DRAFT

SUBSURFACE INVESTIGATION WORK PLAN

937-941 Conklin Street
FARMINGDALE, NEW YORK

AUGUST 1997
Revised: January 2000

Prepared For:

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1.0 INTRODUCTION

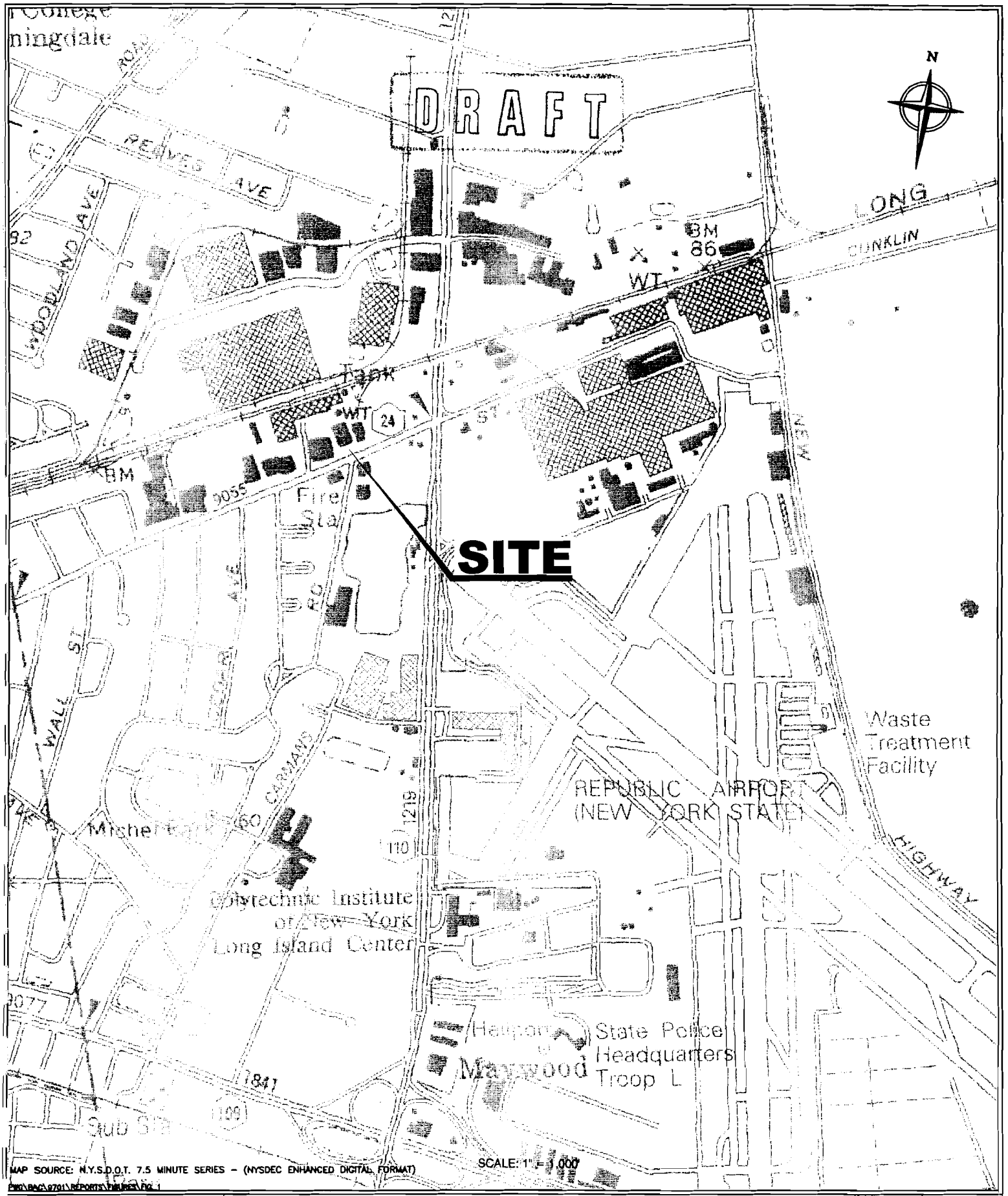
937-941 Conklin Street Associates (Conklin) has retained P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC) to prepare the following work plan to further investigate subsurface contamination at the site located at 937-941 Conklin Street in Farmingdale, NY.

The work is being directed by the Suffolk County Department of Health Services (SCDHS) in response to data obtained during clean-out of two of the facility's drywells on July 29 through August 2, 1994. The data, which represented endpoint samples of the clean-out, confirmed that tetrachloroethene (PCE) contamination remained in one of the drywells above standards.

The objectives of this investigation are to:

①confirm the on-site sources of contamination,
② establish background (upgradient) groundwater quality, and;
③ determine the depth and extent of soil and groundwater contamination on-site.

In addition to the investigative work plan, a site specific health and safety plan has also been prepared.



MAP SOURCE: N.Y.S.D.O.T. 7.5 MINUTE SERIES – (NYSDEC ENHANCED DIGITAL FORMAT)

SCALE: 1" = 1,000'

P:\W\BAC\9701\REPORTS\FIGURES\FIG 1

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GROUNDWATER INVESTIGATION
VICINITY MAP
937 CONKLIN ST.
EAST FARMINGDALE, N.Y.

Project No.	BAC9701
Designed by	DJL
Approved by	FPC
Drawn by	MF
Figure No.	1
Date	10/21/99

2.0 SITE CONDITIONS

2.1 Site Description

The site, which consists of approximately 1.5 acres of land with a 30,000 ft^2 single story masonry building, is located at 937-941 Conklin Street, Farmingdale, New York as shown on the vicinity map (Figure 1).

The site is located in a mixed use area with commercial/industrial properties to the north, west, and east, and residential land use to the south. The property, depicted in Figure 2, is currently occupied by Airflex Industrial Corp., a light manufacturing operation involved in the business of architectural and ornamental metal working. The majority of the products involve decorative metals such as brass, aluminum and stainless steel which do not require chemical coatings or treatment. As such, the design and metal working processes are completed on-site without the use of chemicals. Finishing, if required, is performed off-site by sub-contractors.

The property to the west of the subject site is occupied by a mix of small commercial/industrial tenants. The property to the east is also occupied by Airflex Industrial Corp. and used for the packaging and storage of finished ornamental metal products prior to shipping. Bordering the site to the north is Susquehanna Fabric Dyeing, a manufacturer of textile products. The Susquehanna Fabric Dyeing property was formerly occupied by Kenmark Textile. Kenmark Textile was listed on the USEPA National Priorities List (USEPA NPL #NYD075784165) and the NYSDEC Inactive Hazardous Waste Site List (Site #152032) for improper disposal of hazardous wastes. The site was removed from the federal NPL in May 1995. More detail regarding Kenmark Textile is discussed in Section 2.2.1

2.2 Site History

Based upon discussions with the current tenant, the 937-941 Conklin Street building was constructed by Brent Associates in the late 1960's and leased to Jamie Industries, a company involved in the manufacture and processing of textiles and specialty fabrics, until 1975. Brandt-Airflex Corp., leased

the building from Brent Associates between1976 and 1985 when the building was sold to 937-941 Conklin Street Associates. Brandt-Airflex Corp. continued to lease the building from the new owner until 1999 when the building was leased by Airflex Industrial Corp.

