Remedial Investigation Report

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK
Site # C 130157

SUBMITTED TO:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BROWNFIELD CLEANUP PROGRAM

URS PROJECT NO. 38580332
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INTRODUCTION

On behalf of Ben Ley Enterprises, Inc. (Ben Ley), URS Corporation – New York (URS) is pleased to submit this Remedial Investigation (RI) report summarizing activities performed at Minute Man Cleaners, located at 89 Ocean Avenue in East Rockaway, New York (the "Site") under New York State's Brownfield Cleanup Program. This RI was performed in substantial compliance with the August 23, 2006 Remedial Investigation Work Plan (RIWP) prepared by URS that was approved by the New York State Department of Environmental Conservation (NYSDEC) on August 28, 2006.

Ben Ley has entered into the Brownfield Cleanup Program (BCP) with the NYSDEC as a participant to investigate and, where necessary, remediate contaminated soil and groundwater at Minute Man Cleaners (Minute Man), located in East Rockaway, New York (Figure 1).

SITE DESCRIPTION

The Site is 0.19 acres and occupied by an approximately 1,500-square-foot one-story brick building currently operating as Minute Man Cleaners, a dry cleaning facility. Asphalt-paved parking areas and small landscaped areas comprise the remainder of the Site. The Site is located at the southeast corner of the intersection of Atlantic Avenue and Ocean Avenue in the Village of East Rockaway, Town of Hempstead, Nassau County, New York (Figure 1) and is identified on tax maps as Section 42, Block 69, Lot 201. The Site is bordered to the north by Atlantic Avenue, to the west by Ocean Avenue, to the south by a restaurant, and to the east by a bulkhead portion of the Mill River. The bulkhead is composed of treated piles with treated wood siding and is, at a minimum, forty to fifty years old.

Prior to 1968, the Site was undeveloped. The Site was developed in 1968 for a pizzeria/restaurant (Pizza Hut) and was connected to the public sewer system at that time. The Site was later used as a clothing store. The property was conveyed to Ben Ley in 1982 and has been used as a dry cleaning facility since that time. There is one interior floor drain in the building connected to a sanitary sewer line, which feeds into the County sewer along Ocean Avenue based on water testing conducted by URS at the site.

A dry cleaning machine using tetrachloroethene (PCE) has been in use at the Site since 1983. According to the proprietor of Minute Man, approximately half a dozen "acute" leaks of PCE occurred between 1983 and 1987 due to broken gaskets within the machine. At these times, spillage was observed underneath and behind the dry cleaning machine moving eastward towards the joint between the floor and the eastern wall of the facility, approximately three feet east of the dry cleaning machine. In 1987 all of the gaskets and cartridge tubes within the machine were replaced with new state-of-the-art units for

that time. In March 2000, the machine was replaced with a new state-of-the-art unit and placed in the same location as the previous machine. No leaks have reportedly been observed since 1987.

SITE ENVIRONMENTAL INVESTIGATION HISTORY

Two (2) previous subsurface investigations were completed at the Site: (1) Investigation Services provided by Berninger Environmental, Inc. of Bohemia, New York (Berninger) dated February 1, 2005, and (2) Additional Investigation Services provided by Berninger dated February 28, 2005. Additionally, EEA Inc. of Garden City, New York (EEA) submitted a Brownfield Application to NYSDEC in May 2005. The following is a summary of this previous work.

Initial Investigation (Berninger, February 1, 2005)

Two interior soil borings (GP-1 and GP-2) were completed between the dry cleaning machine and the eastern building wall. Boring locations are presented on Figure 2. According to the owner of the dry cleaner, the former dry cleaning machine was in the same location as the present machine and no chemicals were stored in other locations of the facility.

Cores were removed from the concrete floor inside the store at both boring locations, and the borings were manually advanced with a Geoprobe® slide-hammer. One soil sample from one to six feet below grade and one groundwater sample from six to eight feet below grade were collected from each soil boring. Samples were analyzed for volatile organic compounds (VOCs); soil by EPA Method 8021/8260 and groundwater by EPA Method 601/624.

Laboratory analytical results from the field investigation are compared to the following NYSDEC criteria:

- Soil: NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (TAGM RSCOs)
- Groundwater: NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1.) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS)

PCE, a common dry cleaning solvent, was detected in soil and groundwater in exceedance of NYSDEC criteria, as follows:

Soil (units in ug/kg)	GP-1 (1'- 6')	GP-2 (1'- 6')	TAGM RSCOs
Tetrachloroethene	4,010	6,030	1,400

Groundwater (units in ug/l)	GP-1 (6'- 8')	GP-2 (6' - 8')	TOGS
Tetrachloroethene	47,300	48,200	5.0

Additional Investigation (Berninger, February 28, 2005)

An additional investigation included the advancement of eight additional soil borings (GP-3 through GP-10). Three of these borings, GP-3 through GP-5, were completed inside the building to the west, north and south of the dry cleaning machine, respectively. Five borings, GP-6 through GP-10, were advanced outside of the building (generally the east side of the building). Boring locations are presented on Figure 2.

One soil sample was collected from each of the three indoor borings at a depth from surface grade to four feet below grade, and groundwater samples were collected from the five outdoor borings from intervals of six to eight, seven to nine, or nine to eleven feet below grade. Laboratory results demonstrated PCE concentrations in soil exceeding TAGM RSCOs in GP-3 through GP-5. PCE concentrations in groundwater exceeded TOGS in each of the five borings completed outside of the cleaners. In addition, trichloroethene (TCE) was detected in groundwater at a concentration exceeding TOGS in exterior boring GP-6, located immediately east of the dry cleaning machine, and vinyl chloride (VC) was detected in groundwater at a concentration exceeding TOGS in GP-7 and GP-8, located outside the southeastern portion of the building. Based on results of both investigations, Berninger reported the findings to the NYSDEC on March 2, 2005, and spill number 04-12650 was assigned to the Site. Subsequently, spill No. 04-12650 was closed, and the case was transferred to NYSDEC's Region 1 Bureau of Hazardous Waste Remediation.

The following is a summary of these data:

Soil (units in ug/kg)	Tetrachloroethene	Trichloroethene	TAGM RSCOs
GP-3 (0' - 4')	11,000	7.0	1,400 / 700
GP-4 (0' - 4')	7,000	9.4	1,400 / 700
GP-5 (0' - 4')	20,000	3.1	1,400 / 700

Groundwater (water table) (units in ug/l)	Tetrachloroethene	Trichloroethene	Vinyl Chloride	TOGS
GP-6	13,000	16	ND	5.0/5.0/2.0
GP-7	21	ND	15	5.0/5.0/2.0
GP-8	15	ND	26	5.0/5.0/2.0
GP-9	13	ND	ND	5.0/5.0/2.0
GP-10	31	ND	ND	5.0/5.0/2.0

Brownfield Application (EEA, May 16, 2005)

EEA submitted a Brownfield Application on behalf of Ben Ley, owner of Minute Man Cleaners, as a participant in the Brownfield Cleanup Program. The application includes site description and site history, which are summarized above. Also noted are the uses of adjacent and nearby lands. An automobile repair shop (formerly a gasoline filling station) to the north across Atlantic Avenue was identified as an adjacent property of potential concern in the application. According to a summary of historical atlas maps provided in the application, the property north of the Site was depicted as a filling station on maps from 1951, 1961, and 1969. Based on information provided in the application, it is unclear when the filling station became an auto repair shop.

SITE INVESTIGATION ACTIVITES

Based on a review of previous environmental data collected at the Site a tele-conference with the NYSDEC on September 14, 2005, and comments received from NYSDEC, New York State Department of Health (NYSDOH) and Nassau County Department of Health (NCDOH) URS prepared a Remedial Investigation Work Plan (RIWP) dated August 23, 2006 that was approved by the NYSDEC on August 28, 2006. Based on the RIWP, the following scope of work was approved for the site investigation. The site investigation was conducted in two phases, as follows:

- Phase A: soil gas survey, Geoprobe® borings (soil and grab groundwater sampling), dry well sediment sampling; and
- Phase B: river surface water and sediment sampling, monitoring well installation, site survey, and monitoring well groundwater sampling.

Field changes/modifications to the RWIP are identified herein. URS notified the NYSDEC, the NYSDOH and the NCDOH prior to commencing fieldwork activities.

PHASE A

Soil Gas Survey

A soil gas survey was conducted along the perimeter of the Site on September 7, 2006 to assess for the presence of soil gas adjacent to the property boundaries and subsurface utility trenches. The soil vapor samples were collected in substantial accordance with the *NYSDOH Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated February 2005. However, due to faulty equipment on the date of soil vapor sampling, tracer gas (helium) readings could not be obtained. Based upon the detected concentrations of PCE observed in the laboratory results, it is apparent that the soil vapor samples were not significantly diluted by surface air.

Four soil vapor samples were collected using a Geoprobe® direct push soil sampling unit at perimeter locations of the Site (Figure 4). The soil gas samples were collected from the following locations:

- Sample SG-1 was collected at the northern boundary of the Site adjacent to Atlantic Avenue;
- Sample SG-2 was collected from the north side of the utility easement along the western perimeter of the Site adjacent to Ocean Avenue. On-site utilities, including telephone, electric, natural gas, and sanitary sewer exit the southern end of the building and predominantly run west towards Ocean Avenue. Utility corridors are generally considered potential migration pathways for soil vapor.
- Sample SG-3 was collected from the south side of the utility easement along the western perimeter of the Site adjacent to Ocean Avenue.
- Sample SG-4 was collected at the southern boundary of the Site adjacent to the retail fish market/restaurant.

Temporary soil vapor probes were constructed at each of the four locations. A drive point fitted with ¼-inch polyethylene tubing was driven approximately four feet below grade at SG-1 and SG-4 and approximately three feet below grade at SG-2 and SG-3 with a Geoprobe® direct push soil sampling unit, and the drive point was extracted approximately one-foot to create a sampling zone. The borings at SG-2 and SG-3 were completed at shallower depths after groundwater intrusion was observed in the tubing during the purging of the initial boring for SG-2. The boring location for SG-2 was moved approximately two feet to the west, and new tubing was inserted in the second boring for SG-2. The tubing and the probe at each location were sealed above the sampling zone with bentonite slurry.

Following temporary probe installation, URS purged one to three volumes of air prior to collection of the sample at flow rates not exceeding 0.2 liters per minute. The soil gas samples were collected in laboratory-provided Summa® canisters. The laboratory provided 24-hour regulators to control the flow of air into the Summa® canisters. The laboratory indicated via telephone that the minimum collection time for sampling with 24-hour regulators is six hours; therefore, the duration of soil vapor collection at each location was six hours.

A total of four soil vapor samples were submitted for analysis to Severn Trent Laboratories of Edison, New Jersey (STL), a NYSDOH ELAP-certified analytical laboratory. STL analyzed the soil vapor samples for VOCs by EPA Method TO-15. Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC Analytical Services Protocol (ASP) B deliverable format.

Following soil vapor sample collection, the boreholes were grouted to surface grade and patched with concrete.

Geoprobe® Borings – Soil and Groundwater Sampling

URS advanced nine Geoprobe® soil borings at the Site on September 5 – 7, 2006 at the locations shown in Figure 4. Zebra Environmental Corp. (Zebra) was contracted to advance the borings using a Geoprobe® 6610 DT hydraulic push unit and a portable Geoprobe® unit for advancing borings inside the building. The locations of the borings were as follows:

- Boring B-1 was located at the northeast corner of the property near Atlantic Avenue and adjacent to the bulkhead for Mill River.
- Boring B-2 was located in the asphalt-paved driveway outside the northeast corner of the building.
- Boring B-3 was located near the bulkhead for Mill River. The boring was in line with the former dry cleaning machine inside the building.
- Boring B-4 was located in the asphalt driveway behind the building, approximately ten feet northeast of a storm water dry well outside the southeast corner of the building.
- Boring B-5 was located near the bulkhead for Mill River, approximately 20 feet south of the building.
- Boring B-6 was located immediately outside the western wall of the building near the front door of the store as per the RIWP. The boring initially was attempted inside the central portion of the dry cleaning store, but the boring was moved to the exterior after repeated refusal was encountered at a depth of approximately three feet below grade surface (bgs) on three occasions.

- Boring B-7 was located inside the building at the northeast corner of the store.
- Boring B-8 was located inside the building along the eastern wall and approximately ten feet south of the dry cleaning machine.
- Boring B-9 was located inside the building, approximately two feet west of a floor drain in the southern portion of the store.

For the exterior borings, continuous soil samples were collected using a 2-inch diameter by 5-foot long macrocore sampler. For the interior borings a 2-inch diameter by 3-foot long macro-core sampler was used. A macrocore piston point was attached to the end of the sampler to control the interval at which the sample was collected and prevent sampling of sloughed overlying soils. Soil collected in the macrocore sampler was examined and logged by a URS scientist. The soil lithology, including grain size, color, moisture content, and presence of staining or odors were classified using the Unified Soil Classification System (USCS). Evidence of staining or odors was also noted at select borings. Boring logs prepared by URS are located in Appendix A that also includes descriptive summaries for each log

The soil retrieved by the macrocore sampler was screened for VOCs via headspace analysis with a photoionization detector (PID). The headspace analysis was conducted on a duplicate soil sample collected by the URS scientist exclusively for that purpose. The soils screened for headspace analysis were placed in Ziploc® bags. After the soils were allowed to stand within the closed Ziploc® bags for approximately three to five minutes, the probe for the PID was placed within the bags for a reading of volatile vapors. The headspace results are shown on the boring logs. The samples collected and submitted to the laboratory for analysis were not screened with the PID since this may have compromised the integrity of the sample.

The borings at the Site were advanced to the following depths:

- Boring B-1 was advanced to a depth of 25 feet bgs. This deep boring was advanced below a semi-confining layer, which was encountered at a depth of approximately 21.5 feet bgs and extended to a depth of approximately 23 feet bgs.
- Boring B-2 was advanced to a depth of 23 feet bgs. The top of the semi-confining layer was encountered at a depth of approximately 22.5 feet bgs.
- Borings B-3, B-4, B-5 and B-6 were advanced to a depth of 20 feet bgs.
- Interior Borings B-7, B-8 and B-9 were advanced to a depth of 9 feet bgs. Due to the limitations of the portable Geoprobe® unit used inside the building, these borings could not be advanced beyond 9 feet bgs.

With the exception of boring B-1, two soil samples were collected at depths above the semi-confining layer from each boring for laboratory analysis. URS collected one soil sample from the vadose zone and one from the saturated zone at each location. A third soil sample was collected at B-1 from the interval (23' to 25' bgs) directly beneath the semi-confining layer. The groundwater table was encountered between five and six feet bgs at the time of this investigation. The samples chosen for laboratory analysis from the vadose zone were based on elevated PID headspace readings or presence of staining or odors as per the RIWP. In the absence of distinguishable characteristics, the soil sample collected immediately above the anticipated high tide elevation of the groundwater was submitted to the laboratory for analysis. Soil samples were placed into laboratory prepared containers, stored in iced coolers, and delivered under chain-of-custody protocol to the facilities of STL. In addition, five quality control samples, including two soil duplicates and three equipment rinse blanks, were collected.

A total of twenty-four soil samples, including two duplicate soil samples and three equipment rinse blank samples, were submitted to STL, a NYSDOH ELAP – certified analytical laboratory for analysis. Soil samples were analyzed for VOCs using EPA Method 8260 plus tentatively identified compounds (TICS). Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

In addition to the soil sampling, a grab groundwater sample was collected from the water table (6' – 9') in the sandy fill soils in each boring, and one additional grab groundwater sample was collected below the semi-confining unit at boring B-1. A SP15 screen point sampler was advanced with the Geoprobe® for the collection of the groundwater samples. The SP15 screen point utilizes a screen with a standard slot size of 0.004 inches (0.1 mm) and an exposed screen length of 36 inches. The groundwater samples were collected via hand bailing with 1" outer diameter polyethylene tubing fitted with a check valve. Prior to sampling, the temporary well point was purged by hand bailing. The groundwater samples were placed into laboratory prepared 40 ml vials, stored in iced coolers, and delivered under chain-of-custody protocol to STL. In addition, three quality control samples, including two trip blanks and one duplicate groundwater sample, were collected. One trip blank was included for each sample delivery to the lab, and two sample deliveries were made.

A total of ten grab water table samples, plus two trip blanks and one duplicate groundwater sample, were submitted to STL, a NYSDOH ELAP – certified analytical laboratory for analysis. The water table groundwater samples were analyzed for VOCs using EPA Method 8260 plus TICS. Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

Upon completion, boreholes were backfilled with the drill cuttings. The deep boring was pressure grouted from the bottom of the boring to the surface. Excess soil cuttings were placed in a 55-gallon drum for transportation offsite for proper disposal. The surface was patched with concrete.

PHASE B

River (Canal) Surface Water and Sediment Sampling

Sediment samples were collected from the Mill River on the morning of November 4, 2006 using a boat equipped with a slide hammer and Geoprobe® 3-foot long 2-inch diameter macrocore sampler at the locations shown in Figure 4. To provide adequate draft for the boat, the sediment samples were collected starting at peak actual high tide (approximately 7:30 am) and into the start of the dropping tide. The shallow sampler was driven over the 3-foot sampler length to allow for adequate sample recovery for both the shallow and deep proposed sampling depth intervals. Repeated refusal was encountered at select locations but primarily at RS-3 in the middle of the channel. Additional descriptive summaries of the borings are included in Appendix A. A total of six sediment samples were collected from four borings. The sediments samples were field screened via headspace analysis and separate samples collected for laboratory analysis.

As noted, URS attempted to advance a soil boring (RS-3) in the middle of the channel in a location identified in the RIWP. However, due to the amount of gravel in the middle of the channel, refusal was repeatedly encountered and no samples could be retrieved from the boring. It appears that the quantity of gravel and apparent lack of fine sediments in the middle of the channel is due to the constant movement of water through the channel due to tidal influences. URS observed that the high tide slack period in the channel lasted less than five minutes. Due to the constant water movement through the channel, fine sediments apparently cannot accumulate in the middle of Mill Creek at that location. Therefore, URS focused the collection of sediments to the areas of the channel near the bulkhead at the Site where adequate sample recovery could be achieved.

The sediment samples were placed into laboratory prepared containers, stored in iced coolers, and delivered under chain-of-custody protocol to STL in Shelton, Connecticut, a NYSDOH ELAP – certified analytical laboratory for analysis. The sediment samples were analyzed for VOCs using EPA Method 8260 plus TICS and total organic carbon (TOC). Due to insufficient samples, grain size analyses were not performed, with the exception of sample RS-2 (0-3 ft below sediment surface). Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

Three surface water samples were collected from Mill River after the start of the outgoing tide when the current was noticeably moving in a southward (outgoing) direction. The surface water samples were collected: 1) upstream of Site near the Atlantic Avenue bridge, 2) downstream of Site, and 3) adjacent to Site's source area where duplicate surface water samples were collected (Figure 4). Surface water samples were collected using disposable polyethylene bailers. Disposable bailers were lowered into the water from the western bank of Mill River from the top of the bulkhead. Water samples were decanted directly into 40 ml vials supplied by the laboratory that were stored on ice and submitted under chain-of-custody procedures to STL, Shelton, Connecticut, a NYSDOH ELAP - certified analytical laboratory for analysis. A total of four surface water samples (three samples and one duplicate sample) were submitted for analysis. Surface water samples were analyzed for VOCs using EPA Method 8260 plus TICS. Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

Dry Well Sediment Sampling

Two shallow storm water dry wells exist on the Site (Figure 4). One dry well, designated DW-1, is located in the central portion of the asphalt-paved parking area south of the building. The second dry well, designated DW-2, is located near the southeast corner of the building in the asphalt driveway behind the building (Figure 4). After visually observing their interiors, URS determined that there are no discharge pipes associated with these shallow dry wells. Thus, the dry wells discharge stormwater runoff downward through the open bottom of the drywell to the underlying soils and do not discharge to the municipal sewer system.

