

**REMEDIAL INVESTIGATION REPORT
WEST 57TH STREET PROJECT
601-657 WEST 57TH STREET
NEW YORK, NEW YORK
NYSDEC SPILL NO.: 98-10172**

**ATC PROJECT NUMBER 18346-0001
March 24, 2000**

**Prepared for:
The Durst Organization, Inc.
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New York, New York 10036**

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March 24, 2000

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Re: ATC Project No. 15-18346-0001
Remedial Investigation
West 57th Street Project
NYSDEC Spill No. 98-10172

Dear Mr. Sigona:

ATC Associates Inc.(ATC) is submitting the attached Remedial Investigation Report for the referenced site for your review. Please do not hesitate to contact me if you have any comments or questions.

Sincerely,

ATC Associates Inc.

A handwritten signature in black ink, appearing to read "David M. Winslow".

David M. Winslow, Ph.D.
Subsurface Investigation and Remediation
Group Manager

cc: Michael Terzano, DURST Organization
James Ground, GCI Environmental Advisory Inc.
Gregory Johnson, Greatwood Management Company, LLC

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1.0 EXECUTIVE SUMMARY

ATC Associates Inc. (ATC) has been retained by The Durst Organization, Inc. to investigate the extent of petroleum-contaminated groundwater and soils at the property located between West 57th Street and West 58th Street between 11th Avenue and 12th Avenue, in Manhattan, New York ("Site"). An annotated United States Geologic Survey 7.5-minute series quadrangle map (Central Park, N.Y) showing the Site location, topography, drainage and cultural patterns is provided in Figure 1.

The scope of this Remedial Investigation, which augments the data provided in ATC's Focused Subsurface Investigation (The ATC Report), dated December 10, 1998, was as follows: 1) to determine if soil in the vicinity of the remote underground storage tank (UST) fill locations had been impacted by petroleum releases; 2) to determine the impact of soil contamination associated with operation of former and active USTs on groundwater quality beneath the Site; 3) to evaluate the groundwater flow/gradient in the vicinity of the Site; and 4) to evaluate the potential for off-Site migration of groundwater petroleum contamination. The Remedial Investigation scope of work included the following activities: 1) Geoprobe investigation, 2) monitoring well installation, 3) monitoring well survey, 4) groundwater sampling and analysis, and 5) report preparation.

Fifteen borings were advanced as part of this investigation. Five monitoring wells were installed. Soil samples from each boring were collected from the interval exhibiting the greatest field evidence of petroleum contamination. Please refer to Figure 4 the boring locations. This approach to sample collection presents the "worst case" scenario in terms of soil contamination.

Volatile organic compounds (VOCs) were detected in subsurface soil above New York State Department of Environmental Conservation Spill Technology and Remediation Series Memo No. 1 – Petroleum-Contaminated Soil Guidance Policy (NYSDEC STARS Memo) Alternative Guidance Values in soil samples from six borings. These compounds included benzene, toluene, ethylbenzene, m&p xylenes, o-xylenes, isopropylbenzene, n-propylbenzene, 1,3,5-trimethylbenzene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, p-isopropylbenzene, n-butylbenzene, and naphthalene. Semivolatile organic compounds (SVOCs) above NYSDEC STARS Memo Alternative Guidance Values were detected in soils collected from five borings. These compounds included a number of the polycyclic aromatic hydrocarbons (PAHs) on the NYSDEC STARS Memo analyte list. The PAHs are a result of both fill material and petroleum.

One hydrogeologic zone of concern occurs beneath the Site, a shallow unconsolidated water table aquifer occurring above bedrock consisting of mica-schists and gneiss. The water table aquifer consists of unconsolidated fmc-SANDS and fmc-gravels. A discontinuous organic-rich silt-clay layer occurs at approximately 5-8' bgs on the southwest side of the Site. The water table occurs at approximately 13' bgs on the west side of the Site. Groundwater was

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not encountered above the bedrock on the eastern side of the Site. Groundwater flows to the west towards the Hudson River. The hydraulic gradient west of MW-5 is 0.0048 feet/feet. East of MW-5 the hydraulic gradient is steeper. This is likely due to the occurrence of bedrock at shallower depths on the east side of the Site.

The laboratory results of the groundwater samples indicate dissolved benzene ethylbenzene, toluene, and xylenes (BTEX) concentrations in the five monitoring wells installed at the Site. The groundwater sampling results indicated that VOCs above New York State Ambient Groundwater Quality Criteria (GWQC) were detected in monitoring wells MW-1, MW-3, and MW-5. Benzene was detected in monitoring wells MW-1, MW-3 and MW-5 at one to three orders of magnitude above the GWQC for this compound. The remaining contaminant concentrations ranged from one to two orders of magnitude above their respective GWQC. In addition, the previous ATC Report indicated that groundwater contamination was greatest in the vicinity of the Potamkin Service Center. Minor concentrations of VOCs were detected beneath the Airborne Express and Artkraft Strauss Sign Company facilities.

It is apparent from the contaminant distribution that groundwater beneath the Airborne Express facility contains the greatest concentrations of BTEX. It does not appear that contaminated groundwater is migrating off-Site to any significant degree. The monitoring wells located on the sidewalks of 57th Street and 58th Street contain nondetectable to 180 ppb (MW-3) of dissolved BTEX. This data shows little or no lateral or cross gradient dispersion. In addition, the previous Report indicated that groundwater contamination was primarily confined to the Airborne Express and Potamkin facilities. Groundwater under the downgradient portion of the Airborne facility contained nondetectable concentrations of dissolved BTEX. Groundwater beneath the Artkraft Sign Company, the most downgradient extent of the Site, contained only 130 ppb of Xylenes. These previous groundwater samples were collected with Geoprosbes, and thus likely contained suspended sediments.

Based on the results of this study, the estimated amount of petroleum-contaminated soil beneath the Site is approximately 21,000 tons. This estimate includes soil that has contaminant concentrations below regulatory clean-up guidance values, but exhibits petroleum odors necessitating special handling and disposal if removed during construction excavation work. The tenant areas that contain the largest amount of impacted soil are the Potamkin Service and Airborne Express facilities. ATC does not recommend that the petroleum contamination along the sidewalks be excavated. ATC believes that source removal from under the building slabs, together with capping, will reduce the contaminant load to groundwater so that the impact to groundwater will be minimized. ATC recommends monitoring of soil quality during excavation. On-site segregation of contaminated soil from unaffected material will be performed through field-screening techniques. The contaminated soils will be properly transported to an appropriate facility for proper disposal or recycling. During soil excavation activities, any underground storage tanks (USTs) that are encountered will be removed for proper off-site disposal.

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Although the groundwater contamination is relatively minor and no significant off-Site migration has been documented, it is a remote possibility that construction dewatering may contain elevated hydrocarbons. Based upon the groundwater sample results this is unlikely. Therefore, prior to construction, monitoring well MW-5 will be sampled and analyzed for the following parameters: Total Petroleum Hydrocarbons, ignitability, corrosivity, cadmium, copper, cyanide, lead, mercury, nickel, and zinc (as per New York City Sewer Use Regulations, 15, RCNY 19-01 et seq.). The results of these analyses will determine if the dewatering effluent can be discharged to the New York City Sewer and Stormwater System. ATC has been informed that excavation open-hole construction for proposed Site development will be approximately three months in duration. ATC recommends that if necessary, any dewatering system that operates during that period be modified to treat contaminated groundwater as it is removed from the construction areas. Treatment can be performed using large carbon-filtration units during dewatering.

ATC recommends that the residual groundwater contamination be monitored on a quarterly basis beginning in March 2000. Following the removal of contaminated soils during construction, groundwater should be monitored for one year. If the results of the groundwater monitoring indicate a steady state plume or a decreasing plume, the contaminant load would be less than the attenuation rate and the active NYSDEC Spill Number should be closed. ATC recommends that a qualitative exposure assessment and contaminant fate transport modeling be undertaken to aid in Site closure decisions. All monitoring wells will then be properly abandoned in accordance with NYSDEC protocols.

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INTRODUCTION

2.1 Objective

The objectives of the Remedial Investigation are as follows: 1) supplement the petroleum soil contamination data acquired during ATC's previous investigation; 2) to determine the impact of the source area contamination on groundwater beneath the Site; 3) determine if soils beneath the former remote fills have been impacted by petroleum releases, and 4) recommend the appropriate remedial option to address the absorbed-phase and dissolved-phase petroleum contamination at the Site.

2.2 Site Location and Description

The Site is located between 57th Street and 58th Street and between 11th Avenue and 12th Avenue, in New York, New York. The Site is rectangular, approximately 160,000 square feet in size, and contains eleven (11) parcels leased to various tenants.

2.3 Site History

The Site contains eleven (11) parcels leased by various occupants as listed below:

Artkraft Strauss Sign Company Facility, 820-838 12th Avenue, designs, constructs, and repairs commercial signs. This facility is located at the west end of the Site. The first floor of the two-story concrete structure is used for parts storage, metalworking and woodworking equipment, painting, and storage of vehicles. This property was originally part of a large lumberyard until the existing structure was built in 1925, and originally contained the Brockway Motor Truck Company and Stutz (or State) Service Station. A private garage and repair shop occupied the building by 1951. Artkraft had occupied the building by 1976. A prior Phase I Environmental Site Assessment Report by GCI Environmental Advisory, Inc., dated June 1998 (the GCI Report) indicated that up to 14 gasoline USTs and a single fuel oil AST were historically present at this parcel.

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Airborne Express Facility, 631-649 West 57th Street, is an L-shaped, two-story concrete building used for parcel receiving, routing and delivery. This facility is located in the central portion of the Site. The structure, built in 1916, originally housed the Colt Stewart Co./Chrysler Service Station. United Parcel Service, Inc. occupied the building by 1940. A gasoline leak was reported in 1948. The New York City Fire Department (NYCFD) ordered hydrostatic tightness testing on the USTs, the tests were performed, and the tanks passed to the NYCFD's satisfaction. The order also directed the occupant to "clean oil separator" and "repair floor drains and keep same clean." A notarized sworn statement, dated October 1963, from Gas Service Maintenance, on behalf of Don Allen Pontiac, states that the Gas Service Maintenance "discontinued use of 6 underground buried tanks; removed all gasoline and filled with water; and capped, and sealed and cemented all lines." A crankcase waste oil tank was reportedly installed in 1964, although its size and location are unknown.

Airborne Express Facility, 640-648 West 57th Street, is presently a paved parking area occupied by Airborne Express vehicles. The parking area is located on the north side of the Airborn Express Parcel. It was originally part of the S. E. Kellar Lumber Company. A 1926 Sanborn fire insurance map identifies a single story "Auto Repair Shop" at the location. In 1972, this lot, along with the Airborne building noted above, was occupied by New York Telephone, which, according to the GCI Report, installed two (2) USTs located in the area of the present Airborne parking area. One is reported to be a 1,080-diesel fuel UST, the other a 2,500-gallon unleaded gasoline UST. The USTs are presently inactive and have been closed in place. The pumps have been removed. It has been reported that these two USTs were properly abandoned in place prior to ATC's Remedial Investigation.

Potamkin Toyota Service Facility, 622 West 58th Street, 623-629 West 57th Street, is a three-story building utilized for car service (ground floor) and auto storage. This facility is located in the central portion of the Site. The building occupies the former site of Lieberman and Sanford Iron Works, which was housed in a steel-framed skeleton shed built prior to 1907. By 1951, Bell Transportation System operated a garage and repair facility at the Site in a building constructed in 1928. The Sanborn maps of the early 1990s describe use of this site as a "Taxi Garage and Repair." The GCI Report states that there may be up to 13 USTs beneath the Potamkin Service Area floor, including a 4,000 gallon waste oil tank which was reportedly recently cleaned out and taken out of service. It is unknown whether these tanks are still present.

The Copacabana Facility, 615-621 West 57th Street, is a single-story building that traverses the block between 57th Street and 58th Street. This facility is located in the east-central portion of the Site. The Copacabana property was also part of the lumberyard in the early part of the century. The 58th Street side was a wooden storage building in 1926, while the 57th Street side was part of a garage. In 1980, both sections apparently were garages. The Copacabana is first identified in the 1995 Sanborn map and occupies the structures depicted as garages in the 1980 Sanborn map. Two 550-gallon gasoline tanks were identified as buried at the 58th Street side of the building as early as the 1926 Sanborn map. ATC was unable to access the building during the prior subsurface investigation or this study.

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The Goodyear Tire and Rubber Company Facility, 607-613 West 57th Street, occupies a "single-story building" east of the Copacabana, although there is a second floor over the sales and office area on the west side of the structure. Originally part of the New York Lumber Yard, the 1926 Sanborn map indicates the presence of an auto service station with two buried 550-gallon gasoline tanks. The building was listed as a tire service and storage operation by 1951. Two to four former USTs were identified in the GCI Report, along with eight to ten hydraulic lifts and associated underground hydraulic oil tanks.

Manhattan Mini Storage Facility, 847-853 Eleventh Avenue, consists of a six story concrete framed structure at the corner of West 58th Street and 11th Avenue at the northeast side of the Site. The structure is presently utilized as rented storage lockers/rooms. The GCI Report indicates no USTs have been located on this parcel. There is an adjacent parking area on West 58th Street. The parcel originally was part of the New York Lumber & Storage Co. A railroad siding entered the parcel at the corner of West 57th Street and 11th Avenue and to the western side of the present parking area.

Dynasty Auto Body Facility, 616-618 West 58th Street, occupies a small two-story wood-framed building east of the Copacabana. This property was originally part of a "rented stalls and wagon yard" in 1907. An auto repair shop is shown on the 1926 Sanborn map, with notation of two buried 550-gallon gasoline tanks. This facility has reportedly been used as an auto body repair and painting facility since at least 1980. ATC was unable to access the building during the prior subsurface investigation or this current study.

Potamkin Toyota Sales Facility, 601 West 57th Street and 839-845 11th Avenue, consists of one three-story concrete building and one single-story building. These parcels were originally part of the Lilpatrick and Roylance Lumber Co. operation, and subsequently as the New York Lumber Yard Co. and W.H. Sidway Lumber Yard operations at the turn of the century. A General Motors Truck Co. parts and service operation occupied both parcels by 1926. The 1926 Sanborn Map noted two buried 550-gallon gasoline tanks in the area. Sanborn maps subsequent to 1951, identify the parcel only as "Auto Sales & Service." A heating oil tank is reportedly present as an aboveground storage tank (AST) placed on the basement concrete slab. The location of the two USTs are not known. ATC was unable to access the building during the initial subsurface investigation. The GCI report concludes that, beyond the few active USTs at the Site, little is known about the actual closure of the USTs reported in the early Sanborn Maps and other records. The locations of the USTs were not recorded in Site plans or NYFD documentation for the Site. ATC focused the 1998 subsurface investigation on known and suspected UST locations based on the presence of vent pipes, old fill ports, and recollections of on-site personnel. Soil boring locations were also controlled by space and access limitations. Due to access restrictions, ATC did not advance soil borings in the following tenant spaces: the Copacabana, Goodyear Sales Office, and Potamkin Toyota Sales. Parts of the Goodyear Service Area overlay a sub-basement with limited access.

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2.4 Summary of Previous Environmental Investigations

A total of two (2) environmental site assessments and investigations were conducted on the Site between June 1998 and December 1998. These assessments and investigations included the following: 1) Phase I Environmental Site Assessment of West 57th Street Property (GCI Report), prepared by GCI, on behalf of the Durst Organization, dated June 1998; and 2) Focused Subsurface Investigation, West 57th Street Property, prepared by ATC Associates Inc. (ATC Report), on behalf of GCI Environmental Advisory, Inc, dated December 10, 1998.

A summary of the results of each of the aforementioned assessments, investigations and reviews is given below.

2.4.1 GCI Environmental Advisory, Inc., Phase I Environmental Site Assessment, June 1998

The GCI Report indicated a history of automotive and truck sales and service conducted at multiple locations on the Site. The regulatory agency database investigation, Site visits and historical records indicated the presence of multiple USTs at locations throughout the Site. Most of the USTs were reportedly not in use and were filled and abandoned in the 1960s. GCI recommended a subsurface soil and groundwater investigation program to determine if contamination is present in the vicinity of the USTs.

2.4.2 ATC Associates Inc., Focused Subsurface Site Investigation, December 1998

The ATC Report revealed areas of soil and groundwater contamination at the Site. These conditions are the result of historical releases petroleum releases from multiple on-site existing and removed gasoline USTs, waste oil USTs, as well as historic fill. The ATC Report estimated that approximately 20,600 tons of petroleum-contaminated soils were present beneath the Site. This estimate included soil that has contaminant concentrations below regulatory clean-up guidance values, but exhibits petroleum odors necessitating special handling and disposal if removed during construction excavation work. The tenant areas that contain the largest amount of impacted soil are the Potamkin Service and Airborne Express facilities. An area of petroleum-contaminated groundwater is present primarily beneath the Airborne Express and Potamkin Service facilities at the Site. In addition, soil and groundwater was analyzed for RCRA Metals and chlorinated hydrocarbons. Localized, minor exceedances of lead, mercury, arsenic, cadmium, and trichloroethene were detected. However, the volume and magnitude of these contaminants was unlikely to cause the soils to be treated as a hazardous waste during disposal. The ATC Report recommended a Remedial Investigation to delineate the extent of soil and groundwater for remediation design purposes. Figure 3 provides the previous boring locations. Appendix E provides a summary of the laboratory results for soil and groundwater samples collected during the previous investigation.

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3.0 ENVIRONMENTAL CHARACTERISTICS

3.1 Site Topography

According to the USGS Topographic Map, Central Park Quadrangle of dated 1969, the elevation of the Site is approximately 10'-30' above mean sea level. The Site slopes downward to the west and southwest towards the Hudson River. Figure 1 provides a copy of the USGS Topographic Map.

3.2 Site Geology

According to the information in the 1989 Geological Map of New York State, ATC's prior report, and this current study, the near-surface material was found to consist of fill with varying thicknesses beneath the Site. The fill material consisted of cmf-SANDS, some cmf-GRAVEL, little silt, cinders, slag, ash and concrete. An organic-rich silty clay layer was encountered on the southwest side of the Site at depths of 5'-8' bgs. Beneath the organic-rich silt layer brown cmf SAND and cmf-GRAVEL with a trace of silt was encountered. Refusals on what is presumed to be bedrock were encountered at depths of 7' to 9' bgs on the east side of the Site (borings BD-3, GY-7, GY-6, and PSALES-1). Bedrock was encountered at 17' bgs at monitoring well MW-4. Bedrock consists of Precambrian age muscovite-biotite schists.

3.3 Site Hydrogeology

Groundwater at the Site occurs in the shallow unconsolidated material at depths of 7' to 13' bgs. The hydraulic conductivity is expected to be moderate to low given the subsurface geology. Groundwater was found above the bedrock aquifer. However, no groundwater was observed in boring PSALES-1 where refusal was encountered due to bedrock at 9' bgs.

Water is supplied to the Site by New York City. New York City receives its drinking water from surface reservoirs located in upstate New York.

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4.0 REMEDIAL INVESTIGATION

4.1 Geoprobe Soil Boring Investigation

On November 8 and 9, 1999, ATC advanced thirteen (13) borings along the perimeter of the Site on the sidewalks. The borings were biased towards the former petroleum remote fill lines located on the sidewalks bordering the Site. The soil samples were screened in the field with a photoionization detector (PID) and for visual and olfactory evidence of petroleum contamination. The samples which exhibited the greatest evidence of petroleum contamination above the soil/groundwater interface were collected for laboratory analysis. This approach to sample collection presents the "worst case" scenario in terms of soil contamination. Two soil samples each were collected from borings PO-5 and AX-14 in an attempt to delineate the vertical extent of soil contamination at the Site. The soil samples were transferred into appropriate sample containers, packed on ice in a cooler, shipped under proper chain of custody to SciLab Albany Inc. (ELAP # 10358), located in Albany, New York, and analyzed for VOCs and SVOCs in accordance with EPA Methods 8021 and 8270, respectively. A total of fifteen (15) soil samples were collected and analyzed. Figure 4 provides the boring locations.

4.2 Monitoring Well Installation

On November 10, November 15, and December 7, 1999, ATC installed five (5) 2" inside diameter monitoring wells, using a truck mounted rotary drill rig, equipped with 4 1/4" ID continuous flight hollow stem augers, in order to determine if groundwater quality had been impacted by the documented petroleum-contaminated soils. Although the Remedial Investigation Work Plan indicated that continuous split spoon samples would be collected during monitoring well installation, ATC decided not to collect split spoon samples during well installation. This was due to the close proximity of the monitoring wells to Geoprobe sampling points, which provided adequate characterization of the subsurface soils. Monitoring wells MW-1, MW-2, and MW-3 were installed to 23' bgs respectively. Monitoring well MW-4 was installed to 18.5' bgs. MW-5 was installed to 25' bgs. The wells were constructed of 2" inside diameter schedule 40 PVC pipes. The screened portion of each well consisted of 10-20' of 0.02" slotted PVC pipe. The wells extended 10' into the water table. The screens and risers were connected using threaded couplings. The screened portion of each well was packed with #0 sand pack. A 1.5' thick bentonite seal was placed above the filter pack and the annulus was filled with drill cuttings that did not exhibit field evidence of contamination. The wells were protected with a 8" diameter, flush-mounted steel manhole set in a concrete pad. Watertight locking gripper plugs were placed at the top of the PVC casing to prevent unauthorized entry. Monitoring well installation details are provided in Appendix D. Figure 5 provides the monitoring well locations.

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4.3 Groundwater Development and Sampling

On December 7 and 8, 1999, ATC developed groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5. During development at least 5 well volumes of groundwater were removed with peristaltic pump using dedicated high-density polyethylene tubing. The tubing was moved throughout the saturated zone during development. The wells were developed until the effluent was visibly clear of suspended sediments. On December 10, 1999, ATC collected groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-5. On December 15, ATC collected a groundwater sample from MW-4. Four (4) well volumes of groundwater were purged from all of the sampled wells, using dedicated polyethylene tubing attached to a peristaltic pump, prior to sampling. All groundwater samples were placed in properly preserved, laboratory-supplied glassware, packed on ice in a cooler, and shipped under proper chain of custody to SciLab, Albany. All groundwater samples were analyzed for VOCs and SVOCs in accordance with EPA Methods 8021 and 8270.

4.4 Monitoring Well Survey and Groundwater Gradient

On January 11, 1999, ATC surveyed the five monitoring wells to determine their respective casing elevations. All units are on arbitrary datums. The elevations shown are referenced to an arbitrary bench mark having an assumed elevation of 100'. Prior to sampling, ATC measured the depth to groundwater using a sonic interface probe. The depth to water was then subtracted from the casing elevations to obtain the groundwater elevation at each monitoring well. The groundwater elevations were used to calculate the groundwater gradient and flow at the Site. Table 1 shows the depth to water, casing elevations and groundwater elevations of each monitoring well. The groundwater gradient is portrayed in Figure 6.

Table 1. Groundwater Gauging Data

Well No.	Dept to Water (feet)	Relative Casing Elevation (feet)	Groundwater Elevation (feet)
MW-1	14.12	101.57	87.45
MW-2	7.72	94.24	86.52
MW-3	11.45	98.77	87.32
MW-4	10.18	106.63	96.45
MW-5	12.98	100.69	87.71

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4.5 Health and Safety

A Site-specific Health and Safety Plan was prepared for all investigative activities conducted at the Site. Environmental air monitoring was conducted during Site activities using a PID. All ATC personnel involved in field activities are Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response trained and certified. A copy of the Health and Safety Plan which fulfills the OSHA requirements under 29 CFR 1910.120 is presented in Appendix A.

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5.0 REMEDIAL INVESTIGATION RESULTS

5.1 Soil Sampling Results

All soil samples were screened in the field using a Rae Instruments MiniRAE Plus photoionization detector (PID) as well as visual and olfactory means. The PID was calibrated in the field at the beginning of each working day. Soil samples were screened with the PID by cutting open the 4' macrocore acetate sleeve and placing the PID inlet adjacent to the soil column at one foot intervals. Field screening results are summarized below in Table 2.

Table 2. Field Screening Results

Depth (ft)	PID Readings												
	GY-6	COP A-1	GY-7	AX-14	PO-5	BD-4	AX-15	PSAL ES-1	AX-16	AX-17	AK-9	BD-3	AX-18
1	20.3	0.1	27.2	332	102	0	0	0.6	0	0.1	4.8	0.3	0.8
2	81.8	0.2	4.1	751	773	0	0.1	1.1	0	0.4	2.1	0.2	1.1
3	108	0.5	111	1245	1385	0	2.8	0.6	0.2	1.0	2.2	0.7	1.5
4	120	0.4	2.3	401	1629	0	5.4	0.4	0.2	2.2	1.9	0.6	1.8
5	10.2	1.1	1.1	1283	386	0.8	0	0.2	0.5	1.2	1.7	1.1	0
6	4.3	1.2	2.4	484	470	NA	0	0.1	0.6	2.7	2.5	2.2	1.2
7	0.2	16.7	2.7	1160	1727	NA	0	0.4	0.8	3.0	1.8	4.0	36.7
8	2.1	115	NA	1486	898	NA	0	0.1	1.1	3.3	4.1	NA	94.6
9	NA	25.7	NA	1045	796	NA	1.6	0	0	0.2	NA	NA	136
10	NA	54.0	NA	1464	102	NA	0	1.0	0.5	1.2	NA	NA	256
11	NA	77.0	NA	288	397	NA	0	1.1	1.5	2.2	2.1	NA	362
12	NA	86.4	NA	1568	950	NA	0	1.8	1.9	2.8	0.6	NA	309
13	NA	64.8	NA	NA	1182	NA	0	NA	1.2	0.2	19	NA	709
14	NA	56.5	NA	1337	1365	NA	0	NA	14	1.7	10.9	NA	1461
15	NA	445	NA	393	1261	NA	0	NA	20.2	24.4	3.4	NA	929
16	NA	1223	NA	51.9	1565	NA	0	NA	112	7.5	2.2	NA	NA
17	NA	658	NA	133	NA	NA	NA	NA	NA	NA	NA	NA	NA
18	NA	1258	NA	69	NA	NA	NA	NA	NA	NA	NA	NA	NA
19	NA	1020	NA	9.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
20	NA	1023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

All concentrations in parts per million

NA: No PID Reading Obtained

The current investigation indicates PID readings in borings GY-6 and GY-7 decreased with depth. PID readings in borings BD-4, AX-15, PSALES-1, and BD-3 were either minor or nondetect. PID readings from borings AX-18 and COPA-1 indicate that contamination begins at depths of 8' and 7' respectively and continues to the water table. PID readings from AX-16, AX-17 and AK-9 indicate low concentrations of soil contamination in the shallow intervals increasing with depth. PID readings from AX-14 and PO-5 indicate elevated concentrations across the entire length of the borings.

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A total of fifteen soil samples from thirteen borings were submitted for analysis of VOCs and SVOCs in accordance with the NYSDEC STARS Memo. Table 3 presents a summary of the results of the soil analysis. The complete laboratory report is presented in Appendix B. A number of individual VOCs were detected above NYSDEC STARS Memo Alternative Guidance Values in soil samples from borings GY-6, PO-5, COPA-1, AX-14, AX-16, and AX-18. These compounds included benzene, toluene, ethylbenzene, m&p xylenes, o-xylenes, isopropylbenzene, n-propylbenzene, 1,3,5-trimethylbenzene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, p-isopropylbenzene, n-butylbenzene, and naphthalene. Less than half of the fifteen soil samples contained VOCs above NYSDEC STARS Memo Alternative Guidance Values.

SVOCs above NYSDEC STARS Memo Alternative Guidance Values were detected in borings GY-6, PO-5, AX-14, COPA-1, and AK-9. These compounds included a number of the polycyclic aromatic hydrocarbons on the NYSDEC STARS Memo analyte list. Of the twelve soil samples submitted for analysis of SVOCs, only five contained SVOCs above the NYSDEC STARS Memo Alternative Guidance Values.