2.2.1 Kenmark Textile

A 1988 report prepared for the Kenmark Textile site indicates that the 937-941 Conklin Street site and the properties to the north, east and west were at one time under single ownership and engaged in textile related operations. The entire site was owned by Independent Textile until 1958 when it was sold to BGM Products, Inc. BGM Products sold two parcels of the site to Joseph Picone in 1972. At least one of these two parcels is believed to have been occupied by Kenmark Textile. The remainder of the site underwent several transactions and was purchased by Irwin Schoffman and Brent Associates in 1968. Irwin Schoffman and Brent Associates later sold two parcels to 937-941 Conklin Street Associates and one parcel to Brent Conklin, a partnership consisting of Brent Associates, Irwin Schoffman and Jacob and Ruth Kogel. The two properties purchased by 937-941 Conklin Street Associates included 937-941 Conklin Street (the subject of this work plan) and 945 Conklin Street which borders to the east. The parcel purchased by the Brent Conklin partnership borders 937-941 Conklin Street to the west.

One of the historical reports prepared for the Kenmark site indicates that the primary focus of the investigation was the discharge of wastewater containing inorganic compounds, specifically hexavalent chromium, copper, iron, lead, silver and phenols. However, during the file review it was also noted that volatile organic compounds, specifically PCE, were detected in groundwater at concentrations in exceeding state and federal standards. Additionally, the use and outdoor storage of solvents at the Kenmark Textile site were also documented.

Based upon the historical reports, it appears that the 937-941 Conklin Street site, currently occupied by Airflex Industrial, was at one time part of a larger site engaged in the production of textiles. With respect to the adjacent properties, the location and topographic position of the 937-941 Conklin Street site, is such that surface run-off from the immediate area is toward a drywell (DW2) located

on the 937-941 Conklin Street property. Since there is no documented storage or use of chlorinated solvents associated either Brandt Airflex Corp. or Airflex Industrial Corp., the position of the drain raises the possibility that the source of the contamination originated from an undocumented off-site surface spill. This situation could have occurred from an accidental release at one of the neighboring properties, or during an intentional illegal release occurring anywhere within the capture zone of the drainage system.

2.2.2 SCDHS Involvement at 937-941 Conklin Street

During a routine inspection by SCDHS, sediment samples obtained from the facility's drywell (DW2) contained PCE above standards. Based on the sample results, the SCDHS required that the drywell be cleaned by removing the contaminated material. This work was performed by American Environmental Assessment Corp. (AES) on July 29 - August 2, 1994. Closure reports (AES, 2/17/95), documenting the procedures and observed conditions, were sent to Brandt-Airflex and SCDHS. SCDHS was present during the event and obtained duplicates ("splits") of the endpoint samples for independent analysis. Based on the results of the endpoint samples (30,000 ug/kg PCE), the SCDHS stated that additional work would be required in relation to DW2 (SCDHS letter 8/18/94, Appendix A).

In response to the SCDHS request, additional soil was removed from DW2 by AES on October 6, 1994. Although impacted soil was still present, as indicated by a solvent odor, the excavation was terminated at a depth of 18 feet to preserve the integrity of the leaching structure. Since further excavation of the leaching pools was impractical, an investigation, to examine the potential impact of the identified contaminants on groundwater quality, was conducted.

The investigation into groundwater impact was performed on two occasions (August 25, 1994, January 17, 1995) by AES using probe-point equipment (Geoprobe) to collect groundwater samples. The August 1994 event collected samples at the water table at three locations including one upgradient and two downgradient of the DW2 drywell. The results indicated high levels of PCE and trichloroethene (TCE) in the sample obtained from the downgradient boring closest to DW2.

Moderate levels of PCE and low levels of TCE were detected in the downgradient boring near the south property line, while relatively low levels of PCE were found to be present in the upgradient sample.

The January sampling event obtained groundwater samples from 6 intervals within DW2 ranging in depth from 26 (WT) to 57 feet (31 ft BWT). The results, limited to PCE analysis only, indicated high levels of PCE throughout the water column with the highest concentration occurring in the deepest sample (57-59 ft). The results of this work were summarized in a report released by AES on February 17, 1995 (Appendix A).

Land Air Water Environmental Services (LAWES) of Center Moriches, New York, under contract to PWGC, advanced a soil boring north and hydraulically upgradient of DW-2 on March 10, 1995 using a rotary drill rig with hollow stem augers. Representatives from SCDHS were on-site to observe the boring and collect samples. The completion depth of the boring was 80 feet below grade, with split spoon soil samples collected at five foot intervals and groundwater samples collected at 28-30 feet and at 79-81 feet. Soil samples were screened for volatile organic compounds (VOCs) with a portable photoionization detector (PID); no readings above background were detected. SCDHS opted not to split the groundwater samples but retained soil samples from the 59-61 foot and 69-87 foot intervals for analysis. EcoTest Laboratories, North Babylon, NY analyzed the groundwater samples by EPA Method 601 for halogenated VOCs. The analysis detected four targeted compounds at low levels (2 and 5 µg/l) in the 79-81 foot water sample and no compounds in 28-30 foot water sample. See Figure 3 for boring location and tabulated analytical results. Copies of the laboratory sheets are contained in Appendix A.

An additional upgradient boring was installed to the northwest of DW-2 on April 19, 1995 using the same procedure as the previous boring to collect soil and groundwater samples. SCDHS representatives observed the drilling procedure and collected a split of the deep groundwater sample. No PID responses above background were detected from the soil samples. Laboratory analysis of the samples detected PCE at 27 µg/l in the 27-32 foot water sample, and no compounds above

N

BASE OF WATER TOWER

CONCRETE BARRIERS (TYP.)

DRAIN DW-2

ASPHALT PAVEMENT

DIRT

CHAIN LINK FENCE

PAVED AREA

DIRT

(#937)
ONE STORY BRICK BUILDING

(#965)
ONE STORY BRICK BUILDING

PAVED

GRASS

PAVED

GRASS

OLD RAILROAD TRACKS

CONCRETE WALK

CONKLIN STREET

NOT TO SCALE

DRAFT

LEGEND

DW-1 DRYWELL

NOTE: ORIGINAL BASE MAP PROVIDED BY BRANDT-AIRFLEX CORP.

GROUNDWATER INVESTIGATION SITE PLAN

937 CONKLIN ST.
EAST FARMINGDALE, N.Y.

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Project:	Designed By:	Figure No:
BAC9701	DJL	2
CADD Operator: MF	Approved By: FPC	Date: 10/21/99

April 1995		
Compound	Depth 27'-32'	Depth 79'-80'
Tetrachloroethene	ND	27

March 1995		
Compound	Depth 28'-30'	Depth 79'-80'
1,1 Dichloroethene	ND	2
1,1,1 Trichloroethane	ND	5
Trichlorethene	ND	2
Tetrachloroethene	ND	5

N

BASE OF WATER TOWER

EXISTING MW-1

CONCRETE BARRIERS (TYP.)