URS collected a sediment sample from inside each dry well using a Geoprobe® macrocore sampler. The sediment samples were collected at a depth 0.5' to 3' below the sediment level in the dry well and placed into appropriate laboratory prepared containers.

The dry wells are approximately five feet deep, and approximately 3' to 4' of standing water was observed in the dry wells. Sediments within DW-1 consisted of approximately 6 inches of black silt overlying brown medium sand and gravel. Sediments within DW-2 consisted of 3' of black silt. No free product, staining, odors or significantly elevated PID readings were observed in the sediments at DW-1. A sulfur odor was noted in the sediments within DW-2, but no free product or significantly elevated PID readings were observed.

The sediment samples were submitted to STL, Edison, New Jersey, a NYSDOH ELAP – certified analytical laboratory for analysis. The two sediment samples were analyzed for VOCs using EPA

Method 8260 plus TICS, TOC, and grain size. The laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

Bulkhead Seepage Water

URS proposed to sample bulkhead seepage water in the RIWP. However, no seepage was observed from the bulkhead at periods of low tide. Therefore, no bulkhead seepage sample could be collected.

Monitoring Well Installation/Gauging

Based upon the results of the groundwater (water table) samples analysis and hydrogeologic findings (Phase A), permanent shallow and deep monitoring wells were installed above and below the semi-confining layer at the locations shown in Figure 4. URS installed six well clusters composed of a shallow and deep monitoring well and a single shallow monitoring well at the Site constructed as shown in Table 4. Three of the five well clusters and the single shallow monitoring well were installed between the building and the bulkhead, east of the dry cleaning machine. Two well clusters were installed in the asphalt-paved parking lot south of the building, and one well cluster was installed at the northwest corner of the Site near the intersection of Atlantic Avenue and Ocean Avenue. The monitoring well locations are as follows:

- Monitoring well cluster MW-1 (MW-1S and MW-1D) is located at the northwest corner of the Site near the intersection of Atlantic Avenue and Ocean Avenue.
- Monitoring well cluster MW-2 (MW-2S and MW-2D) is located in the asphalt parking area approximately 15 feet south of the southwest corner of the building.
- Monitoring well cluster MW-3 (MW-3S and MW-3D) is located near the chain link fence at the eastern side of the asphalt parking area, approximately 20 feet south of the southeast corner of the building.
- Monitoring well cluster MW-4 (MW-4S and MW-4D) is located in the asphalt driveway behind the eastern wall of the building, approximately 10 feet northeast of dry well DW-2.
- Monitoring well cluster MW-5 (MW-5S and MW-5D) is located at the northeast corner of the property.
- Monitoring well cluster MW-6 is located in the asphalt driveway behind the eastern wall of the building, approximately 10 feet northeast of monitoring well cluster MW-4.
- Monitoring well MW-7S is located approximately 5 feet from the eastern wall of the building in line with the former dry cleaning machine.

The monitoring wells were installed with a Geoprobe® 6610 DT direct push soil sampling unit. A 3.25-inch outer-diameter casing rod with an expendable point was advanced to the desired depth, and a 1-inch inner diameter and 2.5-inch outer diameter PVC prepacked screen with 0.010-inch slot size was installed within the casing. The prepacked screens consist of slotted PVC well screen pipe surrounded by stainless steel mesh that is packed with sand. A 1-inch blank PVC casing (i.e., riser) was constructed from the top of the prepacked screen to approximately six-inches below grade. Two feet of standard Morie #1 sand was placed above the screen and the annular space between the borehole, and the blank casing was sealed with bentonite to approximately one foot below grade. The monitoring well was finished with a flush-mounted well box cover concreted into place.

Each monitoring well cluster consisted of a shallow and deep monitoring well constructed approximately three feet from one another. The deep monitoring well was screened with a five-foot section of pre-packed screen below the semi-confining unit. The deep monitoring wells were advanced to final depths between 27' and 30' bgs depending upon soil conditions. The shallow monitoring well was screened with a five-foot screen length at a final depth of 22' bgs, directly above the semi-confining unit. These wells were placed to assess for dense non-aqueous phase liquid (DNAPL) immediately above the semi-confining layer. URS had originally proposed in the RIWP to advance the deep monitoring wells to the top of the confining unit and advance the shallow wells immediately below the top of the water table. However, the groundwater sampling performed during Phase A indicated that groundwater below the semi-confining layer at boring B-1 contained elevated concentrations of PCE, TCE, VC and cis-1, 2-dichloroethene (c-DCE). Therefore, URS supplemented the monitoring well installation plan to investigate the deep aquifer at the Site and to supplement the water table ground water quality data gathered by the Geoprobe® sampling in Phase A

Following monitoring well construction and development, URS gauged the water levels in the monitoring wells on November 18, 2006 at the low tidal stage and on November 21, 2006 at the high tidal stage with a Solinst water level indicator with accuracy of 0.01 feet. The ground water elevation data are summarized in Tables 5A, 5B, 6A and 6B and Figures 6A, 6B, 7A and 7B.

Site Survey

AK Associates of Rockville Centre, New York, a New York State-licensed surveyor, surveyed the monitoring well locations on November 17, 2006. The northing, easting, and vertical elevation coordinates of the top of the PVC monitoring well casings (north edge) and northern point of the top of protective well casings for each monitoring well were surveyed to the nearest 0.01 foot. Based on the

survey findings, AK Associates prepared a site survey identifying the structures and monitoring wells at the Site. (Appendix C).

URS utilized the site survey data collected by AK Associates and the water level gauging data collected by URS to assess the direction of groundwater flow at the Site. Based on the data, groundwater flow in the shallow aquifer at the Site is significantly influenced by tidal effects. Groundwater flows easterly towards Mill Creek during periods of low tide and reverses and flows westerly during periods of high tide (See Site Hydrogeology/Tidal Influence Section).

Monitoring Well Sampling

One complete round of groundwater samples were collected over a ten-hour period from the monitoring wells at the site on November 2, 2006.

Prior to sampling the well, a Solinst water level indicator with accuracy of 0.01 feet was used to measure the depth to the water table and the total depth of the well. Subsequently, initial field indicator parameters (i.e., pH, specific conductance, temperature, dissolved oxygen, and redox potential) were measured using a Horiba U-22 water quality meter.

After collecting initial indicator parameters, the monitoring wells were purged and sampled. Purge water generated at the Site was containerized in 55-gallon drums for offsite disposal. A peristaltic pump with disposable polyethylene tubing was lowered to just below the top of the stabilized water level within the well and at least three well volumes were purged. Purging was considered complete when at least three volumes of water contained in the monitoring well was purged and three consecutive measurements of indicator parameters met the following criteria:

- Temperature readings do not vary by more than 1°C;
- Measurements of pH do not vary by more than 0.1 standard pH unit; and
- Specific conductance readings do not vary by more than 20 percent.

Following purging, a sample was collected using a new disposable polyethylene bailer and disposable gloves. The sample was collected with the bailer in such manner as to minimize agitation/excitation of the samples. The sample containers were filled with minimal turbulence by allowing the groundwater to flow gently down the inside of the container.

Groundwater samples were placed in laboratory-supplied 40 ml vials, stored on ice, and submitted under chain-of-custody procedures to STL, Edison, New Jersey, a NYSDOH ELAP - certified analytical laboratory for analysis. A total of 13 groundwater samples, plus two trip blanks, one duplicate sample, and one equipment rinsate blank sample, were submitted. Groundwater samples were analyzed for VOCs using EPA Method 8260 plus TICS. Laboratory analyses were conducted in accordance with USEPA SW-846 methods and NYSDEC ASP B deliverable format.

The results of the laboratory analyses of the monitoring well groundwater samples are summarized in Table 7 and discussed in the groundwater analytical results section.

Indoor Air

Based on results of the collected soil gas, groundwater, soil and sediment sample data, off-site indoor air sampling and an associated on-site sub-slab soil gas evaluation are not planned on being conducted at this time. The conclusion not to initiate off-site indoor air sampling was made based on the low levels of contaminants in soil and groundwater away from the identified on-site source area as well as the lack of contaminants in soil vapor samples collected away from the on-site utility easement. Therefore, it appears that there exists a low potential for the migration of subsurface soil vapors to neighboring buildings. The contaminated source soils and water table groundwater as a source to on-site soil gas is proposed to be immediately mitigated through the implementation of an IRM and follow up Remedial Action Activities (see Recommendations Section)

COMMUNITY AIR MONITORING PLAN (CAMP)

Real-time air monitoring, on a routine and periodic basis, for VOCs and particulates were conducted by URS personnel at the downwind perimeter of each work area during site activities. Monitoring for VOCs was conducted with a PID continuously during the geoprobing ground intrusive activities at the sample locations. The monitoring equipment was calibrated daily, using an appropriate surrogate, and calculated 15-minute running averages of VOC concentrations. The averages were recorded and compared to an upwind value. No downwind values exceeding 5 ppm were observed during the field activities.

In addition to VOCs, particulates were also monitored on a routine and periodic basis at the upwind and downwind perimeters of the work zone during work activities. The monitoring was conducted utilizing a real-time PM-10 monitor capable of integrating over 15 minute periods and equipped with an audible alarm. The majority of the time particulates were not above action levels however two audible alarms were sounded during the drilling activities, both from the upwind monitor. It appears that the upwind

monitors were affected by diesel exhaust from the Geoprobe® drill rig or from the exhaust from adjacent cars or trucks. Each of the alarms sounded for less than 5 minutes.

WASTE MANAGEMENT

Soil cutting and purge water have been contained in three 55-gallon labeled drums currently stored on-site. These investigation derived wastes (IDW) will be characterized for disposal purposes in accordance with all applicable environmental regulations

SITE HYGROGEOLOGY/TIDAL INFLUENCE

The site's geology is depicted in Figure 5 and features an upper fill layer comprised of brown medium sand, trace fine gravel with occasional pieces of wood, glass, and silt layers to a depth of approximately 13' bgs underlain by light brown medium glacial sand with trace fine gravel (shallow aquifer) to a depth of approximately 22 to 23 bgs. Underlying these formations is an approximately 1.5' thick light gray fine sandy silt semi-confining layer in turn underlain by a stiff light brown coarse sand with fine gravel (deep aquifer).

The water table is located in the upper sand fill layer at a depth ranging from 3.5' to 5.5' bgs depending on the tidal stage. Water table elevation measurements are summarized in Tables 5A, 5B, 6A and 6B.

Figure 6A depicts the shallow aquifer potentiometric surface configuration at low tide, which indicates groundwater flow in an east-southeast direction towards the Mill River with a .008 gradient. Figure 7A depicts the shallow aquifer potentiometric surface configuration at high tide, which indicates groundwater flow in a general west-northwest direction with a .004 gradient. Figure 6B depicts the deep aquifer potentiometric surface at low tide. Flow is generally to the east-southeast under a .005 gradient with a northeast component at the northern part of the site and a southeast component at the southeastern part of the site. Figure 7B depicts the deep aquifer potentiometric surface at high tide. Flow is to the northwest under a .001 gradient.

The vertical gradient at low tide is upward at each well cluster. Under high tide conditions the vertical gradient is upward at the western section of the site and slightly downward at the eastern section of the site in the vicinity of the river and where the water table elevation is highest at high tide.

The data indicates significant tidal influence with flow reversals in the shallow aquifer corresponding to the tidal changes with a lesser potentiometric head reversals in the deep aquifer during tidal changes. The

net horizontal gradient is east-southeasterly towards the Mill River. The net vertical gradient is upwards corresponding to a discharge area within Long Island's regional flow regime.

RESULTS

SOIL VAPOR ANALYTICAL RESULTS

The laboratory results of the four samples are summarized in Table 1. The results of the TO-15 analysis revealed that elevated concentrations of PCE were detected in soil vapor samples collected from the two locations in the vicinity of the utility easement. Although the State of New York does not have standards, criteria or guidance values for VOCs in subsurface soils, the concentrations of PCE detected in the samples (54,000 µg/m^3 at SG-2 and 600 µg/m^3 at SG-3) exceeded the NYSDOH Air Guidance Value of 100 µg/m^3 for PCE. No elevated concentrations of PCE were detected in SG-1 and SG-4.

Elevated concentrations of acetone and 2,2,4-trimethylpentane were detected in each of the four-soil vapor samples collected at the Site. Additionally, cyclohexane was detected above method detection limits at SG-1, and toluene was detected at SG-1 (190 µg/m^3) and SG-3 (150 µg/m^3). The NYSDOH has not developed Air Guidance Values for these chemicals.

SOIL ANALYTICAL RESULTS

The laboratory results for the soil samples collected at the Site are summarized in Table 3. The laboratory results of the soil samples collected reveal only one contaminant detected at a concentration exceeding TAGM RSCOs. PCE was detected in borings B-3 (5'-10'), B-8 (3'-6' and 6'-9'), B-9 (3'-6') and MW-7s (4'-8') above TAGM RSCO of 1.4 mg/Kg. PCE above 1.4 mg/Kg was not observed in the remaining soil samples collected at the Site. No elevated concentrations of targeted VOCs were detected in the soil sample collected from B-7 at a depth of 6' to 9' bgs, where stained soil and an elevated PID reading were observed, however the TIC VOCs totaled 49.5 mg/Kg.

GROUNDWATER ANALTICAL RESULTS

The laboratory results for the water table ground water samples collected with the Geoprobe® at the Site are summarized in Table 2. The laboratory analyses revealed the following:

- No elevated concentrations of VOCS above TOGS were detected in the shallow water sample collected from boring B-1. However, elevated concentrations of PCE, TCE, VC and c-DCE

above TOGS were detected in the deep groundwater sample collected beneath the semi-confining layer at B-1.

- A concentration of PCE exceeding TOGS was detected in the groundwater sample collected from B-2. However, no additional VOCs were detected at concentrations exceeding TOGS.
- Elevated concentrations of PCE, TCE, VC and c-DCE above TOGS were detected in the groundwater sample collected from B-3.
- Elevated concentrations of PCE, TCE, VC, c-DCE and trans-1, 2-dichloroethene (t-DCE) above TOGS were detected in the groundwater sample collected at B-4.
- Elevated concentrations of PCE and VC were detected above TOGS in the groundwater sample collected at B-5.
- A concentration of c-DCE exceeding TOGS was detected in the groundwater sample collected from B-6. However, no additional VOCs were detected at concentrations exceeding TOGS.
- Elevated concentrations of PCE and c-DCE were detected above TOGS in the groundwater sample collected at B-7.
- A concentration of PCE exceeding TOGS was detected in the groundwater sample collected from B-8. However, no additional VOCs were detected at concentrations exceeding TOGS.
- Elevated concentrations of PCE, TCE, c-DCE andt-DCE above TOGS were detected in the groundwater sample collected at B-9.

The deep groundwater sample collected at B-1 indicates that the groundwater beneath the confining layer (deep aquifer) at that location has been impacted.

MILL RIVER (CANAL) SEDIMENT AND SURFACE WATER ANALTICAL RESULTS

The results of the laboratory analyses of the sediment samples indicated that concentrations of PCE above method detection limits were detected in RS-1 (0'-3') RS-2 (0'-3'), RS-2 (3'-6') and RS- 5 (0'-3') Concentrations of TCE and c-DCE were detected in RS-2 (0'-3') and RS-5 (0'-3'). An elevated concentration of c-DCE was detected in RS-1. No elevated concentrations of target VOCs were detected in sediment samples RS-4B (0'-4') and RS-4A (0'-3').

In addition to the above mentioned VOCs, elevated concentrations of acetone and methylene chloride, two common laboratory contaminants, were detected in several of the samples. Both acetone and methylene chloride were detected in a trip blank analyzed by STL. Therefore, URS concludes that the presence of acetone and methylene chloride detected in the sediment samples were due to laboratory contamination and not due to activities at the Site.

Where possible, URS derived sediment characterization criteria based on the laboratory results. The criteria were developed pursuant to the Equilibrium Partitioning (EP) methodology outlined in the NYSDEC document titled *Technical Guidance for Screening Contaminated Sediments*. Sediment criteria for the sample collected at RS-2 (3-6) could not be calculated because TOC analysis could not performed due to insufficient sample material. The criteria were developed for PCE and TCE utilizing Human Health Bioaccumulation Sediment Criteria. No published criteria exists for c-DCE. The laboratory results revealed that sediments collected from borings RS-1, RS-2 and RS-5 are considered contaminated under the NYSDEC technical guidance document. These borings were located in close proximity to the source area located east of the dry cleaning machine. However, sediments at RS-4, located downstream of the apparent source area, are not considered contaminated.

The laboratory results indicated that concentrations of PCE were above method detection limits in the three surface water samples. However, the concentrations detected in the samples were less than 1 ppb indicating minimal movement/dilution from source soils into the saline surface water.

DRY WELL SAMPLING RESULTS

No elevated concentrations of VOCs were detected above method detection limits in the sediment sample collected from DW-1. Concentrations of PCE (0.0018 mg/kg), methylene chloride (0.0037 mg/kg), acetone (0.013 mg/kg), and carbon disulfide (0.0058 mg/kg) were detected in the sediment sample collected from DW-2, but none of the concentrations detected exceeded TAGM RSCOs.

A TOC concentration of 9,520 mg/kg was detected in the sediment sample collected from DW-1, and a TOC concentration of 35,500 mg/kg in the sediment sample collected from DW-2.

The grain size analysis indicated that the sediment sample collected from DW-1 consisted of 76% sand, 21% gravel and 3% silt and clay. The grain size analysis for DW-2 indicated the sediment sample consisted of 48% sand, 15% gravel, 26% silt and 11% clay

DISCUSSION

Based on the data collected during this remedial investigation, the primary contaminant source area at the site is in the immediate vicinity of the former dry cleaning machine (same place as the current machine is located) at a depth from 3’-9’and in the immediate vicinity of the interior floor drain (3’-6’) at the southwest portion of the building. Both shallow “smear” zone soils (3’-9’) and the water table

groundwater quality data support this conclusion. Moving easterly from the former dry cleaning machine, shallow soil contamination (4'-10') exists between the building and the bulkhead for the Mill River. A secondary localized saturated soil (source) area of contamination (6'-9') has been identified at the extreme northeast interior corner of the building apparently from on-site fill or potentially on-site impact from the offsite former service station to the north of the site across Atlantic Avenue.

The soil and resulting water table contamination in the immediate vicinity of the interior floor drain appears to be the source for the elevated soil gas identified on either side of the east to west running subsurface utility trench(s), Figure 3, located south of the building.

Accordingly, the groundwater contamination (Figure 8) mirrors the soil source areas with the highest dissolved phase contamination located in the water table portion of the shallow aquifer below the former dry cleaning machine advecting eastward towards the Mill River. There is some lateral spreading of the water table plume to the north and south in this area, likely due to tidal influences. A secondary area of apparent localized water table contamination exists beneath the interior floor drain within the building.