For those borings in which PID readings were elevated throughout the soil column, ATC collected 2 soil samples to determine the vertical distribution of soil contamination. ATC collected 2 soil samples from borings PO-5 and AX-14. The laboratory results indicated that VOCs above NYSDEC STARS Memo Alternative Guidance Values exist from 6' bgs to the water table. The laboratory results from boring AX-14 indicate that the contamination is found from 11-12' bgs. The second sample from each of borings PO-5 and AX-14 were analyzed only for VOCs in order to confirm the presence of contamination at multiple depths.

Figure 4 shows the boring locations with their respective total VOC concentrations. Boring locations were selected based upon the presence of former remote fills to former USTs. Boring numbers PO-5 COP-1, AX-14, AX-18 and GY-6 contained the concentrations of VOCs above their respective NYSDEC STARS Memo Alternative Guidance Values. Based on the contaminant distribution, soils in the vicinities of the former remote fills in front of the Airborne Express facility, the Copacabana, and the Goodyear tire and services have been impacted by petroleum releases.

ATC noted significant amounts of fill material beneath the Site. The fill contained asphalt, cinders, slag, wood, and ash. These materials likely contribute to the SVOC concentrations detected at the Site.

5.2 Groundwater Sampling Results

The groundwater laboratory results are summarized in Table 4. The complete laboratory report is provided in Appendix C. The groundwater sampling results indicated that VOCs above NYSDEC GWQC were detected in monitoring wells MW-1, MW-3, and MW-5. Benzene was detected in monitoring wells MW-1, MW-3 and MW-5 at concentrations of 1, 58, and 800 ug/l. The remaining contaminant concentrations are less than two orders of

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magnitude above their respective GWQC. Total BTEX concentrations in MW-1, MW-3, and MW-5 are 12, 180, and 982 ug/l, respectively.

Groundwater samples from MW-4 contained no VOCs above laboratory detection limits. Therefore, the contamination does not appear to be coming on site from the southeast direction.

No SVOCs were detected above laboratory detection limits.

Figure 5 shows the monitoring well locations and their respective BTEX concentrations. It is apparent from the contaminant distribution that groundwater beneath the Airborne Express facility contains the greatest concentrations of BTEX. It does not appear that contaminated groundwater is migrating off-Site to any significant degree. The monitoring wells located on the sidewalks of 57th Street and 58th Street contain nondetectable to 180 ppb (MW-3) of dissolved BTEX.

In addition, the previous ATC Report indicated that groundwater contamination was primarily confined to the Airborne Express and Potamkin facilities. Groundwater under the downgradient portion of the Airborne facility contained nondetectable concentrations of dissolved BTEX. Groundwater beneath the Artkraft Sign Company, the most downgradient extent of the Site, contained only 130 ppb of Xylenes. These previous groundwater samples were collected with Geoprosbes, and thus likely contained suspended sediments, resulting in false positives.

5.3 Groundwater Gradient

ATC prepared a Groundwater Gradient Map using groundwater elevation data measured on December 4, 1998. This map shows that groundwater flows to the west towards the Hudson River. The hydraulic gradient west of MW-5 is 0.0048 feet/feet. East of MW-5 the hydraulic gradient is steeper. This is likely due to the occurrence of bedrock at shallower depths on the east side of the Site. Groundwater Gradient Map is shown in Figure 6

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6.0 Conclusions and Recommendations

6.1 Hydrogeology

One hydrogeologic zone of concern occurs beneath the Site, a shallow unconsolidated water table aquifer occurring above bedrock consisting of mica-schists and gneiss. The water table aquifer consists of unconsolidated fmc-SANDS and fmc-gravels. A discontinuous organic-rich silt-clay layer occurs at approximately 5-8' bgs on the southwest side of the Site. The water table occurs at approximately 13' bgs on the west side of the Site. Groundwater was not encountered above the bedrock on the eastern side of the Site. Groundwater flows to the west towards the Hudson River. The hydraulic gradient west of MW-5 is 0.0048 feet/feet. East of MW-5 the hydraulic gradient is steeper. This is likely due to the occurrence of bedrock at shallower depths on the east side of the Site.

6.2 Petroleum-contaminated Soils (Based Upon this Investigation and Previous Investigations)

Petroleum-contaminated soils above NYSDEC STARS Memo Alternative Guidance Values was detected in soil samples from seven of the thirteen soil borings advanced during this investigation. The soil borings were biased towards former remote fills to petroleum USTs at the Site. The field screening and analytical results indicate that contamination in boring BD-4 is not significantly above background.

1. Soil samples from PSALES-1 indicate low concentrations (less than 1.1 ppm) across the entire boring. The analytical results from soil samples from PSALES-1 did not indicate any contaminants above NYSDEC STARS Memo Alternative Guidance Values.
2. PID readings from BD-3 indicate low concentrations across the entire boring. The analytical results from BD-3 did not indicate any contaminants above NYSDEC STARS Memo Alternative Guidance Values.
3. PID readings in borings GY-6 and GY-7 decreased with depth.
4. PID readings from borings AX-18 and COPA-1 indicate that contamination begins at depths of 8' and 7' respectively and continues to the water table. VOCs were detected above NYSDEC STARS Memo Alternative Guidance Values in these soil samples. The source of this contamination is unclear but may be a result of a former UST or subsurface transport vertically through heterogeneous soils.
5. PID readings from AX-16, AX-17 and AK-9 indicate low concentrations of soil contamination in the shallow intervals and increase with depth. Contaminants were detected above NYSDEC STARS Memo Alternative Guidance Values in these soil samples.
6. PID readings from AX-14 and PO-5 indicate elevated concentrations across the entire length of the borings. Contaminants were detected above NYSDEC STARS Memo Alternative Guidance Values in these soils samples.

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Based upon the distribution of soil contamination as compared to groundwater contamination, it appears that the Site has reached a state of attenuation. This is evident by the presence of soil contamination above the water table (i.e. 2,700 ppb of benzene in AX-18) associated with much lower groundwater concentrations (benzene in MW-1 at 1 ppb).

The laboratory results from ATC's previous Focused Subsurface Site Investigation indicated the following conditions at each parcel:

6.2.1 Artkraft Strauss Sign Company Facility

Field observations and laboratory results indicate what appears to be limited petroleum contamination in soil in the vicinity of two borings advanced near two USTs on the south side of the facility. Elevated levels of petroleum constituent (VOCs) were detected in a thin soil layer in boring AKSS-3 at the 2.5 to 3.0-foot depth, and at the seven-foot depth in AKSS-1. VOC contamination originating from petroleum was found in borings advanced in the vicinity of two USTs at the north side of the facility. The VOC contamination was present in soils between seven and nine feet in AKSS-5, and in a thin layer between 7.7 and 8.0 feet in AKSS-7.

SVOCs were detected by the laboratory in seven soil samples at concentrations exceeding NYSDEC STARS Alternative Guidance Values.

Soil contamination beneath the Artkraft facility does not appear to be extensive. However, this material may require special handling and disposal if proposed development of the Site includes excavation in this area. Further, at least four USTs will require removal prior to construction excavation activities. On-site characterization will be required to isolate contaminated soil from unaffected soil for proper disposal.

6.2.2 Airborne Express Facility

The past investigation revealed the presence of VOC contamination in soils collected from five borings advanced near 12 gasoline USTs at the southeast quadrant of the facility. The investigation in the vicinity of the waste oil UST and the former hydraulic lifts in the center of the facility indicate that SVOC and VOC contaminants are present in the soil just above the water table. The SVOC contamination maybe the result of historic releases from the waste oil tank or hydraulic fluid system. Since the VOC contamination was found in soils directly above the water table, ATC concludes that this contamination is found within the capillary fringe.

Two of the soil samples collected from the vicinity of the two USTs in the Airborne parking area exhibited VOCs exceeded NYSDEC STARS Alternative Guidance Values by at least one order of magnitude. SVOCs were detected in these samples at concentrations were below NYSDEC STARS Alternative Guidance Values. Laboratory analysis of soil samples from AIRX-13 (southwest section, near the Artkraft facility, at a greater distance from the

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USTs) exhibited undetected VOC concentrations, and SVOC levels below NYSDEC STARS Alternative Guidance Values.

In summary, significant areas of soil contamination from on-site USTs sources are present at this facility. This material may require special handling and disposal during Site development.

6.2.3 Potamkin Service Facility

The past investigation revealed VOC contamination in each of the four borings installed within in the Potamkin Service facility, that were likely caused by petroleum releases from abandoned USTs. SVOC contamination in soil was also detected. This material may require special handling and during Site development.

6.2.4 Goodyear Service Facility

The operating service area, the presence of a subbasement, and concrete rubble beneath the floor slab limited the investigation at the Goodyear facility. No VOCs were detected in the limited soil sampling conducted but samples collected in the vicinity of the waste oil UST (in the center of the facility) indicate SVOC contamination in the soil just above the water table.

6.2.5 Manhattan Mini Storage Parking/Dynasty Auto Body Facilities

Soil samples from BODY-2 and MINI-1 contained SVOC concentrations above NYSDEC STARS Alternative Guidance Values, and lead concentrations above NYSDEC TAGM Eastern USA Background Levels. Laboratory analysis of soil samples found no VOC contamination.

6.3 Groundwater Contamination

The groundwater sampling results indicated that VOCs above NYSDEC GWQC were detected in monitoring wells MW-1, MW-3, and MW-5. Benzene was detected in monitoring wells MW-1, MW-3 and MW-5 at one to three orders of magnitude above the GWQC for this compound. The remaining contaminant concentrations were up to two orders of magnitude above their respective GWQC.

It is apparent from the contaminant distribution that groundwater beneath the Airborne Express facility contains the greatest concentrations of BTEX. It does not appear that contaminated groundwater is migrating off-Site to any significant degree. The monitoring wells located on the sidewalks of 57th Street and 58th Street contain nondetectable to 180 ppb (MW-3) of dissolved BTEX. In addition, ATC's previous Report indicated that groundwater contamination was primarily confined to the Airborne Express and Potamkin facilities.

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Groundwater under the downgradient portion of the Airborne facility contained nondetectable concentrations of dissolved BTEX. Groundwater beneath the Artkraft Sign Company, the most downgradient extent of the Site, contained only 130 ppb of Xylenes. These previous groundwater samples were collected with Geoprosbes, and thus likely contained suspended sediments, resulting in false positives.

Based upon the presence of large chain VOC compounds such as toleune and 1,3,5-trimethylbenzene with the comparatively lower concentrations of the more biodegradable compounds such as benzene, it appears that the groundwater contamination is old and not related to any new releases.

Based upon these results ATC concludes that the documented soil contamination at the Site has had a limited impact on groundwater quality beneath the Site. It appears that the petroleum releases are old and that a steady state equilibrium has been reached between the contamination present in the soil and groundwater resulting in attenuation of the contaminants by the mechanisms of sorption and degradation. ATC has documented VOCs above NYSDEC STARS Alternative Guidance Values in what appears to be the capillary fringe. However, groundwater VOC concentrations are not severe and no separate-phase product was detected in the on-site monitoring wells. Minimal off-Site migration of VOCs has been observed.

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6.4 RECOMENDATIONS

Based on the results of this study, petroleum-contaminated soil beneath the Site will need to be excavated during Site development. The current plans for the Site include demolition of the existing structures and excavation beneath the water table to construct a multi-story office building. The handling of contaminated soils and groundwater will be discussed in the future as part of the construction phase of this project. Prior to construction, a Soil Management Plan will be prepared and submitted to the NYSDEC for review and acceptance. ATC does not recommend that the petroleum contamination along the sidewalks be excavated. ATC believes that source removal from under the building slabs will be sufficient since the Site has reached a state of attenuation. ATC recommends monitoring of soil quality during excavation. On-site segregation of contaminated soil from unaffected material will be performed through field-screening techniques. The contaminated soils will be properly disposed of and will be discussed in a Soil Management Plan as part of the construction phase. During soil excavation activities, any underground storage tanks (USTs) that are encountered will be removed, properly cleaned, and disposed of.

Based upon the groundwater sampling results, it is unlikely that construction dewatering effluent treatment will be required. Dewatering issues will be discussed as part of the construction phase.

ATC recommends that the residual groundwater contamination be monitored on a quarterly basis for one year beginning with the December, 1999 sampling period. The results between the rounds should be compared using the Relative Percent Difference (RPD) method described in SW-846. If the results do not indicate a significant difference between sampling rounds then the groundwater monitoring should be suspended. All monitoring wells will then be properly abandoned in accordance with NYSDEC protocols.

Table 3. Soil Laboratory Results November 1999

SAMPLE NAME#	B-GY6	GY-7	P05	P05	COPA1	AX14	AX14	AX15	AX16	AX17	PSALES	AK9	BD-3	BD-4	AX18	NYSDEC Standards*
Depth	3-4'	1-2'	6-7'	15'-16'	15-16'	11-12'	18-19'	8.5-9.5'	11-12'	14.5-15.5'	8.9'	14.5-15.5'	6-7'	4.5'	13.5-14.5	
VOCS:																
Units	Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl t-butyl ether	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M-&P Xylene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
O-Xylene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(b)fluoranthene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(k)fluoranthene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a)pyrene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd) Pyrene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(g,h)perylene	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*NYSDEC Standards - NYSDDEC STARS Memo Alternative Soil Guidance Values

Results in shaded boxes indicate concentrations in exceedance of NYSDDEC STARS Memo Alternative Guidance Values

J=Detected, but below background. Result is an estimate

NA=Not Analyzed for this parameter

Table 4
Groundwater Laboratory Results December 1999

SAMPLE #		MW-1	MW-2	MW-3	MW-4	MW-5	NYSDEC Standards*
VOCs:	Units						
Methyl tert-butyl ether	ug/l	45	ND	6	ND	110	5
Benzene	ug/l	1	ND	58	ND	800	0.7
Toluene	ug/l	1	ND	4	ND	59	5
Ethylbenzene	ug/l	9	ND	21	ND	74	5
M&P Xylene	ug/l	1	ND	70	ND	36	10
O-Xylene	ug/l	ND	ND	27	ND	14	5
Isopropylbenzene	ug/l	3	ND	23	ND	170	5
n-Propylbenzene	ug/l	7	ND	12	ND	390	5
1,3,5-Trimethylbenzene	ug/l	3	ND	20	ND	ND	5
tert-Butylbenzene	ug/l	ND	ND	ND	ND	ND	5
1,2,4-Trimethylbenzene	ug/l	ND	ND	37	ND	ND	5
sec-Butylbenzene	ug/l	1	ND	3	ND	31	5
p-Isopropyltoluene	ug/l	1	1	3	ND	ND	5
n-Butylbenzene	ug/l	6	ND	7	ND	78	5
Naphthalene	ug/l	ND	ND	10	ND	70	5
Total Xylenes	ug/l	ND	ND	97	ND	49	5
SVOCs:							
Acenaphthene	ug/l	ND	ND	ND	ND	ND	50
Fluorene	ug/l	ND	ND	ND	ND	ND	0.002
Phenanthrene	ug/l	ND	ND	ND	ND	ND	0.002
Anthracene	ug/l	ND	ND	ND	ND	ND	0.002
Fluoranthene	ug/l	ND	ND	2J	ND	ND	0.002
Pyrene	ug/l	ND	ND	2J	ND	ND	0.002
Chrysene	ug/l	ND	ND	ND	ND	ND	0.002
Benzo(a)anthracene	ug/l	ND	ND	ND	ND	ND	50
Benzo(b)fluoranthene	ug/l	ND	ND	ND	ND	ND	50
Benzo(k)fluoranthene	ug/l	ND	ND	ND	ND	ND	50
Benzo(a)pyrene	ug/l	ND	ND	ND	ND	ND	0.002
Indeno (1,2,3-cd) Pyrene	ug/l	ND	ND	ND	ND	ND	10
Dibenzo(a,h)Anthracene	ug/l	ND	ND	ND	ND	ND	50
Benzo(g,h,i)perylene	ug/l	ND	ND	ND	ND	ND	50

J=Detected, but result is an estimate

ND=Not Detected

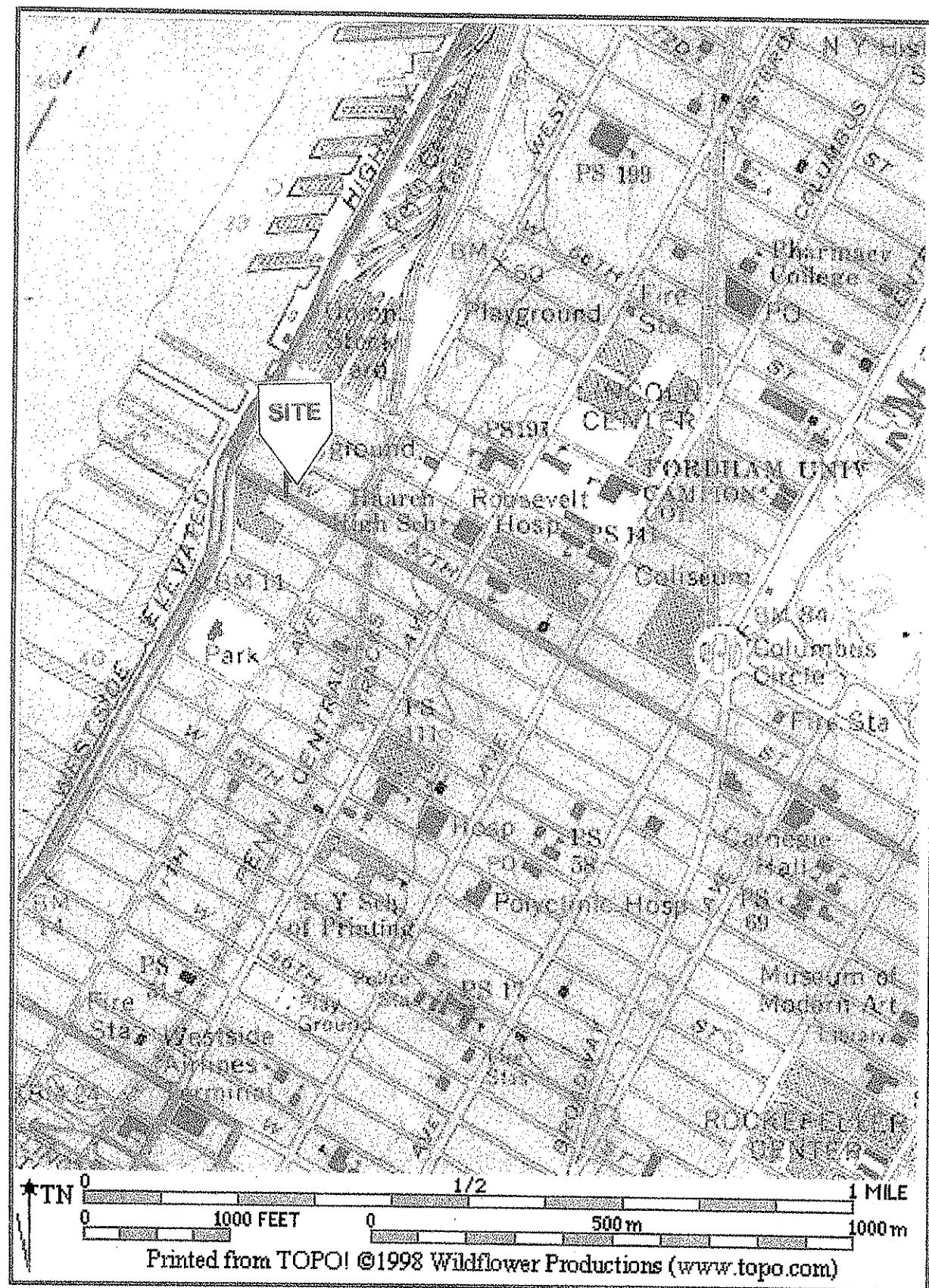
*=NYSDEC Ambient Groundwater Quality Criteria

Shaded boxes indicate concentrations above Ambient Groundwater Quality Criteria

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Figure 1. U.S.G.S. Topographic Map

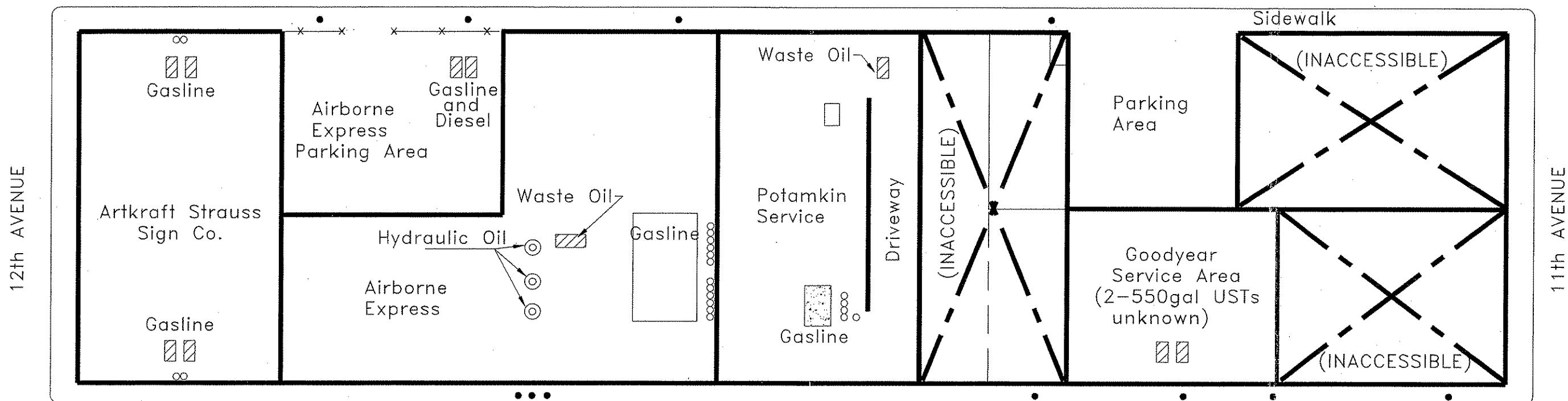
FIGURE 1: USGS TOPOGRAPHIC MAP



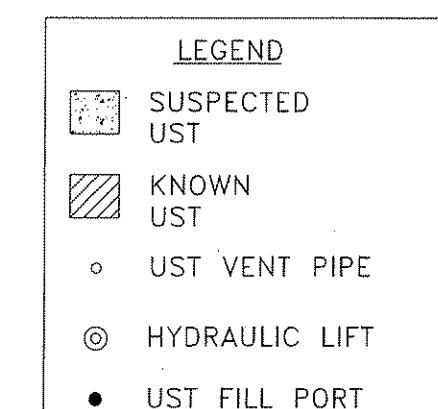
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Figure 2. Site Plan

WEST 58th STREET



WEST 57th STREET



0 50' 100' 150' 200'

APPROXIMATE SCALE

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Title:
SITE PLAN
Client:
THE DURST ORGANIZATION
Date:
01/12/2000

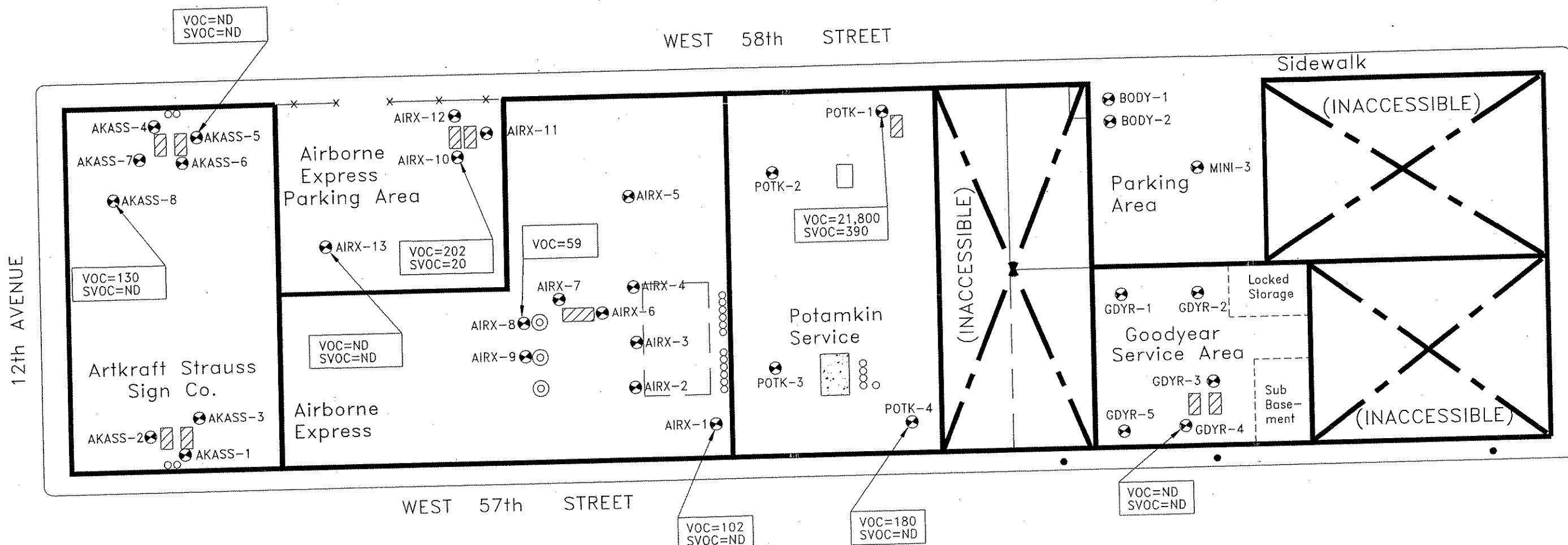
ATC PROJECT No. 18346.0001

Project Name
**DURST WEST 57th STREET
NEW YORK N.Y.
REMEDIAL INVESTIGATION**

FIGURE 2

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Figure 3. Previous Boring Location Map and Sample Results



LEGEND

- [Diagonal lines] SUSPECTED UST
- [Cross-hatch] KNOWN UST
- UST VENT PIPE
- ◎ HYDRAULIC LIFT
- UST FILL PORT
- SOIL BORING

APPROXIMATE SCALE

0 50' 100' 150' 200'

ALL CONCENTRATIONS IN ug/l (ppb)



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Title: 1998 SUMMARY GROUNDWATER SAMPLES

