gravel.
		30'-32' / 75%				
40	2.1	32'-35' / 75%	38 40 38 50		SM	Grayish brown fine Sand, some silt, little fine gravel.
		34'-36' / 75%				
45	0.5	40'-42' / 25%	50 60/0 in		SM	Grayish brown fine Sand, some silt, little fine gravel.
		45'-47' / 15%				
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring GW-20

Project: Bulova Corporate Center — Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 — Proj. No.: 821687

Surface Elev.: NA — Total Hole Depth: 47.0 ft. — North: — East:

Top of Casing: NA — Water Level Initial: ▽ 12.0 ft. — Static: NA — Diameter: 9 in.

Screen: Dia: NA — Length: NA — Type/Size: NA

Casing: Dia: NA — Length: NA — Type: NA

Fill Material: Grout — Rig/Core: Canterra

Drill Co.: Fenley & Nicol Enviro, Inc. — Method: HSA

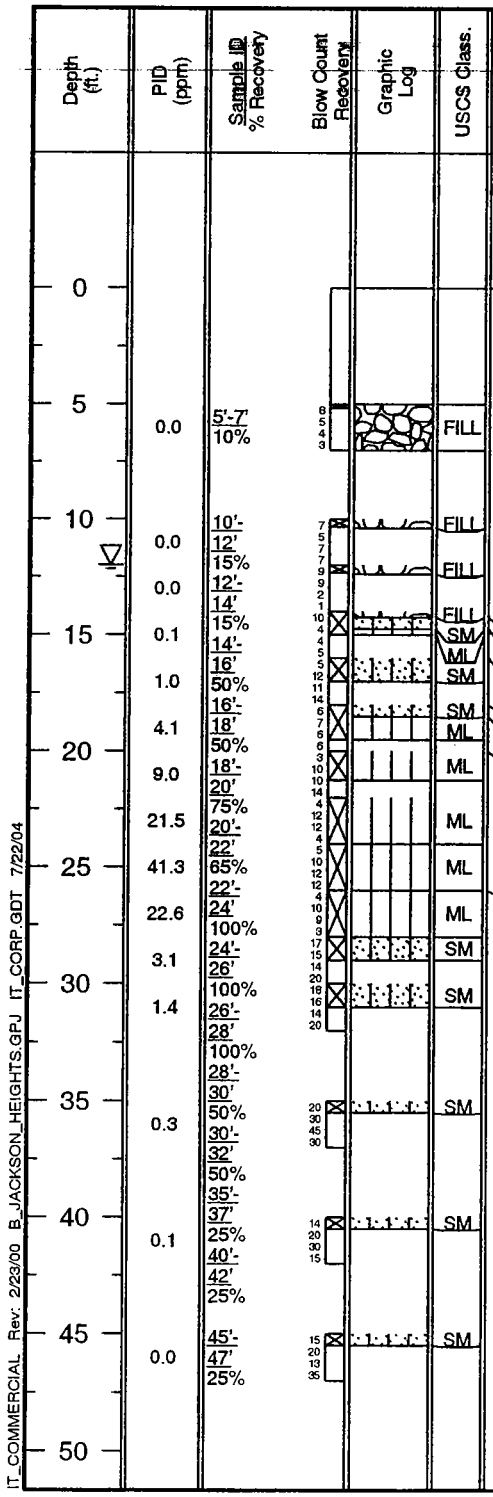
Driller: C. Guzzardo — Log By: J. Ferngren — Date: 5/3/04 — Permit #: NA

Checked By: — License No.:

COMMENTS

Collected water samples GW-20(16'-26') and GW-20(47'-49'); collected soil sample GW-20(24'-26')Soil.

4 1/4" augers drilled to 45'.



Description

(Color, Texture, Structure)

Geologic Descriptions are Based on the USCS.

Depth (ft.)	Description
0	Grass
	Hand dig to 5 ft.
5	Fill-Orange brown fine Sand and silt.
10	Fill-Orange brown fine Sand and silt, brick fragments.
	Fill-Orange brown fine Sand and silt, brick fragments. Saturated.
15	Fill.
	Black fine Sand, some silt, slight odor.
	Black Silt, some clay, few fine sand.
	Grayish brown fine Sand, some silt.
	Grayish brown fine Sand, some silt.
20	Grayish brown Silt, some clay, little fine sand.
	Grayish brown Silt, some clay, little fine sand.
	Grayish brown Silt, some clay, little fine sand.
25	Grayish brown Silt, some clay, little fine sand, grading into grayish brown Silt, little clay and fine sand.
	Grayish brown Silt, little clay and fine sand.
	Grayish brown fine Sand, some silt, few fine gravel.
30	Grayish brown fine Sand, some silt, few fine gravel.
35	Grayish brown fine Sand, some silt, few fine gravel.
40	Grayish brown fine Sand, some silt, few fine gravel.
45	Grayish brown fine Sand, some silt, few fine gravel.
50	

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-21**

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Project Bulova Corporate Center — Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 — Proj. No. 821687

Surface Elev. NA — Total Hole Depth 47.0 ft. — North — East

Top of Casing NA — Water Level Initial ▽ 5.0 ft. — Static NA — Diameter 9 in.