Significantly lower concentration dissolved phase groundwater contamination exists away from the soil source areas both above and below the semi-confining unit (Figures 9A and 9B). The groundwater data appears to support that the dissolved phase contamination is apparently mitigating with depth and is tidally influenced in the shallow aquifer as indicated by the slight northward movement of the plume with depth.

Due to the significant tidal influence at the site and reported low volume of product release, the contamination has remained at the shallow smear zone and water table elevations at the site.

The identified shallow and localized soil contamination in the Mill River sediments, immediately adjacent to the bulkhead, apparently are a result of smear zone contaminant movement across the bulkhead. The data does not indicate contaminant movement eastward into the middle of the channel or significantly in a north or south direction away from the immediately adjacent upland source area.

The groundwater at and in the vicinity of the site is not withdrawn locally for consumption that URS is aware of and therefore is not an ingestion pathway. The contaminated soils are capped and not planned on being disturbed at this time. Contaminated soil gas exists at the site and the source area soils and shallow groundwater are proposed to be addresses through remedial action as are the contaminated sediments in the Mill River adjacent to the bulkhead.

CONCLUSIONS/RECOMMENDATIONS

Data collected from these investigations indicate that the soil, soil vapor and groundwater on the property have been impacted with PCE and associated breakdown products. The source of the majority of the contamination appears to be from a few localized PCE spills that occurred on-site in the 1980s. URS did not observe DNAPL in the samples collected throughout the Site. URS concludes that the remedial investigation has defined the source area(s) and majority of the extent of the contamination at the site.

URS recommends that an interim remedial measure (IRM) be immediately implemented to mitigate the shallow source area(s) on the property followed with a Remedial Action Work Plan to address post remedial monitoring (three newly installed ground water table monitoring wells), soil gas venting and additional remedial actions, if necessary, for groundwater.

TABLES

Table 1
Soil Gas Results Summary
Minute Man Cleaners
89 Ocean Avenue, East Rockaway, N.Y.
URS Project # 38580332

Sample ID	NYSDOH Indoor Air	SG-1	SG-2	SG-3	SG-4
Sampling Date	Guidance	9/7/06	9/7/06	9/7/06	9/7/06
Sampling Depth (bgs)	Value	4 ft	3 ft	3 ft	3 ft
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Dichlorodifluoromethane	None	ND	ND	ND	ND
1,2-Dichlorotetrafluoroethane	None	ND	ND	ND	ND
Chloromethane	None	ND	ND	ND	ND
Vinyl Chloride	None	ND	ND	ND	ND
1,3-Butadiene	None	ND	ND	ND	ND
Bromomethane	None	ND	ND	ND	ND
Chloroethane	None	ND	ND	ND	ND
Bromoethene	None	ND	ND	ND	ND
Trichlorofluoromethane	None	ND	ND	ND	ND
Freon TF	None	ND	ND	ND	ND
1,1-Dichloroethene	None	ND	ND	ND	ND
Acetone	None	6200	11000	9500	2900
Isopropyl Alcohol	None	ND	ND	ND	ND
Carbon Disulfide	None	ND	ND	ND	ND
3-Chloropropene	None	ND	ND	ND	ND
Methylene Chloride	60	ND	ND	ND	ND
tert-Butyl Alcohol	None	ND	ND	ND	ND
Methyl tert-Butyl Ether	None	ND	ND	ND	ND
trans-1,2-Dichloroethene	None	ND	ND	ND	ND
n-Hexane	None	ND	ND	ND	ND
1,1-Dichloroethane	None	ND	ND	ND	ND
1,2-Dichloroethene (total)	None	ND	ND	ND	ND
Methyl Ethyl Ketone	None	ND	ND	ND	ND
cis-1,2-Dichloroethene	None	ND	ND	ND	ND
Tetrahydrofuran	None	ND	ND	ND	ND
Chloroform	None	ND	ND	ND	ND
1,1,1-Trichloroethane	None	ND	ND	ND	ND
Cyclohexane	None	3300	ND	ND	ND
Carbon Tetrachloride	None	ND	ND	ND	ND
2,2,4-Trimethylpentane	None	17000	25000	18000	2300
Benzene	None	ND	ND	ND	ND
1,2-Dichloroethane	None	ND	ND	ND	ND
n-Heptane	None	ND	ND	ND	ND
Trichloroethene	65	ND	ND	ND	ND
1,2-Dichloropropane	None	ND	ND	ND	ND
1,4-Dioxane	None	ND	ND	ND	ND
Bromodichloromethane	None	ND	ND	ND	ND
cis-1,3-Dichloropropene	None	ND	ND	ND	ND
Methyl Isobutyl Ketone	None	ND	ND	ND	ND
Toluene	None	190	ND	150	ND
trans-1,3-Dichloropropene	None	ND	ND	ND	ND
1,1,2-Trichloroethane	None	ND	ND	ND	ND
Tetrachloroethene	100	ND	54000	600	ND
Methyl Butyl Ketone	None	ND	ND	ND	ND
Dibromochloromethane	None	ND	ND	ND	ND
1,2-Dibromoethane	None	ND	ND	ND	ND
Chlorobenzene	None	ND	ND	ND	ND
Ethylbenzene	None	ND	ND	ND	ND
Xylene (m,p)	None	ND	ND	ND	ND
Xylene (o)	None	ND	ND	ND	ND
Xylene (total)	None	ND	ND	ND	ND
Styrene	None	ND	ND	ND	ND
Bromoform	None	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	None	ND	ND	ND	ND
4-Ethyltoluene	None	ND	ND	ND	ND
1,3,5-Trimethylbenzene	None	ND	ND	ND	ND
2-Chlorotoluene	None	ND	ND	ND	ND
1,2,4-Trimethylbenzene	None	ND	ND	ND	ND
1,3-Dichlorobenzene	None	ND	ND	ND	ND
1,4-Dichlorobenzene	None	ND	ND	ND	ND
1,2-Dichlorobenzene	None	ND	ND	ND	ND
1,2,4-Trichlorobenzene	None	ND	ND	ND	ND
Hexachlorobutadiene	None	ND	ND	ND	ND

Notes:

Analytical Method used for all compounds is TO-15.

µg/m³ = micrograms/cubic meter

Table includes "J" qualified (estimated) analyses.

ND = Not detected

Table 2
Ground Water Results Summary-Geoprobe
Minute Man Cleaners
89 Ocean Avenue
East Rockway, N.Y.
URS Project # 38580332

Boring ID Depth Collection Date Matrix Units	NYSDEC Groundwater Quality Standards ug/L	WS-B1 6'-9' 9/5/2006 Water ug/L	WS-B1D 22'-25' 9/5/2006 Water ug/L	WS-B2 6'-9' 9/5/2006 Water ug/L	WS-B3 6'-9' 9/5/2006 Water ug/L	WS-B4 6'-9' 9/5/2006 Water ug/L	WS-B5 6'-9' 9/5/2006 Water ug/L	WS-B6 6'-9' 9/7/2006 Water ug/L	WS-B7 6'-9' 9/6/2006 Water ug/L	WS-B8 6'-9' 9/6/2006 Water ug/L	WS-B9 6'-9' 9/6/2006 Water ug/L
Volatile Organic Compounds (EPA Method 8260)											
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	0.9	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	5	0.6	ND	ND	ND	ND	0.5	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	5	ND	**70**	ND	**180**	**210**	2.4	**14**	**16**	2.5	**350**
Cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&p-Xylenes	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
O-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	3.3	**1000**	**50**	**3600**	**1200**	**24**	2.6	**30**	**45**	**150**
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	5	ND	ND	ND	ND	**17**	ND	ND	ND	ND	**5.6**
Trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	0.6	**72**	1	**70**	**19**	3.5	0.9	1.6	0.8	**8**
Vinyl chloride	2	ND	**14**	ND	**17**	**1300**	**3.6**	ND	ND	ND	ND

Notes:

1. Bold and highlighted values indicate NYSDEC Groundwater Criteria
2. ND = Not Detected above Reporting Limit
3. J = Indicates an estimated value when a compound is detected at less than the specified detection limit.

Table 3
Soil Results Summary - Geoprobe and Drywell
Minute Man Cleaners
89 Ocean Avenue,
East Rockaway, N.Y.
URS Project # 38580332

Sample ID/Depth	New York TAGM	Remedial Program	B-1 (0-5')	B-1 (5-10')	B-1 (23-25')	B-2 (0-5')	B-2 (5-10')	B-3 (5-10')	B-4 (0-5')	B-4 (5-10')	B-5 (0-5')	B-5 (5-10')	B-6 (0-5')	B-6 (5-10')	B-7 (3-6')	B-7 (8-9')	B-8 (3-6')	B-8 (6-9')	B-9 (3-6')	B-9 (6-9')	MW-7 (4-8')	DW-1 (.5-3')	DW-2 (.5-3')
Sampling Date	Cleanup Objective	Soil Cleanup Objectives	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/5/2006	9/7/2006	9/7/2006	9/6/2006	9/6/2006	9/6/2006	9/6/2006	9/6/2006	9/6/2006	10/11/2006	9/7/2006	9/7/2006
Matrix	Criteria	Restricted Commercial	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SEDIMENT	SEDIMENT
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANIC COMPOUNDS (GC/MS)																							
Chloromethane	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.2	13	ND	ND	ND	ND	ND	0.55J	ND	0.013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	1.9	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.1	NA	0.0016JB	0.0032JB	ND	0.0025JB	ND	ND	0.0027JB	0.0058	0.0048B	0.0052B	0.004B	0.0018JB	0.0019JB	ND	ND	ND	ND	ND	ND	ND	0.0037JB
Acetone	0.2	500	0.016B	0.14B	0.04B	0.022B	0.13B	ND	0.017B	0.056B	0.035B	0.1B	ND	0.028B	0.017B	ND	ND	ND	ND	0.038B	ND	ND	0.013B
Carbon Disulfide	2.7	NA	ND	ND	ND	ND	ND	ND	ND	0.0036J	ND	0.0027J	ND	0.0041J	ND	ND	ND	ND	ND	0.0023J	ND	ND	0.0058J
1,1-Dichloroethane	0.4	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.2	240	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.3	500	ND	ND	ND	ND	ND	ND	ND	0.0039J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NA	500	ND	ND	ND	ND	ND	1.1	ND	0.0079	ND	ND	ND	0.0017J	ND	ND	0.16DJ	ND	ND	0.0013J	ND	ND	ND
Chloroform	0.3	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.1	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	0.3	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.8	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.6	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NA	NA	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	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.7	200	ND	ND	ND	ND	ND	0.21	ND	0.0018	ND	ND	ND	ND	ND	ND	0.10DJ	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NA	NA	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	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NA	NA	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	1	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.4	150	ND	0.0009J	ND	0.042	ND	12	0.0062	0.022	0.01B	0.004	0.015	0.0006J	0.093	0.41	18	2.3	4.5	0.0014	5.7	ND	0.001B
1,1,2,2-Tetrachloroethane	0.6	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1.5	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.7	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.5	390	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	1.2	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tentatively Identified Compounds (TIC)	NA	NA	0	0	0	0	0	1.3	0	0	0	0.343J	0	0.007B	0	49.5	0	0	0	0	0	0	0

Notes:

1. ND=The compound was not detected above the reporting limit.
2. J=Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.
3. B=The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.
4. NA=not analyzed or not applicable.
5. Bold and highlighted values indicate NYSDEC TAGM exceedances.
6. DW denotes drywell

B-1 denotes Geoprobe boring sample
MW-7 denotes monitoring well boring sample
DW-1 denotes dry well sediment sample

Table 4
Monitoring Well Construction
Minute Man Cleaners
89 Ocean Avenue, East Rockaway, N.Y.
URS Project # 38580332

Monitoring Well Number	Total Depth (feet bgs)	Top PVC Pipe Elevation	Top of Screen Elevation	Bottom Screen Elevation
1S	22	6.91	-10.1	-15.1
1D	27	6.86	-15.1	-20.1
2S	22	7.17	-9.8	-14.8
2D	30	7.08	-17.9	-22.9
3S	23	6.07	-11.9	-16.9
3D	29	6.15	-17.9	-22.9
4S	22	5.98	-11.0	-16.0
4D	28	6.07	-16.9	-21.9
5S	22	6.60	-10.4	-15.4
5D	27	6.35	-15.7	-20.7
6S	22	5.87	-11.1	-16.1
6D	30	6.09	-18.9	-23.9
7S	22	6.53	-10.5	-15.5

Notes: See Figure 4 for well locations
Well elevation surveyed by AK Associates, Rockville Centre, NY (Appendix C)
N.Y., Lics. # 49462, 50238

Table 5A
Ground Water Elevation Data
Nov. 18, 2006
(Low Tide) - Shallow Wells
Minute Man Cleaners
89 Ocean Avenue
East Rockaway, N.Y.
URS Project # 38580332

Monitoring Well Number	Total Depth (feet bgs)	Top PVC Pipe Elevation	Depth to Water (feet below top of PVC)	Water Elevation
1S	22	6.91	4.98	1.93
2S	22	7.17	5.32	1.85
3S	23	6.07	4.56	1.51
4S	22	5.98	4.47	1.51
5S	22	6.60	4.94	1.66
6S	22	5.87	4.43	1.44
7S	22	6.53	4.83	1.7

Notes: See Figure 4 for well locations
Well elevation surveyed by AK Associates, Rockville Centre, NY (Appendix C)
N.Y., Lics. # 49462, 50238

Table 5B
Ground Water Elevation Data
Nov. 18, 2006
(Low Tide) - Deep Wells
Minute Man Cleaners
89 Ocean Avenue
East Rockaway, N.Y.
URS Project # 38580332

Monitoring Well Number	Total Depth (feet bgs)	Top PVC Pipe Elevation	Depth to Water (feet below top of PVC)	Water Elevation
1D	27	6.86	4.91	1.95
2D	30	7.08	5.16	1.92
3D	29	6.15	4.51	1.64
4D	28	6.07	4.13	1.94
5D	27	6.35	4.66	1.69
6D	30	6.09	4.17	1.92

Notes: See Figure 4 for well locations
Well elevation surveyed by AK Associates, Rockville Centre, NY (Appendix C)
N.Y., Lics. # 49462, 50238

Table 6A
Ground Water Elevation Data
Nov. 21, 2006
(High Tide) - Shallow Wells
Minute Man Cleaners
89 Ocean Avenue
East Rockaway, N.Y.
URS Project # 38580332

Monitoring Well Number	Total Depth (feet bgs)	Top PVC Pipe Elevation	Depth to Water (feet below top of PVC)	Water Elevation
1S	22	6.91	4.67	2.24
2S	22	7.17	4.89	2.28
3S	23	6.07	3.67	2.4
4S	22	5.98	3.53	2.45
5S	22	6.60	4.27	2.33
6S	22	5.87	3.41	2.46
7S	22	6.53	4.13	2.4

Notes: See Figure 4 for well locations
Well elevation surveyed by AK Associates, Rockville Centre, NY (Appendix C)
N.Y., Lics. # 49462, 50238

Table 6B
Ground Water Elevation Data
Nov. 21, 2006
(High Tide) - Deep Wells
Minute Man Cleaners
89 Ocean Avenue
East Rockaway, N.Y.
URS Project # 38580332

Monitoring Well Number	Total Depth (feet bgs)	Top PVC Pipe Elevation	Depth to Water (feet below top of PVC)	Water Elevation
1D	27	6.86	4.58	2.28
2D	30	7.08	4.76	2.32
3D	29	6.15	3.75	2.4
4D	28	6.07	3.72	2.35
5D	27	6.35	4.00	2.35
6D	30	6.09	3.75	2.34

Notes: See Figure 4 for well locations
Well elevation surveyed by AK Associates, Rockville Centre, NY (Appendix C)
N.Y., Lics. # 49462, 50238

Table 7
Ground Water Results Summary-
Monitoring Wells
Minute Man Cleaners
89 Ocean Avenue
East Rockway, N.Y.
URS Project # 38580332

Boring ID	NYSDEC	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4D	MW-5S	MW-5D	MW-6S	MW-6D	MW-7
Screen Depth	Groundwater	17'-22'	22'-27	17'-22'	25'-30'	18'-23'	24'-29'	17'-22'	23'-28'	17'-22'	22'-27'	17'-22'	25'-30'	17'-22'
Collection Date	Quality	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006	11/2/2006
Matrix	Standards	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organic Compounds (EPA Method 8260)														
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	1.2 J	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	2.4 J	0.4 J	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	5	ND	ND	ND	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	5	ND	ND	ND	2.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	2.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	5	1.6 J	2.6 J	1 J	0.4 J	ND	3.4 J	0.3 J	1.6 J	**36**	**6.2**	1.4 J	1.8 J	0.8 J
Cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	1.9 J	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M&p-Xylenes	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
O-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	**450**	**310**	**250**	**70**	**110**	**550**	**28**	**220**	**600**	**88**	**140**	**82**	**120**
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	ND	ND	ND	ND
Trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	**13**	**9.4**	3.4	1.3	1.6 J	**14**	0.4 J	**7.2**	**35**	**6.6**	4.3	**6.1**	3.4
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	4.4 J	1.6 J	ND	0.4 J	ND

Notes:

1. Bold and highlighted values indicate NYSDEC TAGM Exceedances
2. ND = Not Detected above Reporting Limit
3. J = Indicates an estimated value when a compound is detected at less than the specified detection limit.

Table 8
Canal Sediment Sampling Summary
Minute Man Cleaners
89 Ocean Avenue
East Rockaway, N.Y.
URS Project # 38580332

CONTAMINANT	Sediment Criteria Human Health Bioaccumulation ug/g Organic Carbon	RS-2 (0-3) TOC g/Kg	RS-2 (0-3) Calculated Characterization Criterion ug/Kg	RS-2 (0-3) Laboratory Results ug/Kg	RS-2 (3-6) TOC g/Kg	RS-2 (3-6) Calculated Characterization Criterion ug/Kg	RS-2 (3-6) Laboratory Results ug/Kg	RS-1 (0-3) TOC g/Kg	RS-1 (0-3) Calculated Characterization Criterion ug/Kg	RS-1 (0-3) Laboratory Results ug/Kg
Tetrachloroethylene	0.8	7.57	6.06	**9,000**	NA*	NA*	**1,000**	3.85	3.08	**32**
Trichloroethylene	2	7.57	15.14	**1,100**	NA*	NA*	ND	3.85	7.70	ND
cis-1,2-dichloroethylene	NA		NA	1,300	NA*	NA*	1,700			ND

CONTAMINANT	Sediment Criteria Human Health Bioaccumulation ug/g Organic Carbon	RS-5 (0-3) TOC g/Kg	RS-5 (0-3) Calculated Characterization Criterion ug/Kg	RS-5 (0-3) Laboratory Results ug/Kg	RS-4B (0-4) TOC g/Kg	RS-4B (0-4) Calculated Characterization Criterion ug/Kg	RS-4B (0-4) Laboratory Results ug/Kg	RS-4A (0-3) TOC g/Kg	RS-4A (0-3) Calculated Characterization Criterion ug/Kg	RS-4A (0-3) Laboratory Results ug/Kg
Tetrachloroethylene	0.8	3.2	2.56	**51**	5.11	4.09	ND	16.2	12.96	ND
Trichloroethylene	2	3.2	6.40	**14**	5.11	10.22	ND	16.2	32.40	ND
cis-1,2-dichloroethylene	NA		NA	52			ND			ND

NA* = No TOC analysis was performed for sample RS-2 (3-6) due to insufficient sample collected.
Note - Calculated characterization criteria derived using Equilibrium Partitioning
Bold and highlighted values indicate sediment criteria exceedances.