DRAIN DW-2

ASPHALT PAVEMENT

DIRT

CHAIN LINK FENCE

PAVED AREA

DIRT

(#937) ONE STORY BRICK BUILDING

(#965) ONE STORY BRICK BUILDING

B-3 November 1996	
Compound	Depth 26'-30'
Chloroform	3
Trichlorethene	51
Tetrachloroethene	3,800
C-1,2 Dichloroethene	19

OLD RAILROAD TRACKS

PAVED

PROPOSED ML-1

PAVED

B-1 B-2 B-3 B-4 B-5 B-6

CONCRETE WALK

CONKLIN STREET

B-1 November 1996	
Compound	Depth 26'-30'
1,1,1 Trichloroethane	3
Trichlorethene	41
Tetrachloroethene	1,100
C-1,2 Dichloroethene	24
Acetone	10

B-2 November 1996		
Compound	Depth 26'-30'	Depth 68'-72'
1,1 Dichloroethane	47	ND
Chloroform	3	ND
1,1,1 Trichloroethane	44	ND
Trichlorethene	57	5
Tetrachloroethene	3,300	22
C-1,2 Dichloroethene	100	200

B-4 December 1996		
Compound	Depth 26'-30'	Depth 68'-72'
Chloroform	3	3
Tetrachloroethene	1	ND
MTBE	ND	3

B-5 December 1996	
Compound	Depth 26'-30'
Chloroform	3

B-6 December 1996	
Compound	Depth 26'-30'
Chloroform	3

EGEND

DW-1 DRYWELL

MONITORING WELL LOCATION

ML-1

MULTIPLE LEVEL WELL

BORING LOCATION

NOTES: ORIGINAL BASE MAP PROVIDED BY BRANDT-AIRFLEX CORP.
ONLY SAMPLES COLLECTED BY PWGC ARE INDICATED.

NOT TO SCALE

DRAFT

GROUNDWATER INVESTIGATION PREVIOUS RESULTS & PROPOSED WELL LOCATIONS

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Project: BAC9701	Designed By: DJL	Figure No: 3
CADD Operator: MF	Approved By: FPC	Date: 10/21/99

detection limits in the 79-80 foot water sample. See Figure 3 for boring location and tabulated analytical results. Copies of the laboratory sheets are contained in Appendix A.

On November 5, 1996, PWGC and Zebra Environmental, Inwood, NY, collected four water samples using Geoprobe technology from three locations downgradient of the 937-941 Conklin Street building. Location B-1 was placed near the western edge of the building, B-2 was near the center, and B-3 was near the eastern edge of the building. All three locations were sampled through a four foot length of Geoprobe drive screen set just below the water table at 26-30'. A deeper groundwater sample, 68-72', was also collected from B-2. The samples were analyzed by EcoTest Laboratories by EPA Method 8260 for SCDHS list VOCs. All four samples exceeded the New York State Department of Environmental Conservation (NYSDEC) groundwater standard of 5 ug/l for PCE and c-1,2-dichloroethene. In addition, the shallow samples from all three borings exceeded the groundwater standard of 5 ug/l for TCE , and the shallow sample from B-2 also exceeded the groundwater standard of 5 ug/l for 1,1-dichloroethane and 1,1,1 trichloroethane. The highest detection was 3,800 ug/l tetrachloroethene in B-3. See Figure 3 for boring locations and tabulated analytical results. Copies of the laboratory sheets are contained in Appendix A.

Four additional groundwater samples from three locations were collected on December 12, 1996. The samples were collected in the same manner as above, except the locations, designated as B4, B5, and B6, were placed downgradient of the neighboring 965 Conklin Street building which borders the subject site to the east. Chloroform was detected in all four samples at 3 ug/l. The NYSDEC groundwater standard for chloroform is 100 ug/l,. Tetrachloroethene at 1 ug/l was detected in the B-4 26-30' sample and MTBE at 3 ug/l was detected in the B-4 68-72' sample. See Figure 3 for boring locations and tabulated analytical results. Copies of the laboratory sheets are contained in Appendix A.

Figure 4 represents a time line of the remedial and investigative activities which have been implemented at the site. The cost of the remedial efforts to remove impacted soil from DW2 , and the

937-941 Conklin Street Associates
History of Environmental Remediation & Investigative Efforts

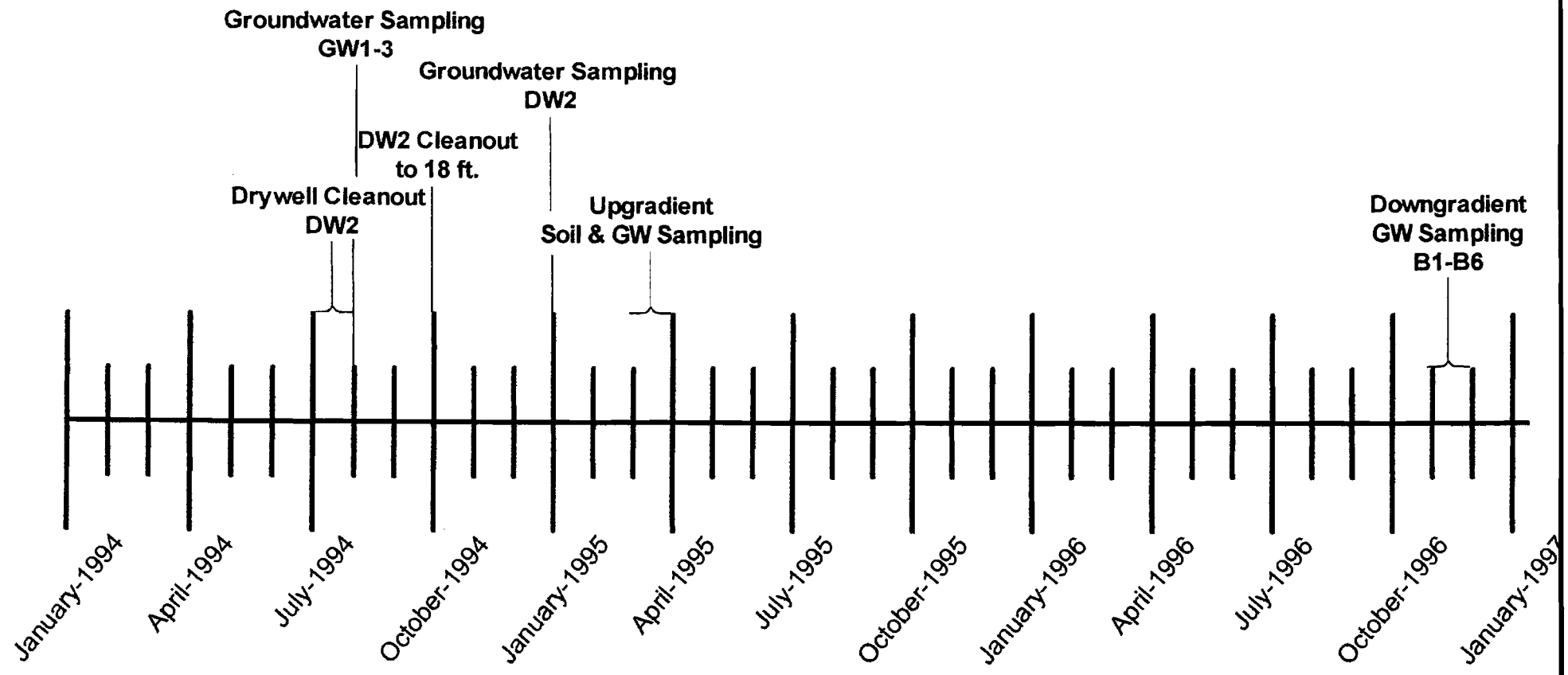

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Figure 4

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associated subsurface investigation work, performed to determine the extent of impact to soil and groundwater, which has been incurred to date is $ 50,000.00

3.0 HYDROGEOLOGIC SETTING

The site is located on the south-central portion of Long Island which is generally considered a glacial outwash plain. This area of Long Island is characterized by outwash sands and gravels of medium to high permeabilities.