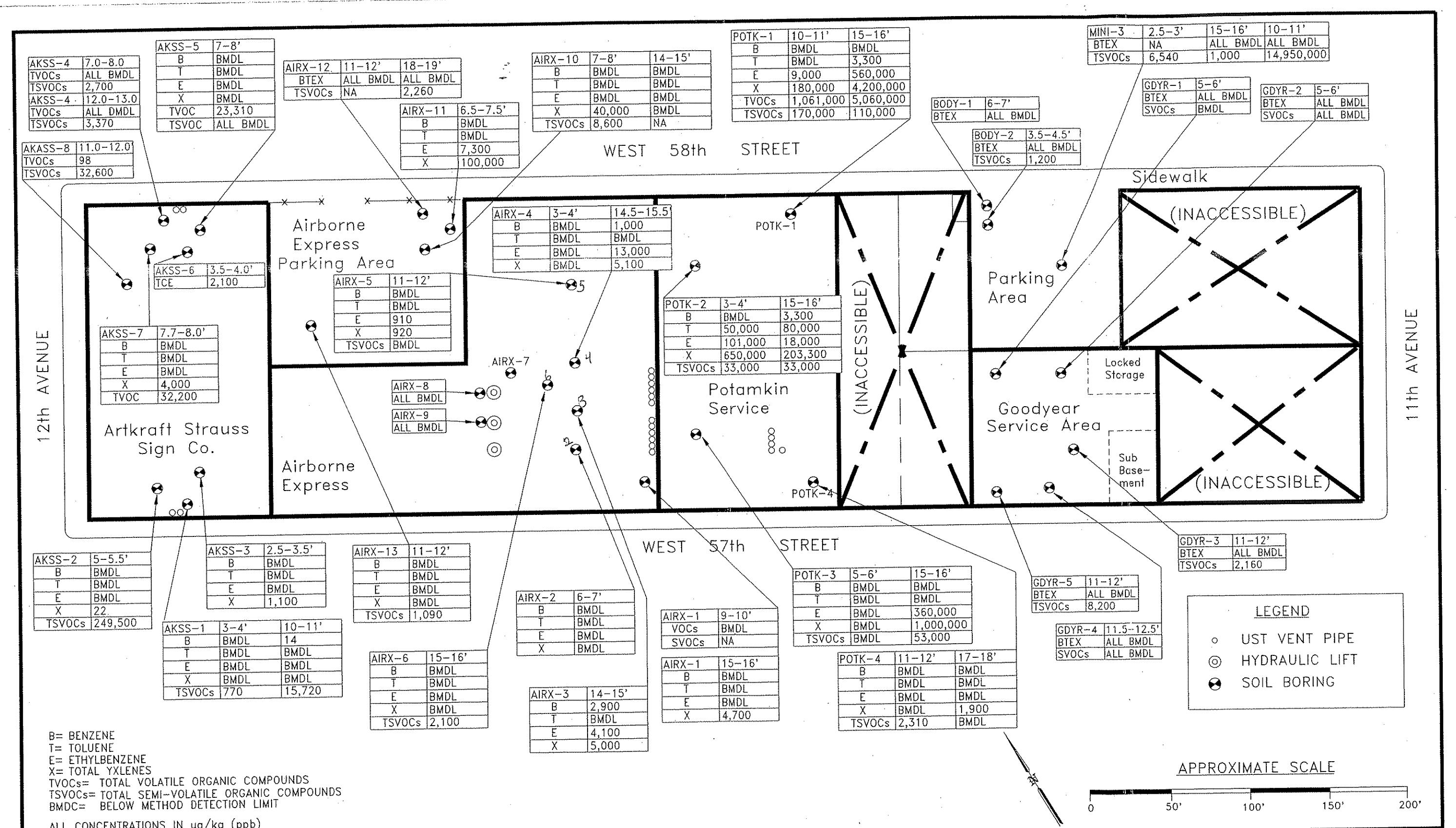
Client:
THE DURST ORGANIZATION

Date:
03/21/2000

Project Name
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REMEDIAL INVESTIGATION

ATC PROJECT No. 18346.001

FIGURE 3B



B= BENZENE
T= TOLUENE
E= ETHYLBENZENE
X= TOTAL XYLENES
TVOCs= TOTAL VOLATILE ORGANIC COMPOUNDS
TSVOCs= TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS

ALL CONCENTRATIONS IN ug/kg (ppb)

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Title: 1998 SOIL PREVIOUS BORING LOCATION MAP WITH
SUMMARY OF SOIL ANALYSES

Client: THE DURST ORGANIZATION

Date:

ATC PROJECT No. 18346.001

Project Name
DURST WEST 57th STREET
NEW YORK N. Y.
REMEDIAL INVESTIGATION

FIGURE 3A

REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

Figure 4. Boring Location Map and VOC Concentrations

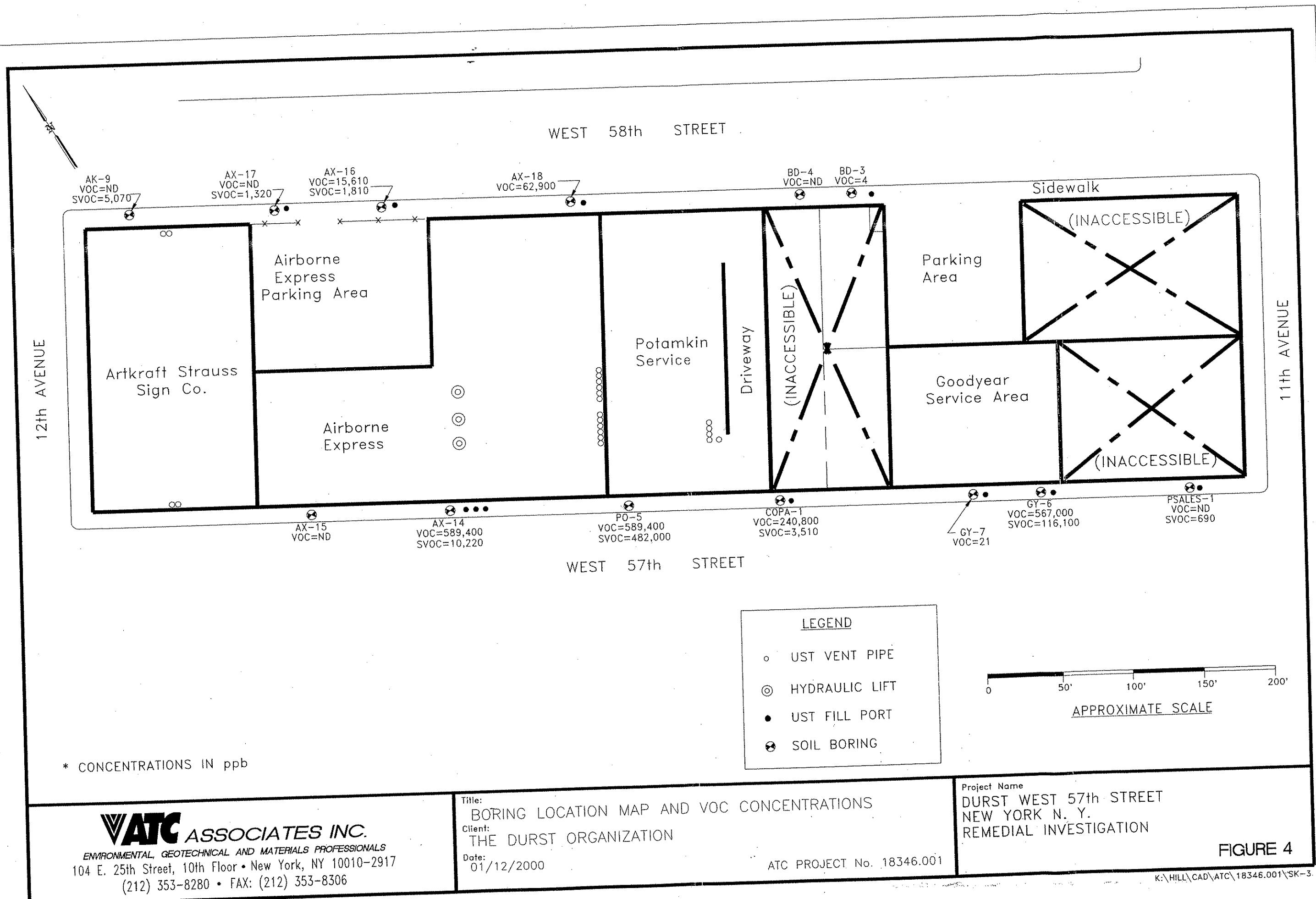
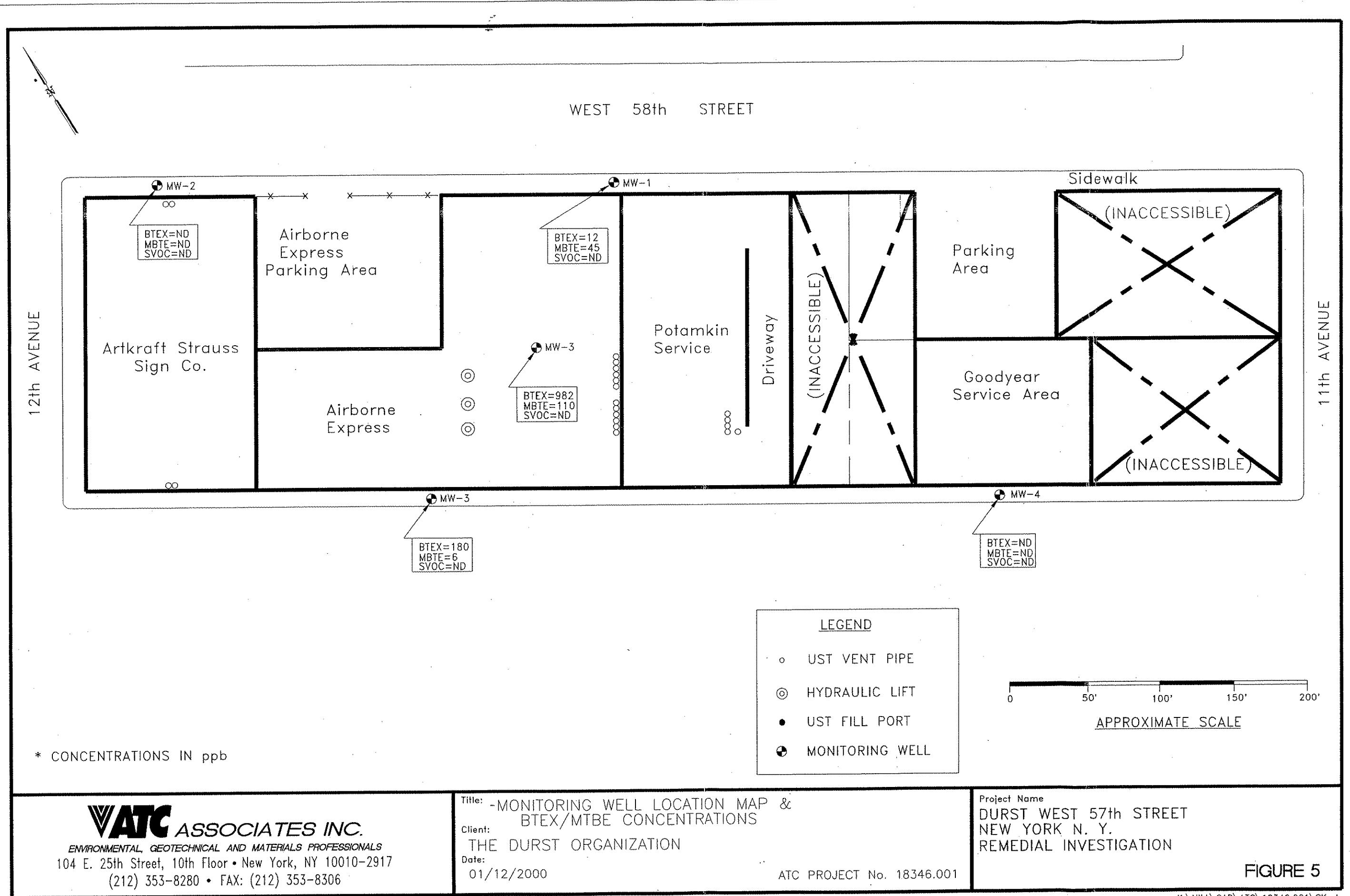
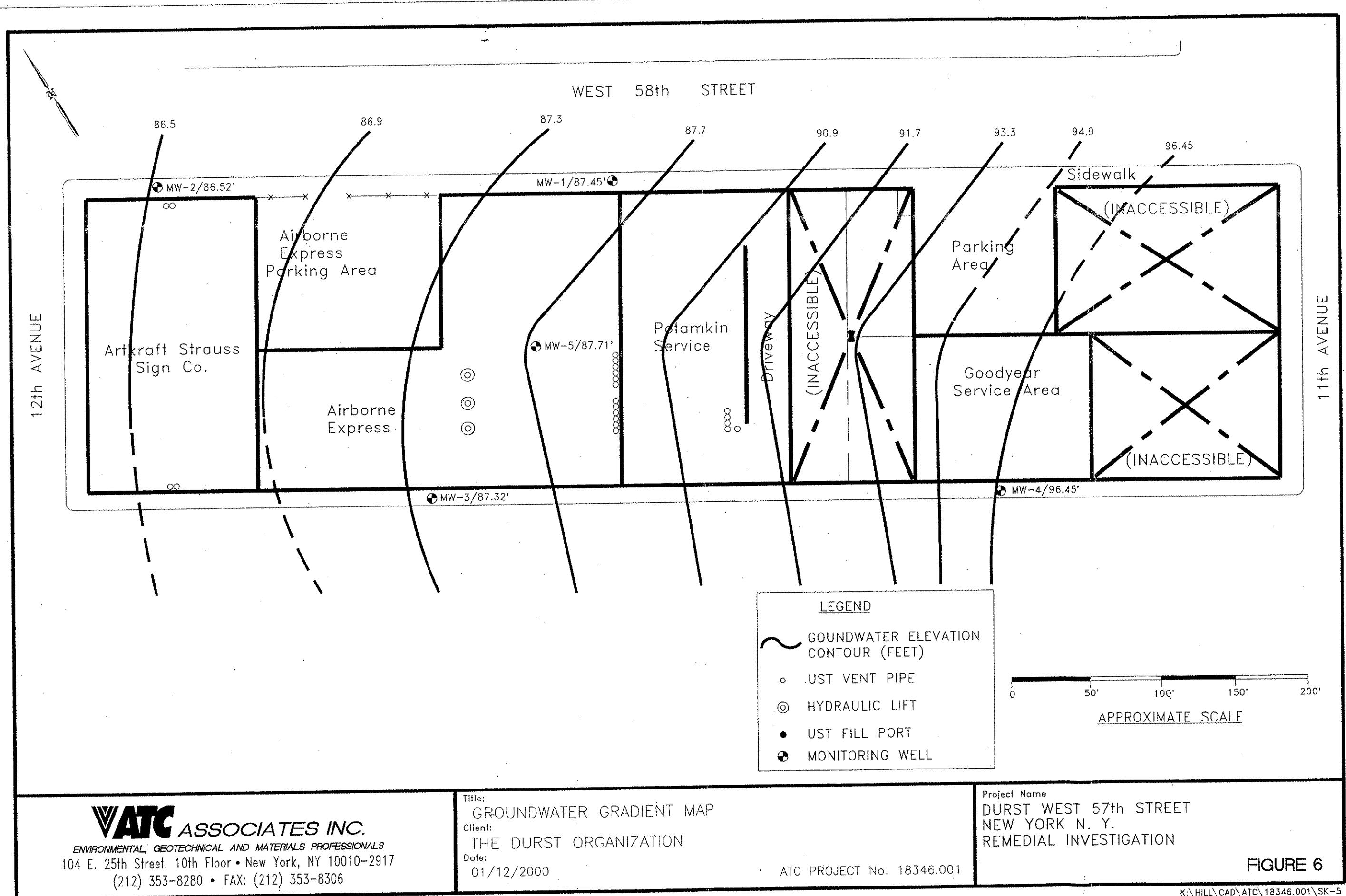


FIGURE 4

**REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK**

Figure 5. Monitoring Well Location Map and BTEX plus MTBE Concentrations





REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

Figure 6. Groundwater Gradient Map

**REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK**

APPENDIX A: Health & Safety Plan

ATC ASSOCIATES INC.

ENVIRONMENTAL SITE SAFETY PLAN

Important: Please forward one copy of completed document to the reviewer three (3) working days prior to project start up and maintain a copy on site. Place signed copy in the project file.
Items marked with "1910.120..." are required by 29 CFR 1910.120 in the paragraph noted.

A. GENERAL INFORMATION (1910.120©(4))

Project Name: West .57th St. Project Number: 18346-0001
Location: W. 57th St. between 11th and 12th Aves., New York, NY
Client: Durst
Plan Prepared By: Matthew Millham Date: 10/15/99
Plan Approved By: _____ Date: _____
Project Start Date: 11/8/99

B. SITE DESCRIPTION (1910.120©(4))

Facility History: Presently there are multiple automobile service and sales facilities, overnight package delivery transfer facility, an auto body shop, a night club, and sign manufacturing company.
Historically, there have been lumber yard and storage operations, an iron works operation, and auto and truck service operations.

Type of Hazard Anticipated On Site (i.e. tanks, drums, etc.): There are reportedly 40+ underground storage tanks, most of which are out of operation, or abandoned. They store, or had stored gasoline, heating oil, and waste oil. There may also be hydraulic oils remaining from lifts

Amount of Hazardous Materials Present: Unknown

C. General Site Description: 2 to 3-story buildings made of steel and reinforced concrete. Some paved parking areas.

D. PROJECT OBJECTIVE(S) (1910.120(b)(3))
(Description of work area activities planned)

Advanced approximately 40 soil borings in the vicinity of the reported USTs for the purpose of collecting soil and groundwater samples for analyses.

E. PROJECT ORGANIZATION (1910.120(b)(2))

<u>Team Member</u>	<u>Responsibility</u>	<u>Type of Training</u>	<u>Date of Training</u>
Curt Schmidt	Geologist/Supervisor	40-Hr. OSHA Latest 8-Hr. OSHA	1/86 4/30/98
Unknown at present	Driller	8-Hr. OHSA-	To be inspected on-site
Unknown at present	Assistant Driller	8-Hr. OHSA-	To be inspected

E. CHEMICAL HAZARD ANALYSIS (1910.120(b)(4))

Contaminant	IP	PEL/TLV	IDLH	LEL/UEL	Flash Point	Routes of Exposure
Gasoline	N/A	300 ppm	N/A	1.4% / 7.4%	-40°F	Inhalation, skin ingestion.
Fuel Oil, No. 2	N/A	None Reported	N/A	0.6% / 7.5%	100°F	Inhalation, Skin ingestion.

NOTE: Material Safety Data Sheets attached for all substances identified above. Also see Section (M)(2).

F. OTHER HAZARDS

Heat Stress: yes no. If yes, please specify precautions to be taken.

Cold Stress: yes no. If yes, please specify precautions to be taken.

Excessive Noise: yes no. If yes, please specify precautions to be taken.

Ear plugs will be worn.

Confined Space Entry: yes no. If yes, please attach copy of Confined Space Entry permit

Open Excavations: yes no. If yes, is entry into excavation required?

yes no. If so, specify precautions to be taken:

Welding and/or Cutting: yes no. If yes, please specify precautions to be taken:

Heavy Equipment Operation: yes no. If yes, specify type of equipment and precautions

taken: Geoprobe Sampler. Proper handling of drill rig and equipment as per Section 23.5 of ATC

Employee Health & Safety Policy Manual.

Slip, Trip, Fall Hazards: yes no. If yes, please specify type , location, and precautions to

be taken:

Presence of Underground Utilities: yes no. (WILL BE CALLED IN ONE WEEK PRIOR
TO START OF FIELD WORK

Utility location service ID#: _____

Name of Contact: _____

Phone Number: 1-800-272-4480

Precautions to be taken: Look for markings on street and tie in to building.

Presence of Overhead Utilities : X yes no.

Specify exact location: We are drilling inside of the buildings; therefore there will be overhead lights and heating units, pipes, and girders.

Precautions to be taken: We will use low clearance Geoprobe units

Other Hazards: (Specify) _____

G. SITE CONTROL (1910.120(d))

Work Zones have been established as shown on the attached **Site Diagram**

Site Security: Security on site will be maintained by:

X Temporary barricades and/or warning tape

_____ Security fence

_____ 24 hour security guard

_____ other (specify) _____

H. PERSONAL PROTECTIVE EQUIPMENT (1910.120(b)(4))

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work zones:

<u>Work Zone</u>	<u>Level of Protection</u>	<u>Required Protective Equipment</u> (specify exact type, e.g. nitrile gloves)
Exclusion Zone	<u>D</u>	Respirator: _____ N/A Filters/Cartridges: _____ N/A Boots: _____ Steel Toe Inner Gloves: _____ Latex Outer Gloves: _____ Leather Work Gloves Protective Coverall: _____ Cotton, if necessary-Tyvek Hard Hat: _____ Yes Eye Protection: _____ Safety Glasses Other: _____
Contamination Reduction Zone	<u>N/A</u>	Respirator: _____ Filters/Cartridges: _____ Boots: _____ Inner Gloves: _____ Outer Gloves: _____ Protective Coverall: _____ Hard Hat: _____ Eye Protection: _____ Other: _____

Exceptions and Modifications: _____

I. DECONTAMINATION (1910.120(k))

Personnel Decontamination Procedures.

All personnel entering the Exclusion Zone will undergo decontamination prior to leaving the site. Personnel will proceed through the following decontamination stations:

Decontamination Solution: Soap and Water

STATION 1: Glove Removal, Hand Wash

Equipment Required: 5 gallon buckets, Alconox, water, paper towel brush

STATION 2:

N/A

Equipment Required:

STATION 3

N/A

Equipment Required:

STATION 4

N/A

Equipment Required:

STATION 5

N/A

Equipment Required:

Equipment Decontamination

Gross Removal By:

Hand scrubbing _____
Cold high pressure wash _____
Hot high pressure wash _____
Steam cleaning X
Other (specify) _____

Clean rinse _____

Decon solution (specify) _____

Decontamination Waste Water

Collection (specify how) On plastic pad

Direct Discharge (specify how and where) If no contamination noted, will wash to storm sewer.

Pre-treatment (specify) None required.

Disposal (specify how and where) None required.

J. AMBIENT AIR MONITORING (1910.120(b)(4))

Comments: _____

K. PERSONNEL AIR MONITORING (1910.120(h))

<u>Activity/Location</u>	<u>Contaminant(s)</u>	<u>NIOSH/OSHA Protocol</u>
Drilling	No. 2 Fuel Oil	Level D if < ppm*
	Gasoline (Unknown)	Level D if < 30 ppm*

(* = 0.10 X TLV)

L. **CONTINGENCY PLAN (1910.120(1))**

Emergency Communication Signal(s) (specify): 3-long blasts on air-horn or vehicle horn

Emergency Escape Route(s) (specify and indicate on site diagram): To the up-wind direction of the exclusion zone.

Emergency Equipment On Site: (specify location):

First Aid Kit: Cab of drilling/Geoprobe vehicle

Fire Extinguishers: Geoprobe vehicle

Telephone: None

Eye Wash/Safety Shower: None

Others (specify): _____

Re-entry to the Exclusion Zone following an on-site emergency shall not be permitted until the following conditions are satisfied:

- (1) The conditions resulting in an emergency have been corrected.
- (2) The hazards have been re-evaluated.
- (3) The Site Safety Plan has been reviewed and determined adequate for the hazards encountered.
- (4) All site personnel have been instructed in any new hazards and changes to the Site Safety Plan.

M. OTHER REQUIRED INFORMATION

In order to comply with OSHA standards, the following documents MUST be maintained on site:

- 1) Hazard Community Manual (1910.1200).
- 2) Material Safety Data Sheets for all chemicals brought onto the site, or expected to be encountered (1910.1200)
- 3) Respirator fit test records for all employees who will be required to wear respirators (1910.134)
- 4) Copy of ATC's Respirator Program (1910.134).
- 5) Latest medical summary for all personnel (1910.120).
- 6) Copy of OSHA 200 Log during month of February only.

**** EMERGENCY PHONE NUMBERS ****

Post in Full View

ATC Director of Health and Safety (ATC Office)	(605) 338-0555
Chemtrec	(800) 424-9300
DOT Hotline	(202) 366-4488
Materials Transportation Bureau	
Centers for Disease Control and Prevention	(404) 633-5313
(Emergency Only)	
Solid Waste and Emergency Response	(202) 260-2180
Office of Emergency and Remedial Response	
TSCA Assistance Information Services Hotline.....	(202) 554-1404

HOSPITAL: (Name): St Lukes / Roosevelt Med. Center

(Address): 1000 10th Ave., New York, NY

(Phone): (212) 523-6800/523-4000

Travel Time: 2 minutes

Directions: See Attachment

Map Attached: Yes

PARAMEDICS: _____ (Name): _____ New York Fire Department

(Phone): 911

FIRE DEPARTMENT: (Name): **New York Fire Department**

(Phone): 911

FIRE DEPARTMENT: (Name): **New York Fire Department**

LOCAL POLICE: _____ (Name): _____ **New York Fire Department**

(Phone): 911

LOCAL POLICE: _____ (Name): _____ **New York Fire Department**

(Phone): 911

For more information about the study, please contact Dr. John D. Cawley at (609) 258-4626 or via email at jdcawley@princeton.edu.

(1) The term "operator" means a person who has the authority to control or direct the operation of a vessel.

UTILITIES: Utility: 268-4868

Utility: 268-4868

REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

APPENDIX B: Soil Laboratory Results

SCILAB

FULL SERVICE ENVIRONMENTAL LABORATORIES

REVISED
10/18**SCILAB ALBANY, INC.**
 15 Century Hill Drive
 P.O. Box 787
 Latham, NY 12110
 Tel: (518) 786-8100
 Fax: (518) 786-7700

ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York NY 10010
 CURT SCHMIDT

Task Number: 9911-00161
 Customer No.: 040772
 Project No.: A80194
 Purchase Order #: W 57TH ST NY N
 Report Date: 11/18/99

Sampling Information
 Project Location: W 57TH STREET NY NY
 Sampled By: SCHMIDT

Date Received: 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
001 GY 6-3 / B-GY6 3-4				Sample Date 11/08/1999 Time: 9:17	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/			LIZ	11/13/99
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/13/99
Methyl t-butyl ether	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
Benzene	EPA Method 8021	<3000	ug/Kg	LIZ	11/13/99
Toluene	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
Ethlybenzene	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
m- & p-Xylenes	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
O-Xylene	EPA Method 8021	12000	ug/Kg	LIZ	11/13/99
Isopropylbenzene	EPA Method 8021	15000	ug/Kg	LIZ	11/13/99
n-Propylbenzene	EPA Method 8021	52000	ug/Kg	LIZ	11/13/99
1,3,5-Trimethylbenzene	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
tert-Butylbenzene	EPA Method 8021	19000	ug/Kg	LIZ	11/13/99
1,2,4-Trimethylbenzene	EPA Method 8021	19000	ug/Kg	LIZ	11/13/99
sec-Butylbenzene	EPA Method 8021	32000	ug/Kg	LIZ	11/13/99
p-Isopropyltoluene	EPA Method 8021	<5900	ug/Kg	LIZ	11/13/99
n-Butylbenzene	EPA Method 8021	58000	ug/Kg	LIZ	11/13/99
Naphthalene	EPA Method 8021	360000	ug/Kg	LIZ	11/13/99
Total Xylenes	EPA Method 8021	<18000	ug/Kg	LIZ	11/13/99
Percent Solids		84.6	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/N Complete			JMB	11/11/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	54000	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	7600 J	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	15000	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	33000	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	3000 J	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	3500 J	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99

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 Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
001 GY 6-3 / B-GY6 3-4				Sample Date 11/08/1999 Time: 9:17	
Matrix:				Collection Method: Grab	
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<7800	ug/Kg	SUB	11/18/99
002 GY 7-1 / GY7 1-2				Sample Date 11/08/1999 Time: 10:15	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/10/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Benzene	EPA Method 8021	<0.5	ug/Kg	LIZ	11/10/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
m- & p-Xylenes	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
tert-Butylbenzene	EPA Method 8021	3	ug/Kg	LIZ	11/10/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
sec-Butylbenzene	EPA Method 8021	2	ug/Kg	LIZ	11/10/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
n-Butylbenzene	EPA Method 8021	4	ug/Kg	LIZ	11/10/99
Naphthalene	EPA Method 8021	12	ug/Kg	LIZ	11/10/99
Total Xylenes	EPA Method 8021	<3	ug/Kg	LIZ	11/10/99
Percent Solids		91.2	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/NComplete			JMB	11/11/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99

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Sampling Information

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 Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
002 GY 7-1 / GY7 1-2					Sample Date 11/08/1999 Time: 10:15
Matrix:					Collection Method: Grab
Pyrene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<360	ug/Kg	SUB	11/18/99

Low surrogate due to matrix interference and confirmed by rerun.