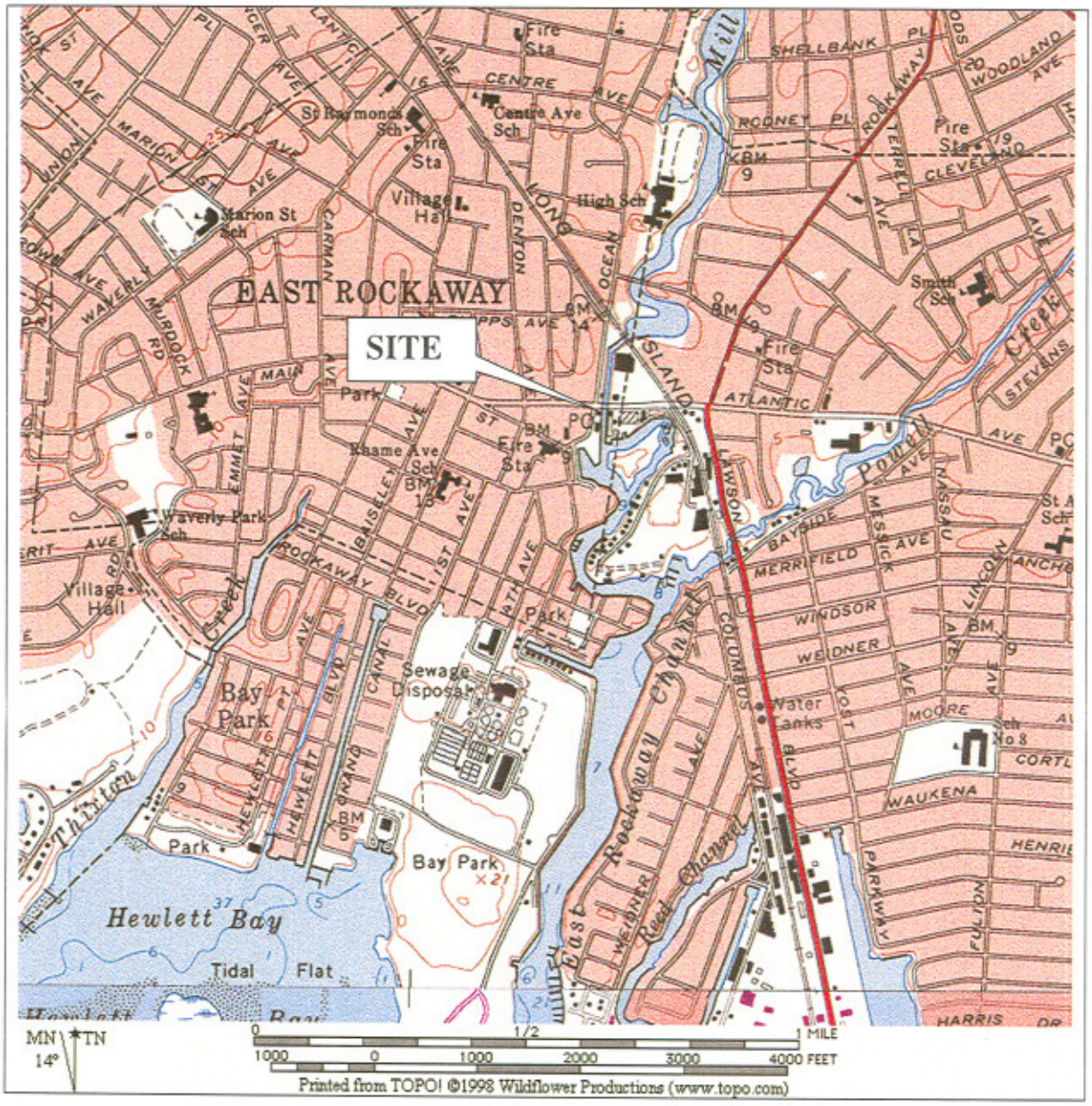
Table 9
Canal Surface Water Sampling Summary
Minute Man Cleaners
89 Ocean Avenue, East Rockway, N.Y.
URS Project # 38580332

Boring ID	NYSDEC Groundwater Quality Standards	SW-1	SW-2	SW-2Dup	SW-3
Collection Date		11/4/2006	11/4/2006	11/4/2006	11/4/2006
Matrix		Water	Water	Water	Water
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organic Compounds (EPA Method 8260)					
1,1,1-Trichloroethane	5	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND
2-Butanone	5	ND	ND	ND	ND
2-Hexanone	5	ND	ND	ND	ND
4-Methyl-2-Pentanone	5	ND	ND	ND	ND
Acetone	5	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND
Bromodichloromethane	5	ND	ND	ND	ND
Bromoform	5	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND
Carbon disulfide	5	0.6	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND
Cis-1,2-Dichloroethene	5	ND	ND	ND	ND
Cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND
M&p-Xylenes	5	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND
O-Xylene	5	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND
Tetrachloroethene	5	0.73 J	0.65 J	0.98 J	1 J
Toluene	5	ND	ND	ND	ND
Trans-1,2-Dichloroethene	5	ND	ND	ND	ND
Trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND
Trichloroethene	5	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND

Notes:

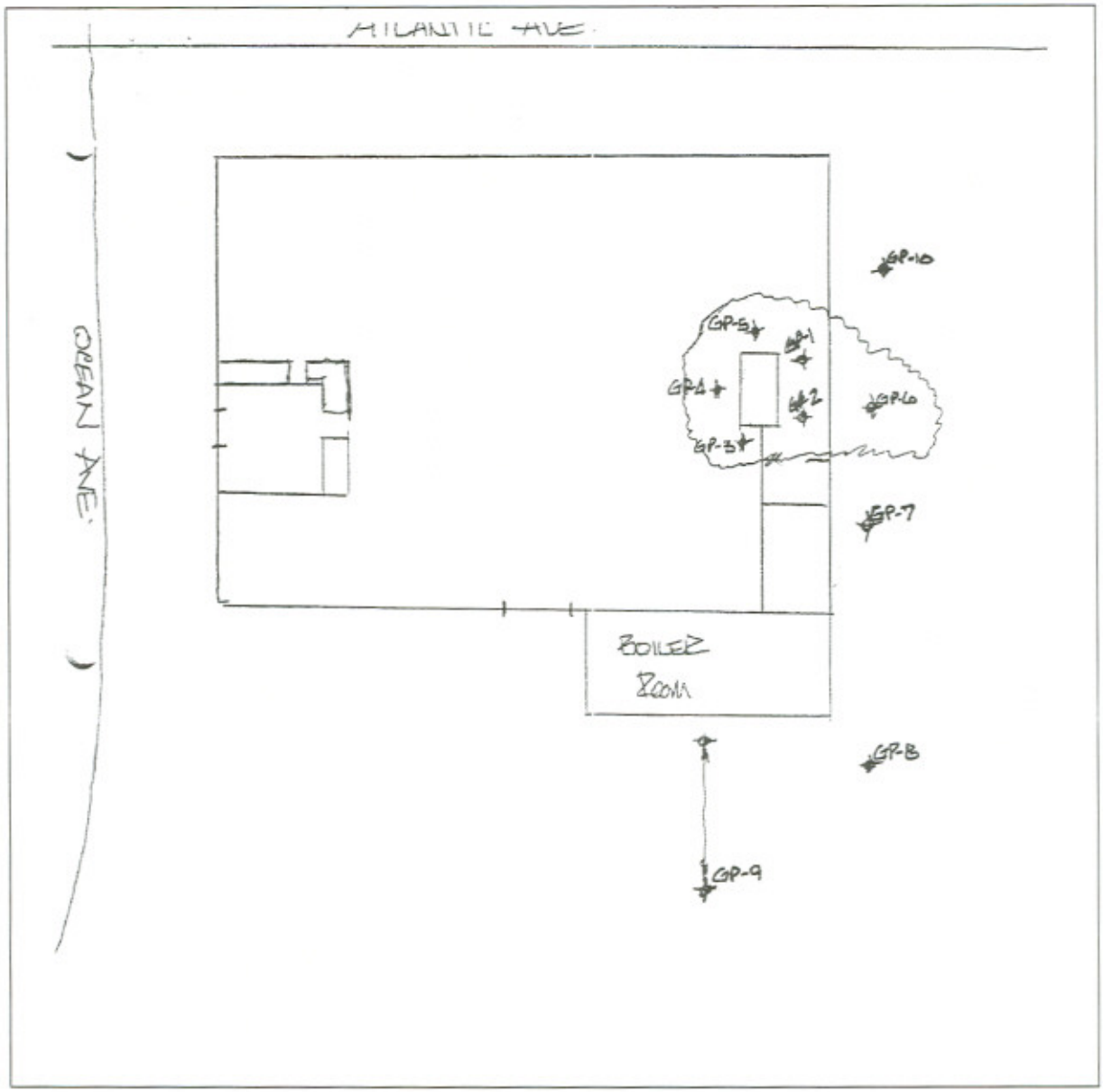
1. Bold and highlighted values indicate NYSDEC TAGM Exceedances
2. ND = Not Detected above Reporting Limit
3. J = Indicates an estimated value when a compound is detected at less than the specified detection limit.

FIGURES



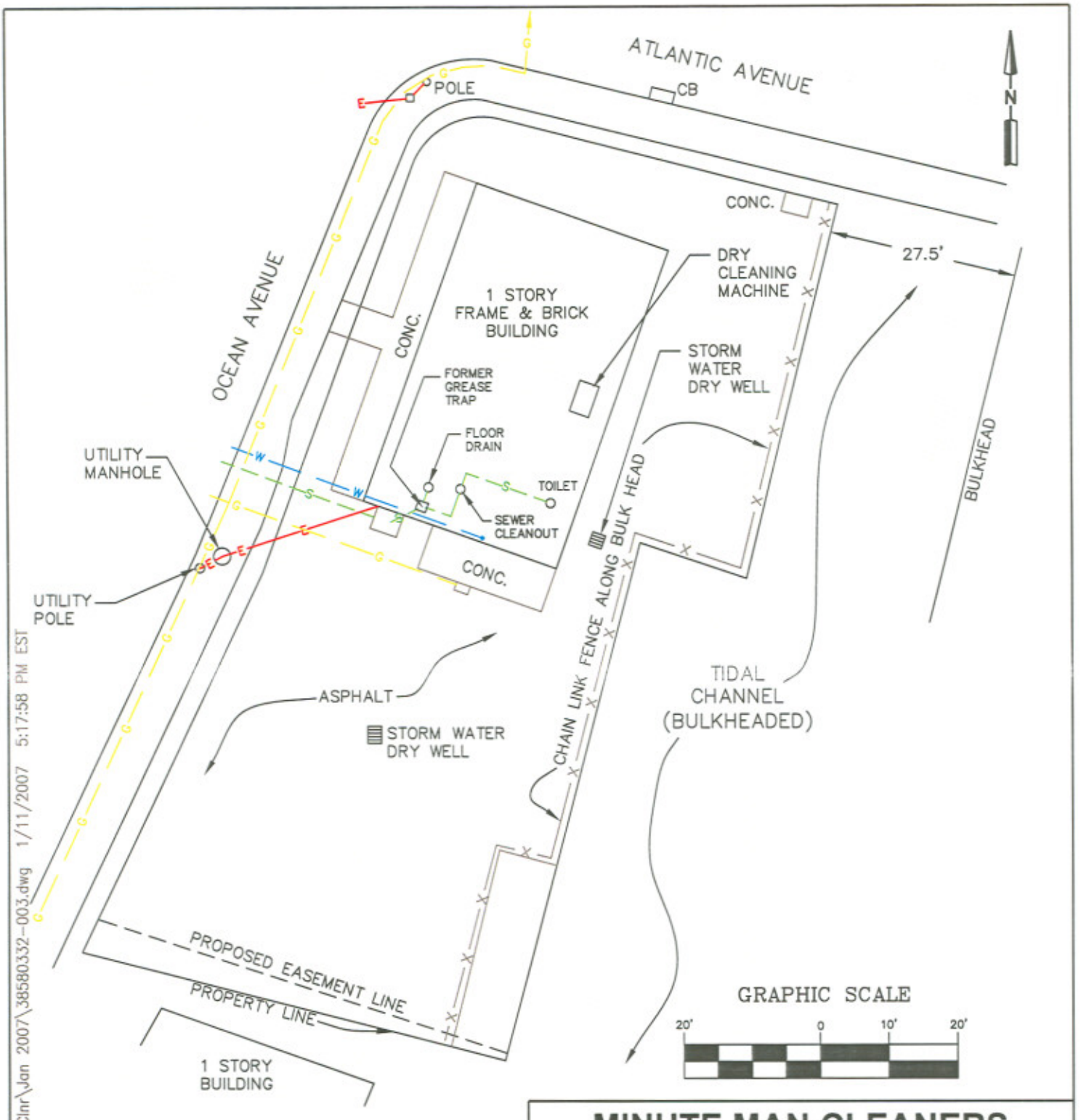
URS	Minute Man Cleaners 89 Ocean Avenue East Rockaway, New York
URS Corp. – New York 5 Penn Plaza, 15th Floor NY, NY 10001	FIGURE 1 SITE LOCATION MAP DATE: January 2, 2007 PROJECT: 38580332

Source:
USGS Topographic Quadrangle,
Lynbrook, New York



Source:
Additional Investigation
Berninger Environmental, Inc.
February 28,2005

URS	**Minute Man Cleaners** **89 Ocean Avenue** **East Rockaway, New York**
URS Corp. – New York 5 Penn Plaza, 15th Floor NY, NY 10001	FIGURE 2 PREVIOUS SOIL BORING LOCATIONS DATE: October 17, 2005 PROJECT: 38580332



LEGEND:

- W — WATER
- E — ELECTRIC
- S — SANITARY SEWER
- G — NATURAL GAS
- MH ○ MANHOLE
- DRYWELL

* PHONE WIRES ARE OVERHEAD PARALLELING THE ELECTRIC LINE

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

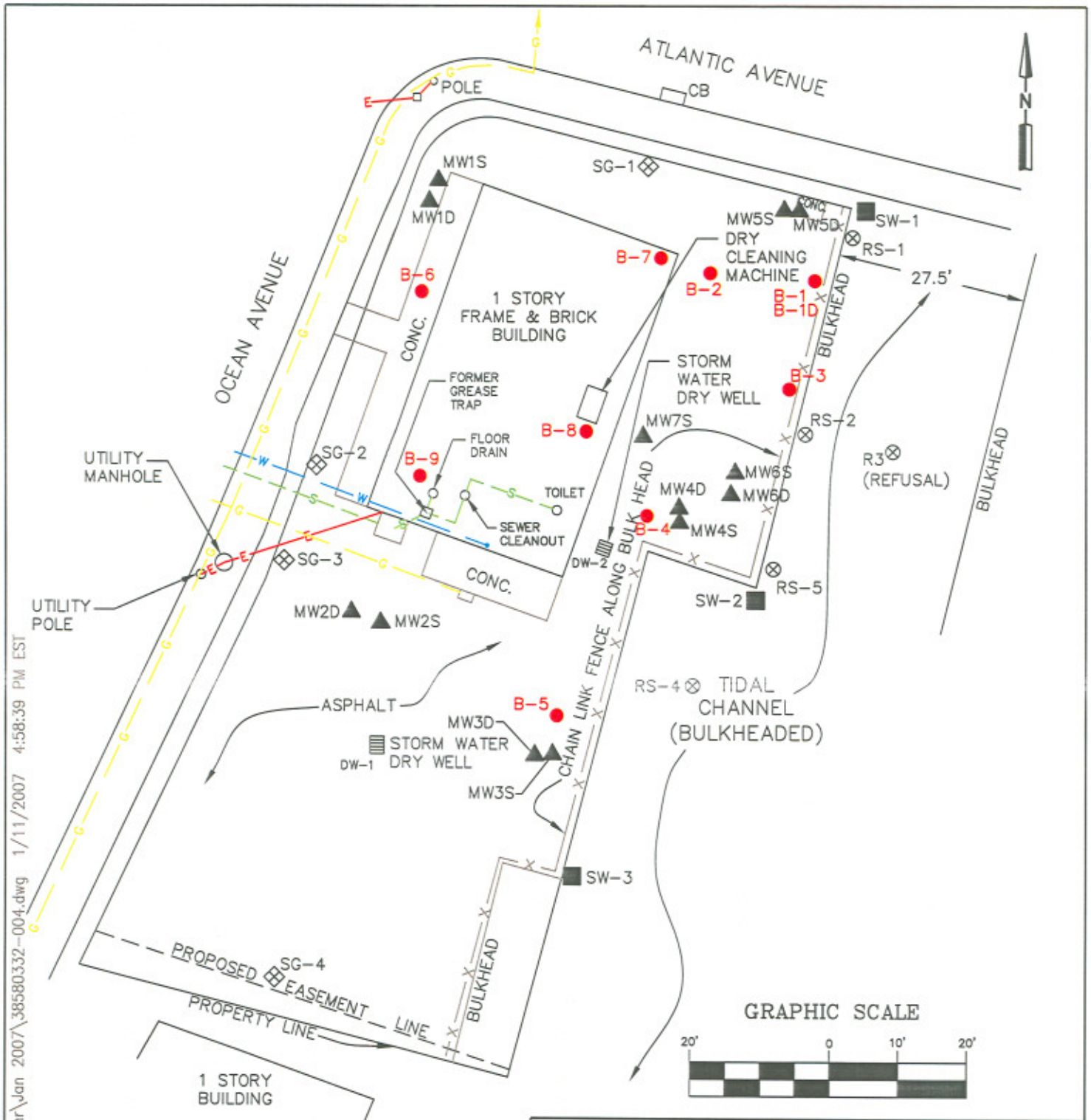
SITE PLAN / UTILITY LOCATION MAP

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07
JOB: 38580332

FIGURE 3

S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-003.dwg 1/11/2007 5:17:58 PM EST



S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-004.dwg 1/11/2007 4:58:39 PM EST