Screen: Dia NA — Length NA — Type/Size NA

Casing: Dia NA — Length NA — Type NA

Fill Material Grout — Rig/Core Canterra

Drill Co. Fenley & Nicol Enviro, Inc. — Method HSA

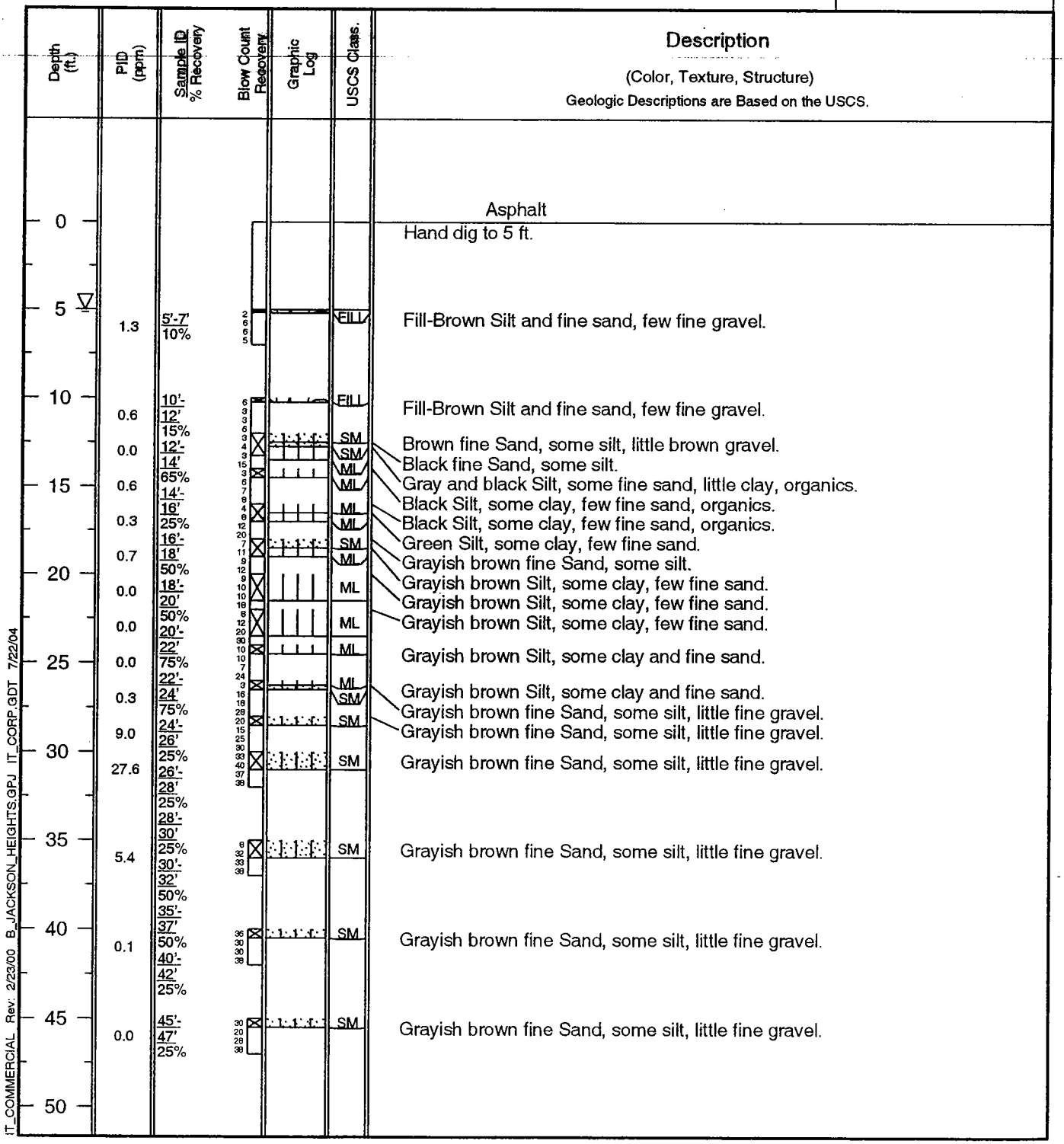
Driller C. Guzzardo — Log By J. Ferngren — Date 5/4/04 — Permit # NA

Checked By — License No.

COMMENTS

Collected water samples GW-21(16'-26') and GW-21(49'-51'); collected soil sample GW-21(30'-32')Soil.

4 1/4" augers drilled to 47'.



Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure)
0						Asphalt
						Hand dig to 5 ft.
5 ▽	1.3	5'-7' 10%	2 6 6 5		FILL	Fill-Brown Silt and fine sand, few fine gravel.
10	0.6	10'-12' 15%	6 3 3 3		FILL	Fill-Brown Silt and fine sand, few fine gravel.
	0.0	12'-14' 65%	3 4 15 3		SM	Brown fine Sand, some silt, little brown gravel.
					SM	Black fine Sand, some silt.
15	0.6				ML	Gray and black Silt, some fine sand, little clay, organics.
		14'-16' 25%	3 6 7 8		ML	Black Silt, some clay, few fine sand, organics.
	0.3		4 6 12 20		ML	Black Silt, some clay, few fine sand, organics.
	0.7	16'-18' 50%	7 11 9 12		SM ML	Green Silt, some clay, few fine sand. Grayish brown fine Sand, some silt.
20	0.0	18'-20' 50%	10 10 16 8		ML	Grayish brown Silt, some clay, few fine sand. Grayish brown Silt, some clay, few fine sand.
	0.0	20'-22' 75%	20 10 10 7		ML ML	Grayish brown Silt, some clay, few fine sand. Grayish brown Silt, some clay and fine sand.
25	0.0				ML	Grayish brown Silt, some clay and fine sand.
	0.3	22'-24' 75%	24 16 16 28		SM	Grayish brown fine Sand, some silt, little fine gravel.
	9.0	24'-26' 25%	20 15 25 30		SM	Grayish brown fine Sand, some silt, little fine gravel.
30	27.6	26'-28' 25%	33 40 32 38		SM	Grayish brown fine Sand, some silt, little fine gravel.
		28'-30' 25%				
35	5.4	30'-32' 50%	6 32 33 38		SM	Grayish brown fine Sand, some silt, little fine gravel.
		35'-37' 50%	36 30 30 38		SM	Grayish brown fine Sand, some silt, little fine gravel.
40	0.1	40'-42' 25%				
45	0.0	45'-47' 25%	30 20 28 38		SM	Grayish brown fine Sand, some silt, little fine gravel.
50						

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Drilling Log

Soil Boring **GW-22**

Project Bulova Corporate Center Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 Proj. No. 821687

Surface Elev. NA Total Hole Depth 47.0 ft. North ____ East ____

Top of Casing NA Water Level Initial ▽ 12.0 ft. Static NA Diameter 9 in.