Three major aquifers exist beneath the site; the Upper Glacial, the Magothy and the Lloyd aquifers. The Magothy and Lloyd aquifers consist of unconsolidated sediments of early to late Cretaceous age and are separated by the Raritan clay. Unconsolidated glacial deposits of Pleistocene age comprise the Upper Glacial aquifer which blankets most of Long Island. All unconsolidated deposits are underlain by crystalline bedrock forming the base of the aquifer system. Typically this bedrock consists of crystalline metamorphic and igneous rocks such as muscovite biotite schist, gneiss and granite. The surface of the bedrock is highly weathered to a greenish white residual clay. The depth to the bedrock beneath the site is estimated to be approximately 1600 feet (Smolensky et al., 1989). Due to its crystalline nature, there is little or no groundwater flow in the bedrock as it marks the base of the aquifer system.

Lying on top of the bedrock is the Lloyd aquifer. The depth to the top of the Lloyd aquifer beneath the site is estimated to be approximately 1200 feet (Smolensky et al., 1989) making the Lloyd aquifer approximately 400 feet thick in this area. A typical hydraulic conductivity for the Lloyd aquifer is 40 ft/day (McClymonds and Franke, 1972).

Approximately 175 feet of Raritan Clay sits atop the Lloyd aquifer. This unit is a sandy and silty clay with few interbedded sand layers and lenses. Lignite and pyrite are common in the Raritan unit which is typically gray, red or white in color. This clay layer, with hydraulic conductivity values three or four orders of magnitude lower than the overlying or underlying aquifers is an extremely effective confining unit and hydraulically isolates the Lloyd aquifer from withdrawals in the Magothy aquifer.

Above the Raritan clay lies the Magothy aquifer. This aquifer is a primary source of water supply in this area of Suffolk County and in neighboring Nassau County. The Magothy aquifer typically consists of fine to coarse sand with interbedded lenses and layers of light to dark gray clay. The basal 100 to 200 feet is generally composed of coarse sand and gravel beds. The hydraulic conductivity of the Magothy aquifer in the vicinity of the site is about 54ft/day. (McClymonds and Franke, 1972) in the horizontal direction and 1.34 ft/day. in the vertical direction. The large disparity between the vertical and horizontal hydraulic conductivities indicates that water preferentially flows in the horizontal direction in this aquifer giving it semi-confined characteristics. The above characteristics of the Magothy aquifer tend to isolate the basal portion of the aquifer from contamination located in the upper portions of the Magothy and the Upper Glacial aquifer.

In many areas along the south shore of Long Island, the Magothy and Upper Glacial aquifers are separated by the Gardiners Clay. The Gardiners Clay consists primarily of clays, silts and fine sands. With hydraulic conductivity values orders of magnitude less than the overlying Upper Glacial and underlying Magothy, the Gardiners Clay serves as an effective confining unit between the two aquifers. The Gardiners Clay has been found to exist along most of the southern shore of Long Island and may extend as far north as the site.

The water table exists in the Upper Glacial aquifer in the vicinity of the site which consists of coarse sand and gravel. This highly permeable material has a typical hydraulic conductivity of 267 ft/day. (McClymonds and Franke, 1972) and a vertical conductivity of typically one tenth of the horizontal.

Based upon the Suffolk County Department of Health Services Water Table Contour Map (March, 1995), the regional groundwater flow direction in this area is to generally to the south southeast.

4.0 SOIL BORING AND MONITORING WELL INSTALLATION

4.1 Purpose

The remedial efforts performed at the site to date have concentrated on the removal of the contaminant source through excavation of impacted soil from the drywell (DW2). However, as discussed previously, endpoint samples indicate that impacted conditions still remain in the drywell and contaminants have leached through the soil column to the water table. Groundwater samples collected within the drywell suggest that impacted groundwater and soil extend vertically to a depth of at least 31 feet below the static water table. Temporary probe-point samples collected near the south property line indicate that impacted water has migrated beyond this point. These conditions will require further investigation to define the vertical extent of soil and groundwater impact, and to establish the migration pathway of dissolved phase constituents.

To define the vertical distribution of dissolved contamination, a multi-level monitoring well will be installed at the downgradient location previously identified to correspond to the plume's longitudinal axis (B2-B3). The total depth of the well, along with the interval and number of individual sampling points should be selected to provide adequate coverage of the residually impacted soil column. To obtain this information, a soil boring will be advanced within the source area (DW2) and samples collected until the contaminant terminus has been reached.

4.2 Soil Boring

As discussed previously, prior to installing the multi-level well, a test boring will be advanced to collect soil samples within the source area. The purpose of the boring is to obtain information regarding the degree and extent of residual impact as well as the physical characteristics of the soil beneath the site. This information will be used to determine the depth and number and interval of the multi-level sampling points and to assist in designing a remedial plan for the site. The test boring will be installed using a rotary drill rig and 4 ½" hollow stem augers. Soil samples will be retrieved at five foot intervals from a depth of 20 feet to the extent of contamination using split-barrel ("spoon") samplers.

The collected samples will be screened in the field for the presence of volatile organic compounds with a photoionization detector (PID) calibrated to 75 ppm or 100 ppm isobutylene standard. PID readings will be taken after sealing a portion of the sample in a container and allowing headspace vapors to collect for approximately 10 minutes. The sample judged to represent the highest concentration below the static water table, based on the PID screening and physical inspection, will be submitted for laboratory analysis of volatile organic compounds by EPA method 8260.

In addition, a sample from each interval will be retained by PWGC for possible future grain size analysis. Geologic well logs will be recorded for each boring using the Unified Soil Classification system.

4.3 Multi-Level Monitoring Well

As discussed, a single multi-level well will be installed between probe point locations B2- B3. The depth of the well and the number and spacing of the individual samplers will be determined by the results of the soil boring. The well will be installed with a rotary drill rig and hollow stem augers. Depending on the extent of residually impacted soils in the source area, the well will contain 5 to 10 individual sampling points. Sample points are constructed of ½-inch diameter schedule 40 PVC riser with a 6 inch 0.020" screened section. Installation is achieved by attaching the samplers in five to 10 foot intervals to a 2-inch diameter PVC centralizer pipe with electrical cable ties. The formation is then allowed to collapse in around the bundled samplers and centralizer during withdrawal of the augers. After the augers are removed, a 1 foot hydrated bentonite seal will be installed, and the borehole backfilled to grade and finished with a 12 inch flush mount manhole. Upon completion, all samplers will be fitted with a dedicated polyethylene tube and special cap to facilitate sampling.