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

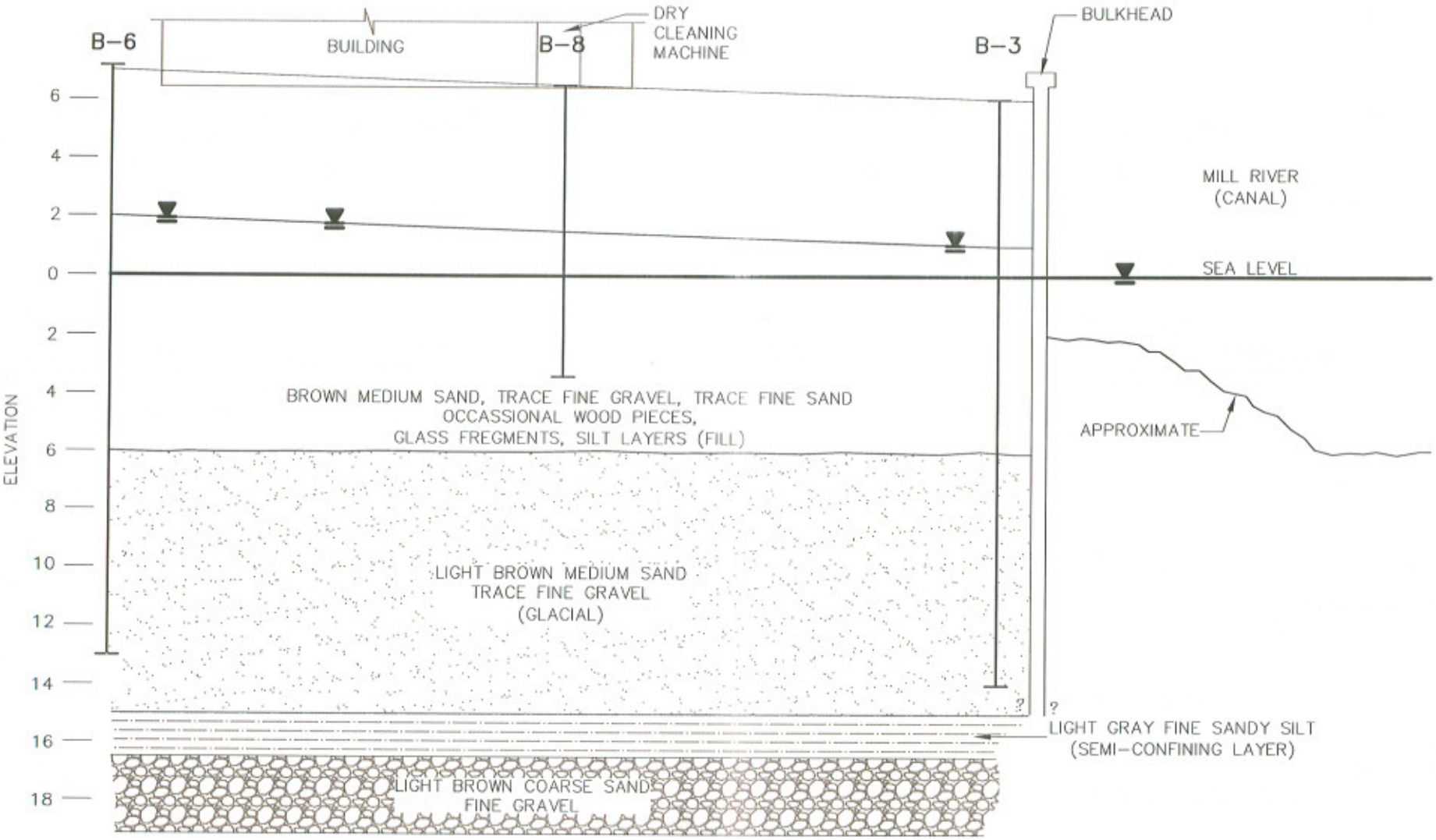
SITE SAMPLING LOCATIONS MAP

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 4



HORIZONTAL SCALE 1"=10'

10 0 5 10

VERTICAL SCALE 1"=5'

5 0 2.5 5

NOTE:

WATER TABLE LOCATION IS APPROXIMATED AND VARIES TIDALLY.

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

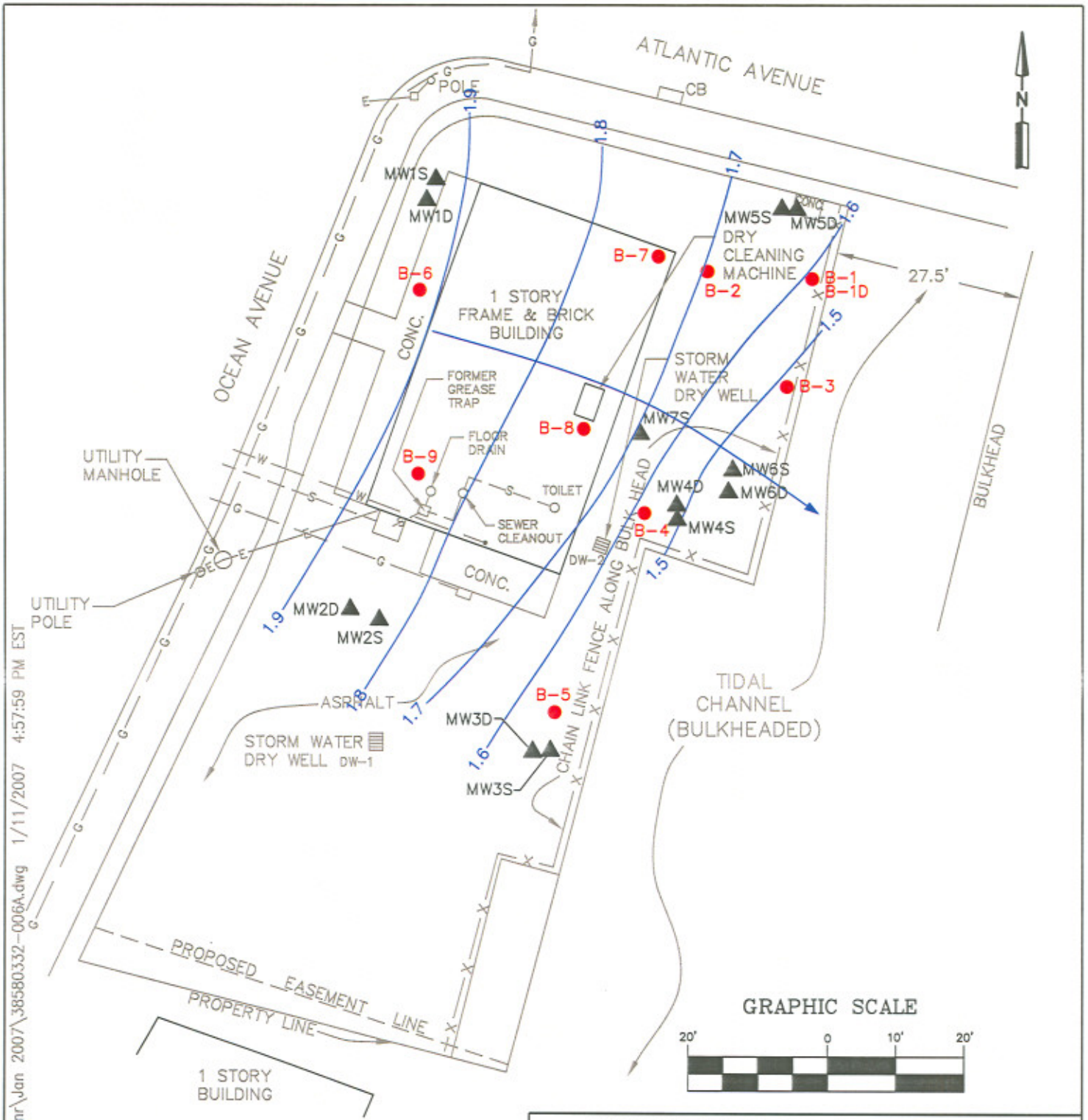
GENERALIZED GEOLOGIC CROSS SECTION (WEST TO EAST)

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 5



LEGEND:

- ▲ MONITORING WELL
- ● SOIL BORING
- —1.5— GROUNDWATER ELEVATION CONTOUR
- → FLOW DIRECTION
- MH ○ MANHOLE
- ▤ DRYWELL

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

GROUNDWATER ELEVATION MAP
SHALLOW AQUIFER LOW TIDE 11/18/06

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 6A

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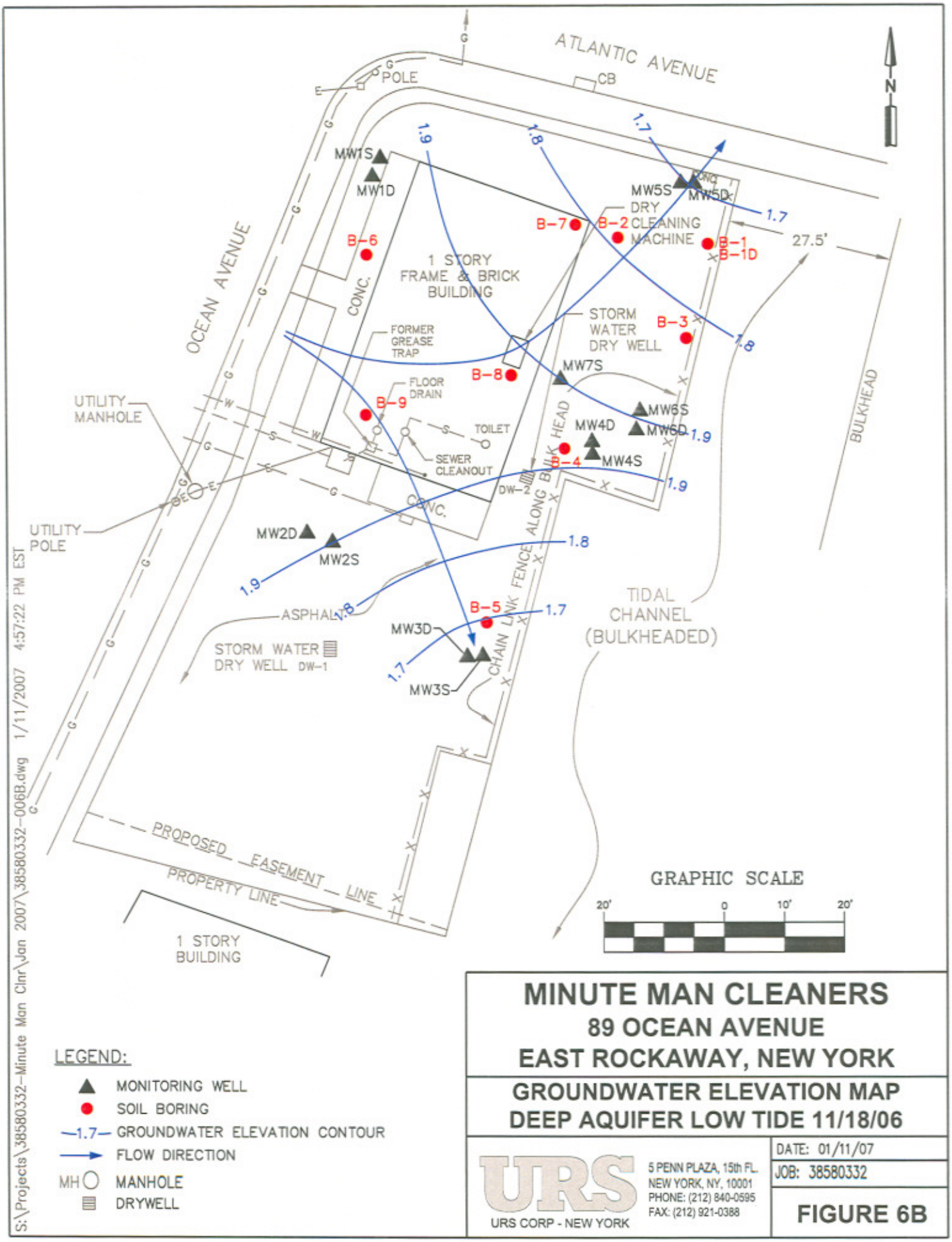

LEGEND:

- MONITORING WELL
- SOIL BORING
- —1.7— GROUNDWATER ELEVATION CONTOUR
- FLOW DIRECTION
- MH MANHOLE
- DRYWELL

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

GROUNDWATER ELEVATION MAP
DEEP AQUIFER LOW TIDE 11/18/06

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 6B

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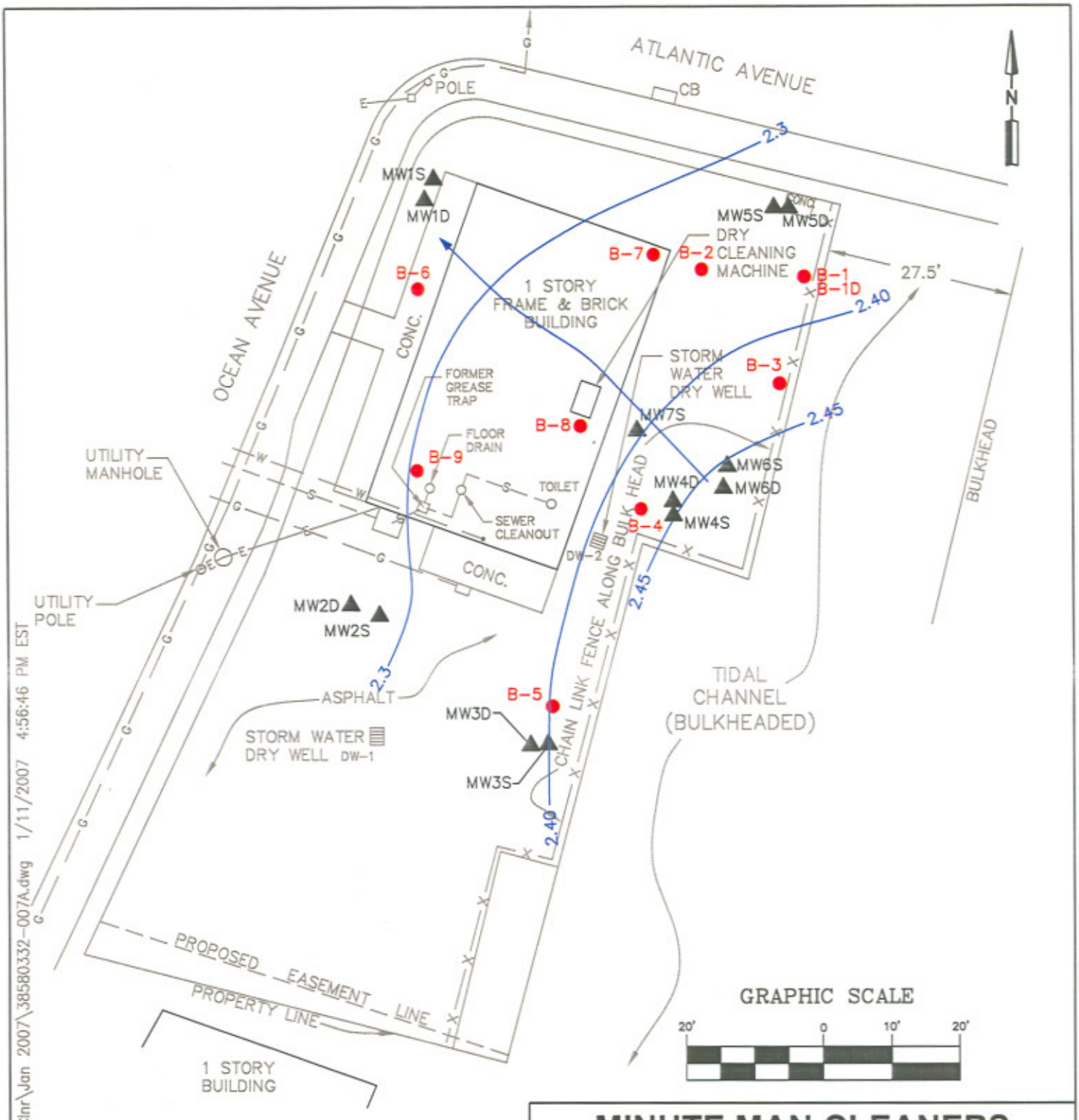


LEGEND:

- MONITORING WELL
- SOIL BORING
- 2.3 GROUNDWATER ELEVATION CONTOUR
- FLOW DIRECTION
- MH MANHOLE
- DRYWELL

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

GROUNDWATER ELEVATION MAP
SHALLOW AQUIFER HIGH TIDE 11/21/06

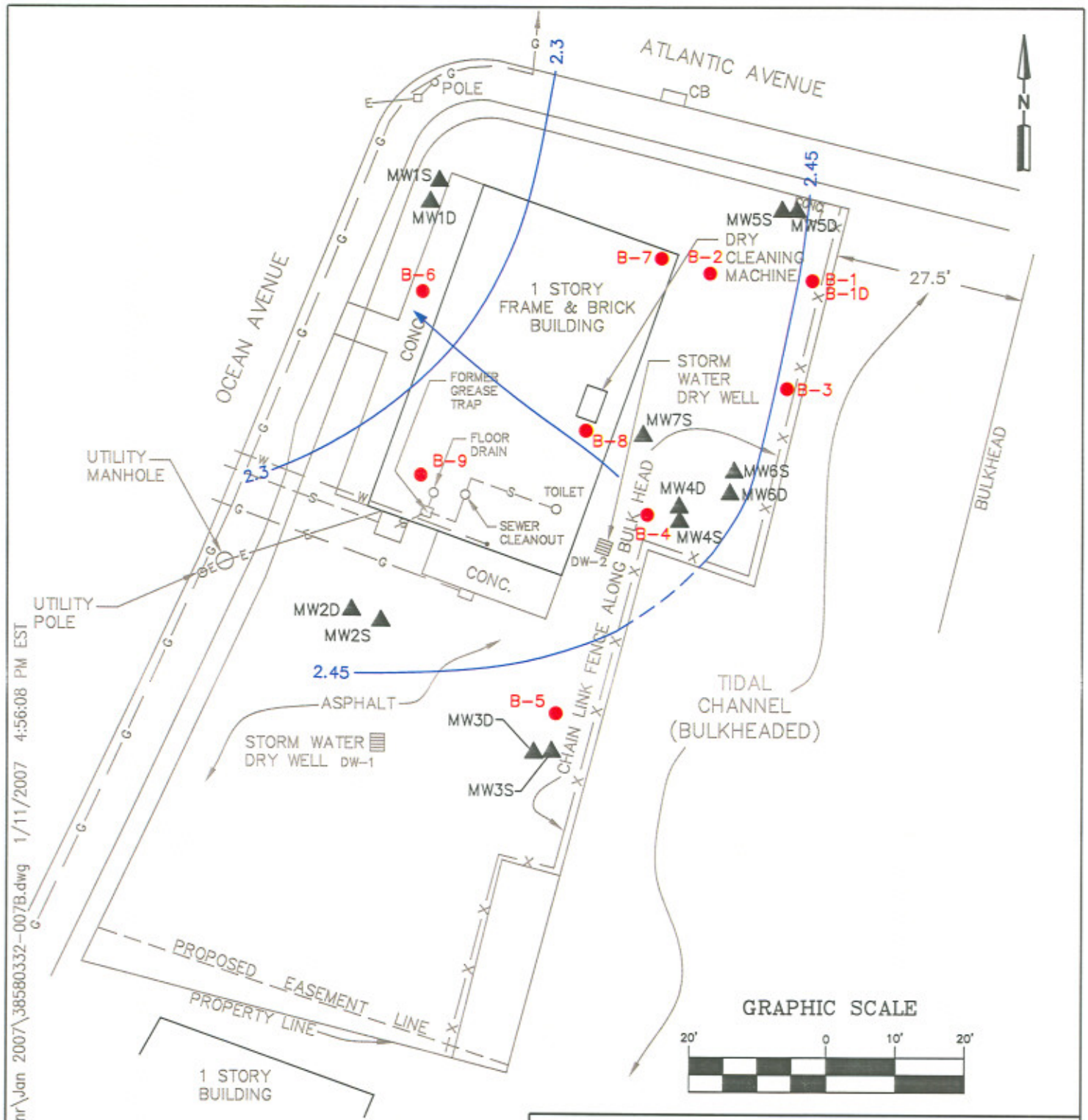
URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 7A

S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-007A.dwg 1/11/2007 4:56:46 PM EST