Screen: Dia NA Length NA Type/Size NA

Casing: Dia NA Length NA Type NA

Fill Material Grout Rig/Core Canterra

Drill Co. Fenley & Nicol Enviro, Inc. Method HSA

Driller C. Guzzardo Log By J. Ferngren Date 5/10/04 Permit # NA

Checked By ____ License No. ____

COMMENTS
Collected water samples GW-22(16'-26') and GW-22(47'-49'); collected soil sample GW-22 (22'-24')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	3.1	5'-7' 35%	6 12 16 10		Fill	Fill-Brown fine Sand and silt with brick fragments and mica.
10	0.0	10'-12' 50%	14 12 6 10		Fill	Fill-Brown fine Sand and silt with brick fragments and mica.
▽	0.0	12'-14' 50%	5 6 7 6		Fill	Fill-Brown fine Sand and silt with brick fragments and mica.
15	0.0	14'-16' 50%	6 3 6 8		ML	Grayish brown Silt, some clay.
			9 3 6 8		ML	Crushed Mica.
			10		ML	Black clayey Silt with organics.
		16'-18' 0%	3 4 5 6		ML	Black clayey Silt with organics.
20	0.0	18'-20' 50%	7 6 4 5		SM	Orange brown and greenish gray interbedded Silt, some clay and fine sand.
	0.0		7 10 10 7		ML	No Recovery.
	0.0		5 7 12 14		SM	Orange brown and greenish gray interbedded Silt, some clay and fine sand.
25	0.0	20'-22' 50%	4 5 6 8		ML	Greenish gray fine Sand, some silt.
	0.0	22'-24' 50%	12 14 17 18		ML	Orange brown and greenish gray interbedded Silt, some clay and fine sand.
	0.0		9 11 12 12		ML	Greenish gray medium and fine Sand, little silt.
30		24'-26' 65%	3 4 7 14		ML	Orange brown and greenish gray interbedded Silt, some clay and fine sand.
	0.0	26'-28' 15%	7 9 10 16		ML	Orange brown and greenish gray interbedded Silt, some clay and fine sand.
35	0.0	28'-30' 90%	9 10 12 15		ML	Greenish gray fine Sand, some silt.
	0.0	30'-32' 0%	10 12 35 38		SM	Greenish gray silty Clay.
40	0.0	32'-34' 75%	38 28 26 28		SM	Greenish gray fine Sand, some silt.
		34'-36' 100%	28 25 23 25		SM	Grayish brown Silt, some clay.
45	0.0	36'-38' 100%				Grayish brown Silt, some clay, little fine sand.
		38'-40' 90%				Grayish brown Silt, some clay, little fine sand.
		40'-42'				Grayish brown Silt, some clay, little fine sand.
50						Grayish brown Silt, some clay, few fine sand.
						No Recovery.
						Grayish brown Silt, some clay.
						Grayish brown Silt, some clay.
						Grayish brown Silt, some clay.
						Grayish brown Silt, some clay.
						Grayish brown fine Sand, some silt, few gravel.
						Grayish brown fine Sand, some silt, few fine and coarse gravel.
55						Grayish brown fine Sand, some silt, few fine and coarse gravel.

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Shaw

Shaw E&I, Inc.

Drilling Log

Soil Boring **GW-22**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
55		25% 45'- 47' 50%				*Continued*
60						
65						
70						
75						
80						
85						
90						
95						
100						
105						
110						
115						
120						
125						

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-23**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *28.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/11/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS
Collected water sample GW-23(16'-26'); collected soil sample GW-23(16'-18')Soil.

4 1/4" augers drilled to 26'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
2						
4						
6	0.0	5'-7' 25%	7 6 7 9		Fill	Fill-Brown fine Sand and silt with brick fragments.
8						
10		10'-12' 0%	3 3 5 4			No Recovery
12 ▽		12'-14' 25%	32 22 22 23		Fill	Fill
	0.7					Crushed Mica.
14		14'-16' 50%	8 4 4 6		Fill ML ML	Fill Black Silt, some clay. Grayish green and orange brown interbedded Silt, some clay and fine sand.
	1.9					
16		16'-18' 65%	5 4 4 6		SM	Yellowish brown silty fine Sand.
	1.9					
18		18'-20' 50%	8 6 6 10		SM SM	Yellowish brown silty fine Sand. Grayish brown fine Sand, some silt.
	1.2					
20		20'-22' 50%	10 10 10 12		ML	Grayish brown Silt, little clay and fine sand.
	1.5					
22		22'-24' 50%	8 7 7 10		ML	Grayish brown Silt, little clay and fine sand.
	1.0					
24		24'-26' 75%	5 6 5 10		ML	Grayish brown Silt, some clay, few fine sand.
	0.7					
26		26'-28' 75%	6 9 10 12		ML	Grayish brown Silt, some clay, few fine sand.
	0.7					
28						
30						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-24**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *28.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/11/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS

Collected water sample GW-24(16'-26'); collected soil sample GW-24(18'-20')Soil.

4 1/4" augers drilled to 26'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
6	0.0	5'-7' 15%	6 8 8 12		Fill	Fill-Brown fine Sand and silt with brick fragments.
10			5			Brick
	0.0	10'-12' 15%	5 6 5			
12 ▽			4		Fill	Fill-Saturated
	0.0	12'-14' 15%	10 8 7			
14			3		Fill	Fill
	0.0	14'-16' 35%	6 3 6		ML SM	Black Silt, some clay. Greenish gray fine Sand, some silt.
16			5 9		SM	Greenish gray fine Sand, some silt.
	0.0	16'-18' 90%	8 14		ML SM	Grayish brown Silt, some clay. Grayish brown fine Sand, some silt, little medium sand.
18			2		SM	Yellowish brown fine Sand, some silt and medium sand.
	1.1	18'-20' 75%	4 4 9		ML	Grayish brown Silt, some clay.
20			7 7		ML	Grayish brown Silt, some fine sand, little clay.
	0.0	20'-22' 75%	10 8		ML	Grayish brown Silt, some clay.
22			5			Grayish brown Silt, some clay.
	0.0	22'-24' 75%	8 9 10		ML	
24			5			Grayish brown Silt, some clay.
	0.0	24'-26' 50%	8 9 10		ML	
26			4			Grayish brown Silt, some clay.
	0.0	26'-28' 75%	9 8 15		ML	
28						
30						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E & I, Inc.

Soil Boring GW-25

Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No.: 821687

Surface Elev.: NA | Total Hole Depth: 47.0 ft. | North: | East:

Top of Casing: NA | Water Level Initial: ▽ 12.0 ft. | Static: NA | Diameter: 9 in.

Screen: Dia: NA | Length: NA | Type/Size: NA

Casing: Dia: NA | Length: NA | Type: NA

Fill Material: Grout | Rig/Core: Canterra

Drill Co.: Fenley & Nicol Enviro, Inc. | Method: HSA

Driller: C. Guzzardo | Log By: J. Ferngren | Date: 5/12/04 | Permit #: NA

Checked By: | License No.:

COMMENTS
Collected water samples GW-25(16'-26') and GW-25(47'-49'); collected soil sample GW-25(26'-28')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	2.1	5'-7' 25%	10 9 11 16		Fill	Fill-Brown fine Sand and silt. Brick fragments.
10	0.1	10'-12' 65%	9 3 3 5		Fill	Fill-Brown fine Sand and silt. Brick fragments.
▽	0.3	12'-14'	3 3 4 4		Fill / ML	Fill-Brown fine Sand and silt. Brick fragments. / Black Silt, some clay. Swamp gas odor.
15	0.5	35% 14'-16'	5 5 17 9		ML	Black Silt, some clay. Swamp gas odor. / Grayish green and orange brown interbedded Silt, some clay.
	2.2	50% 16'-18'	4 10 4 3		ML	Grayish green and orange brown interbedded Silt, some clay. / No Recovery.
20	0.2	50% 18'-20'	5 6 7 3		SM	Yellowish brown silty fine Sand.
	4.9	0%	3 6 6 12		ML	Grayish brown Silt, some clay, few fine sand.
25	7.7	20'-22' 10%	15 5 10 18		ML	Grayish brown Silt, some clay, few fine sand.
	10.4	22'-24'	9 2 6 12		ML	Grayish brown silt, some clay, little fine sand. Slight odor.
	10.0	90% 24'-26'	12 11 7 8		ML	Grayish brown Silt, some fine sand and clay. Slight odor.
30	6.6	90% 26'-28'	8 9 11 12		ML	Grayish brown Silt, some clay.
	0.0	100% 28'-30'	15 6 10 14		ML	Grayish brown Silt, some clay.
35	0.0	50% 30'-32'	16 7 9 14		ML	Grayish brown Silt, some clay.
	0.0	100% 32'-34'	24 6 9 16		ML	Grayish brown Silt, some clay.
	0.0	100% 34'-36'	26 30 31 30		SM	Grayish brown fine Sand, some silt, few medium sand and fine gravel.
40	0.0	100% 36'-38'	26 22 35		SM	Grayish brown fine Sand, some silt, few medium sand and fine gravel.
		90% 38'-40'			SM	Grayish brown fine Sand, some silt, few medium sand and fine gravel.
45	0.0	50% 40'-42'	20 25 9 35		SM	Grayish brown fine Sand, some silt, few medium sand and fine gravel.
50						
55						

Continued Next Page

Drilling Log

Shaw E&I Inc.

Soil Boring **GW-25**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
55		25% 45'- 47' 50%				*Continued*
60						
65						
70						
75						
80						
85						
90						
95						
100						
105						
110						
115						
120						
125						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-26**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *10.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/13/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS
Collected water samples GW-26(16'-26') and GW-26(47'-49'); collected soil sample GW-26(20'-22'). 4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	0.0	5'-7' 50%	4 4 5 7		Fill	Fill-Brown Silt and fine sand, some clay, few fine gravel.
10 ▽	0.0	10'-12' 35%	5 5 6 6		Fill	Fill-Brown Silt and fine sand, some clay, few fine gravel, saturated.
	0.0	12'-14' 50%	7 5 8 6 45 50/4 in.		Fill Fill Fill	Fill-Brown Silt and fine sand, some clay, few fine gravel, saturated. Brick. Fill and brick.
15	0.2	14'-16' 25%	4 6 12 16		SM	Grayish brown fine Sand, some silt, little clay.
	0.0	16'-18' 35%	8 10 20		ML	Grayish brown and orange brown interbedded Silt, some clay, little fine sand.
20	0.4	18'-20' 50%	5 5 3 4 10 12 18		ML ML	Grayish brown and orange brown interbedded Silt, some clay, little fine sand. Grayish brown Silt, some clay, little medium and fine sand. No Recovery.
	0.7	20'-22' 25%	2 2 5 12		ML	Grayish brown clayey Silt, little fine sand.
25	0.4	22'-24' 0%	6 10 8 10		ML	Grayish brown clayey Silt, little fine sand.
	0.0	24'-26' 50%	6 9 12 16		ML ML	Grayish brown Silt, some clay. Grayish brown Silt, some clay.
30	0.0	26'-28' 50%	9 20 40		SM	Grayish brown fine Sand, some silt, few fine gravel and medium sand.
	0.0	28'-30' 90%	18 42 38 35		SM	Grayish brown fine Sand, some silt, few fine gravel and medium sand.
35	0.0	30'-32' 50%				
	0.0	35'-37 25%	38 40 28		SM	Grayish brown fine Sand, some silt, few fine gravel and medium sand.
40	0.0	40'-42' 25%				
	0.0	45'-47' 25%	20 16 38 38		SM	Grayish brown fine Sand, some silt, few fine gravel and medium sand.
45						
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-27**

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Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *47.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/14/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS

Collected water samples GW-27(14'-24') and GW-27(47'-49'); collected soil samples GW-27(16'-18')Soil.

4 1/4" augers drilled to 45'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
5	1.2	5'-7' 75%	5 11 6 5		Fill	Fill-Brown fine Sand, some silt, few fine gravel.
10	5.7	10'-12' 15%	15 9 14		Fill	Fill-Wood and brick, little fine sand.
▽	2.1	12'-14' 15%	10 30 5 26		Fill	Fill-Wood, saturated.
15	2.8	14'-16' 40%	3 5 6 4		ML	Black clayey Silt.
	2.9	16'-18' 75%	9 13 9 11		ML	Grayish green and orange brown interbedded Silt, some clay. Grayish brown Silt, some clay and fine sand.
20	0.6	18'-20' 75%	14 5 11 9		ML	Grayish brown Silt, some clay and fine sand.
	0.4	18'-20' 75%	10 5 12 7		ML	Grayish brown Silt, some clay and fine sand.
	0.4	20'-22' 50%	13 6 9 12		ML	Grayish brown Silt, some clay and fine sand.
25	1.2	22'-24' 50%	5 7 30 28		ML SM	Grayish brown Silt, some clay and fine sand. Crushed Granite.
	0.2	24'-26' 65%	15 10 20 30		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel. Grayish brown fine Sand, some silt, little medium sand and fine gravel.
	0.0	26'-28' 25%	6 12 13 20		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
30	0.0	28'-30' 50%	10 15 20 25		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
35	0.0	30'-32' 15%	13 15 20 19		SM	Grayish brown fine Sand, some silt, little medium sand and fine gravel.
40	0.0	35'-37' 25%	22 23 24 25		SM	Grayish brown fine Sand, some silt.
		40'-42' 35%				
45	0.0	45'-47' 25%	22 38 50/6"		SM	Grayish brown fine Sand, some silt.
50						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Soil Boring **GW-28**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *24.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/19/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS
Collected water sample GW-28(12'-22'); collected soil sample GW-28(22'-24').