003 PO 5-6 / PO5 6-7	Sample Date 11/08/1999 Time: 12:25				
Matrix: Soil	Collection Method: Grab				
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021				
Methyl t-butyl ether	EPA Method 8021	<6400	ug/Kg	LIZ	11/13/99
Benzene	EPA Method 8021	<3200	ug/Kg	LIZ	11/13/99
Toluene	EPA Method 8021	26000	ug/Kg	LIZ	11/13/99
Ethlybenzene	EPA Method 8021	49000	ug/Kg	LIZ	11/13/99
m- & p-Xylenes	EPA Method 8021	320000	ug/Kg	LIZ	11/13/99
O-Xylene	EPA Method 8021	240000	ug/Kg	LIZ	11/13/99
Isopropylbenzene	EPA Method 8021	24000	ug/Kg	LIZ	11/13/99
n-Propylbenzene	EPA Method 8021	59000	ug/Kg	LIZ	11/13/99
1,3,5-Trimethylbenzene	EPA Method 8021	140000	ug/Kg	LIZ	11/13/99
tert-Butylbenzene	EPA Method 8021	29000	ug/Kg	LIZ	11/13/99
1,2,4-Trimethylbenzene	EPA Method 8021	400000	ug/Kg	LIZ	11/13/99
sec-Butylbenzene	EPA Method 8021	30000	ug/Kg	LIZ	11/13/99
p-Isopropyltoluene	EPA Method 8021	33000	ug/Kg	LIZ	11/13/99
n-Butylbenzene	EPA Method 8021	320000	ug/Kg	LIZ	11/13/99
Naphthalene	EPA Method 8021	130000	ug/Kg	LIZ	11/13/99
Total Xylenes	EPA Method 8021	560000	ug/Kg	LIZ	11/13/99
Percent Solids		78.4	%	DGL	11/16/99

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Test Performed	Method	Results	Units	Tech	Analy. Date
003 PO 5-6 / P05 6-7				Sample Date 11/08/1999 Time: 12:25	
Matrix:				Collection Method: Grab	
Extraction for 8270B/N Soil	EPA Method 8270 B/NComplete			JMB	11/11/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	29,000	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	8500	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	2400	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	22,000	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	9600	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	47,000	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	110,000	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	31,000	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	53,000	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	36,000	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	23,000	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	46,000	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	31,000	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	8500	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	25,000	ug/Kg	SUB	11/18/99
004 PO 5-15 / P05 15-16				Sample Date 11/08/1999 Time: 9:17	
Matrix: Soil				Collection Method: Grab	
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/13/99
Methyl t-butyl ether	EPA Method 8021	<1500	ug/Kg	LIZ	11/13/99
Benzene	EPA Method 8021	860	ug/Kg	LIZ	11/13/99
Toluene	EPA Method 8021	5400	ug/Kg	LIZ	11/13/99
Ethlybenzene	EPA Method 8021	<1500	ug/Kg	LIZ	11/13/99
m- & p-Xylenes	EPA Method 8021	14000	ug/Kg	LIZ	11/13/99
O-Xylene	EPA Method 8021	29000	ug/Kg	LIZ	11/13/99
Isopropylbenzene	EPA Method 8021	37000	ug/Kg	LIZ	11/13/99
n-Propylbenzene	EPA Method 8021	120000	ug/Kg	LIZ	11/13/99
1,3,5-Trimethylbenzene	EPA Method 8021	7600	ug/Kg	LIZ	11/13/99
tert-Butylbenzene	EPA Method 8021	9900	ug/Kg	LIZ	11/13/99
1,2,4-Trimethylbenzene	EPA Method 8021	29000	ug/Kg	LIZ	11/13/99
sec-Butylbenzene	EPA Method 8021	31000	ug/Kg	LIZ	11/13/99

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SCILAB ALBANY, INC.

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ATC/NY Associates, Inc.
104 East 25th Street
10th Floor
New York
CURT SCHMIDT

NY 10010

Task Number 9911-00161
 Customer No. 040772
 Project No. A80194
 Purchase Order # W 57TH ST NY N
 Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
004 PO 5-15 / POS 15-16				Sample Date 11/08/1999 Time: 9:17	
Matrix:				Collection Method:	Grab
p-Isopropyltoluene	EPA Method 8021	19000	ug/Kg	LIZ	11/13/99
n-Butylbenzene	EPA Method 8021	44000	ug/Kg	LIZ	11/13/99
Naphthalene	EPA Method 8021	16000	ug/Kg	LIZ	11/13/99
Total Xylenes	EPA Method 8021	43000	ug/Kg	LIZ	11/13/99
Percent Solids		66.5	%	DGL	11/16/99
005 CO 1-15 / COPA1 15-16				Sample Date 11/08/1999 Time: 11:29	
Matrix: Soil				Collection Method:	Grab
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/12/99
Methyl t-butyl ether	EPA Method 8021	1500	ug/Kg	LIZ	11/12/99
Benzene	EPA Method 8021	<600	ug/Kg	LIZ	11/12/99
Toluene	EPA Method 8021	1800	ug/Kg	LIZ	11/12/99
Ethylbenzene	EPA Method 8021	16000	ug/Kg	LIZ	11/12/99
m- & p-Xylenes	EPA Method 8021	34000	ug/Kg	LIZ	11/12/99
O-Xylene	EPA Method 8021	12000	ug/Kg	LIZ	11/12/99
Isopropylbenzene	EPA Method 8021	7900	ug/Kg	LIZ	11/12/99
n-Propylbenzene	EPA Method 8021	14000	ug/Kg	LIZ	11/12/99
1,3,5-Trimethylbenzene	EPA Method 8021	23000	ug/Kg	LIZ	11/12/99
tert-Butylbenzene	EPA Method 8021	3600	ug/Kg	LIZ	11/12/99
1,2,4-Trimethylbenzene	EPA Method 8021	72000	ug/Kg	LIZ	11/12/99
sec-Butylbenzene	EPA Method 8021	5700	ug/Kg	LIZ	11/12/99
p-Isopropyltoluene	EPA Method 8021	3300	ug/Kg	LIZ	11/12/99
n-Butylbenzene	EPA Method 8021	35000	ug/Kg	LIZ	11/12/99
Naphthalene	EPA Method 8021	11000	ug/Kg	LIZ	11/12/99
Total Xylenes	EPA Method 8021	46000	ug/Kg	LIZ	11/12/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	1600	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	430	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	130 J	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	250 J	ug/Kg	SUB	11/18/99

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Test Performed	Method	Results	Units	Tech	Analy. Date
005 CO 1-15 / COPA1 15-16				Sample Date 11/08/1999 Time: 11:29	
Matrix:				Collection Method: Grab	
Pyrene	EPA 8270 B/N	1100	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Percent Solids		83.4	%	DGL	11/16/99
Extraction for 8270B/N Soil EPA Method 8270 B/NComplete				JMB	11/11/99

006 AX 14-18 / AX14 11-12				Sample Date 11/08/1999 Time: 13:25	
Matrix: Soil				Collection Method: Grab	
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/12/99
Methyl t-butyl ether	EPA Method 8021	<1100	ug/Kg	LIZ	11/12/99
Benzene	EPA Method 8021	<550	ug/Kg	LIZ	11/12/99
Toluene	EPA Method 8021	7400	ug/Kg	LIZ	11/12/99
Ethlybenzene	EPA Method 8021	34000	ug/Kg	LIZ	11/12/99
m- & p-Xylenes	EPA Method 8021	130000	ug/Kg	LIZ	11/12/99
O-Xylene	EPA Method 8021	75000	ug/Kg	LIZ	11/12/99
Isopropylbenzene	EPA Method 8021	21000	ug/Kg	LIZ	11/12/99
n-Propylbenzene	EPA Method 8021	62000	ug/Kg	LIZ	11/12/99
1,3,5-Trimethylbenzene	EPA Method 8021	43000	ug/Kg	LIZ	11/12/99
tert-Butylbenzene	EPA Method 8021	20000	ug/Kg	LIZ	11/12/99
1,2,4-Trimethylbenzene	EPA Method 8021	110000	ug/Kg	LIZ	11/12/99
sec-Butylbenzene	EPA Method 8021	12000	ug/Kg	LIZ	11/12/99
p-Isopropyltoluene	EPA Method 8021	18000	ug/Kg	LIZ	11/12/99
n-Butylbenzene	EPA Method 8021	45000	ug/Kg	LIZ	11/12/99
Naphthalene	EPA Method 8021	12000	ug/Kg	LIZ	11/12/99
Total Xylenes	EPA Method 8021	205000	ug/Kg	LIZ	11/12/99
Percent Solids		90.5	%	DGL	11/16/99

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Test Performed	Method	Results	Units	Tech	Anal. Date
007 AX 14-18 / AX14 18-19				Sample Date 11/08/1999 Time: 13:40	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/			LIZ	11/10/99
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/10/99
Methyl t-butyl ether	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
Benzene	EPA Method 8021	<0.9	ug/Kg	LIZ	11/10/99
Toluene	EPA Method 8021	2	ug/Kg	LIZ	11/10/99
Ethlybenzene	EPA Method 8021	4	ug/Kg	LIZ	11/10/99
m- & p-Xylenes	EPA Method 8021	14	ug/Kg	LIZ	11/10/99
O-Xylene	EPA Method 8021	7	ug/Kg	LIZ	11/10/99
Isopropylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
n-Propylbenzene	EPA Method 8021	5	ug/Kg	LIZ	11/10/99
1,3,5-Trimethylbenzene	EPA Method 8021	6	ug/Kg	LIZ	11/10/99
tert-Butylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
1,2,4-Trimethylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
sec-Butylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
p-Isopropyltoluene	EPA Method 8021	<2	ug/Kg	LIZ	11/10/99
n-Butylbenzene	EPA Method 8021	17	ug/Kg	LIZ	11/10/99
Naphthalene	EPA Method 8021	38	ug/Kg	LIZ	11/10/99
Total Xylenes	EPA Method 8021	21	ug/Kg	LIZ	11/10/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	260 J	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	340 J	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	260 J	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	1500	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	420 J	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	590	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	2300	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	460 J	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	1100	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	580	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	230 J	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	900	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	620	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<570	ug/Kg	SUB	11/18/99

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FULL SERVICE ENVIRONMENTAL LABORATORIES

ATC/NY Associates, Inc.
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Test Performed	Method	Results	Units	Tech	Analy. Date
007 AX 14-18 / AX14 18-19				Sample Date 11/08/1999 Time: 13:40	
Matrix:				Collection Method: Grab	
Benzo (g,h,i) perylene	EPA 8270 B/N	660	ug/Kg	SUB	11/18/99
Percent Solids		57.8	%	DGL	11/16/99
Extraction for 8270B/N Soil EPA Method 8270 B/NComplete				JMB	11/11/99

008 AX 15-8.5 / AX15 8.5/9.5				Sample Date 11/08/1999 Time: 14:16	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/			LIZ	11/10/99
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/10/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Benzene	EPA Method 8021	<0.6	ug/Kg	LIZ	11/10/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
m- & p-Xylenes	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
tert-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
sec-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
n-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Naphthalene	EPA Method 8021	<6	ug/Kg	LIZ	11/10/99
Total Xylenes	EPA Method 8021	<4	ug/Kg	LIZ	11/10/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99

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 Sampled By: SCHMIDT

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Test Performed	Method	Results	Units	Tech	Analy. Date
008 AX 15-8.5 / AX15 8.5/9.5				Sample Date 11/08/1999 Time: 14:16	
Matrix:				Collection Method: Grab	
Benzo(a)anthracene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<410	ug/Kg	SUB	11/18/99
Percent Solids		81.5	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/N	Complete		JMB	11/11/99

Test Performed	Method	Results	Units	Tech	Analy. Date
009 AX 16-11 / AX-16 11-12				Sample Date 11/09/1999 Time: 11:07	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/12/99
Methyl t-butyl ether	EPA Method 8021	<130	ug/Kg	LIZ	11/12/99
Benzene	EPA Method 8021	<65	ug/Kg	LIZ	11/12/99
Toluene	EPA Method 8021	450	ug/Kg	LIZ	11/12/99
Ethlybenzene	EPA Method 8021	<130	ug/Kg	LIZ	11/12/99
m- & p-Xylenes	EPA Method 8021	260	ug/Kg	LIZ	11/12/99
O-Xylene	EPA Method 8021	<130	ug/Kg	LIZ	11/12/99
Isopropylbenzene	EPA Method 8021	<130	ug/Kg	LIZ	11/12/99
n-Propylbenzene	EPA Method 8021	3000	ug/Kg	LIZ	11/12/99
1,3,5-Trimethylbenzene	EPA Method 8021	<130	ug/Kg	LIZ	11/12/99
tert-Butylbenzene	EPA Method 8021	2900	ug/Kg	LIZ	11/12/99
1,2,4-Trimethylbenzene	EPA Method 8021	2700	ug/Kg	LIZ	11/12/99
sec-Butylbenzene	EPA Method 8021	1700	ug/Kg	LIZ	11/12/99
p-Isopropyltoluene	EPA Method 8021	1200	ug/Kg	LIZ	11/12/99
n-Butylbenzene	EPA Method 8021	1500	ug/Kg	LIZ	11/12/99
Naphthalene	EPA Method 8021	1900	ug/Kg	LIZ	11/12/99
Total Xylenes	EPA Method 8021	<400	ug/Kg	LIZ	11/12/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99

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Test Performed	Method	Results	Units	Tech	Analy. Date
009 AX 16-11 / AX-16 11-12				Sample Date 11/09/1999 Time: 11:07	
Matrix:				Collection Method:	Grab
Fluorene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	260 J	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	700	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	170 J	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	180 J	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	230 J	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	120 J	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	150 J	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<440	ug/Kg	SUB	11/18/99
Percent Solids		74.9	%	DGL	11/16/99
Extraction for 8270B/N Soil EPA Method 8270 B/NComplete				JMB	11/11/99

Test Performed	Method	Results	Units	Tech	Analy. Date
010 AX 17-14.5 / AX17 14.5-15.5				Sample Date 11/09/1999 Time: 11:52	
Matrix: Soil				Collection Method:	Grab
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/10/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Benzene	EPA Method 8021	<0.6	ug/Kg	LIZ	11/10/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
m- & p-Xylenes	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
tert-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
sec-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99

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010 AX 17-14.5 / AX17 14.5-15.5					
Matrix:				Sample Date 11/09/1999 Time: 11:52	
n-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/10/99
Naphthalene	EPA Method 8021	<6	ug/Kg	LIZ	11/10/99
Total Xylenes	EPA Method 8021	<4	ug/Kg	LIZ	11/10/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	270 J	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	290 J	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	440	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	140 J	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	180 J	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<400	ug/Kg	SUB	11/18/99
Percent Solids		83.8	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/NComplete			JMB	11/11/99

Test Performed	Method	Results	Units	Tech	Analy. Date
011 PS 1-8 / PSALES 8-9					
Matrix: Soil				Sample Date 11/09/1999 Time: 9:10	
STARS 8021/8270 in Soil	SW-846 Method 8021/			Collection Method: Grab	
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/12/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
Benzene	EPA Method 8021	<0.6	ug/Kg	LIZ	11/12/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
m- & p-Xylenes	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99

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ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York NY 10010
 CURT SCHMIDT

Task Number 9911-00161
 Customer No. 040772
 Project No. A80194
 Purchase Order # W 57TH ST NY N
 Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
 Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
011 PS 1-8 / PSALES 8-9			Sample Date 11/09/1999 Time: 9:10		
Matrix:			Collection Method: Grab		
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
tert-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
sec-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
n-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/12/99
Naphthalene	EPA Method 8021	<6	ug/Kg	LIZ	11/12/99
Total Xylenes	EPA Method 8021	<3	ug/Kg	LIZ	11/12/99
STARS 8270 Soils	SW-846 Method 8270B		SUB		11/18/99
Naphthalene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	140 J	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	270 J	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	280 J	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<390	ug/Kg	SUB	11/18/99
Percent Solids		86.5	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/NComplete		JMB		11/11/99

012 AK9-14.5 / AK9 14.5-15.5

Sample Date 11/09/1999 Time: 13:25

Matrix: Soil

Collection Method: Grab

STARS 8021/8270 in Soil

SW-846 Method 8021/

STARS 8021 Soils

SW-846 Method 8021

Methyl t-butyl ether

EPA Method 8021

<2

ug/Kg

LIZ 11/11/99

LIZ 11/11/99

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CURT SCHMIDT

Task Number 9911-00161
Customer No. 040772
Project No. A80194
Purchase Order # W 57TH ST NY N
Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
012 AK9-14.5 / AK9 14.5-15.5				Sample Date 11/09/1999 Time: 13:25	
Matrix:				Collection Method: Grab	
Benzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Toluene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
Ethylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
m- & p-Xylenes	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
O-Xylene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
Isopropylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
n-Propylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
1,3,5-Trimethylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
tert-Butylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
1,2,4-Trimethylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
sec-Butylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
p-Isopropyltoluene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
n-Butylbenzene	EPA Method 8021	<2	ug/Kg	LIZ	11/11/99
Naphthalene	EPA Method 8021	<10	ug/Kg	LIZ	11/11/99
Total Xylenes	EPA Method 8021	<6	ug/Kg	LIZ	11/11/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	420 J	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	220 J	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	170 J	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	1200	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	260 J	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	1200	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	1600	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<650	ug/Kg	SUB	11/18/99
Percent Solids		51.0	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/N Complete			JMB	11/11/99

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104 East 25th Street
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New York NY 10010
CURT SCHMIDT

Task Number 9911-00161
Customer No. 040772
Project No. A80194
Purchase Order # W 57TH ST NY N
Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
----------------	--------	---------	-------	------	-------------

Low surrogate due to matrix interference and confirmed by rerun.

013 BD 3-6 / BD-3 6-7

Matrix: Soil

STARS 8021/8270 in Soil	SW-846 Method 8021/	Sample Date 11/09/1999 Time: 14:15			
STARS 8021 Soils	SW-846 Method 8021	Collection Method: Grab			
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Benzene	EPA Method 8021	<0.5	ug/Kg	LIZ	11/11/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
m- & p-Xylenes	EPA Method 8021	4	ug/Kg	LIZ	11/11/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
tert-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
sec-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
n-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Naphthalene	EPA Method 8021	<5	ug/Kg	LIZ	11/11/99
Total Xylenes	EPA Method 8021	4	ug/Kg	LIZ	11/11/99
STARS 8270 Soils	SW-846 Method 8270B		SUB	11/18/99	
Naphthalene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99

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ATC/NY Associates, Inc.
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 New York NY 10010
 CURT SCHMIDT

Task Number 9911-00161
 Customer No. 040772
 Project No. A80194
 Purchase Order # W 57TH ST NY N
 Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
 Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
013 BD 3-6 / BD-3 6-7				Sample Date 11/09/1999 Time: 14:15	
Matrix:				Collection Method: Grab	
Benzo(a)pyrene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<340	ug/Kg	SUB	11/18/99
Percent Solids		96.6	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/N	Complete		JMB	11/11/99
014 BD 4-4 / BD 4 4-5				Sample Date 11/09/1999 Time: 14:45	
Matrix: Soil				Collection Method: Grab	
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/11/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Benzene	EPA Method 8021	<0.5	ug/Kg	LIZ	11/11/99
Toluene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Ethlybenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
m- & p-Xylenes	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
O-Xylene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Isopropylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
n-Propylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
tert-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
sec-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
n-Butylbenzene	EPA Method 8021	<1	ug/Kg	LIZ	11/11/99
Naphthalene	EPA Method 8021	<5	ug/Kg	LIZ	11/11/99
Total Xylenes	EPA Method 8021	<3	ug/Kg	LIZ	11/11/99
Percent Solids		96.3	%	DGL	11/16/99
015 AX 18-13.5 / AX-18 13.5-14.5				Sample Date 11/09/1999 Time: 15:45	
Matrix: Soil				Collection Method: Grab	
STARS 8021/8270 in Soil	SW-846 Method 8021/				
STARS 8021 Soils	SW-846 Method 8021			LIZ	11/13/99
Methyl t-butyl ether	EPA Method 8021	<150	ug/Kg	LIZ	11/13/99

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 CURT SCHMIDT

NY 10010

Task Number 9911-00161
 Customer No. 040772
 Project No. A80194
 Purchase Order # W 57TH ST NY N
 Report Date 11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
 Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy. Date
015 AX 18-13.5 / AX-18 13.5-14.5				Sample Date 11/09/1999 Time: 15:45	
Matrix:				Collection Method: Grab	
Benzene	EPA Method 8021	2700	ug/Kg	LIZ	11/13/99
Toluene	EPA Method 8021	2700	ug/Kg	LIZ	11/13/99
Ethlybenzene	EPA Method 8021	3800	ug/Kg	LIZ	11/13/99
m- & p-Xylenes	EPA Method 8021	9800	ug/Kg	LIZ	11/13/99
O-Xylene	EPA Method 8021	3900	ug/Kg	LIZ	11/13/99
Isopropylbenzene	EPA Method 8021	6100	ug/Kg	LIZ	11/13/99
n-Propylbenzene	EPA Method 8021	12000	ug/Kg	LIZ	11/13/99
1,3,5-Trimethylbenzene	EPA Method 8021	3500	ug/Kg	LIZ	11/13/99
tert-Butylbenzene	EPA Method 8021	4700	ug/Kg	LIZ	11/13/99
1,2,4-Trimethylbenzene	EPA Method 8021	<150	ug/Kg	LIZ	11/13/99
sec-Butylbenzene	EPA Method 8021	2600	ug/Kg	LIZ	11/13/99
p-Isopropyltoluene	EPA Method 8021	1200	ug/Kg	LIZ	11/13/99
n-Butylbenzene	EPA Method 8021	8100	ug/Kg	LIZ	11/13/99
Naphthalene	EPA Method 8021	1800	ug/Kg	LIZ	11/13/99
Total Xylenes	EPA Method 8021	13700	ug/Kg	LIZ	11/13/99
STARS 8270 Soils	SW-846 Method 8270B			SUB	11/18/99
Naphthalene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Acenaphthene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Fluorene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Phenanthrene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Anthracene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Fluoranthene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Pyrene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Chrysene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Benzo(a)anthracene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Benzo(b)fluoranthene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Benzo(k)fluoranthene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Benzo(a)pyrene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<560	ug/Kg	SUB	11/18/99
Percent Solids		69.2	%	DGL	11/16/99
Extraction for 8270B/N Soil	EPA Method 8270 B/N	Complete		JMB	11/11/99

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CURT SCHMIDT

Task Number	9911-00161
Customer No.	040772
Project No.	A80194
Purchase Order #	W 57TH ST NY N
Report Date	11/18/99

Sampling Information

Project Location: W 57TH STREET NY NY
Sampled By: SCHMIDT

Date Received 11/10/99

Test Performed	Method	Results	Units	Tech	Analy.	Date
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Unless otherwise noted, samples were analyzed within the holding times specified in the analytical method.

Authorized for Release:


 David O'Hehir, Laboratory Director

NYS ELAP:10358

MA DEP:NY052

CT DEP:PH-0551

SUB-A ASSOCIATES
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Latham, NY 12110
518-786-8100
FAX 518-786-7700

CHAIN OF CUSTODY RECORD
LABORATORY SERVICES

TASK # 11-11-00161

Client ATC Associates
Client Contact John Schmidt
Project Location 1157 Main Street, New York, NY
Purchase Order

Sample ID/Description
1. AX 6-3 / B - G+6 3-41
2. AX 7-1 / B 47 1-2 11/8/99
3. PO 5-6 / PO 5 6-71
4. PO 5-15 / PO 5 15-16
5. PO 1-15 / POA 1 15-16
6. AX 14-11 / AX 14 11-12
7. AX 14-18 / AX 14 18-19
8. AX 15-85 / AX 15 85-95
9. AX 16-11 / AX -16 11-17
10. AX 16-16 11/9/99

LAB ID	Sample ID/Description	Date Sampled	Time A = a.m. P = p.m.	Sample Type			# of Containers	Preservative (list by # from list below)	Analysis Required
				C O M P	G R A	C G R A			
1. AX 6-3 / B - G+6 3-41	11/8/99	09/17 AM	Soil	X	2	9	VOCs (824) stages	VOCs 820 stages 8270 stages	
2. AX 7-1 / B 47 1-2 11/8/99	11/8/99	10/15 PM	Soil	X	2		VOCs 8021 STARS stages	VOCs 8021 STARS stages	
3. PO 5-6 / PO 5 6-71	11/12/99	12:35 PM		X	2		VOCs 8202 stages	VOCs 8202 stages	
4. PO 5-15 / PO 5 15-16	11/11/99	12:45 PM		X	1		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
5. PO 1-15 / POA 1 15-16	11/11/99	11:29 AM		X	2		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
6. AX 14-11 / AX 14 11-12	11/11/99	13:25 PM		X	1		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
7. AX 14-18 / AX 14 18-19	11/11/99	13:40 PM		X	2		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
8. AX 15-85 / AX 15 85-95	11/11/99	14:16 PM		X	2		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
9. AX 16-11 / AX -16 11-17	11/9/99	11:07 PM		X	2		VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
10. AX 16-16 11/9/99							VOCs 8021 STARS + stages	VOCs 8021 STARS + stages	
Sampled by: <u>John Schmidt</u>	Date/time Received by: <u>John Schmidt</u>	Received by: <u>John Schmidt</u>	Date/time Relinquished by: <u>John Schmidt</u>	Received by: <u>John Schmidt</u>	Date/time Relinquished by: <u>John Schmidt</u>	Date/time Dispatched by: <u>John Schmidt</u>	Method of Shipment: <u>Priority Mail</u>	Sample Condition: <u>Intact</u>	Notes/Comments/Billing Information: <u>None</u>

REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

APPENDIX C: Groundwater Laboratory Results



FULL SERVICE ENVIRONMENTAL LABORATORIES

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ATC/NY Associates, Inc.
104 East 25th Street
10th Floor
New York NY 10010

Task Number: 9912-00192
Customer No.: 040772
Project No.: A80194
Purchase Order #: _____
Report Date: 12/16/99

Sampling Information

Project Location: WEST 57TH ST (DURST)
Sampled By: MILLHAM

Date Received: 12/13/99

Test Performed	Method	Results	Units	Tech	Analy. Date
001 MW-1				Sample Date 12/10/1999 Time: 13:18	
Matrix: Water				Collection Method: Grab	
STARS 8021 in Water	SW-846 Method 8021			LIZ	12/14/99
Methyl t-butyl ether	EPA Method 8021	45	ug/L	LIZ	12/14/99
Benzene	EPA Method 8021	1	ug/L	LIZ	12/14/99
Toluene	EPA Method 8021	1	ug/L	LIZ	12/14/99
Ethlybenzene	EPA Method 8021	9	ug/L	LIZ	12/14/99
m- & p-Xylenes	EPA Method 8021	1	ug/L	LIZ	12/14/99
O-Xylene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
Isopropylbenzene	EPA Method 8021	3	ug/L	LIZ	12/14/99
n-Propylbenzene	EPA Method 8021	7	ug/L	LIZ	12/14/99
1,3,5-Trimethylbenzene	EPA Method 8021	3	ug/L	LIZ	12/14/99
tert-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
sec-Butylbenzene	EPA Method 8021	1	ug/L	LIZ	12/14/99
p-Isopropyltoluene	EPA Method 8021	1	ug/L	LIZ	12/14/99
n-Butylbenzene	EPA Method 8021	6	ug/L	LIZ	12/14/99
Naphthalene	EPA Method 8021	<5	ug/L	LIZ	12/14/99
Total Xylenes	EPA Method 8021	<3	ug/L	LIZ	12/14/99
STARS 8270 Water	SW-846 Method 8270B			EXL	12/16/99
Sample Analysis by Lab Id #		11369		EXL	12/16/99
Naphthalene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Acenaphthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluorene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Phenanthrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Chrysene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(b)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(k)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99

----- Continued on Next Page -----

SCILAB ALBANY, INC.

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 Latham, NY 12110
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ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York NY 10010

Task Number 9912-00192
 Customer No. 040772
 Project No. A80194
 Purchase Order #
 Report Date 12/16/99

Sampling Information

Project Location: WEST 57TH ST (DURST)
Sampled By: MILLHAM

Date Received 12/13/99

Test Performed	Method	Results	Units	Tech	Anal. Date
002 MW-2				Sample Date 12/10/1999 Time: 13:53	
Matrix: Water				Collection Method: Grab	
STARS 8021 in Water	SW-846 Method 8021			LIZ	12/14/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/L	LIZ	12/14/99
Benzene	EPA Method 8021	<0.5	ug/L	LIZ	12/14/99
Toluene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
Ethlybenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
m- & p-Xylenes	EPA Method 8021	<1	ug/L	LIZ	12/14/99
O-Xylene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
Isopropylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
n-Propylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
tert-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
sec-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
p-Isopropyltoluene	EPA Method 8021	1	ug/L	LIZ	12/14/99
n-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
Naphthalene	EPA Method 8021	<5	ug/L	LIZ	12/14/99
Total Xylenes	EPA Method 8021	<3	ug/L	LIZ	12/14/99
STARS 8270 Water	SW-846 Method 8270B			EXL	12/16/99
Sample Analysis by Lab Id #		11369		EXL	12/16/99
Naphthalene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Acenaphthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluorene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Phenanthrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Chrysene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(b)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(k)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99

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SCILAB ALBANY, INC.