S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-007B.dwg 1/11/2007 4:56:08 PM EST

LEGEND:

- ▲ MONITORING WELL
- ● SOIL BORING
- —2.3— GROUNDWATER ELEVATION CONTOUR
- → FLOW DIRECTION
- MH ○ MANHOLE
- ▤ DRYWELL

MINUTE MAN CLEANERS

89 OCEAN AVENUE

EAST ROCKAWAY, NEW YORK

GROUNDWATER ELEVATION MAP

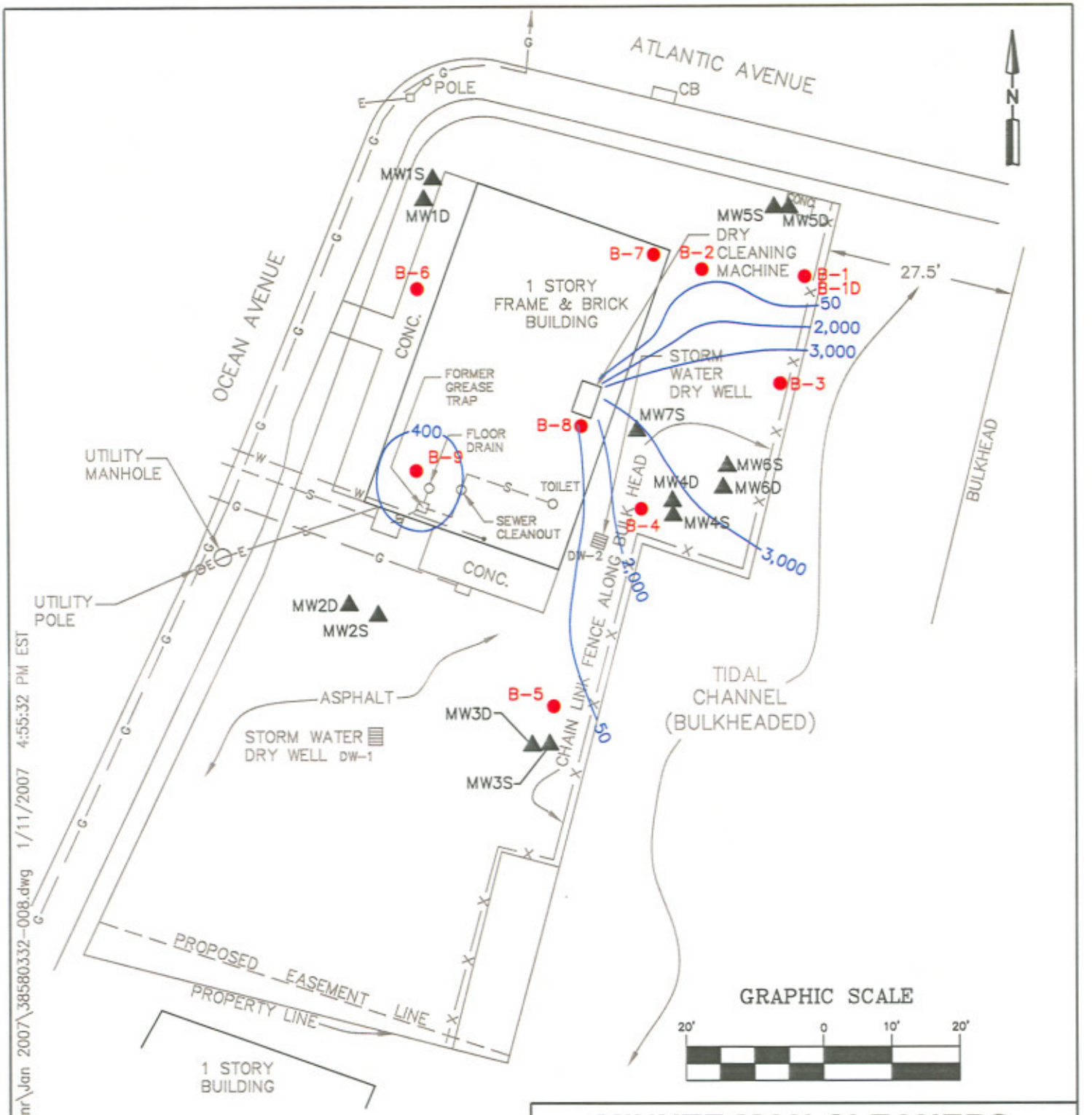
DEEP AQUIFER HIGH TIDE 11/21/06

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 7B



LEGEND:

- ▲ MONITORING WELL
- ● SOIL BORING
- —50— TOTAL VOC CONTOUR (µg/L)
- MH ○ MANHOLE
- ▤ DRYWELL

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK

WATER TABLE GROUNDWATER QUALITY-GEOPROBE

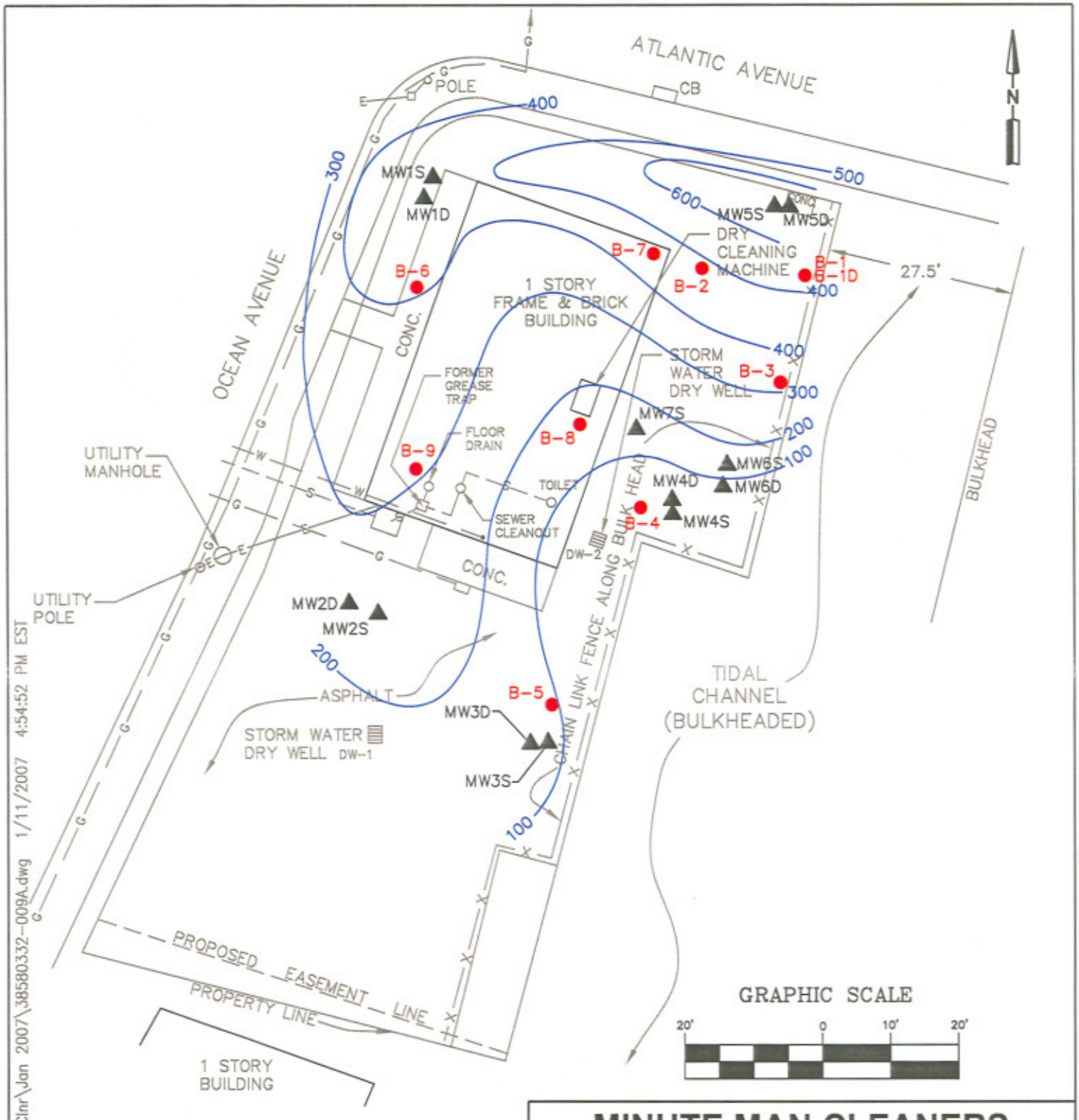
URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 8

S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-008.dwg 1/11/2007 4:55:32 PM EST



LEGEND:

- ▲ MONITORING WELL
- ● SOIL BORING
- —100— TOTAL VOC CONTOUR (µg/L)
- MH ○ MANHOLE
- ▤ DRYWELL

S:\Projects\38580332-Minute Man Clnr\Jan 2007\38580332-009A.dwg 1/11/2007 4:54:52 PM EST

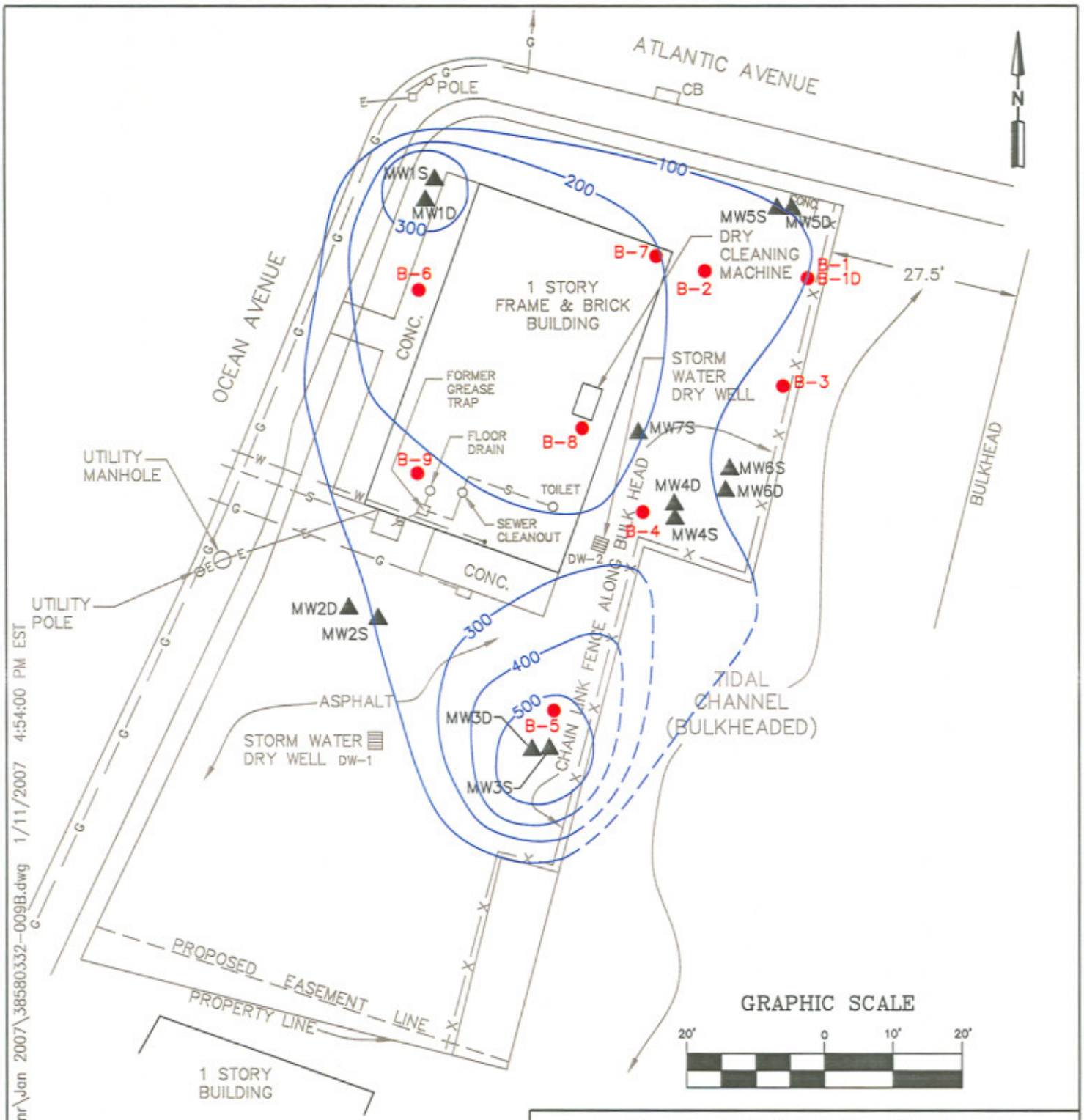
MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK
GROUNDWATER QUALITY MONITORING WELL SHALLOW AQUIFER

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07

JOB: 38580332

FIGURE 9A



S:\Projects\38580332-Minute Man Cinr\Jan 2007\38580332-009B.dwg 1/11/2007 4:54:00 PM EST

MINUTE MAN CLEANERS
89 OCEAN AVENUE
EAST ROCKAWAY, NEW YORK
GROUNDWATER QUALITY MONITORING WELL DEEP AQUIFER

URS CORP - NEW YORK
5 PENN PLAZA, 15th FL.
NEW YORK, NY, 10001
PHONE: (212) 840-0595
FAX: (212) 921-0388

DATE: 01/11/07
JOB: 38580332

FIGURE 9B

APPENDIX A

Boring Logs

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~5'

					CAS.	SAMPLER	CORE	TUBE
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore	5'	
				DIA.				
				WT.		---		
				FALL		---		

BORING NO:	B-1
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUND ELEVATION:	
DATE STARTED:	09/05/06 933
DATE FINISHED:	09/05/06 1045
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS Moist
0.5						---	---	6" asphalt	---		
		1	MC		60%	Brown	Medium Dense	Medium sand, trace fine sand, trace gravel	Fill	2.1	Dry
5								Soil sample collected			
6		2	MC		80%	Brown	Medium Dense	Medium sand and gravel, trace fine sand Groundwater at @ 5' Soil sample collected Groundwater sample collected	Fill	2.5	Wet
8											
10											
12		3	MC		80%			Same to 13'	Fill	1.3	Wet
14						Lt. Brown		Fill/native soil break at 14' Medium sand, trace gravel	SP		
15											
16		4	MC		100%				SP	5.1	Wet
18											
20											
23		5	MC		100%	Lt. Gray	Hard	Same to 21.5' bgs Fine sand, some silt 21.5' to 23' bgs	SP ML	4.6	Wet
25						Lt. Brown	Dense	Coarse sand and gravel	GP	3.0	
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 25' bgs.
Soil samples collected 0'-5', 5'-10' and 23'-25'. Groundwater samples at 5'-10' and 20'-25'
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-1

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~6'

				CAS.	SAMPLER	CORE	TUBE
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore	5'	
				DIA.				
				WT.		---		
				FALL		---		

BORING NO:	B-2
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUND ELEVATION:	
DATE STARTED:	09/05/06 1105
DATE FINISHED:	09/05/06 1150
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	6" asphalt	---		
		1	MC		50%	Brown	Medium Dense	Medium sand, trace fine sand, trace gravel	Fill	5.7	Dry
5								Soil sample and duplicate sample collected			
6		2	MC		80%	Brown	Medium Dense	Medium sand and gravel, trace fine sand Groundwater @ 6' Soil sample and duplicate sample collected Groundwater sample and duplicate collected	Fill	4.8	Wet
10											
12		3	MC		100%			Same to 13'	Fill	3.8	Wet
14						Lt. Brown		Fill/native soil break at 14' Medium sand, trace gravel	SP		
15											
16		4	MC		80%				SP	3.1	Wet
20											
23		5	MC		100%	Lt. Gray	Hard	Same to 22.5' bgs Fine sand, some silt 22.5' to 23' bgs	SP ML	1.6	Wet
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 23' bgs.
Soil samples collected 0'-5' and 5'-10'. Groundwater sample at 5'-10'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-2

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~6'

	CAS.	SAMPLER	CORE	TUBE
TYPE		Macrocore	5'	
DIA.				
WT.		---		
FALL		---		

DATE	TIME	LEVEL	TYPE

BORING NO:	B-3
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUND ELEVATION:	
DATE STARTED:	09/05/06 1200
DATE FINISHED:	09/05/06 1225
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS Moist
0.5						---	---	6" asphalt	---		
5		1	MC		80%	Brown	Medium Dense	Medium sand, trace fine sand, trace gravel, trace wood and glass fragments Soil sample collected	Fill	2.5	Dry
10		2	MC		100%	Brown	Medium Dense	Medium sand and gravel, trace fine sand, Clayey silt at 5.5' and 6.5' bgs Black tar-like substance at 9' bgs Soil sample collected Groundwater sample collected	Fill	20.8	Wet
15		3	MC		100%	Lt. Brown		Medium sand and gravel, trace fine sand Fill/native soil break at 14' Medium sand, trace gravel	Fill SP	20.0	Wet
20		4	MC		80%				SP	1.9	Wet
23											
25											
30											
35											
40											

Comments: Boring completed at 20' bgs.
Soil samples collected 0'-5' and 5'-10'. Groundwater sample at 5'-10'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-3

URS Corporation

TEST BORING LOG

BORING NO:	B-4
PROJECT:	Minuteman Cleaners
SHEET:	1
CLIENT:	Ben Ley Enterprises, Inc.
JOB NO.:	38580332
BORING CONTRACTOR:	Zebra Environmental
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUNDWATER:	~5'
GROUND ELEVATION:	
DATE STARTED:	09/05/06 1305
DATE FINISHED:	09/05/06 1340
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Macrocore	5'	
				DIA.				
				WT.		---		
				FALL		---		

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS Moist
0.5						---	---	6" asphalt	---		
		1	MC		80%	Brown	Medium Dense	Medium sand, trace fine sand, trace gravel, trace brick fragments Soil sample collected	Fill	1.5	Dry
5											
6		2	MC		60%	Brown	Med. Dense	Medium sand and fine sand to 6' bgs	Fill	16.9	Wet
						Dk. Gray	Very Soft	Silt - strong organic odor to 8' bgs	PT		
8											
						Brown	Med. Dense	Medium sand, some gravel	SP		
10											
		3	MC		60%	Lt. Brown	Med. Dense	Medium sand, trace gravel	SP	12.2	Wet
12											
14											
15											
16		4	MC		80%				SP	2.0	Wet
18											
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 20' bgs.
Soil samples collected 0'-5' and 5'-10'. Groundwater sample at 5'-10'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-4

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~5'

BORING NO:	B-5
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUND ELEVATION:	
DATE STARTED:	09/05/06 1345
DATE FINISHED:	09/05/06 1415
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Macrocore	5'	
				DIA.				
				WT.		---		
				FALL		---		

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	6" asphalt	---		
		1	MC		60%	Brown	Medium Dense	Medium sand, trace fine sand, trace gravel, trace shell fragments Soil sample collected	Fill	4.2	Dry
5											
6						Dk Gray	Very Stiff	Silt - strong organic odor to 7' bgs	Fill	2.1	Wet
8		2	MC		100%	Brown	Med. Dense	Medium sand, trace fine sand, trace gravel Groundwater sample collected	SP		
10								Soil sample collected			
12		3	MC		80%	Lt. Brown	Med. Dense	Medium sand and gravel, trace fine sand	SP	2.1	Wet
14											
15											
16		4	MC		100%				SP	2.0	Wet
18											
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 20' bgs.
Soil samples collected 0'-5' and 5'-10'. Groundwater sample at 5'-10'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-5