4.4 Surveying

Following installation, the multi-level well and the existing monitoring well will be located horizontally to the nearest 0.10 foot, by measuring the distances to at least two significant site features. The elevation of the manhole cover and well casing (or 2" centralizer) will also be determined to the nearest 0.010 foot relative to an arbitrary benchmark. All water level measurements at the wellhead will be made according to a mark placed on the north side of the casing or 2 inch

centralizer at each location.

4.5 Drilling Quality Assurance Quality Control

Prior to and between drilling locations, the augers and split spoons will be steam cleaned to prevent cross contamination. Water from the steam cleaning operation will be contained and stored in DOT-approved 55 gallon drums for future off-site disposal. Soils generated during the drilling operation from above the water table will be spread on the site. Soils generated during drilling below the water table will be contained until the results of the soil analyses are obtained. If the results are satisfactory, the soil will be spread on the site, otherwise it will be disposed of in accordance with federal, state and local regulations.

4.6 Monitoring

Depth to water measurements will be taken when the wells are surveyed and again just prior to the first round of groundwater sampling. Additional rounds may be collected if additional monitoring wells are installed and sampled. The depth to water will be measured with an electric probe to the nearest 0.01 foot and referenced to the top of the well casing. After use in each well, the measuring device probe will be cleaned with a phosphate-free detergent and rinsed with potable tap water to prevent cross contamination between wells.

5.0 GROUNDWATER SAMPLING

5.1 Groundwater Sampling Procedures

Groundwater samples will be collected from both the existing well and all intervals of the multi-level well following a minimum two week period of quiescence after installation of the multi-level well. Groundwater sampling will follow USEPA QA/QC protocols. The following procedure will be followed for groundwater sampling:

- Prior to purging wells for sample collection, a synoptic static water level measurement to the nearest hundredth (0.01) foot in each monitoring well or 2 inch centralizer.

- A volume of water equal to three or more times that standing in the casing will be purged from the well before taking the sample. If the monitoring well has a low yield, standing water will be evacuated until the well is dry and a sample collected upon 90 % recovery. Wells with high yield can be sampled immediately after purging.

- Samples will be collected from the monitoring well using a dedicated, disposable polyethylene bailer, attached to dedicated polypropylene rope or nylon line. Samples from the multi-level well will be collected using the dedicated polyethylene tube and a stainless steel check valve. Analytical field tests (temperature, ph, specific conductivity and turbidity) will be performed initially and the readings recorded in a field book. Field instruments will be calibrated prior to the sampling event, and cleaned between each sampling point. Samples collected for laboratory analysis will be transferred to clean laboratory supplied containers and stored on ice in a cooler to maintain a temperature of 4 oC during transport to the laboratory.

- Additional samples for quality control purposes including field blank, trip blank and blind duplicate will be collected at a rate of one sample per twenty designated samples. The Field Blank will be laboratory supplied analyte-free water poured through a decontaminated bailer to test decontamination procedures. The Trip Blank will be laboratory supplied analyte free water sealed in sample containers to test container integrity and quality. The blind duplicate

is a field collected duplicate of another sample labeled in a similar way to test the reproducibility of the laboratory results.

- All samples will be analyzed for volatile organic compounds, as listed in SCDHS guidance documents by EPA Method 8260.

6.1 Initial Phase Reporting

The findings of the initial phase of the investigation will be summarized in a brief letter report format. The letter report will summarize the findings of the work performed and will make recommendations for further work, if necessary. Upon completion, the letter report will be submitted to the SCDHS.

6.2 Investigation Report

At the completion of the investigation, an investigation report will be prepared. This report will include a description of the complete investigation. The report will include photographs to document field work and field conditions during the investigation where applicable. Figures, tables and appendices will be included to describe the findings and conclusions of the investigation and to present data in a readily understandable form, as necessary. Appropriate figures may include groundwater contour maps with inferred groundwater flow directions, contour maps of contaminant concentrations in the soil and groundwater, geologic cross sections and a site plan documenting the "as built" location of sampling points. Recommendations will be included as to the need for and description of actions which will be required to remediate the contamination. The investigation report will also address SCDHS comments based on the initial phase letter report. The investigation report will be submitted to the SCDHS upon completion.

7.0 PROJECT SCHEDULE AND ORGANIZATION

7.1 Project Schedule

The investigation activities outlined in this work plan up through the first round of sampling and reporting are expected to require a total of eight weeks following a notice to proceed from the client. This breaks down approximately as follows: one week for scheduling, two weeks for well installation and development, one week to let the well water stand, one day for the first round of sampling, two weeks for laboratory results and two weeks for reporting.

7.2 Project Organization and Responsibility

P.W. Grosser Consulting will coordinate the investigation at the site. P.W. Grosser Ph.D, P.E., and Certified Groundwater Professional (CGWP), acting as QA official, is responsible for ensuring the collection of valid data, in a precise and accurate manner, by personnel under his direction. The QA Official is responsible for conducting unannounced field visits to observe data collection procedures and for periodic review of data generated. The QA official is also responsible for review of project deliverables. Dr. Grosser's and other pertinent resumes are included in Appendix B of this work plan for review.

Frank P. Castellano, Senior Hydrogeologist, will serve as Project Manager and will be responsible for coordination of field activities, technical supervision, and execution of the field effort. A health and safety officer will be assigned to the project who's responsibilities will be to implement the requirements of the Health and Safety Plan and ensure that all team members meet the training requirements for the project.

EcoTest Laboratories, Inc., North Babylon, N.Y., a New York State certified laboratory, will be responsible for providing the analytical services for this project. Land, Air, Water Environmental Services, Inc., Center Moriches, New York (LAWES), will be responsible for drilling and well development services.

The SCDHS will be notified of all field activities at least 48 hours in advance so that arrangements can be made to supervise the activities and split samples as the SCDHS deems necessary. Reports and findings of the investigation will be forwarded to the Suffolk County Department of Health Services.

REFERENCES

DRAFT

Doriski, T.P., 1986, U.S. Geological Survey Water Resources Investigation Report 86-4189, Plates 1A and 3A

McClymonds, N.E., and Franke, O.L., 1972, Water Transmitting Properties of Aquifers on Long Island, New York: U.S. Geological Survey Professional Paper 627-E, 1972

New York State Department of Environmental Conservation, 1993, Division of Water: Ambient Water Quality Standards and Guidance Values, October 1993

New York State Department of Environmental Conservation, 1994, Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

Smolensky, D.A., Buxton, H.T., Shernoff, P.K., 1989, Hydrologic Framework of Long Island, New York: U.S. Geological Survey, Atlas HA-709

Suffolk County Department of Health Services, 1995, Water Table Contours and Locations of Observations Wells in Suffolk County, New York, March, 1995

United States Environmental Protection Agency, 1990, Quality Assurance/Quality Control Guidance for Removal Activities; Sampling QA/QC Plan and Data Validation Procedures, U.S.E.P.A. report EPA/54016-901004, Interim Final 4/90

APPENDIX A

Historical Reports and Lab Data

COUNTY OF SUFFOLK

ROBERT J. GAFFNEY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

MARY E. HIBBERD, M.D., M.P.H.
COMMISSIONER

August 18, 1994

Mr. Fred Fogelman
Brandt-Airflex Corporation
937 Conklin Street
East Farmingdale, N.Y. 11735

Dear Mr. Fogelman:

On August 2, 1994, Janet Gremli of this office witnessed the removal of contaminated material from two storm drains at your facility. After the cleanup was completed, end point samples were collected. The sample results are as follows:

Dry Well #1(Behind 965 Conklin St.)	
Tetrachloroethene	56.0 ppb
Cadmium	2.1 mg/l

Dry Well #2(Behind 937 Conklin St.)	
cis-1,2-Dichloroethene	77.0 ppb
Trichloroethene	450.0 ppb
Tetrachloroethene	30000.0 ppb
Chlorobenzene	150.0 ppb
Ethylbenzene	140.0 ppb
Xylene	390.0 ppb
p-Ethyltoluene	81.0 ppb
1,2,4-Trimethylbenzene	71.0 ppb
1,3-Dichlorobenzene	74.0 ppb
1,4-Dichlorobenzene	770.0 ppb
1,2-Dichlorobenzene	290.0 ppb
p-Diethylbenzene	60.0 ppb
1,2,4-Trichlorobenzene	950.0 ppb
Naphthalene	92.0 ppb
1,2,3-Trichlorobenzene	130.0 ppb

AUG 22 ...

Due to the excessively high levels of tetrachloroethene still remaining in the soil, it will be necessary for additional remediation to be performed. This may include removal of additional contaminated material from the bottom of the pool until either clean soil or groundwater is encountered, the removal of the leaching rings and excavation of surrounding soils or other remedial methods approved by this department. If no additional soil can be removed prior to reaching the groundwater table or if non-contaminated soil is not found above the water table, a groundwater investigation may be required.

15 HORSEBLOCK PLACE • FARMINGVILLE, NEW YORK 11738-1220 • (516) 854-25 FAX #854-2505

It is expected that we hear from you regarding the additional work required at this site within the next 14 days.

Sincerely,

Peter Schramel

Peter Schramel
Public Health Sanitarian
Inspection Services Bureau

PS:jw

AMERICAN
ENVIRONMENTAL
ASSESSMENT CORP.

February 17, 1995

Fred Fogelman
Brandt Airflex
937 Conklin Street
Farmingdale, NY 11735

Re: Environmental Investigation, 937 Conklin Street, Farmingdale, NY

Dear Mr. Fogelman:

Enclosed please find the invoice and the report for the drywell excavation and environmental investigation for the above referenced site. I would gladly discuss the results of the investigation with you.

If you have any questions, please do not hesitate to call me at 454-6100.

It is a pleasure doing business with you.

Sincerely,

Beatrix Packmohr
Hydrogeologist

Enclosure: Environmental Investigation Report for 937 Conklin Street

Invoice

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735
(516) 454-6100 • FAX 454-8027

AMERICAN
ENVIRONMENTAL
ASSESSMENT CORP.

INVOICE

Brandt Airflex Corp.
Attn: Fred Fogelman
937 Conklin Street
Farmingdale, New York 11735

No. 931446
Date: 02/17/1995

Terms: NET 30 Ordered: 02/17/1995 Payment Due: 03/17/1995

937 Conklin Street, Farmingdale, NY Environmental Investigation Sample Collection and Analyses of six samples Report	$2,700.00
Retainer Received Jan 17, 1995	- $1,350.00

TAX: $229.50
TOTAL: $2,929.50

Balance Due: $1,579.50

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735
(516) 454-6100 • FAX 454-8027

AMERICAN
ENVIRONMENTAL
ASSESSMENT CORP.

ENVIRONMENTAL INVESTIGATION REPORT

Brandt Airflex
937 Conklin Street
East Farmingdale, New York

Prepared for:
Fred Fogelman

Prepared By:

Beatrix Packmohr
Hydrogeologist

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735
(516) 454-6100 • FAX 454-8027

INTRODUCTION

The following report summarizes the drywell excavation and environmental investigation that was conducted at 937 Conklin Street in Farmingdale, New York.

SITE DESCRIPTION

The subject site is located in a commercial/residential area at 937 Conklin Street in Farmingdale, New York. The one story cinderblock building at the site accommodates a facility that bends and cuts stainless steel for architectural use. Two storm drains are located north, behind the building. One drywell (DW-1) is located north, behind the building at 965 Conklin Street. One drywell (DW-2) is located north, behind the building at 937 Conklin Street. DW-2 is connected to a shallow catch basin at the loading dock, near the dumpster (see Figure 1 and 2).

HYDROGEOLOGIC FRAMEWORK

Long Island, New York is located in the Atlantic Costal Plain physiographic province which is characterized by low hills of unconsolidated sands, gravel and silt. According to Franke (1972), regionally, the near-surface sediments consist of Upper Glacial deposits which are characterized by southward sloping deposits of sand, gravel and silt. The Upper Glacial deposits have a maximum thickness of 600 feet. They are underlain by the Magothy, Raritan and Lloyd Formations. The Gardiners clay and the Jameco gravel separate the Upper Glacial deposits and the Magothy Formation along the south west portion of Long Island.

The Magothy Aquifer is the main supply for drinking/industrial water due to the greater amounts of coarse material, higher well yield and less amounts of surficial contamination. Therefore, the US EPA has identified it as Sole Source Aquifer. The subject site is in the Upper Glacial aquifer. Pump test data suggests hydraulic conductivity between the Magothy and Upper Glacial aquifers. However, discontinuous clay lenses may prevent this interaction in some areas.

According to groundwater contour maps provided by the United States Geological Survey (USGS) and measurements conducted at the site, groundwater is 26 feet below ground surface at the subject site. Groundwater flow direction is to the south.

HISTORY OF THE REMEDIATION EFFORTS

- On July 29, 1994 AEA conducted a clean-out of two dry wells, located at 965 and 937 Conklin Street, at the Brandt Airflex facility in Farmingdale, New York. A closure report regarding the remediation effort was generated and sent to Fred Fogelman and the Suffolk County Department of Health Services.

- On August 18, 1994 Peter Schramel from the SCDHS issued a letter stating that despite remediation efforts excessively high levels of tetrachloroethene remain in the soil of DW-2.

- On October 6, 1994 additional contaminated soil was removed from the bottom of DW-2. Soil was removed to a depth of approximately 18 feet. A strong odor indicated that remaining soil was still contaminated. However, further excavation was not possible because it would have jeopardized the dry well structure.

- On January 17, 1995 a geoprobe was used to collect groundwater samples in order to determine if contamination has reached the groundwater.

GROUNDWATER SAMPLING

On January 17, 1995 a geoprobe was used to collect groundwater samples across the site and in the drywell (DW-2). The geoprobe is a truck-mounted machine that uses a hydraulic hammer to drive a small-diameter (1-1/2") sampling probe to a chosen depth in unconsolidated sediments. The sampling probe is opened at the chosen depth to allow collection of the sample.

Groundwater was encountered at a depth of 26 feet below grade. A total of nine groundwater samples were collected (for sampling locations refer to Figure 2). Six samples were collected at depths between 26 feet and 59 feet, inside the drywell. One sample was collected upgradient of the drywell, one sample approximately four feet downgradient of the drywell and one sample was collected on the south side of the building, downgradient of the drywell. Four of the samples were obtained from a depth between 26 feet and 28 feet below grade, at the interface of the unsaturated and the saturated zone.