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Latham, NY 12110
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ATC/NY Associates, Inc.
104 East 25th Street
10th Floor
New York NY 10010

Task Number 9912-00192
Customer No. 040772
Project No. A80194
Purchase Order #
Report Date 12/16/99

Sampling Information

Project Location: WEST 57TH ST (DURST)
Sampled By: MILLHAM

Date Received 12/13/99

Test Performed	Method	Results	Units	Tech	Analy. Date
003 MW-3				Sample Date 12/10/1999 Time: 11:44	
Matrix: Water				Collection Method: Grab	
STARS 8021 in Water	SW-846 Method 8021			LIZ	12/14/99
Methyl t-butyl ether	EPA Method 8021	6	ug/L	LIZ	12/14/99
Benzene	EPA Method 8021	58	ug/L	LIZ	12/14/99
Toluene	EPA Method 8021	4	ug/L	LIZ	12/14/99
Ethlybenzene	EPA Method 8021	21	ug/L	LIZ	12/14/99
m- & p-Xylenes	EPA Method 8021	70	ug/L	LIZ	12/14/99
O-Xylene	EPA Method 8021	27	ug/L	LIZ	12/14/99
Isopropylbenzene	EPA Method 8021	23	ug/L	LIZ	12/14/99
n-Propylbenzene	EPA Method 8021	12	ug/L	LIZ	12/14/99
1,3,5-Trimethylbenzene	EPA Method 8021	20	ug/L	LIZ	12/14/99
tert-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/14/99
1,2,4-Trimethylbenzene	EPA Method 8021	37	ug/L	LIZ	12/14/99
sec-Butylbenzene	EPA Method 8021	3	ug/L	LIZ	12/14/99
p-Isopropyltoluene	EPA Method 8021	3	ug/L	LIZ	12/14/99
n-Butylbenzene	EPA Method 8021	7	ug/L	LIZ	12/14/99
Naphthalene	EPA Method 8021	10	ug/L	LIZ	12/14/99
Total Xylenes	EPA Method 8021	97	ug/L	LIZ	12/14/99
STARS 8270 Water	SW-846 Method 8270B			EXL	12/16/99
Sample Analysis by Lab Id #		11369		EXL	12/16/99
Naphthalene	EPA 8270 B/N	4 J	ug/L	EXL	12/16/99
Acenaphthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluorene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Phenanthrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluoranthene	EPA 8270 B/N	2 J	ug/L	EXL	12/16/99
Pyrene	EPA 8270 B/N	2 J	ug/L	EXL	12/16/99
Chrysene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(b)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(k)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99

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ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York NY 10010

Task Number 9912-00192
 Customer No. 040772
 Project No. A80194
 Purchase Order #
 Report Date 12/16/99

Sampling Information

Project Location: WEST 57TH ST (DURST)
 Sampled By: MILLHAM

Date Received 12/13/99

Test Performed	Method	Results	Units	Tech	Analy. Date
004 MW-5				Sample Date	12/10/1999 Time: 14:30
Matrix: Water				Collection Method:	Grab
STARS 8021 in Water	SW-846 Method 8021			L1Z	12/16/99
Methyl t-butyl ether	EPA Method 8021	110	ug/L	L1Z	12/16/99
Benzene	EPA Method 8021	800	ug/L	L1Z	12/16/99
Toluene	EPA Method 8021	59	ug/L	L1Z	12/16/99
Ethlybenzene	EPA Method 8021	74	ug/L	L1Z	12/16/99
m- & p-Xylenes	EPA Method 8021	35	ug/L	L1Z	12/16/99
o-Xylene	EPA Method 8021	14	ug/L	L1Z	12/16/99
Isopropylbenzene	EPA Method 8021	170	ug/L	L1Z	12/16/99
n-Propylbenzene	EPA Method 8021	390	ug/L	L1Z	12/16/99
1,3,5-Trimethylbenzene	EPA Method 8021	<10	ug/L	L1Z	12/16/99
tert-Butylbenzene	EPA Method 8021	<10	ug/L	L1Z	12/16/99
1,2,4-Trimethylbenzene	EPA Method 8021	<10	ug/L	L1Z	12/16/99
sec-Butylbenzene	EPA Method 8021	31	ug/L	L1Z	12/16/99
p-Isopropyltoluene	EPA Method 8021	<10	ug/L	L1Z	12/16/99
n-Butylbenzene	EPA Method 8021	78	ug/L	L1Z	12/16/99
Naphthalene	EPA Method 8021	70	ug/L	L1Z	12/16/99
Total Xylenes	EPA Method 8021	49	ug/L	L1Z	12/16/99
STARS 8270 Water	SW-846 Method 8270B			EXL	12/16/99
Sample Analysis by Lab Id #		11369		EXL	12/16/99
Naphthalene	EPA 8270 B/N	30	ug/L	EXL	12/16/99
Acenaphthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluorene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Phenanthrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Chrysene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(b)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(k)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo(a)pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<5	ug/L	EXL	12/16/99

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SCILAB ALBANY, INC.

15 Century Hill Drive
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ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York NY 10010

Task Number	9912-00192
Customer No.	040772
Project No.	A80194
Purchase Order #	
Report Date	12/16/99

Sampling Information

Project Location: WEST 57TH ST (DURST)
 Sampled By: MILLHAM

Date Received 12/13/99

Test Performed	Method	Results	Units	Tech	Analy. Date
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Unless otherwise noted, samples were analyzed within the holding times specified in the analytical method.

Authorized for Release:

Carol L. Gagnon
 Carol L. Gagnon, Acting Laboratory Director

NYS ELAP:10358

MA DEP:NY052

CT DEP:PH-0551

S.C.3 ALD
15 Century Hill Drive
P.O. Box 787
Atham, NY 12110
118-786-8100
FAX 518-786-7700

**CHAIN OF CUSTODY RECORD
LABORATORY SERVICES**

15 Century Hill Drive
P.O. Box 787
Atham, NY 12110
(518) 786-8100
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**CHAIN OF CUSTODY RECORD
LABORATORY SERVICES**

TASK # 9912-cc192

Client <u>ATC</u>	Client Contact <u>David Winslow</u>	Project Location <u>West Street (Durst)</u>	Purchase Order	Sampler's Name <u>Matt Millham, Loan Disk</u> (please print)	Contact <u>Matt Millham</u>	Turnaround Time Requested <u>7 Days Standard</u>	
LAB ID	Sample ID/Description	Date Sampled	Time A = a.m. P = p.m.	Sample Type	Preservative (list by # from list below)	Analysis Required	
<u>1</u> MW-1		<u>12/10</u>	<u>1:18</u>	<u>Water</u>	<u>K</u> <u>C</u> <u>O</u> <u>M</u> <u>A</u> <u>P</u> <u>B</u>	<u>3</u> <u>1</u> , <u>10</u>	<u>8021 Stars</u>
<u>2</u> MW-1			<u>1:21</u>		<u>1</u> <u>2</u>	<u>4</u> , <u>10</u>	<u>8270 Stars BN/AE</u>
<u>3</u> MW-2			<u>1:53</u>		<u>3</u> <u>1</u> , <u>10</u>	<u>8021 Stars</u>	
<u>4</u> MW-2			<u>1:58</u>		<u>2</u> <u>4</u> , <u>10</u>	<u>8270 Stars BN/AE</u>	
<u>5</u> MW-3			<u>11:44</u>		<u>3</u> <u>1</u> , <u>10</u>	<u>8021 Stars</u>	
<u>6</u> MW-3			<u>11:46</u>		<u>2</u> <u>10</u>	<u>8270 Stars BN/AE</u>	
<u>7</u> MW-5			<u>2:30</u>		<u>3</u> <u>1</u> , <u>10</u>	<u>8021 Stars</u>	
<u>8</u> MW-5			<u>2:30</u>		<u>2</u> <u>4</u> , <u>10</u>	<u>8270 Stars BN/AE</u>	
Sampled by: (signature) <u>David Winslow</u>	Date/Time <u>21/10 2:52</u>	Received by: (signature) <u>Sunstar</u>	Date/Time <u>21/10 3:10</u>	Preservatives <u>None</u>	Sample Condition <u>Intact</u>		
Relinquished by: (signature) <u>Sunstar</u>	Received by: (signature) <u>705</u>	Received by: (signature) <u>705</u>	Received by: (signature) <u>705</u>	1. HCl 2. HNO ₃ 3. NaOH 4. Na ₂ O ₃ 5. Zn Acet	1. Samples intact? 2. Custody seals intact? 3. Preserved properly? 4. Ambient or chilled? 5. C.O.C. received with samples?		
Dispatched by: (signature) <u>David Winslow</u>	Received for Laboratory by: <u>705</u>	Received for Laboratory by: <u>705</u>	Received for Laboratory by: <u>705</u>	6. Ascorbic 7. H ₂ SO ₄ 8. F (Filtered) 9. N (not preserved) 10. Other	Method of Shipment: <u>FedEx</u>		
NOTES/COMMENTS/BILLING INFORMATION:							



FULL SERVICE ENVIRONMENTAL LABORATORIES

SCILAB ALBANY, INC.

15 Century Hill Drive
P.O. Box 787
Latham, NY 12110
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ATC/NY Associates, Inc.
104 East 25th Street
10th Floor
New York
DAVE WINSLOW

NY 10010

Task Number: 9912-00233
Customer No.: 040772
Project No.: A80194
Purchase Order #: _____
Report Date: 12/21/99

Sampling Information

Project Location: DURST 57TH ST
Sampled By: MILLHAM

Date Received: 12/16/99

Test Performed	Method	Results	Units	Tech	Anal. Date
001 MW-4					Sample Date 12/15/1999 Time: 12:31
Matrix: Water					Collection Method: Grab
STARS 8021 in Water	SW-846 Method 8021			LIZ	12/16/99
Methyl t-butyl ether	EPA Method 8021	<1	ug/L	LIZ	12/16/99
Benzene	EPA Method 8021	<0.5	ug/L	LIZ	12/16/99
Toluene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
Ethlybenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
m- & p-Xylenes	EPA Method 8021	<1	ug/L	LIZ	12/16/99
O-Xylene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
Isopropylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
n-Propylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
1,3,5-Trimethylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
tert-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
1,2,4-Trimethylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
sec-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
p-Isopropyltoluene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
n-Butylbenzene	EPA Method 8021	<1	ug/L	LIZ	12/16/99
Naphthalene	EPA Method 8021	<5	ug/L	LIZ	12/16/99
Total Xylenes	EPA Method 8021	<3	ug/L	LIZ	12/16/99
STARS 8270 Water	SW-846 Method 8270B			EXL	12/21/99
Sample Analysis by Lab Id #		11369		EXL	12/21/99
Naphthalene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Acenaphthene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Fluorene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Phenanthrene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Chrysene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Benzo(a)anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Benzo(b)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Benzo(k)fluoranthene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Benzo(a)pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Indeno (1,2,3-cd)Pyrene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Dibenzo(a,h)Anthracene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99
Benzo (g,h,i) perylene	EPA 8270 B/N	<5	ug/L	EXL	12/21/99

----- Continued on Next Page -----

SCILAB ALBANY, INC.

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ATC/NY Associates, Inc.
 104 East 25th Street
 10th Floor
 New York
 DAVE WINSLOW

NY 10010

Task Number	9912-00233
Customer No.	040772
Project No.	A80194
Purchase Order #	
Report Date	12/21/99

Sampling Information

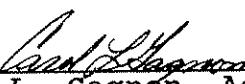
Project Location: DURST 57TH ST
 Sampled By: MILLHAM

Date Received 12/16/99

Test Performed	Method	Results	Units	Tech	Analy.	Date
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Unless otherwise noted, samples were analyzed within the holding times specified in the analytical method.

Authorized for Release:



Carol L. Gagnon, Acting Laboratory Director

NYS ELAP:10358

MA DEP:NY052

CT DEP:PH-0551

**CHAIN OF CUSTODY RECORD
LABORATORY SERVICES**

CITY OF ALBANY, INC.
1 Century Hill Drive

Q912-00233
TASK #

Century Hill Drive
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8-798-8100
X 518-786-7700

REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

APPENDIX D: Monitoring Well Installation Details/Field Logs

MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.: 18346-0001
 PROJECT NAME: West 57ⁿ St
 CLIENT: DURST
 SITE LOCATION: West 58ⁿ St

MONITORING WELL NAME: MW-1
 INSTALLATION DATE(S): 11/16/99
 COUNTY:
 PERMIT NUMBER:

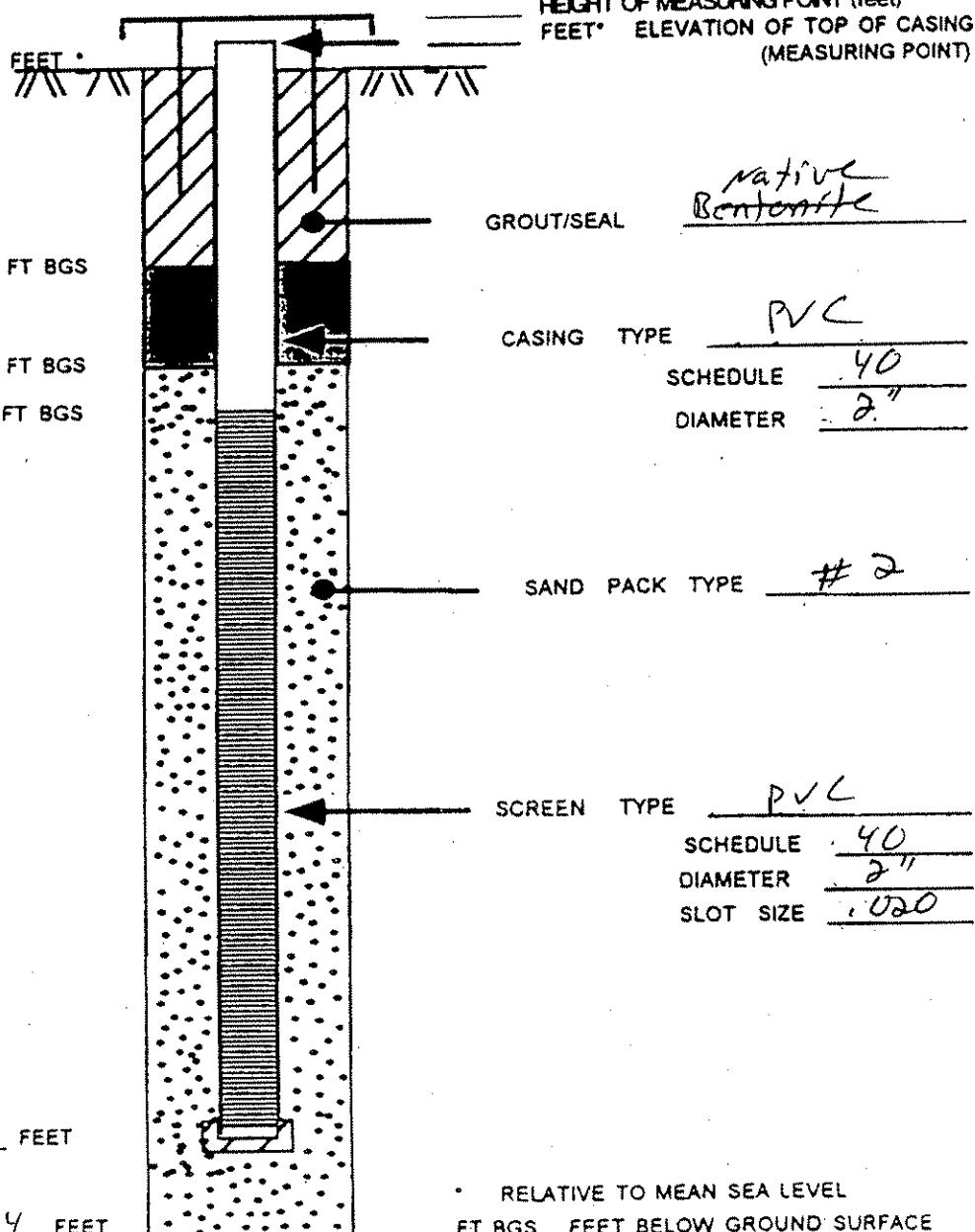
ELEVATION OF OUTER PROTECTIVE
PROTECTIVE CASING FEET

GROUND SURFACE ELEVATION FEET

DEPTH TO TOP OF
Bentonite SEAL 5.5 FT BGS

DEPTH TO TOP OF SAND PACK 7 FT BGS

DEPTH TO TOP OF SCREEN 8 FT BGS



DRILLING METHOD:

DRILLING CONTRACTOR:

REMARKS (WELL DRILLING): (DEPTH TO WATER)

WELL DEVELOPMENT TECHNIQUE:

REMARKS (WELL DEVELOPMENT): (DATE)

WELL INSTALLATION
SUPERVISED BY:

WELL PURPOSE: monitoring well

DRILLING FLUID:

FLUID LOSS DURING DRILLING:

WATER REMOVED DURING DEVELOPMENT:

SIGNATURE:

MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.: 18346-0001
 PROJECT NAME: WEST 57th st
 CLIENT: DURST organization
 SITE LOCATION: WEST 57th st + 12th ave

MONITORING WELL NAME: MW-2
 INSTALLATION DATE(S): 11/15/99
 COUNTY: _____
 PERMIT NUMBER: _____

ELEVATION OF OUTER PROTECTIVE
PROTECTIVE CASING FEET

GROUND SURFACE ELEVATION FEET

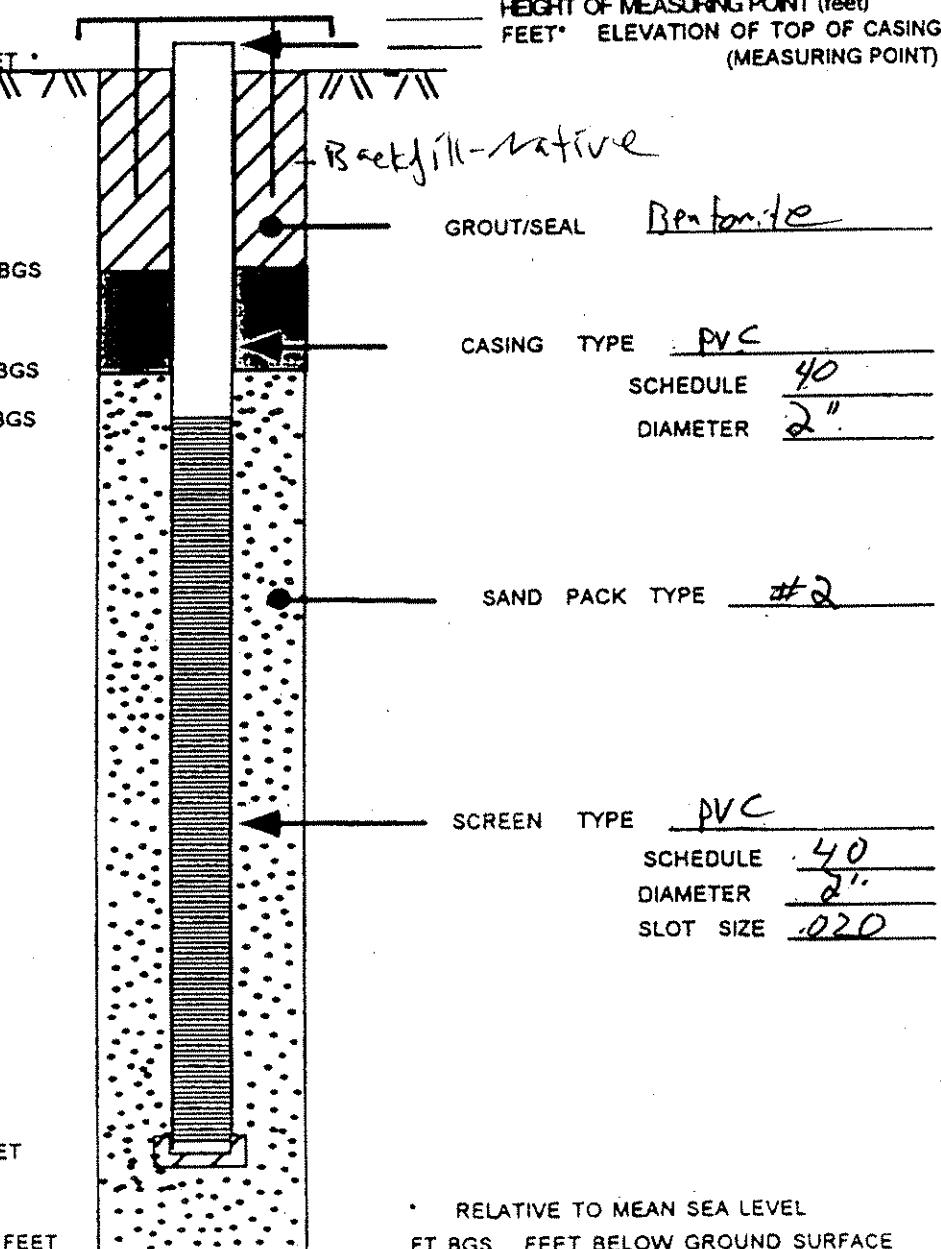
DEPTH TO TOP OF
Bentonite SEAL 5.5 FT BGS

DEPTH TO TOP OF SAND PACK 7 FT BGS

DEPTH TO TOP OF SCREEN 8 FT BGS

DEPTH TO BOTTOM OF SCREEN 23' FEET

DEPTH TO BOTTOM OF BOREHOLE 24' FEET



DRILLING METHOD: Hollow stem
 DRILLING CONTRACTOR: A.D.I.
 REMARKS (WELL DRILLING): (DEPTH TO WATER) 13'
 WELL DEVELOPMENT TECHNIQUE: _____
 REMARKS (WELL DEVELOPMENT): (DATE) _____
 WELL INSTALLATION SUPERVISED BY: Winslow

WELL PURPOSE: monitoring well
 DRILLING FLUID: None
 FLUID LOSS DURING DRILLING: NA
 WATER REMOVED DURING DEVELOPMENT: _____
 SIGNATURE: _____

MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.: 18346-0001
 PROJECT NAME: West 57th St
 CLIENT: DURST
 SITE LOCATION: West 57th St

MONITORING WELL NAME: MW-3
 INSTALLATION DATE(S): 11/15/99
 COUNTY: NY
 PERMIT NUMBER: _____

ELEVATION OF OUTER PROTECTIVE
PROTECTIVE CASING FEET •

GROUND SURFACE ELEVATION FEET •

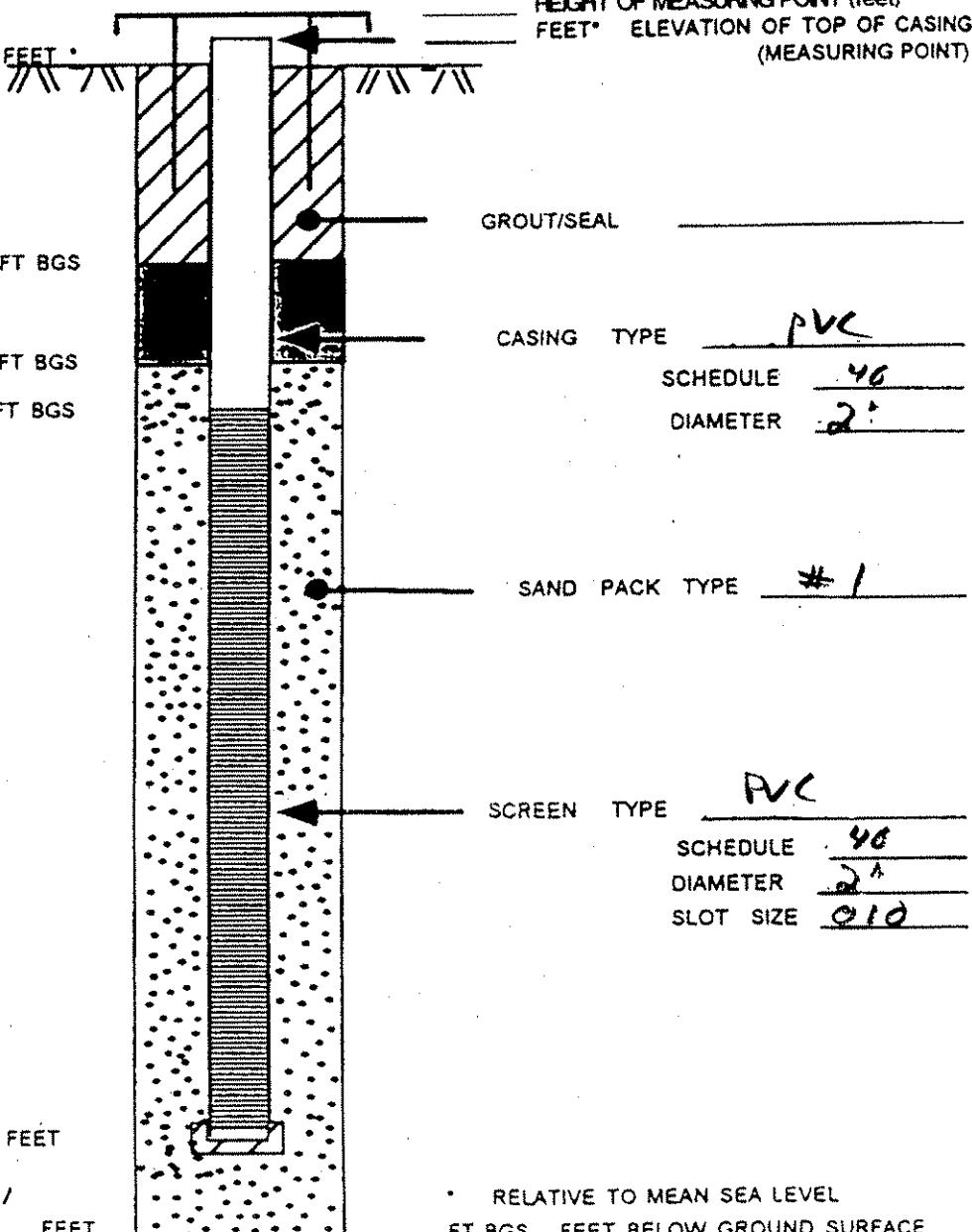
DEPTH TO TOP OF
SEAL 5.5' FT BGS

DEPTH TO TOP OF SAND PACK 7' FT BGS

DEPTH TO TOP OF SCREEN 8' FT BGS

DEPTH TO BOTTOM OF SCREEN 23' FEET

DEPTH TO BOTTOM OF BOREHOLE 24' FEET



DRILLING METHOD: _____

WELL PURPOSE: monitoring well

DRILLING CONTRACTOR: _____

DRILLING FLUID: _____

REMARKS (WELL DRILLING): (DEPTH TO WATER) _____

FLUID LOSS DURING DRILLING: _____

WELL DEVELOPMENT TECHNIQUE: _____

WATER REMOVED DURING DEVELOPMENT: _____

REMARKS (WELL DEVELOPMENT): (DATE) _____

WELL INSTALLATION

SUPERVISED BY: _____

SIGNATURE: _____

MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.: _____
 PROJECT NAME: West 57th
 CLIENT: DURST
 SITE LOCATION: _____