4 1/4" augers drilled to 22'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Grass
						Hand dig to 5 ft.
2						
4						
			9		Fill	Fill-Brown fine Sand and silt, few fine gravel.
6	0.0	5'-7' 10%	9 4 8			
8						
10			4		Fill	Fill-Light brown and brown fine Sand and silt, little fine gravel.
	0.0	10'-12' 15%	4 8 10			
12			2		Fill	Fill-Light brown and brown fine Sand and silt, little fine gravel, saturated.
	0.0	12'-14' 15%	2 4 3			
14			5		Fill	Fill-Light brown and brown fine Sand and silt, little fine gravel, saturated.
▽	0.0	14'-16' 25%	36 15 7		ML	Black Silt, some clay.
16			6		ML	Grayish green and orange brown Silt, some clay, few fine sand and fine gravel.
	0.0	16'-18' 75%	10 12 16			Grayish green and orange brown Silt, some clay, few fine sand and fine gravel grading into grayish brown clayey Silt.
18			6		ML	Grayish brown clayey Silt, few fine sand.
	0.0	18'-20' 75%	10 8 12			
20			5		ML	Grayish brown clayey Silt, few fine sand.
	0.0	20'-22' 90%	8 8 8			
22			5		ML	Grayish brown clayey Silt, few fine sand.
	0.0	22'-24' 75%	10 14 20		SM	Grayish brown fine Sand, some silt, little fine gravel.
24						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-29**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *28.0 ft.* North ____ East ____

Top of Casing *NA* Water Level Initial ▽ *14.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Grout* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/20/04* Permit # *NA*

Checked By ____ License No. ____

COMMENTS

Collected water sample GW-29(16'-26'); collected soil sample GW-29(18'-20')Soil.

4 1/4" augers drilled to 26'.

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
2						
4						
			22		Fill	
6	0.0	5'-7' 25%	18 9 15			Fill-Brown fine Sand and silt, some fine gravel and brick.
8						
10			8		Fill	
	0.0	10'-12' 15%	4 3 3			Fill-Brick.
12		12'-14' 0%	50/0 in.			No Recovery.
	0.0					
14 ▽		14'-16' 50%	10 7 10 10		ML ML	Black Silt, some clay. Greenish gray and orange brown Silt and fine sand.
	0.0					
16		16'-18' 50%	8 15 10 15		ML SM	Greenish gray and orange brown Silt and fine sand. Grayish brown medium and fine Sand, some silt.
	0.0					
18		18'-20' 25%	20 10 8 8		ML	Grayish brown Silt, some clay, few fine sand.
	0.0					
20		20'-22' 65%	7 7 8 13		ML	Grayish brown Silt, some clay, few fine sand.
	0.0					
22		22'-24' 50%	5 7 8 13		ML	Grayish brown Silt, some clay, few fine sand.
	0.0					
24		24'-26' 65%	3 8 12 15		ML	Grayish brown Silt, some clay, few fine sand.
	0.0					
26		26'-28' 50%	3 12 15 22		ML SM	Grayish brown Silt, some clay, few fine sand. Grayish brown fine Sand, some silt and medium sand.
28						
30						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Soil Boring **GW-30**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *28.0 ft.* North ____ East ____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/20/04* Permit # *NA*

Checked By ____ License No. ____

COMMENTS
Collected water sample GW-30(16'-26'); collected soil sample GW-30(26'-28')Soil.

4 1/4" augers drilled to 26'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
2						
4						
			3		Fill	Light brown Sand, some fine gravel.
6	0.0	5'-7' 15%	5 10 10			
8						
10			5		Fill	Fill-Brown fine Sand and silt with brick fragments.
	0.0	10'-12' 10%	13 15 21			
12 ▽			2		Fill	Fill-Brown fine Sand and silt with brick fragments.
	0.0	12'-14' 15%	50/0 in.			
14		14'-16' 0%	50/4 in.			No Recovery.
16		16'-18' 0%	3 4 5 9			No Recovery. Void in ground.
18		18'-20' 50%	4 5 7 8		SM	Yellowish brown fine and medium Sand, some silt.
	0.0		8 8		ML ML	Yellowish brown Silt and fine sand. Grayish brown Silt, few clay and fine sand.
20		20'-22' 50%	10 10			
	0.0	22'-24' 100%	5 7 8 14		ML	Grayish brown Silt, few clay and fine sand grading into grayish brown Silt, some clay.
22						
	0.0	24'-26' 100%	5 6 7 12		ML	Grayish brown Silt, some clay.
24						
	11.7	26'-28' 100%	5 6 8 12		ML	Grayish brown Silt, some clay.
26						
28						
30						

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Drilling Log

Soil Boring **GW-31**

Shaw E&I, Inc.

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *28.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *12.0 ft.* Static *NA* Diameter *9 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *5/21/04* Permit # *NA*

Checked By _____ License No. _____

COMMENTS
Collected water sample GW-31(16'-26'); collected soil sample GW-31(26'-28')Soil.

4 1/4" augers drilled to 26'.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt
						Hand dig to 5 ft.
2						
4						
6	0.0	5'-7' 25%	3 4 7 8		Fill	Brown fine Sand and silt, some fine gravel.
8						
10		10'-12' 15%	6 6 6		Fill	Brown fine Sand and silt, some fine gravel.
12 ▽	0.0	12'-14' 15%	3 11 3		Fill	Brown fine Sand and silt, some fine gravel.
14	0.0	14'-16' 25%	2 3 8		ML	Black Silt, some clay.
16	0.0	16'-18' 10%	10 9 8		ML	Grayish green and orange brown Silt, some clay and fine sand.
18	0.0	18'-20' 50%	5 10 11 12 10 10		ML SM	Grayish green and orange brown Silt, some clay and fine sand. Yellowish brown fine Sand, some silt, little medium sand.
20	0.0	20'-22' 25%	11 5 8 7		SM ML SM	Yellowish brown fine Sand, some silt, little medium sand. Grayish brown Silt, few fine sand and clay. Grayish brown fine Sand, some silt, little medium sand.
22	0.0	22'-24' 50%	9 9 5 9		ML	Grayish brown Silt, some clay.
24	0.0	24'-26' 50%	8 9 10 8		ML	Grayish brown Silt, some clay.
26	0.0	26'-28 100%	7 5 10 12 14		ML	Grayish brown Silt, some clay.
28						
30						

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Drilling Log

Shaw E&I Inc.