SAMPLE ANALYSES RESULTS

All liquid samples were analyzed for Tetrachloroethene. Samples that were obtained from the interface of the saturated and unsaturated zone were analyzed for volatile organic compounds (VOCs) by EPA method 624. Results of the groundwater analyses are summarized in Table 1.

TABLE 1. SUMMARY OF GROUNDWATER ANALYSES

Sample Name	Sample Interval in feet	Analyses	Results in ug/l
GW-1	26-28	EPA 624	Tetrachloroethene: 68.6
GW-2	26-28	EPA 624	Chlorobenzene: 11.7 Tetrachloroethene: 64,330 Trichloroethene: 10,552
GW-3	26-28	EPA 624	1,1-Dichloroethene: 49.2 Tetrachloroethene: 2,300 Trichloroethene: 85.0
IGW-26-28	26-28	Tetrachloroethene	Tetrachloroethene: 111,500
IGW-33-35	33-35	Tetrachloroethene	Tetrachloroethene: 72,650
IGW-38-40	38-40	Tetrachloroethene	Tetrachloroethene: 116,950
IGW-48-50	48-50	Tetrachloroethene	Tetrachloroethene: 98,400
IGW-52-54	52-54	Tetrachloroethene	Tetrachloroethene: 90,450
IGW-57-59	57-59	Tetrachloroethene	Tetrachloroethene: 124,370

All groundwater samples showed elevated concentrations of chlorinated solvents. Results of the analyses indicate that the source of the chlorinated compounds is most likely in the drywell DW-2. Elevated concentrations of Tetrachloroethene at the downgradient location indicate that some downgradient migration of dissolved phase chlorinated compounds has occurred. Furthermore, samples that were collected inside the drywell show increasing concentrations of tetrachloroethene with depth.

CONCLUSIONS

From the laboratory data it is evident that despite multiple excavation efforts contamination with chlorinated solvents remain in the subsurface. Groundwater which is at 26 feet below ground has been affected. Concentrations of Tetrachloroethene and other chlorinated solvents exceed New York State Department of Environmental Conservation clean up standards for soil and groundwater. These concentration levels found the groundwater samples are likely to prompt the Suffolk County Department of Health Services to enforce a detailed groundwater investigation and/or further remedial action.

RECOMMENDATIONS

A detailed subsurface investigation, including the installation of monitoring wells would be required to evaluate hydrogeologic conditions at the site and to delineate the extend of the contamination. Such a groundwater investigation would be necessary to design an effective remediation system.

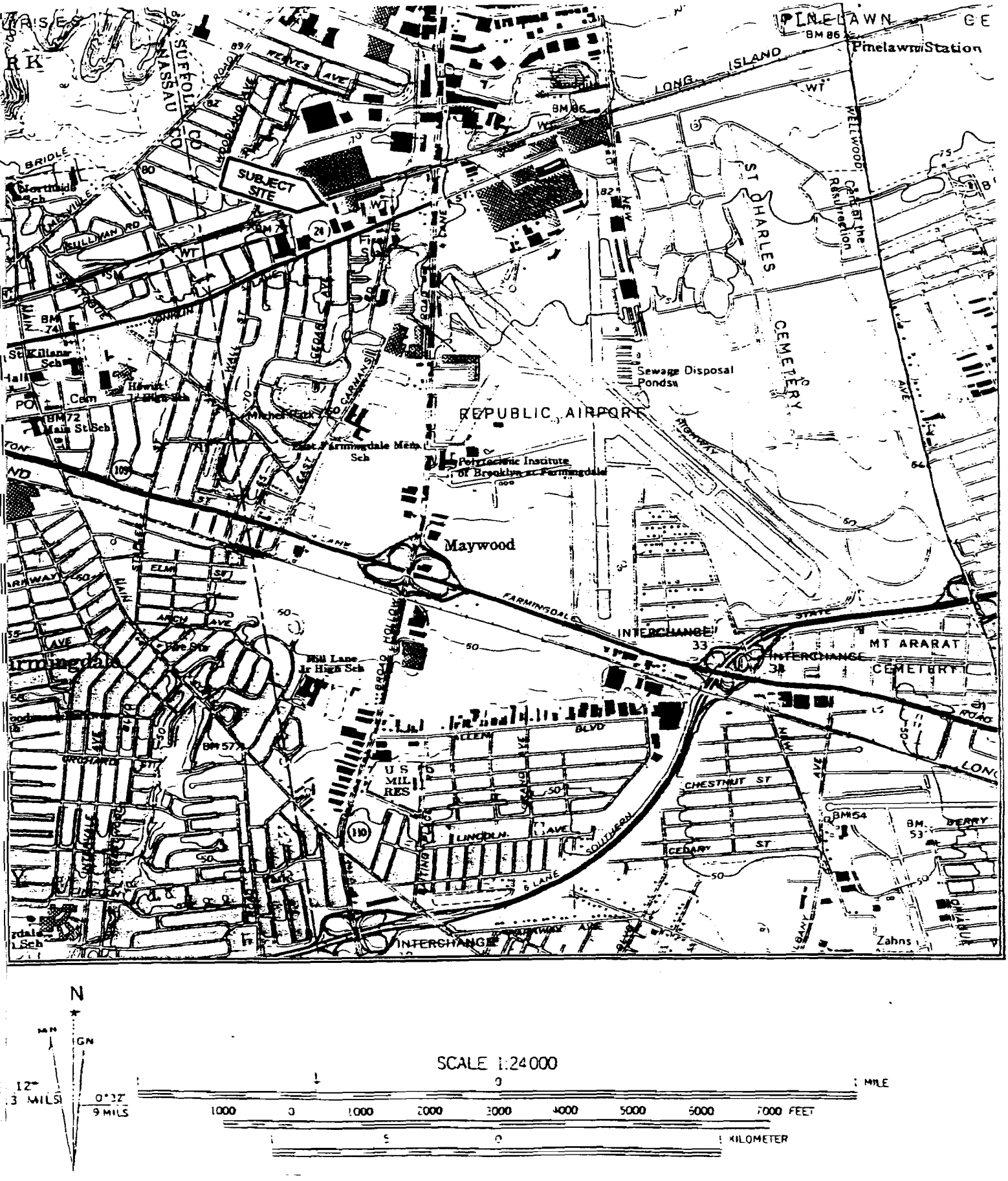
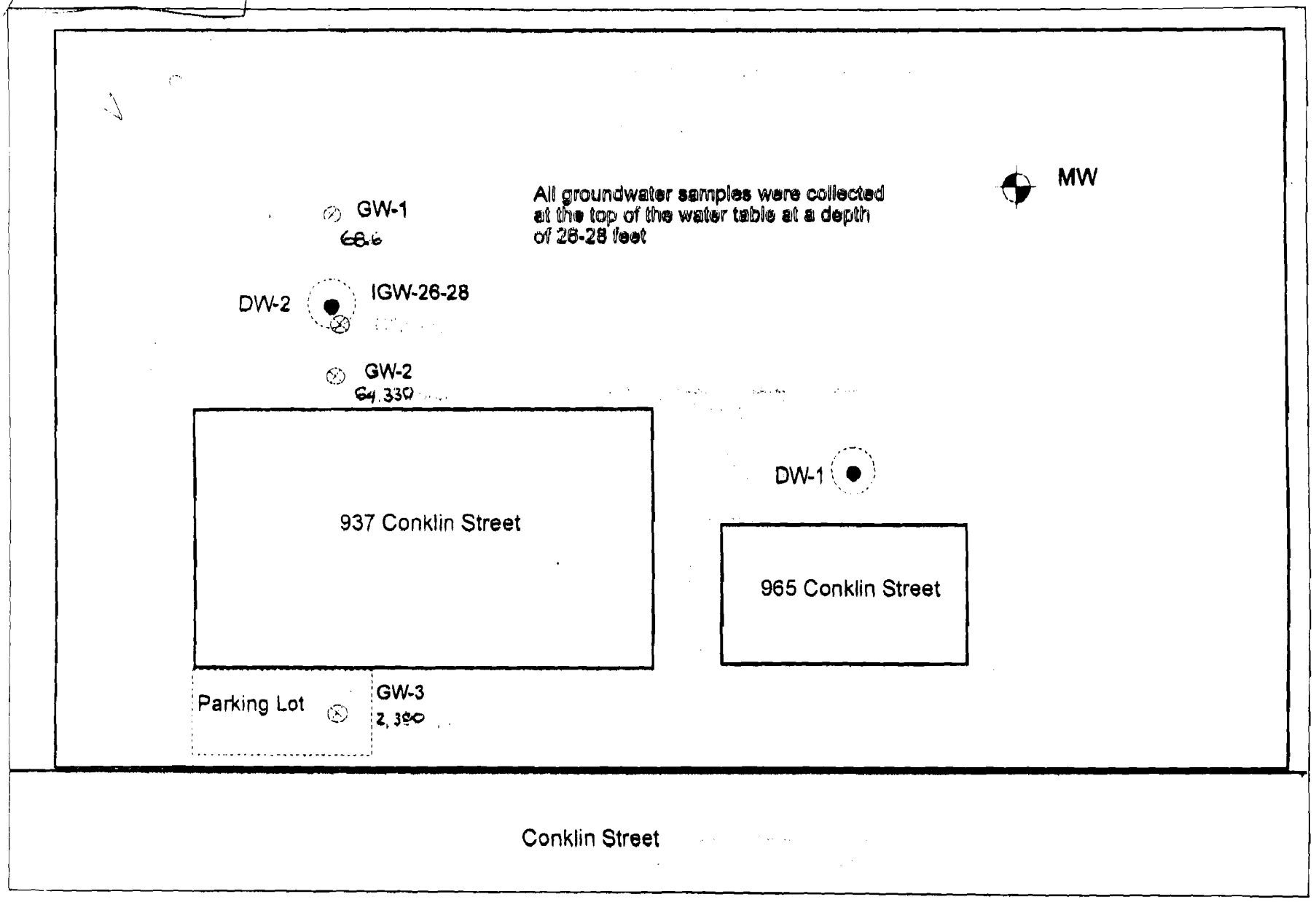