MONITORING WELL NAME: MW-4
 INSTALLATION DATE(S): 11/15/79
 COUNTY: _____
 PERMIT NUMBER: _____

ELEVATION OF OUTER PROTECTIVE
PROTECTIVE CASING FEET •

GROUND SURFACE ELEVATION FEET •

DEPTH TO TOP OF
Bentonite SEAL 6.5 FT BGS

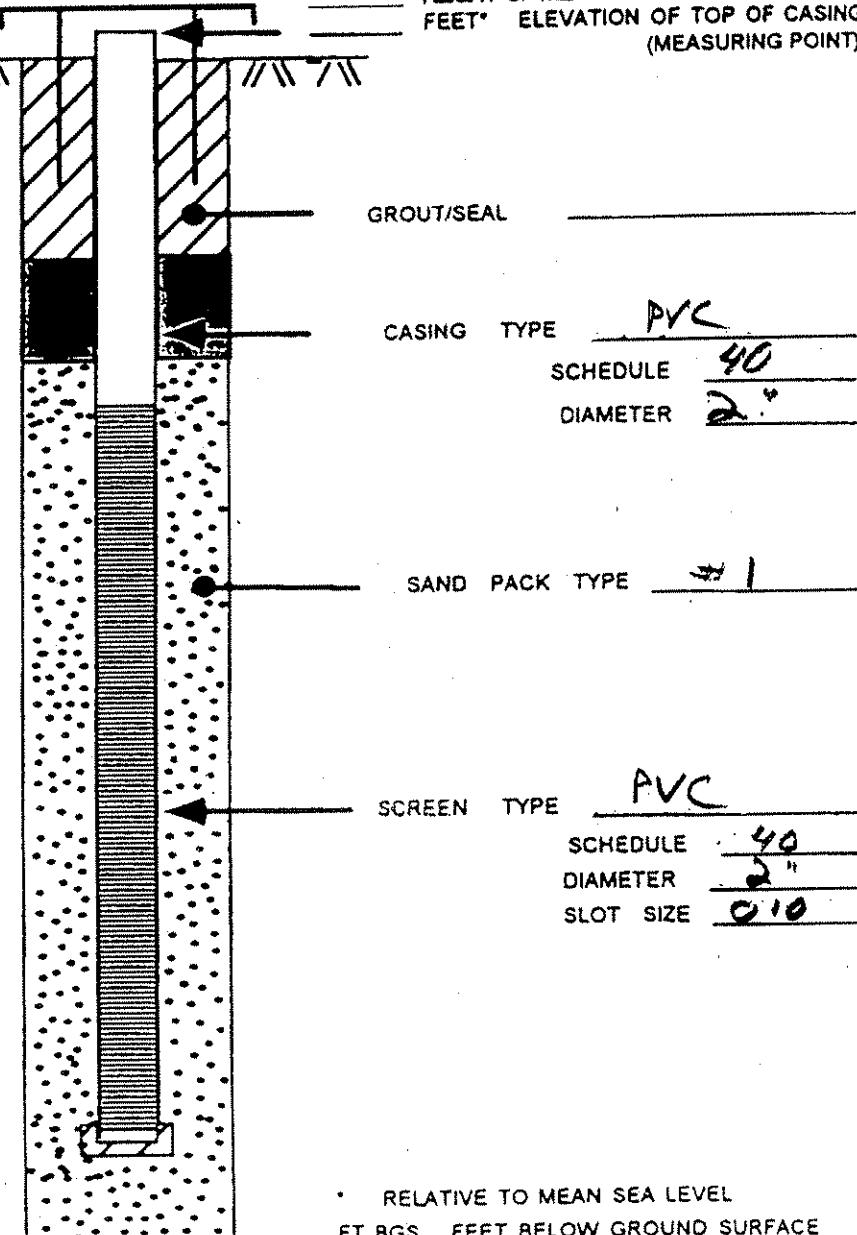
DEPTH TO TOP OF SAND PACK 7.5 FT BGS

DEPTH TO TOP OF SCREEN 8.5 FT BGS

DEPTH TO BOTTOM OF SCREEN 18.5 FEET

DEPTH TO BOTTOM OF BOREHOLE 19 FEET

HEIGHT OF MEASURING POINT (feet)
FEET * ELEVATION OF TOP OF CASING
(MEASURING POINT)



DRILLING METHOD: _____

WELL PURPOSE: monitoring well

DRILLING CONTRACTOR: _____

DRILLING FLUID: _____

REMARKS (WELL DRILLING): (DEPTH TO WATER)

FLUID LOSS DURING DRILLING: _____

WELL DEVELOPMENT TECHNIQUE: _____

WATER REMOVED DURING DEVELOPMENT: _____

REMARKS (WELL DEVELOPMENT): (DATE)

WELL INSTALLATION
SUPERVISED BY: _____

SIGNATURE: _____

MONITORING WELL CONSTRUCTION DIAGRAM

PROJECT NO.: 18346-0001
 PROJECT NAME: WOT-57R
 CLIENT: DURST
 SITE LOCATION: Airborne

MONITORING WELL NAME: MW-5
 INSTALLATION DATE(S): 12/7/99
 COUNTY:
 PERMIT NUMBER:

ELEVATION OF OUTER PROTECTIVE
PROTECTIVE CASING FEET

GROUND SURFACE ELEVATION FEET

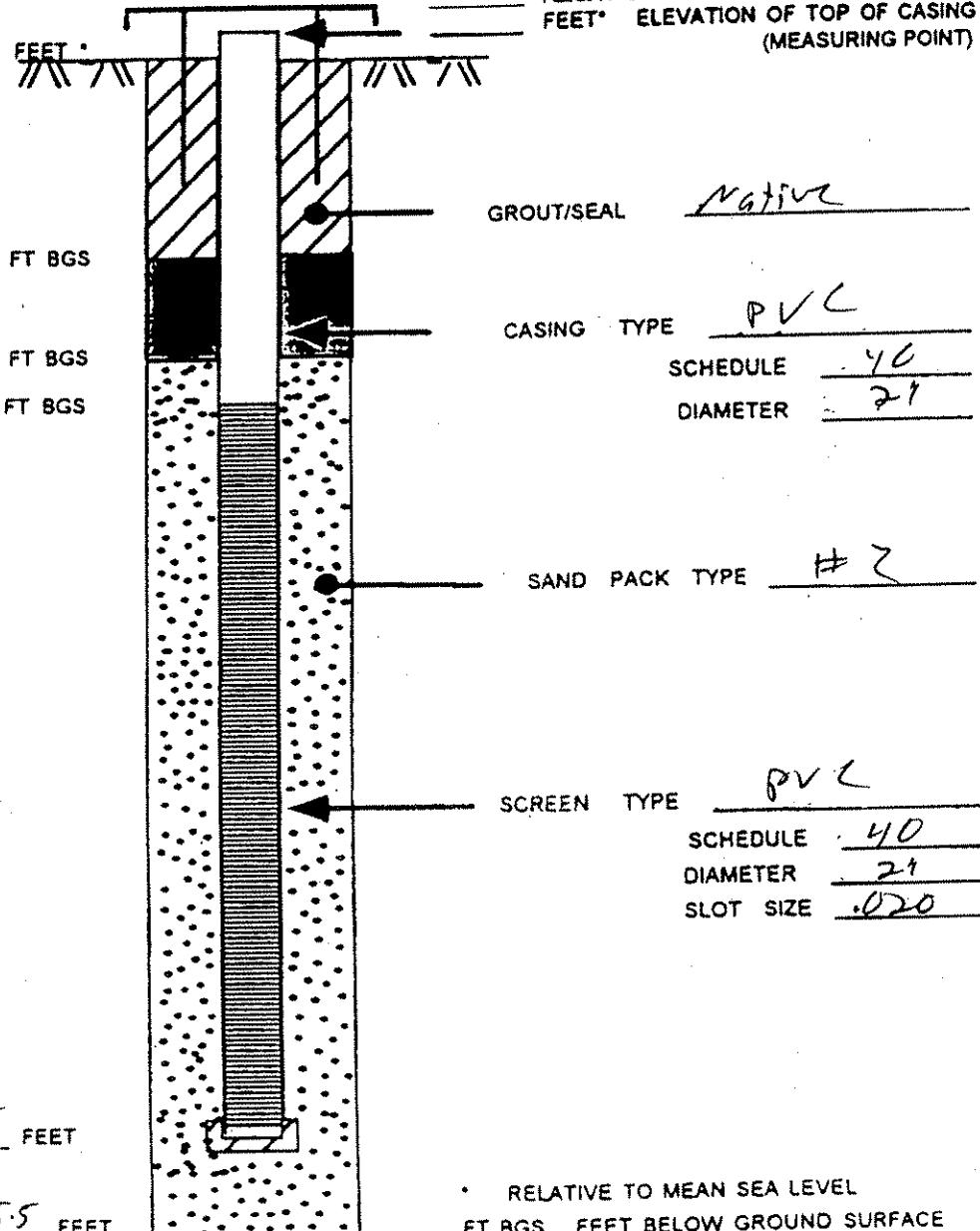
DEPTH TO TOP OF Bentonite Seal 3 FT BGS

DEPTH TO TOP OF SAND PACK 4 FT BGS

DEPTH TO TOP OF SCREEN 5 FT BGS

DEPTH TO BOTTOM OF SCREEN 25 FEET

DEPTH TO BOTTOM OF BOREHOLE 25.5 FEET



DRILLING METHOD:

DRILLING CONTRACTOR:

REMARKS (WELL DRILLING): (DEPTH TO WATER)

WELL DEVELOPMENT TECHNIQUE:

REMARKS (WELL DEVELOPMENT): (DATE)

WELL INSTALLATION
SUPERVISED BY:

WELL PURPOSE: monitoring well

DRILLING FLUID:

FLUID LOSS DURING DRILLING:

WATER REMOVED DURING DEVELOPMENT:

SIGNATURE:

ATC Associates, Inc.

104 East 25th Street
 New York, New York 10010
 (212) 353-8280

Monitoring Well Development, Purgung and Sampling Data Log

Project No.: 18346-0001

Monitoring Well: MW 1

Project Name: Wat 57th st

Well Casing Diameter: 2 in.

Project Manager: Wm. S. Low

Well Stick-up Height: N/A ft.

Project Location:

Depth of Well from Top of Well Casing: 24.2 ft.

Water Analyzer Used:

Depth of Well from Top of Roadbox Casing: ft.

WELL DEVELOPMENT DATA

DATE:	Time	Distance from Top of Well Casing to:		Height of Water Column (ft.)	Volume Factor ¹	Well Volume (gal.)
		Water (ft.)	Free Product (ft.)			
Before Development						
After Development				NA	NA	NA

Volume of Groundwater Removed During Development: 5 gal.

Comments:

WELL PURGING AND SAMPLING DATA

DATE:	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)
12/10/99					
Distance from top of well casing to water:	14.12 ft.				
Distance from top of well casing to free product:			ft.		
Number of Well Volumes	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)
0	1:00 pm	7.12	15.4	0.0	10.02
1	1.02	7.19	17.0	.969	1.05
2	1.04	7.13	17.4	1.21	1.18
3	1:06	7.12	17.7	1.06	1.0
4	1.08	7.13	17.7	1.03	1.02
5					
Comments:					

Notes:

¹Volume Factor = 0.163 gal./ft. and 0.653 gal./ft. for 2" and 4" diameter well casings, respectively.

NA = Not Applicable

ATC Associates, Inc.

104 East 25th Street
 New York, New York 10010
 (212) 353-8280

Monitoring Well Development, Purging and Sampling Data Log

Project No.: 18346-0001
 Project Name: West 57th St
 Project Manager: Winslow
 Project Location:
 Water Analyzer Used:

Monitoring Well: MW 2
 Well Casing Diameter: 2 in.
 Well Stick-up Height: NA ft.
 Depth of Well from Top of Well Casing: 22.27 ft.
 Depth of Well from Top of Roadbox Casing: ft.

WELL DEVELOPMENT DATA						
DATE: 12/7/99	Time	Distance from Top of Well Casing to:		Height of Water Column (ft.)	Volume Factor ¹	Well Volume (gal.)
		Water (ft.)	Free Product (ft.)			
Before Development						
After Development				NA	NA	NA
Volume of Groundwater Removed During Development:		5	gal.			
Comments:						
WELL PURGING AND SAMPLING DATA						
DATE: 12/10/99	Time	Distance from top of well casing to water:		ft.		
		7.74				
Distance from top of well casing to free product:				ft.		
Number of Well Volumes	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)	
0	1:44	6.7	15.0	.075	10.23	
1	1:46	7.05	16.3	20.7	1.74	
2	1:48	7.12	16.3	20.7	.84	
3	1:50	7.10	16.3	20.6	.97	
4	1:52	7.08	16.1	20.5	.57	
5						
Comments:						

Notes:

¹Volume Factor = 0.163 gal./ft. and 0.653 gal./ft. for 2" and 4" diameter well casings, respectively.

NA = Not Applicable

ATC Associates, Inc.

104 East 25th Street
 New York, New York 10010
 (212) 353-8280

Monitoring Well Development, Purging and Sampling Data Log

Project No.: 18346 - 5001

Project Name: West 51

Project Manager:

Project Location:

Water Analyzer Used:

Monitoring Well: MW 3

Well Casing Diameter: 2 in.

Well Stick-up Height: N/A ft.

Depth of Well from Top of Well Casing: 23.5 ft.

Depth of Well from Top of Roadbox Casing: ft.

WELL DEVELOPMENT DATA

DATE: 12/8/99	Time	Distance from Top of Well Casing to:		Height of Water Column (ft.)	Volume Factor ¹	Well Volume (gal.)
		Water (ft.)	Free Product (ft.)			
Before Development						
After Development				NA	NA	NA

Volume of Groundwater Removed During Development: 5 gal.

Comments:

WELL PURGING AND SAMPLING DATA

DATE: 12/10/99

Distance from top of well casing to water: 11.45 ft.

Distance from top of well casing to free product: ft.

Number of Well Volumes	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)
0	11:23	6.82	19.0	0	8.43
1	11:25	7.14	18.0	5.01	1.70
2	11:27	7.15	17.0	5.03	0.55
3	11:29	7.16	17.5	5.00	0.91
4		7.17	17.5	4.99	0.96
5					

Comments:

Notes:

¹Volume Factor = 0.163 gal./ft. and 0.653 gal./ft. for 2" and 4" diameter well casings, respectively.

NA = Not Applicable

ATC Associates, Inc.

104 East 25th Street
 New York, New York 10010
 (212) 353-8280

Monitoring Well Development, Purging and Sampling Data Log

Project No.: 18346 - 0001
 Project Name: West 57 St.
 Project Manager: Wraslow
 Project Location:
 Water Analyzer Used:

Monitoring Well: Mw-4
 Well Casing Diameter: 2 in.
 Well Stick-up Height: NA ft.
 Depth of Well from Top of Well Casing: ft.
 Depth of Well from Top of Roadbox Casing: ft.

WELL DEVELOPMENT DATA						
DATE: 12/8/99	Time	Distance from Top of Well Casing to:		Height of Water Column (ft.)	Volume Factor ¹	Well Volume (gal.)
		Water (ft.)	Free Product (ft.)			
Before Development						
After Development				NA	NA	NA
Volume of Groundwater Removed During Development: 5 gal.						
Comments:						
WELL PURGING AND SAMPLING DATA						
DATE: 12/15/99						
Distance from top of well casing to water: 10, 18 ft.						
Distance from top of well casing to free product: — ft.						
Number of Well Volumes	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)	
0						
1						
2						
3						
4	12:20	—	—	—	—	
5						
Comments:						

Notes:

¹Volume Factor = 0.163 gal./ft. and 0.653 gal./ft. for 2" and 4" diameter well casings, respectively.

NA = Not Applicable

ATC Associates, Inc.

104 East 25th Street
New York, New York 10010
(212) 353-8280

Monitoring Well Development, Purging and Sampling Data Log

Project No.: 18346-0001
Project Name: West 57th St
Project Manager: Winslow
Project Location:
Water Analyzer Used:

Monitoring Well: MW 5
Well Casing Diameter: 2 in.
Well Stick-up Height: 1/2 ft.
Depth of Well from Top of Well Casing: 02.16 ft.
Depth of Well from Top of Roadbox Casing: ft.

WELL DEVELOPMENT DATA											
DATE: 12/8/99		Distance from Top of Well Casing to:		Height of Water Column (ft.)	Volume Factor ¹	Well Volume (gal.)					
	Time	Water (ft.)	Free Product (ft.)								
Before Development											
After Development				NA	NA	NA					
Volume of Groundwater Removed During Development:				5 gal.							
Comments:											
WELL PURGING AND SAMPLING DATA											
DATE: 12/10/99											
Distance from top of well casing to water: 12.98 ft.											
Distance from top of well casing to free product: ft.											
Number of Well Volumes	Time	pH	Temp °C	Conductivity uS/cm	Dissolved Oxygen (ppm)						
0	2:15	6.9	14.7	2.54	9.67						
1	2:17	7.0	18.0	1.13	4.27						
2	2:19	6.95	18.1	1.04	3.9						
3	2:21	6.93	18.3	1.01	3.79						
4	2:23	6.92	18.4	1.00	3.57						
5											
Comments:											

Notes:

¹Volume Factor = 0.163 gal./ft. and 0.653 gal./ft. for 2" and 4" diameter well casings, respectively.

NA = Not Applicable

**REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK**

APPENDIX E: Previous Laboratory Results

Table 1
Detected Volatile Organic Compounds in Soil
Artkraft Sign Company Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	AK1-3	AK1-10	AK2-5	AK3-2.5	AK3-10	AK4-7	AK4-12	AK5-7	AK5-11	AK6-3.5	AK6-11	AK7-7.7	AK7-9.5	AK8-11	STARS AGV//	
BORING NO >>	AKSS-1	AKSS-2	AKSS-3	AKSS-3	AKSS-4	AKSS-4	AKSS-5	AKSS-5	AKSS-6	AKSS-6	AKSS-6	AKSS-7	AKSS-7	AKSS-8	TAGM SCO	
Depth (ft) >>	3.0-4.0	10.0-11.0	5.0-5.5	2.5-3.5	10.0-11.0	7.0-8.0	12.0-13.0	7.0-8.0	7.0-8.0	11.0-12.0	3.5-4.0	11.0-11.5	7.7-8.0	7.7-8.0	9.5-10.0	
VOCS: ($\mu\text{g}/\text{kg}$)												*	*	*		
Acetone	<140	120	87	<1,400	180	<2,900	25	<1,500	NA	<13	<2,700	65	<1,400	NA	16	86
2-Butanone (MEK)	<140	36	69	<1,400	55	<2,900	<12	<1,500	NA	<13	<2,700	16	<1,400	NA	<12	12
Benzene	<68	14	<6	590	<9	<1,500	<6	<1,500	<6	<1,300	<6	<700	<280	<6	<6	14(STARS)
Trichloroethene	<68	<9	<6	<720	<9	<1,500	<6	<730	NA	<6	2,100	<6	<700	NA	<6	700(TAGM)
Toluene	<68	<9	<6	<720	<9	<1,500	<6	<730	<580	<6	<1,300	<6	<700	<570	<6	100(STARS)
Tetrachloroethene	<68	<9	<6	<720	<9	<1,500	<6	<730	NA	<6	<1,300	<6	<700	NA	<6	1400(TAGM)
1,3,5-Trimethylbenzene	<68	<9	<6	<720	<9	<1,500	<6	<730	NA	<6	<1,300	<6	<700	NA	<6	600(STARS)
Ethylbenzene	<68	<9	<6	<720	<9	<1,500	<6	<730	<580	<6	<1,300	<6	<700	<570	<6	100(STARS)
Total Xylenes	<68	<9	22	1,100	<9	<1,500	<6	<730	2,600	<6	<1,300	<6	<700	4,000	<6	100(STARS)
m- p-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	<580	NA	NA	NA	NA	NA	NA	100(STARS)
o-Xylene	NA	NA	NA	NA	NA	NA	NA	NA	2,600	NA	NA	2,900	NA	NA	NA	100(STARS)
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	1,600	NA	NA	2,100	NA	NA	NA	100(STARS)
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	6,200	NA	NA	10,000	NA	NA	NA	100(STARS)
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	1700	NA	NA	3,300	NA	NA	NA	100(STARS)
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	4,800	NA	NA	7,700	NA	NA	NA	100(STARS)
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	810	NA	NA	1,100	NA	NA	NA	100(STARS)
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	3,000	NA	NA	570	NA	NA	NA	200(STARS)
MTBE	NA	NA	NA	NA	NA	NA	NA	NA	<580	NA	NA	<570	NA	NA	NA	1000(STARS)

* These samples were analyzed under EPA8260 and EPA 8024.

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based VOCs.

TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum VOCs not listed under the NYSDEC STARS Memo.

NA - Not Analyzed

Shaded boxes with bold results indicate VOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 2
Detected Semi-Volatile Organic Compounds in Soil
Artkraft Sign Company Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	AK1-3	AK1-10	AK2-5	AK3-2.5	AK4-7	AK4-12	AK5-7	AK5-11	AK6-3.5	AK6-11	AK7-7.7	AK7-7.7	AK8-11	STARS AGV/	
BORING NO >>	AKSS-1	AKSS-1	AKSS-2	AKSS-3	AKSS-3	AKSS-4	AKSS-4	AKSS-5	AKSS-5	AKSS-6	AKSS-6	AKSS-7	AKSS-7	TAGM SCO	
Depth (ft) >>	3.0-4.0	10.0-11.0	5.0-5.5	2.5-3.5	10.0-11.0	7.0-8.0	12.0-13.0	7.0-8.0	7.0-8.0	11.0-12.0	3.5-4.0	11.0-11.5	7.7-8.0	9.5-10.0	11.0-12.0
SVOCs: ($\mu\text{g}/\text{kg}$)															
Vaphthalene	<230	750	<2,200	800	370	<980	<200	<970	NA	NA	NA	NA	NA	<970	200
Acenaphthylene	<230	<310	<2,200	NA	NA	<980	NA	NA	NA	NA	NA	NA	NA	<970	50,000
Acenaphthene	<230	980	76,000	<190	<280	<980	<200	<970	NA	NA	NA	NA	NA	<970	400
Fluorene	<230	620	8,400	<190	<280	<980	<200	<970	NA	NA	NA	NA	NA	<970	1,000
Phenanthrene	<230	<2,500	26,000	520	1,100	<980	510	<970	NA	NA	NA	NA	NA	5,200	1,000
Anthracene	<230	1,100	9,900	<190	450	<980	<200	<970	NA	NA	NA	NA	NA	NA	1,000
Fluoranthene	340	1,400	21,100	600	800	<980	710	<970	NA	NA	NA	NA	NA	6,100	1,000
Syrene	<230	2,000	20,000	670	1,100	<980	660	<970	NA	NA	NA	NA	NA	4,700	1,000
Benzo(a)anthracene	<230	1,200	14,900	480	<280	<980	420	<970	NA	NA	NA	NA	NA	3,400	330
Chrysene	<230	1,100	12,000	500	<280	<980	380	<970	NA	NA	NA	NA	NA	3,000	330
Benzo(b)fluoranthene	430	950	13,000	600	470	<980	360	<970	NA	NA	NA	NA	NA	3,200	330
Benzo(k)fluoranthene	<230	370	5,000	250	<280	<980	<200	<970	NA	NA	NA	NA	NA	1,300	330
Benzo(a)pyrene	<230	1,100	11,000	520	<280	<980	330	<970	NA	NA	NA	NA	NA	2,400	330
Benzo(g,h,i)perylene	<230	690	<2,200	<90	<280	<980	<200	<970	NA	NA	NA	NA	NA	1,100	330
Indeno-(1,2,3-cd)Pyrene	<230	470	6,200	<190	<280	<980	<200	<970	NA	NA	NA	NA	NA	1,100	330
2-Methyl Naphthalene	<230	490	22,000	NA	NA	2,700	NA	NA	NA	NA	NA	NA	NA	NA	36,400
Dibenzofuran	<230	<310	5,000	<190	<280	<980	NA	NA	NA	NA	NA	NA	NA	NA	620

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series
Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil
Guidance values are applied to petroleum-based SVOCs.

TAGM SCO -

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup
Objective to Protect Groundwater Quality.
TAGM SCOS are applied to non-petroleum SVOCs not listed under the NYSDEC STARS Memo.

NA -

Not Analyzed

Shaded boxes with bold results indicate SVOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values
or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 3
PCB and RCRA Heavy Metal Compounds in Soil
Artkraft Sign Company Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO. >>	AK1-3	AK1-10	AK2-5	AK3-2.5	AK3-10	AK4-7	AK4-12	AK5-7	AK5-11	AK6-3.5	AK6-11	AK7-7.7	AK7-9.5	AK8-11	STARS AGV/
BORING NO >>	AKSS-1	AKSS-2	AKSS-3	AKSS-4	AKSS-5	AKSS-4	AKSS-5	AKSS-5	AKSS-6	AKSS-6	AKSS-7	AKSS-7	AKSS-7	AKSS-8	TAGM SCO
Depth (ft) >>	3.0-4.0	10.0-11.0	5.0-5.5	2.5-3.5	10.0-11.0	7.0-8.0	12.0-13.0	7.0-8.0	11.0-12.0	3.5-4.0	11.0-11.5	7.7-8.0	7.7-8.0	9.5-10.0	11.0-12.0
PCBs:															
CB-1016	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1221	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1232	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1242	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1248	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1254	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
CB-1260	<0.7	<0.9	NA	NA	NA	<0.6	NA	<0.6	NA	NA	NA	NA	NA	NA	<0.6
RCRA Heavy Metals															
Arsenic	NA	NA	NA	NA	NA	2.6	NA	NA	NA	NA	NA	NA	NA	NA	3.2
Barium	NA	NA	NA	NA	NA	81.3	NA	NA	NA	NA	NA	NA	NA	NA	88.4
Cadmium	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA	0.1-0.75
Chromium	NA	NA	NA	NA	NA	15.0	NA	NA	NA	NA	NA	NA	NA	NA	15.4
Cobalt	NA	NA	NA	NA	NA	50.5	NA	19.4	NA	NA	NA	NA	NA	NA	200-500
Mercury	NA	NA	NA	NA	NA	0.3	NA	NA	NA	NA	NA	NA	NA	NA	0.001-0.2
Selenium	NA	NA	NA	NA	NA	<8.7	NA	NA	NA	NA	NA	NA	NA	NA	<9.2
Silver	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	SB

TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels; Recommended Soil Cleanup Objectives. ATC used the TAGM SCO to protect groundwater for PCBs. ATC used Eastern USA Background Levels listed in TAGM for heavy metals.

Site Background

SB -

Not Analyzed

NA -

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Shaded boxes with bold results indicate PCB or heavy metal concentrations above NYSDEC TAGM Eastern USA Background Levels for metals or the TAGM Soil Cleanup Objective to protect groundwater for PCBs.

Table 4
Detected Volatile Organic Compounds in Soil
Airborne Express Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO. >>	AX1-9	AX1-15	AX2-6	AX3-14	AX4-3	AX4-14.5	AX5-11	AX6-15	AX7-13	AX7-15	AX8-16	AX9-14.5	AX10-14	AX11-6.5	AX12-11	AX12-18	AX13-11	STARS AGV/ TAGM SCO
BORING NO. >>	AIRX-1	AIRX-1	AIRX-2	AIRX-3	AIRX-4	AIRX-4	AIRX-5	AIRX-6	AIRX-7	AIRX-7	AIRX-8	AIRX-9	AIRX-10	AIRX-10	AIRX-11	AIRX-12	AIRX-12	
Depth (ft) >>	9.0-10.0	15.0-16.0	6.0-7.0	14.0-15.0	3.0-4.0	14.5-15.5	11.0-12.0	15.0-16.0	13.0-14.0	15.0-16.0	15.0-16.0	14.5-15.5	17.0-8.0	14.0-16.0	6.5-7.5	11.0-12.0	18.0-19.0	
/OCs: ($\mu\text{g}/\text{kg}$)																		
cetone	<1,500	<7,300	<1,400	11,000	<1,500	<1,600	<1,600	<3,000	28	<1,500	<5,700	<5,900	<1,400	22	<1,500	<11	33	
Butanone (MEK)	<1,500	<7,300	<1,400	<3,300	<1,500	<1,600	<1,600	<3,000	<11	<1,500	<5,700	<5,900	<1,400	<12	<1,500	<13	<12	
benzene	<760	<3,700	<690	2,900	<740	1,000	<800	<800	<1,500	<6	<740	<2,900	<3,000	<710	<5	<740	<6	<6
chlorobutene	<760	<3,700	<690	<1,700	<740	<740	<800	<800	<1,500	<6	<740	<2,900	<3,000	<710	<5	<740	<6	<6
oluene	<760	<3,700	<690	<1,700	<740	<740	<800	<800	<1,500	<6	<740	<2,900	<3,000	<710	<5	<740	<6	<6
3,5-dimethylbenzene	<760	<3,700	<690	<1,700	<740	<740	<800	<800	<1,500	<6	<740	<2,900	<3,000	<710	<5	<740	<6	<6
ethylbenzene	<760	<3,700	<690	<4,100	<740	13,000	<910	<1,500	<6	<740	<2,900	<3,000	2,200	<5	300	<6	<6	
total Xylenes	<760	4,700	<690	5,000	550	5,000	920	<1,500	<6	<740	<2,900	<3,000	49,000	<5	10,000	<6	<6	

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil
Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based VOCs.