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~6'

					CAS.	SAMPLER	CORE	TUBE
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore	5'	
				DIA.				
				WT.		---		
				FALL		---		

BORING NO:	B-6
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe 6610DT-direct push
GROUND ELEVATION:	
DATE STARTED:	09/07/06 855
DATE FINISHED:	09/07/06 925
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	6" asphalt	---		
5		1	MC		80%	Brown	Medium Dense	Medium sand, some fine sand, trace gravel, Soil sample collected	Fill	1.7	Dry
6						Brown	Medium Dense	Medium sand, some fine sand, trace gravel,	Fill	2.8	Wet
8		2	MC		100%			Groundwater sample collected			
10								Soil sample collected			
12		3	MC		80%	Lt. Brown	Med. Dense	Medium sand and gravel, trace fine sand	SP	3.4	Wet
15											
16									SP	1.6	Wet
18		4	MC		100%						
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 20' bgs.
Soil samples collected 0'-5' and 5'-10'. Groundwater sample at 5'-10'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-6

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~6'

DATE	TIME	LEVEL	TYPE

	CAS.	SAMPLER	CORE	TUBE
TYPE		Macrocore	3'	
DIA.				
WT.		---		
FALL		---		

BORING NO:	B-7 (Inside Building)
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe remote direct push unit
GROUND ELEVATION:	
DATE STARTED:	09/06/06 1145
DATE FINISHED:	09/06/06 1215
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	4" concrete	---		
		1	MC		80%	Brown	Medium Dense	Medium sand, some fine sand, trace gravel,	Fill	9.7	Dry
5		2	MC		100%	Brown	Medium Dense	Medium sand, some fine sand, trace gravel, Medium sand, some fine sand, trace gravel,	Fill	7.6	Wet
8		3	MC		100%	Brown Black Brown	Medium Dense	Medium sand, some fine sand, trace gravel, Strong petroleum odor from 7' to 8' bgs	Fill	1425	Wet
10											
12											
14											
15											
16											
18											
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 9' bgs.
Soil samples collected 3'-6' and 6'-9'. Groundwater sample at 6'-9'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-7

URS Corporation

TEST BORING LOG

PROJECT:	Minuteman Cleaners
CLIENT:	Ben Ley Enterprises, Inc.
BORING CONTRACTOR:	Zebra Environmental
GROUNDWATER:	~6'

BORING NO:	B-8 (Inside Building)
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe remote direct push unit
GROUND ELEVATION:	
DATE STARTED:	09/06/06 1251
DATE FINISHED:	09/06/06 1320
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

DATE	TIME	LEVEL	TYPE

	CAS.	SAMPLER	CORE	TUBE
TYPE		Macrocore	3'	
DIA.				
WT.		---		
FALL		---		

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	4" concrete	---		
		1	MC		67%	Brown	Medium Dense	Medium sand, some fine sand, trace gravel,	Fill	49.8	Dry
5		2	MC		100%				Fill	75.4	Wet
8		3	MC		100%				Fill	4.0	Wet
10								Duplicate soil samples collected at 3'-6' and 6'-9'			
12											
14								Strong organic odor noted in water sample			
15								No sheen observed on surface of purge water			
16											
18											
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 9' bgs.
Soil samples collected 3'-6' and 6'-9'. Groundwater sample at 6'-9'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.		38580332
BORING NO.	B-8	

URS Corporation

TEST BORING LOG

BORING NO:	B-9 (Inside Building)
SHEET:	1
JOB NO.:	38580332
DRILLING METHOD:	Geoprobe remote direct push unit
GROUND ELEVATION:	
DATE STARTED:	09/06/06 1400
DATE FINISHED:	09/06/06 1415
DRILLER:	E. Maraitis
GEOLOGIST:	M. Murphy & J. Scherer
REVIEWED BY:	

PROJECT: Minuteman Cleaners
CLIENT: Ben Ley Enterprises, Inc.
BORING CONTRACTOR: Zebra Environmental
GROUNDWATER: ~6'

DATE	TIME	LEVEL	TYPE

	CAS.	SAMPLER	CORE	TUBE
TYPE		Macrocore	3'	
DIA.				
WT.		---		
FALL		---		

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	Moist
0.5						---	---	4" concrete	---		
		1	MC		67%	Brown	Medium Dense	Medium sand, some fine sand, trace clayey silt	Fill	14.0	Dry
5		2	MC		100%	Brown	Medium Dense	Medium sand, some fine sand, trace gravel, trace shells	Fill	6.8	Wet
8		3	MC		100%	Light Gray	Medium Dense	Meduim sand, some fine sand, trace gravel	Fill	2.8	Wet
10											
12											
14											
15											
16											
18											
20											
23											
25											
28											
30											
33											
35											
38											
40											

Comments: Boring completed at 9' bgs.
Soil samples collected 3'-6' and 6'-9'. Groundwater sample at 6'-9'.
Water sample collected from 1" temporary well point with poly tubing and check valve

PROJECT NO.	38580332
BORING NO.	B-9

Boring Logs

The following observations were noted in the borings:

B-1: Soils from 0.5' to 21.5' bgs (sand fill to 14') consisted of brown medium and fine sand with some gravel and cobbles. The apparent semi-confining layer, which consisted of very dense brown fine sandy silt, was observed from 21.5' to 23' bgs. Brown medium sand and gravel was observed from 23' to 25' bgs. Groundwater was encountered at a depth of 5' bgs. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

B-2: Fill soils from 0.5' to 13' bgs consisted of brown medium sand with some gravel and cobbles. Brown fine and medium sand was observed from 13' to 22.5' bgs. Soils below 13' bgs appeared to be native soils, with fill material from 0.5' to 13' bgs. The apparent semi-confining layer, which consisted of very dense brown fine sandy silt, was observed from 22.5' to 23' bgs. Groundwater was encountered at a depth of 6' bgs. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

B-3: Soils from 0.5' to 13' bgs consisted of brown medium sand with wood and glass fragments. Two small clay layers (fill) were observed at 5.5' bgs and 6.5' bgs, and a black tar-like substance was observed at a depth of approximately 9' bgs. Brown medium sand and gravel was observed from 13' to 20' bgs. No elevated PID readings were observed from 0.5' to 5' bgs or from 15' to 20' bgs, but PID readings of 20 ppm were observed from 5' to 15' bgs. Groundwater was encountered at a depth of 5' bgs. No free product, staining, or odors were observed in the soils.

B-4: Soils from 0.5' to 6' bgs consisted of brown medium sand with gravel and brick fragments. Black sulfur smelling silt was observed from 6' to 8' bgs. Brown medium sand and gravel was observed from 8' to 20' bgs. No elevated PID readings were observed from 0.5' to 5' bgs or from 15' to 20' bgs, but PID readings of 17 ppm and 12 ppm were observed from 5' to 15' bgs. Groundwater was encountered at a depth of 5' bgs. No free product, staining, or odors were observed in the soils.

B-5: Fill soils from 0.5' to 5' bgs consisted of brown medium sand with gravel and shell fragments. Black sulfur smelling silt with shell and wood fragments was observed from 5' to 7' bgs. Brown medium sand and gravel was observed from 8' to 20' bgs. Groundwater was encountered at a depth of 5' bgs. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

B-6: Soils from 0.5' to 20' bgs consisted of brown medium sand with gravel. Groundwater was encountered at a depth of 6' bgs. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

B-7: Fill soils from 0.5' to 9' bgs consisted of brown medium sand with gravel. Black stained soil with a strong petroleum odor was observed from 8' to 9' bgs. A PID reading of 1,425 ppm was observed in soils from 6' to 9' bgs. Groundwater was encountered at a depth of 6' bgs.

B-8: Soils from 0.5' to 20' bgs consisted of brown medium sand with gravel. A strong sulfur odor was noted in soils from 6' to 9' bgs and in groundwater. PID readings of 50 ppm and 75 ppm were observed in soils from 0.5' to 3' bgs and from 3' to 6' bgs, respectively. Groundwater was encountered at a depth of 6' bgs. No free product or staining was observed in the soils.

B-9: Fill soils from 0.5' to 9' bgs consisted of brown medium sand with gravel, clay, brick and shell fragments. Groundwater was encountered at a depth of 6' bgs. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

The following observations were made during the Mill River sediment sampling:

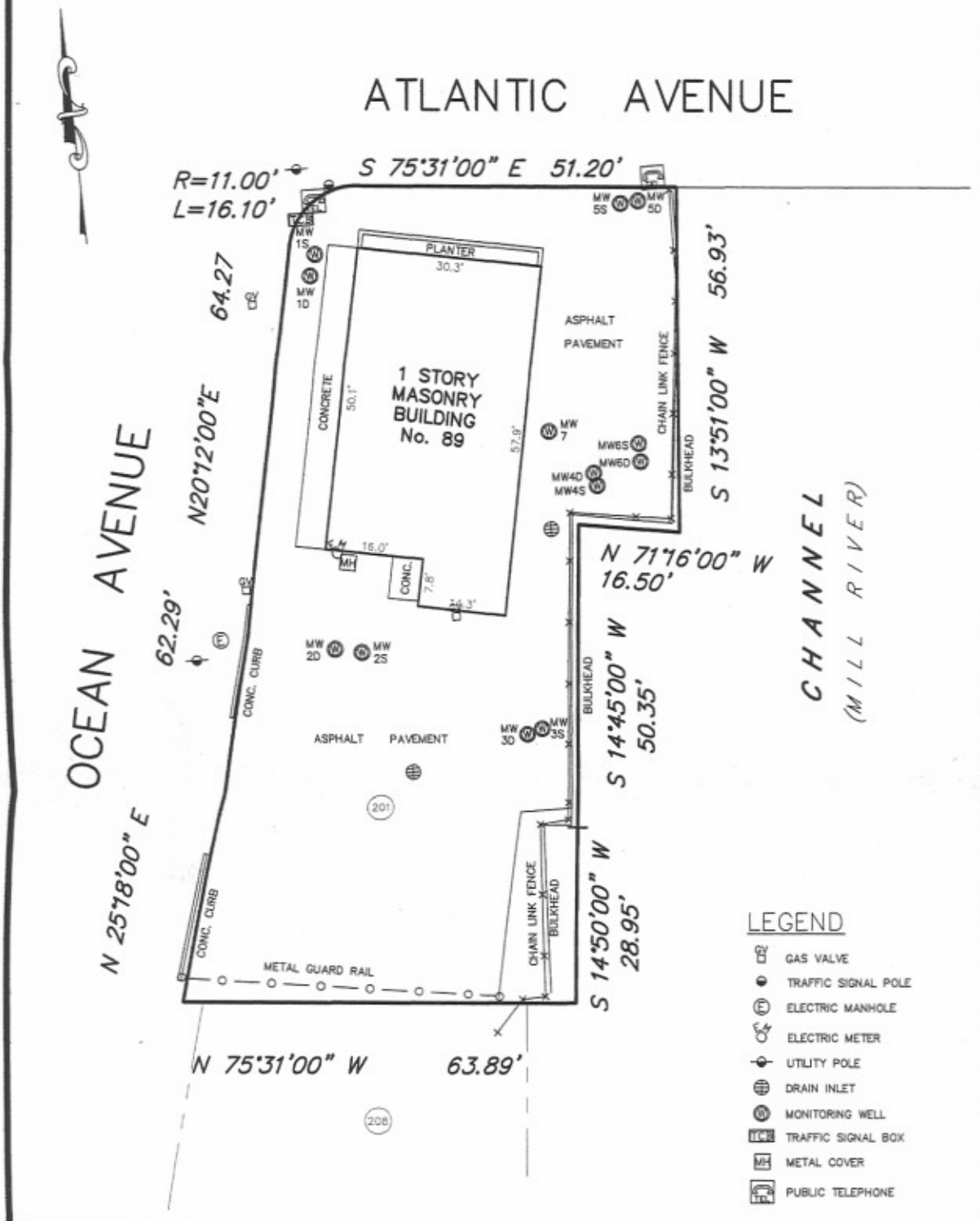
- Boring RS-1 was a shallow boring located upstream of the Site near the northeast corner of the Site. The sediments consisted of brown medium sand and gravel. No free product, staining, odors or significantly elevated PID readings were observed in the soils.
- Deep boring RS-2 was located near the bulkhead at the Site in line with the dry cleaning machine. The boring was advanced to a depth of six feet bgs. The sediments consisted of brown medium sand and gravel. Grain size analysis performed on a sediment sample collected from 0-3 feet bgs indicated the sediment consisted of approximately 80% sand, 11% gravel and 9% fines based on the sieve analysis. No free product, staining, odors or significantly elevated PID readings were observed in the soils.
- Boring RS-3 was attempted in the middle of the channel but repeated refusal was encountered.
- Boring RS-4 was located east of the bulkhead at the Site and south of the building. Two drives were completed at this location to allow for adequate sample recovery. The borings was advanced to a depth of four feet bgs. Refusal was encountered at four feet bgs. The sediments consisted of black medium sand and gravel. No free product, staining, odors or significantly elevated PID readings were observed in the soils.
- Boring RS-5 was a shallow boring located downstream of the Site. The sediments consisted of brown medium sand and gravel. No free product, staining, odors or significantly elevated PID readings were observed in the soils.

APPENDIX B

Laboratory Data and Chain of Custody (under separate cover)

APPENDIX C

AK Associates Site Survey (monitoring well elevation data)



PREPARED FOR: URS
MAP OF: Described Property being Lot 201, Block 69, Section 42 of the Nassau County Land and Tax Map
LOCATED AT: Incorporated Village of EAST ROCKAWAY
COUNTY OF: Nassau, New York
CERTIFIED TO:

TITLE No.: NA
SCALE: 1"= 20'
Monitoring Well Locations
SURVEYED ON: November 17, 2006

AK ASSOCIATES
PROFESSIONAL LAND SURVEYORS
143 NORTH LONG BEACH ROAD
ROCKVILLE CENTRE, NEW YORK 11570
Tel:(516) 678-9610 - Fax:(516) 678-0348

RALPH ANDERSON
N.Y. LIC. No. 49462

DANIEL A. KADYSZEWSKI
N.Y. LIC. No. 50238

DIST: NA SEC: 42 BLOCK: 69 LOT(S): 201 DRAWN BY: JD CHECKED BY: RA

S:\108\061330-URS\wells.dwg

AK ASSOCIATES

January 2, 2007

MONITOR WELLS

172860.3	1078712.7	6.86	MW1D
172860.3	1078712.6	7.04	GROUND SHOT
172863.8	1078713.7	6.91	MW1S
172863.7	1078713.7	7.08	GROUND SHOT
172798.6	1078712.4	7.08	MW2D
172798.5	1078712.5	7.27	GROUND SHOT
172797.8	1078716.7	7.17	MW2S
172797.7	1078716.8	7.34	GROUND SHOT
172782.4	1078742.5	6.15	MW3D
172782.4	1078742.5	6.44	GROUND SHOT
172783.2	1078745.1	6.07	MW3S
172783.2	1078745.2	6.28	GROUND SHOT
172824.4	1078756.6	6.07	MW4D
172824.3	1078756.6	6.42	GROUND SHOT
172822.3	1078757.0	5.98	MW4S
172822.3	1078757.0	6.36	GROUND SHOT
172868.7	1078767.1	6.35	MW5D
172868.6	1078767.1	6.78	GROUND SHOT
172868.5	1078764.2	6.60	MW5S
172868.5	1078764.2	6.99	GROUND SHOT
172825.8	1078764.4	6.09	MW6D
172825.7	1078764.3	6.24	GROUND SHOT
172828.7	1078764.3	5.87	MW6S
172828.7	1078764.3	6.32	GROUND SHOT
172831.8	1078749.8	6.53	MW7
172831.7	1078749.8	6.80	GROUND SHOT

APPENDIX D

DUSR Report (under separate cover)

QUALITY ASSURANCE REVIEW
PROJECT: MINUTEMAN CLEANERS, New York
DATE SAMPLES COLLECTED: SEPTEMBER 5, 6 AND 7, 2006
NOVEMBER 2 AND 4, 2006
JOB NO.: 38580332

LAB REPORT NOs: W813, 214115, 116272, Z253, W695, AND W629

1.0 INTRODUCTION

This Quality Assurance Review has been performed in accordance with the requirements specified in the standard operating procedures (SOP) for the validation of volatile organic data using USEPA Region II SW-846 Method 8260B, SOP HW-24, Rev. 1, dated June 1999 and Method TO14/15, SOP HW-18, Rev. 0, dated August 1994, and wet chemistry methods for total organic carbon (TOC) and grain size. The quality assurance review requirements are applied such that specifications of the methods take precedence over the specifications of USEPA Region II SW-846 Method SOP Organic Data Review guidelines in those instances where the specifications differ.

The objective of the review was to assess data usability and compliance with the New York State Department of Environmental Conservation (NYSDEC) Analytical Service Protocol (ASP) Category B data deliverable requirements. The Quality Assurance Review provides an interpretation of data usability based on the reported quality control parameters. A total of 22 soil samples, 23 groundwater samples, 7 sediment samples, 3 surface water samples, 4 air samples, 2 blind field duplicate groundwater samples, 4 blind field duplicate soil samples, 1 blind field duplicate surface water sample, 4 trip-blank samples, 1 sleeve rinse sample, 1 bailer rinse sample and 4 rinse blank samples were collected by URS Corporation and submitted to STL of Connecticut, STL of Edison, NJ, and STL Burlington, VT. Section 2.0 of this report summarizes the samples included in this review and the analyses performed. The samples were analyzed following USEPA SW-846 methodologies and wet chemistry methods for TOC and grain size. The laboratory analytical data set contained herein was prepared in accordance with NYSDEC ASP Category B Data Deliverable Format.

The organic data quality review is based on the following parameters:

* • Hold Times
* • Blank Contamination
  • GC/MS Performance Check (Tuning) Summaries
* • System Monitoring Compound (Surrogate) Recoveries
* • Internal Standard Area Performance
  • Initial and Continuing Calibration Results
  • Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Summaries
* • Target Compound Identification and Quantitation

The conventional parameters data quality review is based on the following parameters:

* • Hold Times
* • Blank Contamination
* • Instrument Calibration and Verifications

* • Laboratory Control Sample (LCS) Results
* • Matrix Spike (MS) and Duplicate (DU) Summaries

* All criteria were met for this parameter.

This report was prepared to provide a critical review of the laboratory analysis and reported chemical results. Overall, the data quality is acceptable. The results of the Quality Assurance Review are presented in Section 3.0. Data qualifiers, when applicable, are placed next to the results so that the data user can assess the qualitative and/or quantitative reliability of the reported result.