Soil Boring **GP-1**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *16.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *3 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native* Rig/Core *Truck-Mounted*

Drill Co. *Zebra* Method *Geoprobe*

Driller _____ Log By *S. Salvemini* Date *2/15/01* Permit # *NA*

Checked By _____ License No. _____

COMMENTS

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
						Grass
0						Brown dry Silt, some pebbles, some ash and brick. (Fill)
2		0'-4' 70%			FILL	
4						Brown dry Silt, some bricks, some stone. (Fill)
6		4'-8' 50%			FILL	
8						Brown dry Silt and Brick, some concrete. (Fill)
10		8'-12' 50%			FILL	
12					FILL	Brown Silt and Brick. (Fill)
14 ▽		12'-16' 50%			FILL	Tan moist clayey silt, little brick, concrete, stone. Wet at 15' bg.
16						
18						
20						
22						

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Drilling Log

Soil Boring **GP-2**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *16.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *15.0 ft.* Static *NA* Diameter *3 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native* Rig/Core *Truck-Mounted*

Drill Co. *Zebra* Method *Geoprobe*

Driller _____ Log By *S. Salvemini* Date *2/15/01* Permit # *NA*

Checked By _____ License No. _____

COMMENTS

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
						Concrete
0						Concrete.
					FILL	Brown dry Silt, some pebbles and brick. (Fill)
2		0'-4' 70%			FILL	Black dry Silt, some pebbles and brick. (Fill)
					FILL	Tan dry Silt, some pebbles and brick. (Fill)
4						Brown to black to gray Ash, some concrete, brick, glass, cinders. Some peat at 6' bg. (Fill).
6		4'-8' 70%			FILL	
8						Silt and Brick (Fill)
10		8'-12' 50%			FILL	
12						Silt and Brick (Fill). Wet at 15' bg.
14		12'-16' 40%			FILL	
▽						
16						
18						
20						
22						

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Drilling Log

Shaw E&I, Inc.

Soil Boring **GP-3**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *16.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial *NA* Static *NA* Diameter *3 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

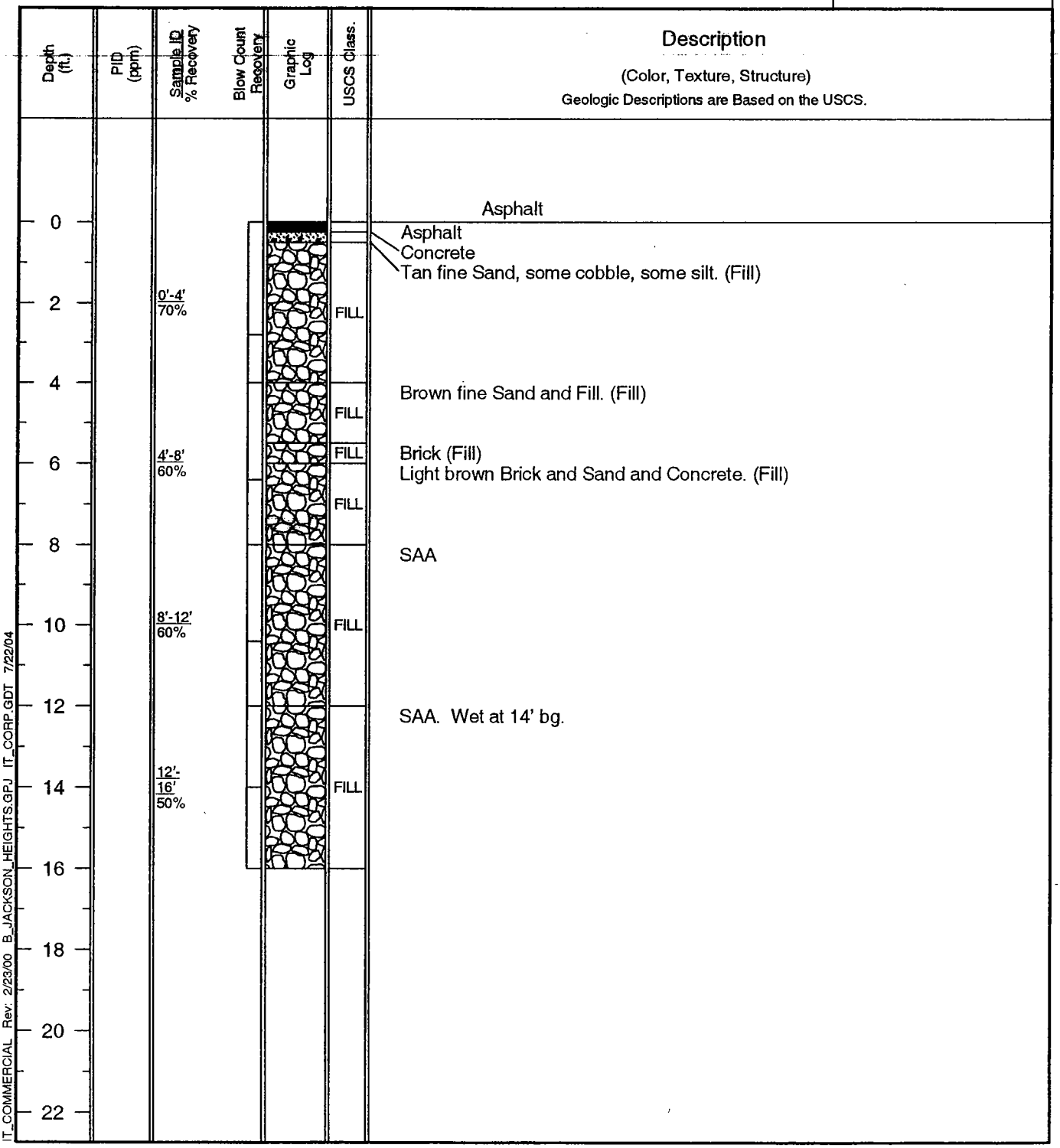
Fill Material *Native* Rig/Core *Truck-Mounted*

Drill Co. *Zebra* Method *Geoprobe*

Driller _____ Log By *S. Salvemini* Date *2/15/01* Permit # *NA*

Checked By _____ License No. _____

COMMENTS



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Drilling Log

Shaw E&I, Inc.

Soil Boring **GP-4**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *16.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial ▽ *14.0 ft.* Static *NA* Diameter *3 in.*

Screen: Dia *NA* Length *NA* Type/Size *NA*

Casing: Dia *NA* Length *NA* Type *NA*

Fill Material *Native* Rig/Core *Truck-Mounted*

Drill Co. *Zebra* Method *Geoprobe*

Driller _____ Log By *S. Salvemini* Date *2/16/01* Permit # *NA*

Checked By _____ License No. _____

COMMENTS

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
						Asphalt
0						Asphalt
					FILL	Brown dry Silt and fine to medium Sand. (Fill)
					FILL	Red Brick. (Fill)
2		0'-4' 70%			FILL	Brown to orange dry fine Sand and Silt. (Fill)
4						SAA
6		4'-8' 90%			FILL	
8						Brown to orange dry fine Sand and Silt, little wood and brick. (Fill)
10		8'-12' 40%			FILL	
12						Silt with brick, wood, rock. Wet at 14' bg. (Fill)
14 ▽		12'-16' 50%			FILL	
					CL	Black wet Clay.
16						
18						
20						
22						

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Drilling Log

Shaw E & I, Inc.