TAGM SCO -
TAGM SCOS are applied to non-petroleum VOCs not listed under the NYSDEC STARS Memo.

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objective to Protect Groundwater Quality.
Shaded boxes with bold results indicate VOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 5
Detected Semi-Volatile Organic Compounds in Soil
Airborne Express Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO. >>	AX1-9	AX1-15	AX2-6	AX3-14	AX4-3	AX4-14.5	AX5-11	AX6-15	AX7-13	AX7-15	AX8-15	AX9-14.5	AX10-7	AX10-14	AX11-6.5	AX12-11	AX12-18	AX13-11	STARS AGV/
BORING NO. >>	AIRX-1	AIRX-1	AIRX-2	AIRX-3	AIRX-4	AIRX-4	AIRX-5	AIRX-6	AIRX-7	AIRX-7	AIRX-8	AIRX-9	AIRX-10	AIRX-10	AIRX-11	AIRX-12	AIRX-12	AIRX-13	TAGM SCO
Depth (ft) >>	9.0-10.0	15.0-16.0	6.0-7.0	14.0-15.0	3.0-4.0	14.5-15.5	11.0-12.0	15.0-16.0	13.0-14.0	15.0-16.0	15.0-16.0	14.5-15.5	17.0-8.0	14.0-15.0	6.5-7.5	11.0-12.0	18.0-19.0	11.0-12.0	
SVOCs: ($\mu\text{g}/\text{kg}$)																			
Naphthalene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	200 (STARS)
Acenaphthylene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	NA 41,000 (TAGM)
Acenaphthene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	400 (STARS)
Fluorene	NA	<1.200	NA	NA	NA	NA	NA	<210	<1,000	<180	NA	NA	NA	NA	NA	NA	NA	<210	1,000 (STARS)
Phenanthrene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	360 (STARS)
Anthracene	NA	<1.200	NA	NA	NA	NA	NA	<210	<1,100	<180	NA	NA	NA	NA	NA	NA	NA	<210	1,000 (STARS)
Fluoranthene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	370 (STARS)
Pyrene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	490 (STARS)
Benzofluanthene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	330 (STARS)
Chrysene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	330 (STARS)
Benzobifluoranthene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	330 (STARS)
Benzok(bifluoranthene)	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	330 (STARS)
Benzol(a)pyrene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	330 (STARS)
Benzol(g,h,i)perylene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	36,400 (TAGM)
2-Methyl Naphthalene	NA	<1.200	NA	NA	NA	NA	NA	<210	<990	<180	NA	NA	NA	NA	NA	NA	NA	<210	NA 36,400 (TAGM)

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based SVOCs.

TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum SVOCs not listed under the NYSDEC STARS Memo.

NA - Not Analyzed

Shaded boxes with bold results indicate SVOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 6
PCB and RCRA Heavy Metal Compounds in Soil
Airborne Express Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	AX1-9	AX1-15	AX2-6	AX3-14	AX4-3	AX4-14.5	AX5-11	AX6-15	AX7-13	AX7-15	AX8-15	AX9-14.5	AX10-14	AX11-6.5	AX12-11	AX12-18	AX13-11	TAGM SCO**
BORING NO >>	AIRX-1	AIRX-2	AIRX-3	AIRX-4	AIRX-5	AIRX-6	AIRX-7	AIRX-7	AIRX-7	AIRX-8	AIRX-8	AIRX-9	AIRX-10	AIRX-10	AIRX-11	AIRX-12	AIRX-13	TAGM SCO**
Depth (ft) >>	9.0-10.0	15.0-16.0	6.0-7.0	14.0-15.0	3.0-4.0	14.5-15.5	11.0-12.0	15.0-16.0	13.0-14.0	15.0-16.0	15.0-16.0	14.5-15.5	7.0-8.0	14.0-15.0	6.5-7.5	11.0-12.0	18.0-19.0	11.0-12.0
PCBs:	<0.6	NA	NA	NA	NA	NA	<0.6	<0.5	NA	NA	NA	NA	<0.5	NA	NA	NA	<0.6	10000
RCRA Heavy Metals:																		3-12
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<9.8
Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15-600
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1-7.5
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.1
Lead	129	289	NA	226	NA	141	104	96.6	NA	NA	NA	59.5	NA	11.2	NA	NA	NA	1.7
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	NA	NA	NA	NA	NA	1.5-40
Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200-500
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001-0.2
																		<0.1
																		SB

TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels; Recommended Soil Cleanup Objectives. ATC used the TAGM SCO to protect groundwater for PCBs. ATC used Eastern USA Background Levels for metals or the Background Levels listed in TAGM for heavy metals.

SB - Site Background

NA - Not Analyzed

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Shaded boxes with bold results indicate PCB or heavy metal concentrations above NYSDEC TAGM Eastern USA Background Levels for metals or the TAGM Soil Cleanup Objective to protect groundwater for PCBs.

Table 7
Detected Volatile Organic Compounds in Soil
Potamkin Toyota Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	PO 1-10	PO 1-15	PO 2-3	PO 2-15	PO 3-5	PO 3-15	PO 4-11	PO 4-17	STARS AGV/
BORING NO.>>	POTK-1	POTK-1	POTK-2	POTK-2	POTK-3	POTK-3	POTK-4	POTK-4	TAGM SCO
Depth>>	10.0-11.0	15.0-16.0	3.0-4.0	15.0-16.0	3.0-4.0	15.0-16.0	11.0-12.0	17.0-18.0	
VOCs: ($\mu\text{g}/\text{kg}$)									
Acetone	<65,000	<65,000	<27,000	<3,600	19	<36,000	<12	<2,200	200(TAGM)
2-Butanone (MEK)	<65,000	<65,000	<27,000	<3,600	<12	<36,000	<12	<2,200	300(TAGM)
Benzene	<7900	<33,000	<14,000	3,300	<6	<18,000	<6	<1,100	14(STARS)
Trichloroethene	<7900	<33,000	<14,000	<1,800	<6	<18,000	<6	<1,100	700(TAGM)
Toluene	<7900	300,000	50,000	80,000	<6	<18,000	<6	<1,100	100(STARS)
1,3,5-Trimethylbenzene	260,000	<33,000	260,000	<1,800	<6	<18,000	<6	<1,100	100(STARS)
Ethylbenzene	9,000	560,000	101,000	18,000	<6	360,000	<6	<1,100	100(STARS)
Total Xylenes	180,000	4,200,000	650,000	102,000	<6	1,900,000	<6	1,900	100(STARS)

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based VOCs.

**TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HW/R-94-4046:
Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum VOCs not listed under the NYSDEC STARS Memo.**

Shaded boxes with bold results indicate VOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 8
Detected Semi-Volatile Organic Compounds in Soil
Potamkin Toyota Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	PO 1-10	PO 1-15	PO 2-3	PO 2-15	PO 3-5	PO 3-15	PO 4-11	PO 4-17	STARS AGV
BORING NO >>	POTK-1	POTK-1	POTK-2	POTK-2	POTK-3	POTK-3	POTK-4	POTK-4	TAGM SCO
Depth >>	10.0-11.0	15.0-16.0	3.0-4.0	15.0-16.0	5.0-6.0	15.0-16.0	11.0-12.0	17.0-18.0	
SVOCs: ($\mu\text{g}/\text{kg}$)	170,000	110,000	33,000	33,000	<190	20,000	<190	<3,000	200(STARS)
Naphthalene	<11,000	NA	NA	NA	NA	NA	NA	<3,000	50,000(TAGM)
Acenaphthylene	<11,000	<11,000	<3,600	<4,800	<190	1,800	<190	<3,000	400(STARS)
Acenaphthene	<11,000	<11,000	<3,600	<4,800	<190	1,400	<190	<3,000	1000(STARS)
Fluorene	<11,000	<11,000	<3,600	<4,800	<190	1,500	<190	<3,000	1000(STARS)
Phenanthrene	<11,000	<11,000	<3,600	<4,800	<190	1,900	<190	<3,000	1000(STARS)
Anthracene	<11,000	<11,000	<3,600	<4,800	<190	5,000	460	<3,000	1000(STARS)
Fluoranthene	<11,000	<11,000	<3,600	<4,800	<190	4,900	550	<3,000	1000(STARS)
Pyrene	<11,000	<11,000	<3,600	<4,800	<190	3,800	<190	<3,000	330(STARS)
Benz(a)anthracene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	3,300	<3,000	330(STARS)
Chrysene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	3,300	<3,000	330(STARS)
Benz(b)fluoranthene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	3,900	<3,000	330(STARS)
Benz(k)fluoranthene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	200	<3,000	330(STARS)
Benz(a)pyrene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	<190	<3,000	330(STARS)
Benz(g,h,i)perylene	<11,000	<11,000	<3,600	<4,800	<190	<1,200	<190	<3,000	364,000(TAGM)
2-Methyl Naphthalene	<11,000	NA	NA	NA	NA	NA	NA	<3,000	620(TAGM)
Dibenzofuran	<11,000	NA	NA	NA	NA	NA	NA	<3,000	

STARS AGV - New York State Department of Environmental Conservation (NYSDEC) Spill!

Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil
Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance
values are applied to petroleum-based SVOCs.

TAGM SCO - NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046:
Determination of Soil Cleanup Objective to Protect Groundwater Quality.
Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect
Groundwater Quality.

NA - Not Analyzed
Shaded boxes with bold numbers indicate SVOC concentrations above NYSDEC STARS Memo
Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect
Groundwater Quality.
Any numerical result with a "less than" symbol indicates a concentration below the laboratory
detection limit.

Table 9
PCB and RCRA Heavy Metal Compounds in Soil
Potamkin Toyota Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO. >>	PO 1-10	PO 1-15	PO 2-3	PO 2-15	PO 3-5	PO 3-15	PO 4-11	PO 4-17
BORING NO. >>	POTK-1	POTK-1	POTK-2	POTK-2	POTK-3	POTK-3	POTK-4	POTK-4
Depth >>	10.0-11.0	15.0-16.0	3.0-4.0	15.0-16.0	5.0-6.0	15.0-16.0	11.0-12.0	17.0-18.0
PCBs:	<21	<22	NA	<24	NA	NA	<19	<30
RCRA Heavy Metals:								
Arsenic	10.6	<0.1	NA	<0.1	4.4	<0.1	16.2	NA
Barium	210.0	1.7	NA	2.4	13.9	1.8	498.0	NA
Cadmium	<2.2	<0.005	NA	<0.005	<2.6	<0.010	<2.2	NA
Chromium	10.9	<0.01	NA	<0.01	5.0	<0.01	10.4	NA
Lead	149.0	0.083	69.9	0.15	4.8	2.4	605.0	761.00
Mercury	0.7	<0.0002	NA	<0.0002	<0.1	<0.0002	3.1	NA
Selenium	<6.7	<0.10	NA	<0.10	<6.6	<0.10	<6.5	NA
Silver	<1.1	<0.020	NA	<0.020	<1.1	<0.020	<1.1	NA
								SB

**NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046:
Determination of Soil Cleanup Objectives and Cleanup Levels; Recommended
Soil Cleanup Objectives. ATC used the TAGM SCO to protect groundwater for
PCBs. ATC used Eastern USA Background Levels listed in TAGM for heavy metals.**

SB - Site Background

NA - Not Analyzed

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Shaded boxes with bold results indicate PCB or heavy metal concentrations above NYSDEC TAGM Eastern USA Background Levels for metals or the TAGM Soil Cleanup Objective to protect groundwater for PCBs.

Table 10
Detected Volatile Organic Compounds in Soil
Goodyear Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO.>>	GY1-5	GY2-5	GY3-11	GY4-11.5	GY5-11	STARS AGV// TAGM SCO
BORING NO >>	GDYR-1	GDYR-2	GDYR-3	GDYR-4	GDYR-5	TAGM SCO
Depth (ft)>>	5.0-6.0	5.0-6.0	11.0-12.0	11.5-12.5	11.0-12.0	
VOCs: ($\mu\text{g}/\text{kg}$)						
Acetone	80	<11	<11	<11	<11	<12
2-Butanone (MEK)	19	<11	<11	<11	<12	300(TAGM)
Benzene	<5	<6	<6	<5	<6	14(STARS)
Trichloroethene	<5	<6	<6	<5	<6	700(TAGM)
Toluene	<5	<6	<6	<5	<6	100(STARS)
Tetrachloroethene	6	<6	<6	<5	<6	1400(TAGM)
1,3,5-Trimethylbenzene	<5	<6	<6	<5	<6	100(STARS)
Ethylbenzene	<5	<6	<6	<5	<6	100(STARS)
Total Xylenes	<5	<6	<6	<5	<6	100(STARS)

New York State Department of Environmental Conservation (NYSDEC) Spill Technology
and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy -
Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to
petroleum-based VOCs.

STARS AGV -

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046:
Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum VOCs not listed under the NYSDEC
STARS Memo.

TAGM SCO -

Shaded boxes with bold results indicate VOC concentrations above NYSDEC STARS Memo Alternative Soil
Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 12
PCB and RCRA Heavy Metal Compounds in Soil
Goodyear Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

	SAMPLE NO.>>	GY1-5	GY2-5	GY3-11	GY4-11.5	GY5-11	
BORING NO.>>	GDYR-	GDYR-2	GDYR-3	GDYR-4	GDYR-5	TAGM SCO	
Depth (ft)>>	5.0-6.0	5.0-6.0	11.0-12.0	11.5-12.5	11.0-12.0		
PCBs:							
PCB-1016	<18	NA	NA	<18	NA	10000	
PCB-1221	<18	NA	NA	<18	NA	10000	
PCB-1232	<18	NA	NA	<18	NA	10000	
PCB-1242	<18	NA	NA	<18	NA	10000	
PCB-1248	<18	NA	NA	<18	NA	10000	
PCB-1254	<18	NA	NA	<18	NA	10000	
PCB-1260	<18	NA	NA	100	NA	10000	
RCRA Heavy Metals							
Arsenic	10.4	NA	NA	<5.2	NA	3-12	
Barium	37.0	NA	NA	66.4	NA	15-600	
Cadmium	5.3	NA	NA	1.1	NA	0-1.75	
Chromium	15.1	NA	NA	13.6	NA	1.5-40	
Lead	50.8	NA	NA	49.5	NA	200-500	
Mercury	<0.1	NA	NA	<0.1	NA	0.001-0.2	
Selenium	<28.4	NA	NA	<6.8	NA	0.1-3.9	
Silver	<0.90	NA	NA	<1.0	NA	SB	

TAGM SCO -
NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels; Recommended Soil Cleanup Objectives. ATC used the TAGM SCO to protect groundwater for PCBs. ATC used Eastern USA Background Levels listed in TAGM for heavy metals.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

SB - Site Background

NA - Not Analyzed

Shaded boxes with bold results indicate PCB or heavy metal concentrations above NYSDEC TAGM Eastern USA Background Levels for metals or the TAGM Soil Cleanup Objective to protect groundwater for PCBs.

Table 11
Detected Semi-Volatile Compounds in Soil Goodyear Service Facility

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	GY1-5	GY2-5	GY3-11	GY4-11.5	GY5-11	STARS AGV/
BORING NO.>>	GDYR-1	GDYR-2	GDYR-3	GDYR-4	GDYR-5	TAGM SCO
Depth (ft)>>	5.0-6.0	5.0-6.0	11.0-12.0	11.5-12.5	11.0-12.0	
SVOCs: ($\mu\text{g}/\text{kg}$)						
Naphthalene	<180	<190	<930	<180	<1,000	200(STARS)
Acenaphthylene	<180	NA	NA	NA	NA	50000(TAGM)
Acenaphthene	<180	<190	<930	<180	<1,000	400(STARS)
Fluorene	<180	<190	<930	<180	<1,000	1000(STARS)
Phenanthrene	<180	<190	1200	<180	<1,000	1000(STARS)
Anthracene	<180	<190	<930	<180	<1,000	1000(STARS)
Fluoranthene	<180	<190	960	<180	2200	1000(STARS)
Pyrene	<180	<190	<930	<180	1,000	1000(STARS)
Benzo(a)anthracene	<180	<190	<930	<180	1200	330(STARS)
Chrysene	<180	<190	<930	<180	1,000	330(STARS)
Benzo(b)fluoranthene	<180	<190	<930	<180	1,200	330(STARS)
Benzo(k)fluoranthene	<180	<190	<930	<180	<1,000	330(STARS)
Benzo(a)pyrene	<180	<190	<930	<180	1,000	330(STARS)
Benzo(g,h,i)perylene	<180	<190	<930	<180	<1,000	330(STARS)
2-Methyl Naphthalene	<180	NA	NA	NA	NA	36400(TAGM)
Dibenzofuran	<180	NA	NA	NA	NA	620(TAGM)

STARS AGV -

New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based SVOCs.

TAGM SCO -

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum SVOCs not listed under the NYSDEC STARS Memo.

Shaded boxes with bold numbers indicate SVOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 13
Detected Volatile Organic Compounds in Soil
Mini Storage and Dynasty Autobody Parking Lot

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO.>>	BD1-6	BD2-3.5	M11-2.5	M11-3	MINI-1	MINI-1	MI1-15.5	STARS AGV/
BORING NO.>>	BODY-1	BODY-2						TAGM SCO
Depth (ft)>>	6.0-7.0	3.5-4.5	2.5-3.0	3.0-4.0	15.5-16.0			
VOCs: ($\mu\text{g}/\text{kg}$)								
Acetone	<11	<12	NA	<11	<11	<11	200	
2-Butanone (MEK)	<11	<12	NA	<11	<11	<11	300	
Benzene	<6	<6	NA	<5	<6	<6	14	
Trichloroethene	<6	<6	NA	<5	<6	<6	700	
Toluene	<6	<6	NA	<5	<6	<6	100	
1,3,5-Trimethylbenzene	<6	<6	NA	<5	<6	<6	100	
Ethylbenzene	<6	<6	NA	<5	<6	<6	100	
Total Xylenes	<6	<6	NA	<5	<6	<6	100	

STARS AGV -

New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based VOCs.

TAGM SCO -

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046:
Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOS are applied to non-petroleum VOCs not listed under the NYSDEC STARS Memo.

NA -

Not Analyzed

Shaded boxes with bold results indicate VOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 14

Detected Semi-Volatile Organic Compounds in Soil
Mini Storage and Dynasty Autobody Parking Lot

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO >>	BD1-6	BD2-3.5	MI1-2.5	MI1-3	MI1-15.5	STARS AGV
BORING NO >>	BODY-1	BODY-2	MINI-1	MINI-1	TAGM SCO	
Depth (ft) >>	6.0-7.0	3.5-4.5	2.5-3.0	3.0-4.0	15.5-16.0	
SVOCs: ($\mu\text{g}/\text{kg}$)						
Naphthalene	NA	<930	930	930	<920	200(STARS)
Acenaphthylene	NA	NA	NA	<18,000	<920	50000(TAGM)
Acenaphthene	NA	<930	84,000	84,000	<920	400(STARS)
Fluorene	NA	<930	99,000	99,000	<920	1000(STARS)
Phenanthrene	NA	1,900	240,000	240,000	<920	10000(STARS)
Anthracene	NA	<930	120,000	120,000	<920	10000(STARS)
Fluoranthene	NA	1,200	2,000	200,000	970	1000(STARS)
Pyrene	NA	<930	1,700	180,000	<920	1000(STARS)
Benzo(a)anthracene	NA	<930	170,000	170,000	<920	330(STARS)
Chrysene	NA	940	940	<18,000	<920	330(STARS)
Benzo(b)fluoranthene	NA	<930	139,000	139,000	<920	330(STARS)
Benzo(k)fluoranthene	NA	<930	58,000	58,000	<920	330(STARS)
Benzo(a)pyrene	NA	<930	<18,000	<18,000	<920	330(STARS)
Benzo(g,h,i)perylene	NA	<930	<18,000	<18,000	<920	330(STARS)
2-Methyl Naphthalene	NA	NA	NA	40,000	<920	36400(TAGM)
Dibenzofuran	NA	NA	NA	83,000	<920	620(TAGM)

STARS AGV -

New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1: Petroleum-Contaminated Soil Guidance Policy - Alternative Soil Guidance Values. The Alternative Soil Guidance values are applied to petroleum-based SVOCs.

TAGM SCO -

NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046: Determination of Soil Cleanup Objective to Protect Groundwater Quality.
TAGM SCOs are applied to non-petroleum SVOCs not listed under the NYSDEC STARS Memo.

NA - Not Analyzed

Shaded boxes with bold numbers indicate SVOC concentrations above NYSDEC STARS Memo Alternative Soil Guidance Values, or NYSDEC TAGM Soil Cleanup Objectives to Protect Groundwater Quality.

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Table 15

PCB and RCRA Heavy Metal Compounds in Soil
Mini Storage and Dynasty AutoBody Parking Lot

All results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

SAMPLE NO.>>	BD1-6	BD2-3.5	MI1-2.5	MI1-3	MI1-15.5	
BORING NO.>>	BODY-1	BODY-2	MINI-1	MINI-1	MINI-1	TAGM SCO
Depth (ft)>>	6.0-7.0	3.5-4.5	2.5-3.0	3.0-4.0	15.5-16.0	
PCBs:	NA	NA	NA	<0.5	<0.5	10,000
RCRA Heavy Metals						
Arsenic	NA	<4.8	NA	27.8	<5.5	3-12
Barium	NA	87.7	NA	204.0	71.6	15-600
Cadmium	NA	1.6	NA	5.0	0.91	0-1.75
Chromium	NA	48.6	NA	11.9	14.2	1.5-40
Lead	NA	64.4	NA	2,083	653.0	200-500
Mercury	NA	0.2	NA	0.6	0.2	0.001-0.2
Selenium	NA	<9.6	NA	<28.4	<6	0.1-3.9
Silver	NA	<1.0	NA	<1.0	<1.9	SB

TAGM SCO -

**NYSDEC Technical and Administrative Guidance Memorandum #HWR-94-4046:
Determination of Soil Cleanup Objectives and Cleanup Levels; Recommended
Soil Cleanup Objectives. ATC used the TAGM SCO to protect groundwater for
PCBs. ATC used Eastern USA Background Levels listed in TAGM for heavy metals.**

Site Background

NA -

Not Analyzed

Any numerical result with a "less than" symbol indicates a concentration below the laboratory detection limit.

Shaded boxes with bold results indicate PCB or heavy metal concentrations above NYSDEC TAGM Eastern USA Background Levels for metals or the TAGM Soil Cleanup Objective to protect groundwater for PCBs.

Table 16
Summary of Groundwater Analytical Results

SAMPLE NO. >	AK-GW-5	AK-GW-8	AX-GW-1	AX-GW-8	AX-GW-10	AX-GW-13	GY-GW-4	PO GW-1	PO GW-4	NYSDEC Standards*
BORING NO. >	AKSS-5	AKSS-8	AIRX-1	AIRX-8	AIRX-10	AIRX-13	GDYR-4	POTK-1	POTK-4	
UNITS										
VOCs:										
Acetone	µg/l	<50	42	22	<10	<50	<10	<500	<100	50
2-Butanone (MEK)	µg/l	<50	<10	26	<10	<50	<10	<500	<100	50
Benzene	µg/l	<25	28	11	<5	<25	<5	<250	180	0.7
Trichloroethene	µg/l	<25	<5	<5	<5	<25	<5	<250	<50	3
Toluene	µg/l	<25	5	5	<5	<25	<5	2000	<50	5
Ethylbenzene	µg/l	<25	3	3	<5	12	<25	3000	<50	5
Total Xylenes	µg/l	<25	130	14	<5	190	<25	16000	<50	5
T.I.C.s:	µg/l						None Found			
Ethyl Benzene	µg/l							780		5
Propyl Benzene	µg/l							520	30	5
1H-Indene, 2,3-dihydro-	µg/l			760	250			500	80	
1-methyl Napthalene	µg/l									50
Phenanthrene, 1-methyl-7-(methyl Ethyl)	µg/l									
Cyclohexane Methyl-	µg/l									
Cyclohexane Ethyl-	µg/l									
SVOCs:										
Naphthalene	µg/l	<5	<5	<5	NA#	20	<5	<5	390	<50
Acenaphthylene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	
Acenaphthene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	20
Fluorene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	50
Phenanthrene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	50
Anthracene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	50
Fluoranthene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	50
Pyrene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	50
Benzo(a)anthracene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
Chrysene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
Benzo(b)fluoranthene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
Benzo(k)fluoranthene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
Benzo(a)pyrene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
Benzo(g,h,i)perylene	µg/l	<5	<5	<5	NA#	<6	<5	<50	<50	0.002
T.I.C.s:	µg/l									
1H-Indene, 2,3-dihydro-5-methyl	µg/l									
	all <0.5	all <0.6	all <0.5	NA	all <0.7	all <0.5	all <0.5	all <0.5	all <0.5	0.01
PCBs:										
HEAVY METALS:										
Arsenic	µg/l	0.18	0.24	NA	NA	0.90	0.27	<0.05	0.34	0.6
Barium	µg/l	6.1	7.1	NA	NA	24.2	2.8	2.7	6.6	4.6
Cadmium	µg/l	0.096	0.13	NA	NA	0.37	0.081	0.044	<0.060	<0.060
Chromium	µg/l	1.2	1.8	NA	NA	5.2	0.97	0.96	0.82	0.4
Lead	µg/l	7.4	5.8	7.4	361	264	3.2	3.9	17.4	24.1
Mercury	µg/l	0.016	0.046	NA	NA	0.025	0.035	0.0055	0.1	0.15
Selenium	µg/l	<10	<10	NA	NA	<0.10	<0.10	<0.10	<0.10	10
Silver	µg/l	<0.01	<0.025	NA	NA	<0.01	<0.01	<0.01	0.021	0.018

NA# = Not Analyzed - insufficient volume

REMEDIAL INVESTIGATION REPORT
57TH STREET TO 58TH STREET BETWEEN 11TH AVENUE AND 12TH AVENUE
NEW YORK, NEW YORK

APPENDIX F: Waste Manifests

FENLEY & NICOL ENVIRONMENTAL INC.
NON-HAZARDOUS / NON-REGULATED WASTE MANIFEST

PLEASE TYPE OR PRINT CLEARLY

JOB #

11/30/99

MANIFEST #

No. 08322

GENERATOR OF WASTE

NAME _____

c/o A-TC

ADDRESS _____

The Dust Organization

PHONE NUMBER _____

SITE LOCATION 1155 Ave of the Americas N.Y. N.Y.
Drums @ between 1157 & 1158 11th & 12th Ave**IDENTIFICATION OF WASTE**

PROPER U.S. D.O.T. SHIPPING NAME

STATE CODE

CONTAINER TYPE

QTY.