2.0 SAMPLES INCLUDED IN REVIEW

Laboratory Report No. W629

B-1 (0-5)	767117	9/5/06	TCL VOA+10
B-1 (5-10)	767118	9/5/06	TCL VOA+10
B-1 (23-25)	767119	9/5/06	TCL VOA+10
WS-B1	767120	9/5/06	TCL VOA+10
WS-B1D	767121	9/5/06	TCL VOA+10
B-2 (0-5)	767122	9/5/06	TCL VOA+10
B-2 (5-10)	767123	9/5/06	TCL VOA+10
WS-B2	767124	9/5/06	TCL VOA+10
B-3 (5-10)	767126	9/5/06	TCL VOA+10
WS-B3	767127	9/5/06	TCL VOA+10
B-4 (0-5)	767128	9/5/06	TCL VOA+10
B-4 (5-10)	767129	9/5/06	TCL VOA+10
WS-B4	767130	9/5/06	TCL VOA+10
B-5 (0-5)	767131	9/5/06	TCL VOA+10
B-5 (5-10)	767132	9/5/06	TCL VOA+10
WS-B5	767133	9/5/06	TCL VOA+10
DUP-1 (0-5)	767134	9/5/06	TCL VOA+10
DUP-1 (5-10)	767135	9/5/06	TCL VOA+10
DUP-1	767136	9/5/06	TCL VOA+10
TRIP BLANK	767137	9/5/06	TCL VOA+10

Laboratory Report No. W695

B7 (3-6)	767468	9/6/06	TCL VOA+10
B7 (6-9)	767469	9/6/06	TCL VOA+10
B8 (3-6)	767470	9/6/06	TCL VOA+10
B8 (6-9)	767471	9/6/06	TCL VOA+10
B9 (3-6)	767472	9/6/06	TCL VOA+10
B9 (6-9)	767473	9/6/06	TCL VOA+10
DUP-2 (3-6)	767474	9/6/06	TCL VOA+10
RB-1	767475	9/6/06	TCL VOA+10
TB-1	767476	9/6/06	TCL VOA+10
DUP-2 (6-9)	767477	9/6/06	TCL VOA+10
WS-B7	767478	9/6/06	TCL VOA+10
WS-B8	767479	9/6/06	TCL VOA+10
WS-B9	767480	9/6/06	TCL VOA+10
RB-2	767481	9/6/06	TCL VOA+10
B3 (0-5)	767482	9/6/06	TCL VOA+10

Laboratory Report No. W813

B-6 (0-5)	768317	9/7/06	TCL VOA+10
B-6 (5-10)	768318	9/7/06	TCL VOA+10

WS B-6	768319	9/7/06	TCL VOA+10
DW-1	768320	9/7/06	TCL VOA+10, TOC, Grain Size
DW-2	768321	9/7/06	TCL VOA+10, TOC, Grain Size
TB	768322	9/7/06	TCL VOA+10

Laboratory Report No. 116272

SG-1	682735	9/7/06	TO-15
SG-2	682736	9/7/06	TO-15
SG-3	682737	9/7/06	TO-15
SG-4	682738	9/7/06	TO-15

Laboratory Report No. Z253

MW-3S	782809	11/2/06	TCL VOA+10
MW-2S	782810	11/2/06	TCL VOA+10
MW-3D	782811	11/2/06	TCL VOA+10
MW-6D	782812	11/2/06	TCL VOA+10
MW-6S	782813	11/2/06	TCL VOA+10
MW-1S	782814	11/2/06	TCL VOA+10
MW-1D	782815	11/2/06	TCL VOA+10
MW-2D	782816	11/2/06	TCL VOA+10
MW-7	782817	11/2/06	TCL VOA+10
MW-4S	782818	11/2/06	TCL VOA+10
MW-4D	782819	11/2/06	TCL VOA+10
MW-5D	782820	11/2/06	TCL VOA+10
MW-5S	782821	11/2/06	TCL VOA+10
DUP-1	782822	11/2/06	TCL VOA+10
RB-1	782823	11/2/06	TCL VOA+10
TB	782855	10/31/06	TCL VOA+10

Laboratory Report No. 214115

RS-2 (0-3)	214115-1	11/4/06	TCL VOA+10, TOC
RS-2 (3-6)	214115-2	11/4/06	TCL VOA+10
RS-2	214115-3	11/4/06	Grain Size
RS-1	214115-4	11/4/06	TCL VOA+10, TOC
RS-5	214115-5	11/4/06	TCL VOA+10, TOC
RS-4B (0-4)	214115-6	11/4/06	TCL VOA+10, TOC
RS-4A (0-3)	214115-7	11/4/06	TCL VOA+10, TOC
SW-1	214115-8	11/4/06	TCL VOA+10
SW-2	214115-9	11/4/06	TCL VOA+10
SW-3	214115-10	11/4/06	TCL VOA+10
SW-2DUP	214115-11	11/4/06	TCL VOA+10
Bailer Rinse Blank	214115-12	11/4/06	TCL VOA+10
Sleeve Rinse Blank	214115-13	11/4/06	TCL VOA+10
Trip Blanks	214115-14	11/4/06	TCL VOA+10

Legend:

TCL VOC +10: USEPA SW-846 Method 8260B.

Air Samples: TO-15

TOC: Total Organic Carbon following USEPA Method 415.1 and Lloyd Kahn.

Grain Size: Analyzed following USEPA Method ASTM D422.

3.0 RESULTS

3.1 GENERAL COMMENTS

With regard to the data package deliverables, all of the modified NYSDEC ASP Category B Data Deliverable Format requirements were met.

3.2 ORGANIC QUALIFIERS

Hold Times: Technical hold times were assessed by comparing the sampling dates with that of the preparation date and/or analysis date.

- The project samples associated with all Data Sets mentioned above were analyzed within the required 10 or 14-day hold time for VOA (preserved to pH < 2). No qualifier is required.

- The laboratory cooler receipt temperature associated with all the project samples of Data Sets fell within the 4°C (±2°C) requirement. No qualifier is required.

- Sample "TB" associated with Data Set Z253 was sampled on 10/31/06. However, the sample was not received at the lab within the required 48 hours. Therefore, all the results are qualified estimated with a "J" qualifier.

Blank Contamination: Laboratory method blanks are clean liquid and/or solid matrix samples prepared by the analytical laboratory and analyzed in the same manner as the investigative samples. Water laboratory method blanks are used to identify whether the investigative samples have been contaminated during sample preparation, sample analysis or from a previous sample (instrument carry-over).

- Methylene Chloride and acetone were detected in some of the laboratory method blanks. Samples not mentioned below should be reported as they were reported from the laboratory. The data is qualified as follows:

Data Set W629

Sample Number	Methylene Chloride	Report	Acetone	Report
B-1 (5-10)	negate, below CRQL	3.5U	Result, > CRQL, >10 blank	No qualification
B-2 (5-10)	not detected	--	Result, > CRQL, >10 blank	No qualification
B-4 (5-10)	negate, above CRQL	5.0U	negate, above CRQL	66U
B-5 (5-10)	negate, above CRQL	5.2U	Result, > CRQL, >10 blank	No qualification
B-1 (0-5)	negate, below CRQL	3.3U	negate, above CRQL	16U
B-2 (0-5)	negate, below CRQL	3.2U	negate, above CRQL	22U

B-4 (0-5)	negate, below CRQL	3.1U	negate, above CRQL	17U
B-5 (0-5)	negate, above CRQL	4.8U	negate, above CRQL	35U
DUP-1 (0-5)	negate, above CRQL	3.4U	negate, above CRQL	25U
DUP1 (5-10)	not detected	--	negate, above CRQL	49U
B-1 (23-25)	not detected	--	negate, above CRQL	40U

Data Set W695

Sample Number	Methylene Chloride	Report	Acetone	Report
B-3 (0-5)	negate, above CRQL	3.8U	negate, above CRQL	12U
B-7 (3-6)	negate, below CRQL	3.2U	negate, above CRQL	17U
B-9 (6-9)	not detected	--	negate, above CRQL	38U

Data Set W813

Sample Number	Methylene Chloride	Report	Acetone	Report
B-6 (0-5)	negate, above CRQL	4.0U	not detected	--
B-6 (5-10)	negate, below CRQL	3.6U	Result, > CRQL, >10 blank	No qualification
DW-2	negate, below CRQL	3.9U	negate, above CRQL	13U

Data Set 214115

Sample Number	Methylene Chloride	Report	Acetone	Report
RS-2 (0-3)	not detected	--	negate, below CRQL	1700U
RS-2 (3-6)	not detected	--	negate, below CRQL	1700U
RS-5	negate, below CRQL	25U	negate, below CRQL	25U
RS-4B (0-4)	negate, below CRQL	28U	negate, below CRQL	28U
RS-4A (0-3)	negate, below CRQL	28U	negate, below CRQL	28U
RS-1	negate, below CRQL	23U	negate, below CRQL	23U
Trip Blank	Result, > CRQL, >10 blank	No qualification	negate, below CRQL	10U
Bailer Rinse	not detected	--	negate, below CRQL	10U
Sleeve Rinse	negate, below CRQL	5U	negate, below CRQL	10U

- Although there is no reason to question the positive methylene chloride result in sample Trip Blank of Data Set 214115, it should be noted that methylene chloride is regarded as a common VOA laboratory and/or field contaminant. No qualifier is required.

- The tentatively identified compound ethyl acetate (RT 3.59) detected in sample RS-2 (3-6) of Data Set 214115 is negated due to method blank contamination.

- The 2-butanone concentration reported for sample Sleeve Rinse of Data Set 214115 is negated due to trip blank contamination. The result should be reported as 10U.

- The tentatively identified compounds "Fluorotrimethyl silane" detected in Data Set 214115 and reported for samples SW-1, SW-2, SW-3 and SW-2DUP are by-products of the GC/MS system and are not attributable to site contamination.

GC/MS Performance Check (Tuning) Summary: Gas chromatograph/mass spectrometer (GC/MS) instrument tuning and performance checks are performed to ensure the instrument's ability to provide appropriate mass-resolution, identification and sensitivity.

- The bromofluorobenzene (BFB) tuning compound mass-ion abundance criteria for the volatile organic compound analyses were reported within control limits for the reviewed data sets with the exception of Tune NB384 dated 11/10/06 at 11:09 of Data Set 214115. The results for sample RS-1 are rejected "R".

System Monitoring Compound (Surrogate) Recoveries: System monitoring compounds (surrogates) are those compounds which are not expected to be detected in the investigative samples but are chemically similar to the analytes of interest. Surrogate compound percent recoveries are used to assess extraction efficiencies, possible matrix effects and overall analytical accuracy.

- The VOA surrogate recoveries fell within control limits for all the reviewed project samples. No qualifier is required.

Internal Standards Area Performance: Internal standards are analytes of interest, which are added to the investigative samples prior to analysis to ensure that GC/MS sensitivity and responses remain stable. Internal standards are reported with the VOA analyses.

- The VOA internal standard area counts and retention times fell within control limits for all the reviewed project samples. No qualifier is required.

Initial and Continuing Calibration Results: Control limits for initial and continuing instrument calibrations are established to ensure that the instrument is capable of producing accurate quantitative data at the beginning and throughout each of the analyses.

- The response factors of the volatile organic compounds, acetone and 2-butanone, are less than 0.050, but greater than 0.010, in the initial and continuing calibrations associated with most of the Data Sets reviewed. Since SW-846 Method 8260B does not have a minimum response factor established for ketones, no qualifier is required for the acetone and 2-butanone results, which exhibited response factors of less than 0.050, but greater than 0.010.

- The response factors of the volatile organic compounds listed below are less than 0.050, but greater than 0.010. Therefore, the non-detected results for the compounds are rejected "R". The results are qualified as follows:

Date Set	Sample Number	Compound	Qualifier
Z253	All	Chloroethane	"R"

- Due to the high percent difference (%D > 15 but < 90) between the initial and continuing calibration response factors of the volatile organic compounds listed below, the detected results are regarded as estimated values and are flagged (J) on the laboratory summary pages and summary table. Non-detects are not qualified. The results are qualified as follows:

Date Set	Sample Numbers	Compound	Qualifier
W695	B7 (3-6), B9 (6-9), B3 (0-5)	Acetone	"J"
W695	WS-B7, WS-B8, WS-B9	Trichloroethene	"J"
W695	WS-B7, WS-B8, WS-B9	Tetrachloroethene	"J"
W695	B9 (6-9)	Carbon Disulfide	"J"
W629	B-1 (0-5), B-1 (5-10), B-1 (23-25), B-2 (0-5), B-2 (5-10), B-4 (0-5), B-4 (5-10), B-5 (0-5), B-5 (5-10), DUP1 (0-5), DUP1 (5-10)	Acetone	"J"
W629	WS-B1D, WS-B3,WS-B4, WS-B5	Vinyl Chloride	"J"
W629	WS-B1, WS-B1D,WS-B3, WS-B2 WS-B4, WS-B5, DUP-1	Trichloroethene	"J"
W629	WS-B1, WS-B1D,WS-B3, WS-B2 WS-B4, WS-B5, DUP-1	Tetrachloroethene	"J"
W629	B-4 (5-10), B-5 (5-10), WS-B1	Carbon Disulfide	"J"
W813	B-6 (0-5), B-6 (5-10), DW-2	Tetrachloroethene	"J"
116272	SG-1, SG-3, SG-2, SG-4	Acetone	"J"
214115	RS-2 (0-3), RS-2 (3-6), Bailer Rinse, Sleeve Rinse, Trip Blank, RS-5, RS-4B (0-4), RS-4A (0-3)	Acetone	"J"
214115	Sleeve Rinse, Trip Blank	2-butanone	"J"

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Summaries: Matrix spikes are samples spiked with known concentrations of analytes of interest. The MS/MSD percent recoveries and duplicate results are used to assess extraction efficiencies, possible matrix effects, and overall analytical accuracy and precision.

Blank spikes (BS) are fortified (spiked) with known concentrations of compounds of interest. Blank spike percent recoveries are used to assess extraction efficiencies, and overall analytical accuracy and precision.

Field duplicate samples are taken and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision. Therefore, results may have more variability than laboratory duplicates, which measure only laboratory performance.

- The VOA MS/MSD (recoveries and MS/MSD and/or MS/Duplicate Relative Percent Differences or RPD) and BS recoveries associated with all the Data Sets fell within control limits, providing a positive indication of the overall accuracy and precision associated with these analyses with the exception of Data Set Z253 for tetrachloroethene which had low recoveries. Therefore, the detected tetrachloroethene results for this Data Set (Z253) are estimated and qualified "J". The non-detected tetrachloroethene results for this Data Set are rejected and qualified "R".

- Sample DUP-1 (Data Set Z253) was collected and submitted as a blind field duplicate of sample MW-2D. The reproducibility of the VOA is good, with the exception of acetone. The detected and non-detected acetone results for these two samples should be flagged as estimated and qualified "J".

- Sample DUP-1 (5-10) (Data Set W629) was collected and submitted as a blind field duplicate of sample B-2 (5-10). The reproducibility of the VOA is good, with the exception of tetrachloroethene. The detected and non-detected tetrachloroethene results for these two samples should be flagged as estimated and qualified "J".

- Sample DUP-2 (3-6) (Data Set W695) was collected and submitted as a blind field duplicate of sample B-8 (3-6). The reproducibility of the VOA is good, with the exception of tetrachloroethene, cis-1,2-dichloroethene, and trichloroethene. The detected and non-detected tetrachloroethene, cis-1,2-dichloroethene, and trichloroethene results for these two samples should be flagged as estimated and qualified "J".

- All other blind field duplicate samples listed below showed the reproducibility of the VOA results is good, providing a positive indication of the overall accuracy and precision associated with this analysis. No qualifier is required.

DUP2 (6-9)	and	B8 (6-9)
DUP-1 (0-5)	and	B-2 (0-5)
DUP-1	and	WS-B2
SW-2DUP	and	SW-2

Target Compound Identification and Quantitation: The laboratory calculations are verified and compound identifications are assessed by the data reviewer.

- Some samples were analyzed with a methanol extraction for VOA, resulting in elevated detection limits, due to the target compound concentrations exceeding linear calibration range requirements. No qualifier is required. The following samples were affected:

Date Set	Sample Numbers
W695	DUP-2 (6-9), DUP-2 (3-6), B9 (3-6), B8 (6-9), B8 (3-6), B7 (6-9),
W629	B-3 (5-10)
214115	RS-2 (0-3), RS-2 (3-6)

- The tentatively identified compound reported for sample B-3 (5-10) associated with Data Set W629 should be flagged with an "N".

- The tentatively identified compounds with RT 11.38, 11.46, 12.20, and 12.31 reported for sample B-5 (5-10) associated with Data Set W 629 should be flagged with an "N".

- The tentatively identified compounds reported for sample WS-B5 associated with Data Set W629 should be flagged with an "N".

- The GC/MS raw data (quantitation reports, chromatograms and mass-spectra) were provided for review. No laboratory calculation errors were noted for samples selected for verification during the Quality Assurance Review.

Additional Comments:

- As per the requirements, values calculated below the RL should be considered estimated and are flagged (J) on the summary table.

3.3 CONVENTIONAL PARAMETERS

Hold Times: Technical hold times are assessed by comparing the sampling dates with that of the preparation dates and/or analysis dates.

- The reviewed project samples were prepared and/or analyzed within the required hold time for total Organic Carbon (TOC) and grain size. No qualifier is required.

Blank Contamination: Laboratory method blanks are clean liquid and/or solid matrix samples prepared by the analytical laboratory and analyzed in the same manner as the investigative samples. Water laboratory method blanks are used to ensure that the investigative samples are not contaminated during the sample preparation, sample analysis or from previous sample (instrument carry-over).

- No TOC contaminants were detected in the laboratory method and instrument blanks, which require qualification for the reviewed project samples. No qualifier is required.

Instrument Calibration and Verifications: Control limits for initial and continuing calibration verifications (ICV and CCV) are established to ensure that the instrument is capable of producing accurate quantitative data at the beginning and throughout each of the analyses.

- The ICV/CCV standard recoveries for TOC associated with all the Data Sets fell within control limits. No qualifier is required.

Laboratory Control Sample Results: The Laboratory Control Sample (LCS) is a blank sample fortified (spiked) with known concentrations of analytes of interest. The percent recoveries are used to assess extraction efficiencies and overall analytical accuracy.

- The LCS analysis of TOC fell within control limits for the reviewed project samples. No qualifier is required.

Matrix Spike (MS) and Duplicate (DU) Summaries: Matrix spikes are samples spiked with known concentrations of analytes of interest. The spiked sample analysis is designed to provide information about the effect of the sample matrix on the sample preparation procedures and the measurement of the methodology. Duplicate samples are used to demonstrate acceptable method precision from the laboratory at the time of analysis. The percent recoveries and duplicate results are used to assess digestion efficiencies, possible matrix effects, and overall analytical accuracy and precision.

- The duplicate Relative Percent Differences (RPD) associated with all the Data Sets fell within control limits for TOC providing a positive indication of the overall accuracy and precision associated with these analyses. No qualifier is required.

- The MS and/or RPD results associated with all the Data Sets fell within control limits for TOC providing a positive indication of the overall accuracy and/or precision associated with these analyses. No qualifier is required.

Target Analyte Identification and Quantitation: The laboratory calculations are verified and compound identifications are assessed by the data reviewer.

- The raw data were provided for review for TOC and grain size. Except where noted in the General Comments Section of this report, no additional laboratory calculation errors were noted for samples selected for verification during the quality assurance review.

4.0 CONCLUSIONS

The Quality Assurance Review has identified aspects of the analytical data that require qualification. Data qualifiers, when applicable, are placed next to the results so that the data user can assess the qualitative and/or quantitative reliability of the reported results. With the exception of the rejected analytes, the laboratory analytical data contained herein are deemed usable and for the most part in compliance with the modified NYSDEC ASP Category B Data Deliverable Format. To confidently use any of the data within the data set, the data user should understand the limitations and qualifications presented.