Soil Boring **GP-5**

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Project Bulova Corporate Center Owner Blumenfeld Development Group, Ltd.

Location 75-20 Astoria Blvd., Jackson Heights, NY 11370 Proj. No. 821687

Surface Elev. NA Total Hole Depth 16.0 ft. North ____ East ____

Top of Casing NA Water Level Initial ▽ 15.0 ft. Static NA Diameter 3 in.

Screen: Dia NA Length NA Type/Size NA

Casing: Dia NA Length NA Type NA

Fill Material Native Rig/Core Truck-Mounted

Drill Co. Zebra Method Geoprobe

Driller ____ Log By S. Salvemini Date 2/16/01 Permit # NA

Checked By ____ License No. ____

COMMENTS

Depth (ft.)	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) — Geologic Descriptions are Based on the USCS.
0						Asphalt
					FILL	Asphalt. Brown to black dry Silt, some ash and wood. (Fill)
2		0'-4' / 90%			FILL	Tan to orange dry Silt, some brick, pebbles and black ash. (Fill)
4					FILL	Tan to black dry clayey Silt, some wood, ash and brick. (Fill)
6		4'-8' / 65%			FILL	
8					FILL	Tan dry plasticy Silt and Fill material. (Fill)
10		8'-12' / 50%			FILL	
12					FILL	Tan dry Silt and Fill material. (Fill)
14		12'-16' / 45%			CL	Tan wet plasticy Silt.
16					CL	Black clayey Silt, some wood.
18						
20						
22						

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Shaw E&I, Inc.

Monitoring Well B-5/MW-21

Project: Bulova Corporate Center | Owner: Blumenfeld Development Group, Ltd.

Location: 75-20 Astoria Blvd., Jackson Heights, NY 11370 | Proj. No.: 821687

Surface Elev.: NA | Total Hole Depth: 20.0 ft. | North: | East:

Top of Casing: NA | Water Level Initial: NA | Static: NA | Diameter: 3 in.

Screen: Dia: 1 in. | Length: 10 ft. | Type/Size: .020/PVC

Casing: Dia: 1 in. | Length: 10 ft. | Type: PVC

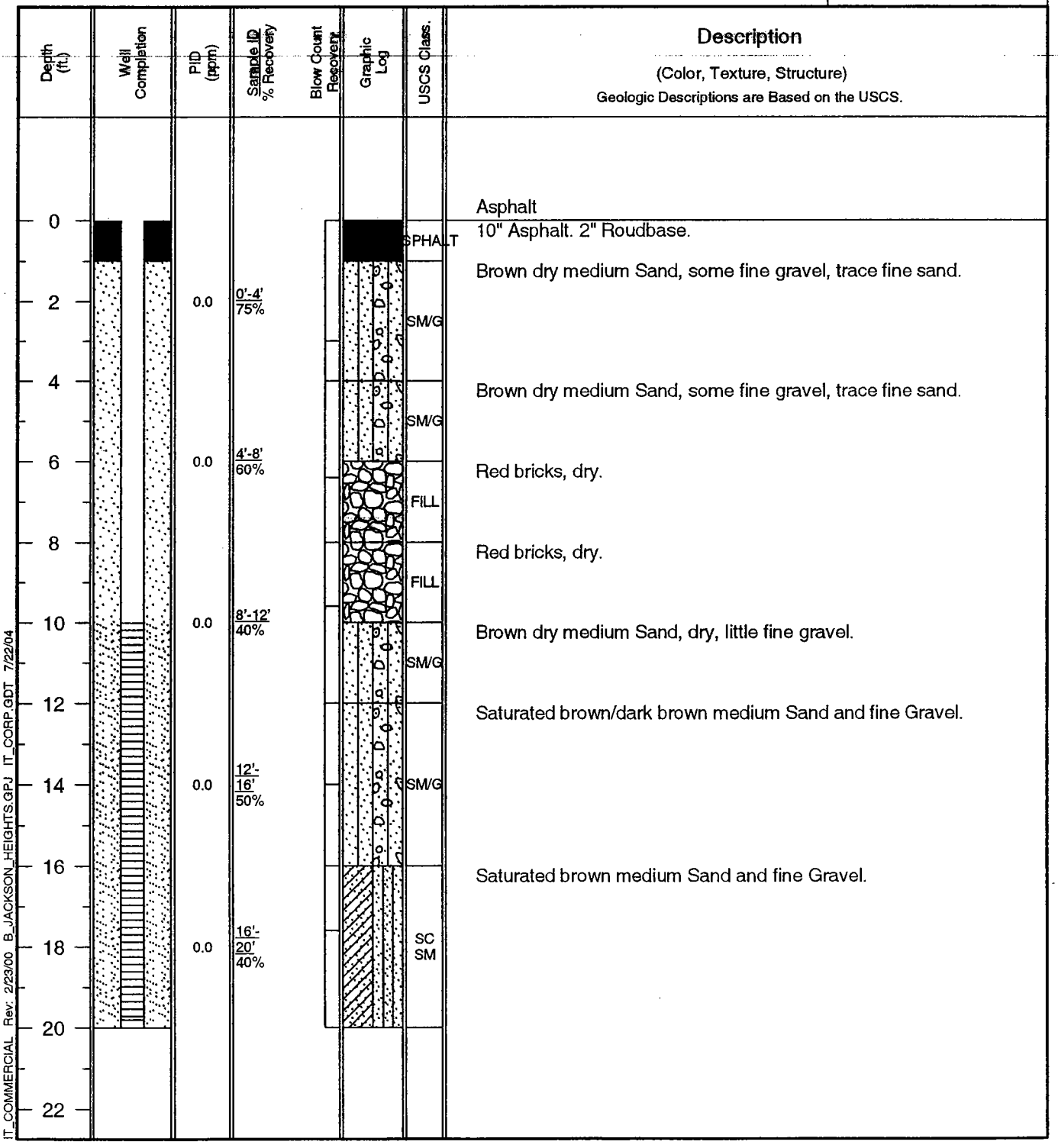
Fill Material: Sand/Native | Rig/Core: Truck-Mounted

Drill Co.: Zebra | Method: Geoprobe

Driller: | Log By: E. Gustafson | Date: 9/24/01 | Permit #: NA

Checked By: | License No.:

COMMENTS
12'-16' selected for Laboratory Analysis.



Description

(Color, Texture, Structure)

Geologic Descriptions are Based on the USCS.