DRILL CUTTINGS	N116	55 GALLON DOT DRUM	1
Spill # (if applicable)	ERG #		

GENERATOR'S CLASSIFICATION

This is to certify that the herein named materials are properly described, classified and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, Environmental Protection Administration and Local State regulations. The wastes are described herein were consigned to the transporter named. The TSD Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S CONTACT SUPERVISOR Agent please print or type
and/or (Authorized Agent)SUPERVISOR'S SIGNATURE M. C TITLE E.T.**TRANSPORTER NAME AND ADDRESS (#1) (#2)**NAME FENLEY & NICOL ENVIRONMENTAL INC.ADDRESS 445 BROOK AVENUE, DEER PARK, NY 11728PHONE NUMBER 24 Hour Emergency# (516) 586-4800DRIVER'S NAME K. Rock SIGNATURE Mrs. P.INDUSTRIAL WASTE HAULER PERMIT # 1A-036 VEHICLE PLATE # 14227A

NAME _____

ADDRESS _____

PHONE NUMBER _____

DRIVER'S NAME _____ SIGNATURE _____

INDUSTRIAL WASTE HAULER PERMIT # _____ VEHICLE PLATE # _____

DISPOSAL SITE (Must be filled in by disposal site)NAME OF FACILITY Fenley + Nicol Env.ADDRESS OF FACILITY 445 Brook Ave., Deer Park, NY 11728

PHONE NUMBER _____

This load was received as stated by generator YES NO DISPOSAL SITE IDENTIFICATION NUMBER (if applicable) NY013420928552

DISPOSAL SITE INSPECTOR NAME _____

SIGNATURE _____ DATE _____

FENLEY & NICOL ENVIRONMENTAL INC.
NON-HAZARDOUS / NON-REGULATED WASTE MANIFEST

PLEASE TYPE OR PRINT CLEARLY

JOB #

11/30/99

MANIFEST #

No. 08320

ATE

GENERATOR OF WASTE

NAME The DUST organization c/o A.T.C.
 ADDRESS 1155 Avenue of the Americas
 PHONE NUMBER _____
 SITE LOCATION W. 38th ST NY NY. Btw 11th + 12th Ave
58

IDENTIFICATION OF WASTE

PROPER U.S. D.O.T. SHIPPING NAME

STATE CODE

CONTAINER TYPE

QTY.

<u>DRILL CUTTINGS</u>	<u>N116</u>	<u>33 Callo Out Down</u>	<u>2</u>
Spill # (if applicable)	ERG #		

GENERATOR'S CLASSIFICATION

This is to certify that the herein named materials are properly described, classified and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, Environmental Protection Administration and Local State regulations. The wastes are described herein were consigned to the transporter named. The TSD Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S CONTACT SUPERVISOR AGENT FOR
and/or (Authorized Agent)

please print or type

SUPERVISOR'S SIGNATURE M. S. TITLE ENV. PRO. TECH.**TRANSPORTER NAME AND ADDRESS (#1) (#2)**

NAME FENLEY & NICOL ENVIRONMENTAL INC.
 ADDRESS 445 BROOK AVENUE, DEER PARK, NY 11729
 PHONE NUMBER 24 Hour Emergency# (516) 586-4600
 DRIVER'S NAME K. Block SIGNATURE [Signature]
 INDUSTRIAL WASTE HAULER PERMIT # IA-036 VEHICLE PLATE # 14887AD

NAME _____
 ADDRESS _____
 PHONE NUMBER _____
 DRIVER'S NAME _____ SIGNATURE _____
 INDUSTRIAL WASTE HAULER PERMIT # _____ VEHICLE PLATE # _____

DISPOSAL SITE (Must be filled in by disposal site)

NAME OF FACILITY Chambers Landfill Fenley + Nicol Env.
 ADDRESS OF FACILITY East Long M.D. 445 Brook Ave, Deer Park, NY 11729

PHONE NUMBER _____

This load was received as stated by generator

YES NO

DISPOSAL SITE IDENTIFICATION NUMBER (if applicable)

NY013420928552

DISPOSAL SITE INSPECTOR NAME _____

SIGNATURE _____

DATE

FENLEY & NICOL ENVIRONMENTAL INC.
NON-HAZARDOUS / NON-REGULATED WASTE MANIFEST

PLEASE TYPE OR PRINT CLEARLY

JOB #

11/30/99

MANIFEST # No. 08321

GENERATOR OF WASTENAME Durst Organization c/o A.T.C.ADDRESS 11

PHONE NUMBER

SITE LOCATION 1165 6th Ave N.Y. N.Y.
57th - 58th between 11th + 12th Ave**IDENTIFICATION OF WASTE**

PROPER U.S. D.O.T. SHIPPING NAME

STATE CODE

CONTAINER TYPE

QTY.

<u>DRILL CUTTING</u>	<u>N116</u>	<u>55 GALLON</u> <u>DOT DRUM</u>	<u>2</u>
Spill # (if applicable)	ERG #		

GENERATOR'S CLASSIFICATION

This is to certify that the herein named materials are properly described, classified and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, Environmental Protection Administration and Local State regulations. The wastes are described herein were consigned to the transporter named. The TSD Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S CONTACT SUPERVISOR AGENT FOR
and/or (Authorized Agent)

please print or type

SUPERVISOR'S SIGNATURE M-C TITLE ET**TRANSPORTER NAME AND ADDRESS (#1) (#2)**

NAME FENLEY & NICOL ENVIRONMENTAL INC.
 ADDRESS 445 BROOK AVENUE, DEER PARK, NY 11729
 PHONE NUMBER 24 Hour Emergency# (516) 586-4900
 DRIVER'S NAME K. B. F. Z. SIGNATURE [Signature]
 INDUSTRIAL WASTE HAULER PERMIT # 1A-036 VEHICLE PLATE # 148R7AD

NAME _____
 ADDRESS _____
 PHONE NUMBER _____
 DRIVER'S NAME _____ SIGNATURE _____
 INDUSTRIAL WASTE HAULER PERMIT # _____ VEHICLE PLATE # _____

DISPOSAL SITE (Must be filled in by disposal site)NAME OF FACILITY Fenley + Nicol Env.ADDRESS OF FACILITY 445 Brook Ave, Deer Park, NY 11729

PHONE NUMBER _____

This load was received as stated by generator YES NODISPOSAL SITE IDENTIFICATION NUMBER (if applicable) NY0134209 28552

DISPOSAL SITE INSPECTOR NAME _____

SIGNATURE _____

DATE _____

FENLEY & NICOL ENVIRONMENTAL INC.
NON-HAZARDOUS / NON-REGULATED WASTE MANIFEST

PLEASE TYPE OR PRINT CLEARLY

JOB #

990 96 54

MANIFEST # No. 08229

12-22-99

GENERATOR OF WASTE

NAME ATC Associates
 ADDRESS W 57th St. Between 11th & 12th Ave. New York, NY

PHONE NUMBER _____

SITE LOCATION Same as above

IDENTIFICATION OF WASTE

PROPER U.S. D.O.T. SHIPPING NAME

STATE CODE

CONTAINER TYPE

QTY.

<u>Dry Cuttings from mud</u>	<u>N-116</u>	<u>55 gallon metal D.O.T. Drum</u>	<u>1</u>
Spill # (if applicable)	ERG #		

GENERATOR'S CLASSIFICATION

This is to certify that the herein named materials are properly described, classified and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, Environmental Protection Administration and Local State regulations. The wastes are described herein were consigned to the transporter named. The TSD Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S CONTACT SUPERVISOR _____

please print or type

TITLE _____

SUPERVISOR'S SIGNATURE _____

TRANSPORTER NAME AND ADDRESS (#1)

(#2)

NAME _____

ADDRESS _____

PHONE NUMBER _____

DRIVER'S NAME _____ SIGNATURE _____

SIGNATURE _____

INDUSTRIAL WASTE HAULER PERMIT # _____ VEHICLE PLATE # _____

DISPOSAL SITE (Must be filled in by disposal site)

NAME OF FACILITY Fenley + Nicol Env.ADDRESS OF FACILITY 445 Brook Ave, Deer Park, NY 11729

PHONE NUMBER _____

This load was received as stated by generator

YES NO DISPOSAL SITE IDENTIFICATION NUMBER (if applicable) M1013420928552

DISPOSAL SITE INSPECTOR NAME _____

DATE

SIGNATURE

FENLEY & NICOL ENVIRONMENTAL INC.
NON-HAZARDOUS / NON-REGULATED WASTE MANIFEST

PLEASE TYPE OR PRINT CLEARLY

JOB # 9909654

12-22-99

MANIFEST # No. 08228**GENERATOR OF WASTE**

NAME A TC Associates
 ADDRESS 1W 57th St. Between 11th & 12th Ave New York, N.Y.

PHONE NUMBER _____

SITE LOCATION Same as above**IDENTIFICATION OF WASTE**

PROPER U.S. D.O.T. SHIPPING NAME

STATE CODE

CONTAINER TYPE

QTY.

<u>Well Development water</u>	<u>N-253</u>	<u>55 gallon metal D.O.T. Drum</u>	<u>4</u>
Spill # (if applicable)	ERG #		

GENERATOR'S CLASSIFICATION

This is to certify that the herein named materials are properly described, classified and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, Environmental Protection Administration and Local State regulations. The wastes are described herein were consigned to the transporter named. The TSD Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S CONTACT SUPERVISOR _____
and/or (Authorized Agent)

please print or type

SUPERVISOR'S SIGNATURE _____

TITLE _____

TRANSPORTER NAME AND ADDRESS (#1)

(#2)

NAME FENLEY & NICOL ENVIRONMENTAL INC.
 ADDRESS 445 BROOK AVENUE, DEER PARK, NY 11729
 PHONE NUMBER 24 Hour Emergency# (516) 586-4900
 DRIVER'S NAME Brian Wyble SIGNATURE Brian Wyble
 INDUSTRIAL WASTE HAULER PERMIT # 1A-036 VEHICLE PLATE # 14887AD

NAME _____
 ADDRESS _____
 PHONE NUMBER _____
 DRIVER'S NAME _____ SIGNATURE _____
 INDUSTRIAL WASTE HAULER PERMIT # _____ VEHICLE PLATE # _____

DISPOSAL SITE (Must be filled in by disposal site)

NAME OF FACILITY Fenley + Nicol Env.
 ADDRESS OF FACILITY 445 Brook Ave, Deer Park, NY 11729

PHONE NUMBER _____

This load was received as stated by generator

YES NO

DISPOSAL SITE IDENTIFICATION NUMBER (if applicable)

NY013420928552

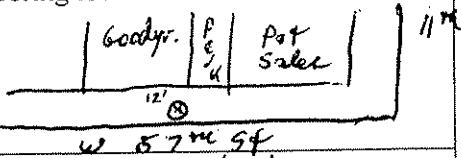
DISPOSAL SITE INSPECTOR NAME _____

DATE

SIGNATURE

REMEDIAL INVESTIGATION REPORT
57TH TO 58TH STREET BETWEEN 11TH AND 12TH AVENUE
NEW YORK, NEW YORK

APPENDIX G: Boring Logs

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client <u>Durst</u> <u>G.C.I. Environmental Advisory</u>	Boring No. B- <u>G Y - 6</u>
	Project Number <u>16374-0002</u>	Boring location 
Driller: <u>Zehn Environmental</u> Geologist: Curt Schmidt, P.G.	Location: West 57 th St. New York, NY	Date Start <u>11/8/99</u> Date Complete Surface Elev. Groundwater Elev. NA
Groundwater Observations NA ft AFTER NA hours	Type <u>casing sampler</u> Size I.D. <u>mc</u> Hammer wt. <u>2"</u> Hammer Fall <u>NA</u>	

Depth	Sample #	Sample Type	Blows per 6"				density or moist	PID	Field Identification of Soil	Remarks
0			0-6	6-12	12-18	18-24			Concrete	
							S firm moist	70.3	black color of SAND, trace silt	Hanging concrete
							S firm moist	81.8	gray cast(SAND, little) silt	taupe oil
							S firm moist	120	dark brown silt, some ref sand	odor
4			28"							
							very moist	10.2	dark brown to black clayey SILT and	
							firm	4.3	CMS GRAVEL	
								0.2	CMS GRAVEL, some CMS sand	
									(Schist fragments)	
8			9"							
12										
16										
20										

ground surface to _____ ft. used _____ casing then _____ casing to _____ ft
A= auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger
tr.=trace = 0-10% l.=little = 10-20% s.=some = 20-35% and = 35-50% c=course m=medium f=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client G.C.I. Environmental Advisory	Boring No. B- <i>Co -1</i>
Driller: Zebra Environmental Geologist: Curt Schmidt, P.G.		Project Number 16374-0002	Boring location <i>Pot Copacabana</i>
Groundwater Observations <u>NA</u> ft AFTER <u>NA</u> hours		Location: West 57 th St. New York, NY	casing sampler Type mc Size I.D. 2" Hammer wt. NA Hammer Fall NA
			Date Start <u>11/8/99</u> Date Complete <u>11/8/99</u> Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Blows per 6"				density or moist	PID	Field Identification of Soil	Remarks
			0-6	6-12	12-18	18-24				
0							dry st. moist loose	0.1 0.2 0.5 0.6	CONCRETE black-gray cut SAND, some m/s gravel to. Silt, cinders, coal, slag, ash brown m/s SAND, little silt, trace clay light brown m/s GRAVEL, some cut sand - pebbles	
			35"				gi. moist loose some silt	1.1 1.2 16.7	brown gray cut SAND, little cut gravel little silt, trace Slakes	
4			42"				gi. moist firm	11.5 25.7 54.0 77.0 86.4	reddish brown cut SAND black CLAYEY SAND, little fine gravel traces silt	gasoline odor 7A-8.0
8			47"				Moist loose firm	64.8 56.5 44.5 122.3	brown cut SAND, little m/s gravel little silt	No Odor slight petro. old gasoline odor
12			48"				Moist firm	65.8 125.8 102.0 102.5	gray dk gray m/s SAND, little silt silt, trace m/s ground	
16							very moist firm		Same	
20							Wet soft firm		r.d. gray cm/s SAND, little silt trace fine gravel	

ground surface to _____ ft. used _____ casing then _____ casing to _____ ft

A= auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger
 tr.=trace = 0-10% l.=little = 10-20% s.=some = 20-35% and = 35-50% c= course m=medium f=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client G.C.I. Environmental Advisory	Boring No. B- <i>CY-7</i>
Driller: Zebra Environmental Geologist: Curt Schmidt, P.G.		Project Number 16374-0002	Boring location
Groundwater Observations NA ft AFTER NA hours		Location: West 57 th St. New York, NY	casing sampler Type mc Size I.D. 2" Hammer wt. NA Hammer Fall NA
			Date Start 3/11/87 Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Blows per 6"				[Not Applicable]	density or moist	PID	Field Identification of Soil	Remarks
0			0-6	6-12	12-18	18-24		dry/loose	27.2	Concrete 4" v.d.k. gray/black csh & SAND, traces silt shake/cobble	cinder fill
								moist	4.1	reddish brown csh & SAND and csh GRATE	
								sl. moist	1.1	red ss gravel/cobble	
								moist	2.3	brown w/ (s) SAND, little silt, trace csh gravel (brick)	No Odor
								dry	1.1	sand/cobble	
									2.4	gray csh & SAND and csh GRATE (det. schist)	No odor
									2.7		refusal @ 7' 2nd refusal @ 7'
4											
8											
12											
16											
20											

ground surface to _____ ft. used _____ casing then _____ casing to _____ ft

A= auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger
tr.=trace = 0-10% l.=little = 10-20% s.=some = 20-35% and = 35-50% c= course m=medium f=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client: NYC D'REST	Boring No. B- A-X 14 -
		Project Number 13 000 - 0053	Boring location
Driller: Geologist: Cuy + Schmidt		Location Forest Av. & SAMUEL Pl Staten Island, NY	
Groundwater Observations _____ ft		casing sampler	Date Start Date Complete Surface Elev. Groundwater Elev.

Depth	Sample		Blows per 6"			density or moist	PID	Field Identification of soil remarks
	#	Type	0-6	6-12	12-18			
1						St. moist	332	concrete
2						loose, firm	751	rdk, gray to brown, cng SAND
3							225	somewhat gravel, little silt
4							386	rice flakes
5							401	gasoline odor
6								brick frags in tip
7								mottled gray and brown
8								WGSAND, little silt
9								black gray cng SAND, little
10								silt, little ref. gravel, rice
11								flakes
12								same
13								
14								
15								
16								
17								
18								
19								

ground surface to _____ ft. used _____ casing then _____ casing to _____ ft

A= auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger

Trace: 0-10% Little: 10-20% some: 20-10%

C= course M=medium F=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client: <u>S.C.A. Pierst</u>	Boring No. B- <u>P05</u>
Driller: Steve Salumbier Geologist: Curt Schmidt		Project Number <u>16 010 - 0103</u>	Boring location
Groundwater Observations ft Zebra		Location <u>31st Rd. & 137th St.</u> <u>Queens (Flushing), NY</u> casing sampler	Date Start <u>11/8/99</u> Date Complete Surface Elev. Groundwater Elev.
		Type: Size I.D. Hammer wt. N/A Hammer Fall N/A	

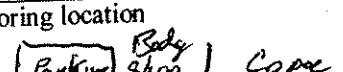
Depth	Sample		Blows per 6"			density or moist	PID	Field Identification of soil remarks
	#	Type	0-6	6-12	12-18			
0						loose moist	102	concrete block, gray + SLAG, trace silt center, slag ash
4						firm moist	773 1386. 1629.	dk gray m (g) SAND, little sand & gravel + trace + silt gasoline odor
8	<u>P05-6</u>					firm	386.7 1690. 1321. 1398.	same
12						wet	1131	wood fibers
16								dk gray cut SAND, little sand & gravel, little clayey silt, cinders, slag, wood
20								cemented fine SAND and SILT w/ laminae of cut sand
								gray - dk gray cut SAND and m GRAVEL, little clayey silt, cinders, slag, wood fibers
								layer of GRAVEL, grass, wood
								EDB = 16'

ground surface to ft. used casing then casing to ft

A-auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger

Trace: 0-10% Little: 10-20% some: 20-40%

C=course M=medium F=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization	Boring No. <i>BD-4</i>
	Project Number	Boring location 
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	
Groundwater Observations NA ft AFTER NA hours	Type <u>casing sampler</u> Size I.D. MC 2"	Date Start Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				dry loose	0	Concret black-gray cut SAND, little M _g ground cinders, ash, brick } brown m _g SAND little M _g silt	
			30"	very f. moist loose	0		
4					0		
8					0		
12					0		
16							
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: DURS NYC DEC	Boring No. B- AK 15
	Project Number <u>13000-0053</u>	Boring location
Driller: Geologist: Curt Schmidt	Location Forest Av. & Samuel Pl Staten Island, NY	
Groundwater Observations ft	Type: <u>casing sampler</u> Size I.D. Hammer wt. Hammer Fall	Date Start Date Complete Surface Elev. Groundwater Elev.

Depth	Sample	Blows per 6 "			density or moist	PID	Field Identification of soil remarks
#	Type	0-6	6-12	12-18			
1					Moist	0.0	Concrete
2					st. grmt	0.0	dk gray to brown cm ^s SAND little
3						0.1	ash, gravel, little silt & cinders
4						0.2	
5					Moist	0.0	brown - dk gray cm ^s SAND
6					grmt	0.0	little w ^s gravel & trace silt
7						0.0	mica - deteriorated schist
8						0.0	Same
9						0.0	
10						0.0	
11						0.0	
12						0.0	
13						0.0	
14						0.0	
15						0.0	
16						0.0	
17							
18							
19							
20							

ground surface to ft. used casing then casing to ft

A= auger ss: split spoon sampler mc: macrocore HSA: hollow stem auger HA: Hand Auger
 Trace: 0-10% Little: 10-20% some: 20-10%
 C= course M=medium F=fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization	Boring No. PSS - PSales - 1
	Project Number 18346-000	Boring location Patahka Toyota Sales 67'
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	Date Start 3/11/99
Groundwater Observations NA ft AFTER NA hours	Type Size I.D. casing sampler MC 2"	Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				dry	0.6	Concrete	
				loose	1.1	gray to dk gray to yellowish red cm's SAND, some cm's gravel, little silt & cinders, slag, ash, concrete brick	
			38"	sl.	0.6		
				firm	0.4	pale brown to gray m f(M) SAND, some silt	
4				sl	0.2	dk gray to brown M&S SAND and	
			37"	moist	0.1	M& GRAVEL, little c-silt; coal	
				loose	0.4	cinders, slag ash brick glass	
					0.1	deter. mica schist	
8			19"	dry	0.0	brown m SAND, little silt	
				loose	1.0		
					1.1	brown to gray m& GRAVEL and cmf SAND	
					0.8	little silt; mica schist; quartzite in refusal @ 11' tip	
12							beef - gauntlet
							2nd refusal @ 9'
							Move elox onto
							furk
							3rd & 4th
							refusals @
16							5
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client: The Durst Organization	Boring No. <i>AX-16</i>
		Project Number	Boring location <i>Airborne Parkview Arc</i>
Driller: ADT Geologist: Curt Schmidt, P.G.		Location: <i>Ridgewood (Queens), NY</i>	<i>ArtCraft</i>
Groundwater Observations NA ft AFTER NA hours	Type Size I.D.	casing sampler MC 2"	Date Start 3/11/97 Date Complete Surface Elev. Groundwater Elev. NA

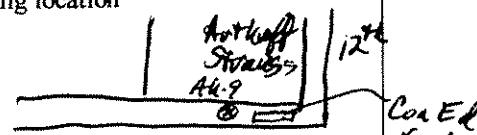
Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0			29"	sl. moist (00x)	0 0 0.2 0.2 0.5 0.6 0.8 1.1 0.0 0.5 1.5 1.9 1.2 1.4 1.7 1.9	Concrete brown to dk gray cmf SAND, some (-) silt & gravel, trace silt & mica very dark gray to black cmf SAND, little (-) silt & gravel little silt (<); cinders & ash very dark gray cmf SAND, some silt & gravel little silt (<); mica schist frags	
4			19"	loose gravel			
8			31"	loose wet		loose dk gray cmf SAND, some (-) silt & gravel trace silt	
12			34"	wet loose gravel		light brown to dark gray cmf SAND, little (-) silt & gravel, little silt	
16			39"	coarse wet very wet loose gravel		dk grayish brown cmf SAND little (-) gravel trace silt	Refined C 13'
20						dk gray cmf SAND and eye GRAVEL trace silt	old garlic odor when wet
						END OF BORING = 16 ft.	

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization	Boring No. <u>AX - 17</u>
	Project Number	Boring location <u>Anchorage</u> <u>Arboretum</u> <u>Artifact</u> <u>ATC 6 X</u> <u>AX 17 X</u> <u>Strauss</u>
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	Date Start <u>3/11/97</u> Date Complete <u>3/11/97</u> Surface Elev. Groundwater Elev. NA
Groundwater Observations <u>NA</u> ft AFTER <u>NA</u> hours	Type <u>casing sampler</u> Size I.D. <u>MC</u> <u>2"</u>	

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0			32"	moist loose	0.1 0.4 1.0 2.2	concrete macro core on f(t) SAND, little(e+) silt / 12" CMF (black) SAND, trace mt gravel and trace silt. brown mf (+) SAND, little(e+) silt BRICK COBBLE	No odor
4			33"	moist loose to firm	1.2 2.1 3.0 3.3	brown cmf SAND and mf GRAVEL; mica	
8			28"	loose to firm moist	0.2 1.2 2.2 2.8	12" Some brown to reddish brown mf (+) SAND, some cmf gravel, and little silt; mica	No odor.
12			27"	v. moist	0.2 1.7 2.4 7.5	12" Some. brown cmf (t) SAND, little silt, trace fine gravel black cmf GRAVEL, some cmf sand.	No odor
16							ODOR of rubber
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization Project Number	Boring No. <i>AK - 9</i>
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	Boring location 
Groundwater Observations NA ft AFTER NA hours	Type <u>casing sampler</u> Size I.D. MC 2"	Date Start 3/11/99 Date Complete Surface Elev. Groundwater Elev. NA

Depth	Sample #	Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				dry St. moist	4.8 2.1	CONCRETE brown to gray to black cmt SAND, little cmt gravel, little silt	
	28"			loose	2.2	brown - dk gray cmt SAND, little NO odors cmt gravel, traces silt, nice flakes, brick	
4				moist	1.9	dk gray cmt SAND, little cmt gravel little silt, nice flakes	(S1) no odor
	21"			moist	1.7		
					2.5		
					1.8		
					4.1		
8					2.3	dark brown cmt SAND, little fine gravel little silt	
	2"						
12						same	
	14"				0.0		
					1.0		
					10.9	black organic or silty clay	
					3.4	clayey S/LT, some MS + sand.	
16					2.2	wood w/ very faint petrol. odor	
	1.5"					Refusal @ 16.2' on wood	
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization	Boring No. <i>BD-3</i>
	Project Number	Boring location 
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	
Groundwater Observations NA ft AFTER NA hours	casing sampler Type MC Size I.D. 2"	Date Start 3/1/99 Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				0.3 →		Congrete brown m/sAND, little silt	
		32		0.7 →			
		St. Mat.		0.1 →			
		loose unpared		0.8 →			
4						Same	
		27 th		1.1		gray m/s GRAVEL and m/s SAND	
		St. Mat.		2.2			
		loose		4.0		mica - deteriorated schist.	
		38	3.8				
8						Refusal on Schist @ 7.5'	
12							
16							
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280		Client: The Durst Organization	Boring No. 375 AX-18
		Project Number	Boring location <u>Potawat</u> <u>service</u> Air borne
Driller: ADT Geologist: Curt Schmidt, P.G.		Location: Ridgewood (Queens), NY	
Groundwater Observations NA ft AFTER NA hours		casing sampler Type MC Size I.D. 2"	Date Start 3/11/99 Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				loose sl. moist	0.8	Concrete black CM & SAND and no fine gravel	
	37			sl. moist	1.1	claders, some coarse	
				sl. moist	1.5	brown in & SAND, little silt,	
				firm	1.8	trace of sand	No odor
				compact			
4					0		
	34			very moist	1.1	Same	
				moist	1.7	blk - brown coarse GRAVEL and some SAND, wet	
					1.7	brown coarse & SAND	No odor
					36.2	2" dk gray coarse SAND	Petro. Odor
8				Wet	94.6		
	32			Wet	136	black - grayish brown cm & SAND	
				sl. moist	136	some coarse gravel little silt; claders, slag	
				sl. moist	256	ash	
				sl. moist	367		
				Wet	609		
				sl. moist	709	Same	
				sl. moist	1461	becoming	
				sl. moist	921	C mt GRAVEL and cm & SAND	
						trace(s) silt	Petro. odor
12							
16							
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine

ATC Associates Inc. 104 East 25 th Street New York, NY 10010 212-353-8280	Client: The Durst Organization	Boring No.
	Project Number	BB-5 AX - 18
Driller: ADT Geologist: Curt Schmidt, P.G.	Location: Ridgewood (Queens), NY	Boring location <u>Potankue service</u> Air borne
Groundwater Observations NA ft AFTER NA hours	casing sampler Type MC Size I.D. 2"	Date Start 3/11/99 Date Complete Surface Elev. Groundwater Elev. NA

Depth	#	Sample Type	Recovery (in.)	density or moist	PID	Field Identification of Soil	Remarks
0				loose sl. moist	0.8	Concrete black CM & SAND and no fine gravel cradex, some concrete brown CM & SAND, little silt, trace of sand	
	37			sl. moist	1.1		
				firm	1.5		
				compact	1.8		
4					0		No odor
	34			wet moist	1.1	Same blk - brown conGRAVEL and con SAND, wet brown con & SAND	concrete & slag
				moist	1.2		No odor
					36.2	2" dk gray con SAND	Petro. Odor
8				Wet moist	94.6		
	32			firm	136	black - grayish brown con & SAND, some con & gravel little silt; cradex, slag	
				moist	256	ash	Petro. Odor
12					367		
					609		
					709	Same becoming	
					1461	C mt GRAVEL and con & SAND	
16					921	trace(s) silt	
20							

mc: macrocore HSA: hollow stem auger HA: Hand Auger tr.=trace = 0-10% l.=little = 10-20%
 s.=some = 20-35% and = 35-50% c = course m = medium f = fine