Asphalt

10" Asphalt. 2" Roudbase.

Brown dry medium Sand, some fine gravel, trace fine sand.

Brown dry medium Sand, some fine gravel, trace fine sand.

Red bricks, dry.

Red bricks, dry.

Brown dry medium Sand, dry, little fine gravel.

Saturated brown/dark brown medium Sand and fine Gravel.

Saturated brown medium Sand and fine Gravel.

Drilling Log

Shaw E&I, Inc.

Monitoring Well **B-10/MW-22**

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *18.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial *NA* Static *NA* Diameter *3 in.*

Screen: Dia *1 in.* Length *10 ft.* Type/Size *.020/PVC*

Casing: Dia *1 in.* Length *10 ft.* Type *PVC*

Fill Material *Sand/Native* Rig/Core *Truck-Mounted*

Drill Co. *Zebra* Method *Geoprobe*

Driller _____ Log By *E. Gustafson* Date *9/24/01* Permit # *NA*

Checked By _____ License No. _____

COMMENTS
Sampled 4'-8' and 14.5'-16' for Laboratory Analysis.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						ASPHALT	Asphalt 10" Asphalt. 2" Roudbase.
2		0.0	0'-4' 100%			SP/GP	Dark brown dry medium Sand, trace coarse sand. Brown dry medium Sand, little clay, some gravel. Cobble at 3.5'.
4						SP/GP	Brown dry medium Sand, some gravel. Bits of red bricks mixed through out.
6		19.9	4'-8' 40%			SP/GP	
8						SP/GP	Brown dry medium Sand, some gravel. Bits of red bricks mixed through out.
10		0.0	8'-12' 25%			SP/GP	
12						SP/GP	Brown moist medium Sand, some gravel. Bits of red bricks mixed through out.
14		0.0 8.9	12'-16' 100%			SP SC SM	Brown moist medium Sand, little coarse sand, slight odor. Black moist medium Sand, some clay, little coarse sand, odor.
16						CL	Gray moist Clay.
18		0.0	16'-20' 100%				
20							
22							

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

Drilling Log

Monitoring Well **MW-26R**

Shaw E&I Inc.

Project *Bulova Corporate Center* Owner *Blumenfeld Development Group, Ltd.*

Location *75-20 Astoria Blvd., Jackson Heights, NY 11370* Proj. No. *821687*

Surface Elev. *NA* Total Hole Depth *50.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial *NA* Static *NA* Diameter *16"/9" in.*

Screen: Dia *1 in.* Length *10 ft.* Type/Size *20 Slot*

Casing: Dia *4"/1" in.* Length *22'/37' ft.* Type *PVC*

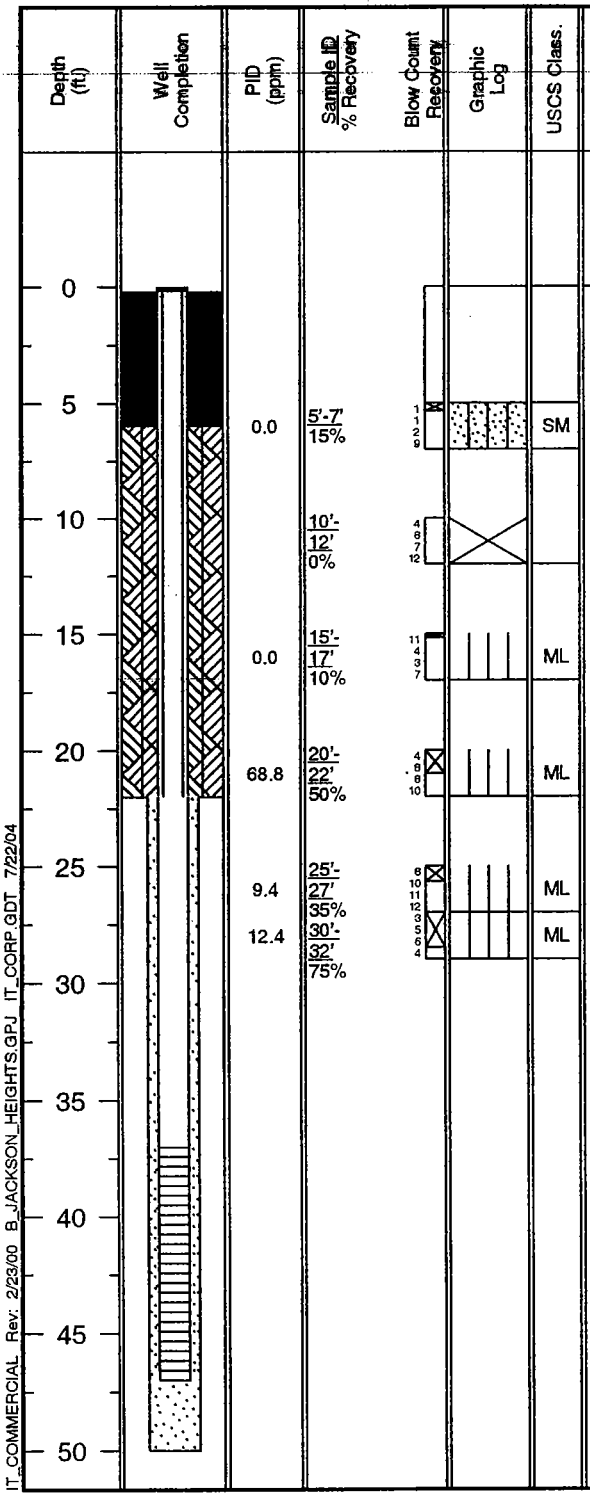
Fill Material *Grout/Sand* Rig/Core *Canterra*

Drill Co. *Fenley & Nicol Enviro, Inc.* Method *HSA*

Driller *C. Guzzardo* Log By *J. Ferngren* Date *10/22/03* Permit # *NA*

Checked By *E. Gustafson* License No. _____

COMMENTS
Double cased from ground surface to 22' bgs.



Description

(Color, Texture, Structure)

Geologic Descriptions are Based on the USCS.

Hand dig 5 feet.

Brown silty fine Sand, brick fragments.

No recovery.

Grayish black clayey Silt, wood fragments, brick fragments.

Grayish brown Silt, little clay, little fine sand, mica flakes, wood fragments.

Olive gray Silt, some clay, mika flakes.

Olive gray Silt, little clay, mika flakes.

IT_COMMERCIAL Rev: 2/23/00 B_JACKSON_HEIGHTS.GPJ IT_CORP.GDT 7/22/04

APPENDIX B

RECENT LABORATORY ANALYTICAL REPORTS