Figure 1. Area Map, Amityville Quadrangle (USGS 7.5 Series)

AMERICAN ENVIRONMENTAL ASSESSMENT CORP. 56 TOLEDO ST. • FARMINGDALE, NEW YORK 11735 • (516) 454-6100 • FAX (516) 454-8027



Brandt Airflex
937 & 965 Conklin Street
Farmingdale, New York

N

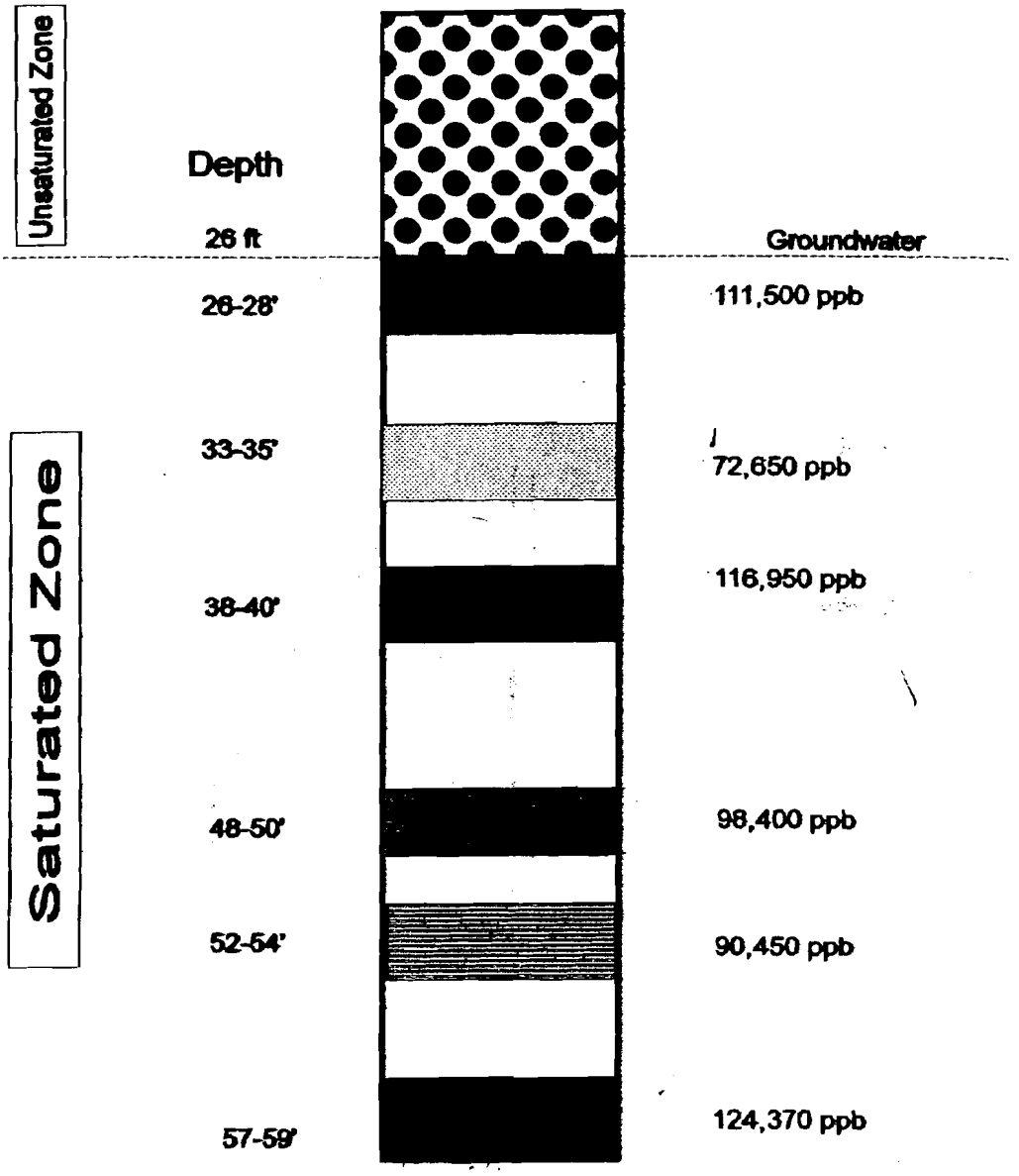
Groundwater Flow Direction

Drywell

Geoprobe Sample Location

Concentrations of Tetrachloroethene in groundwater

American Environmental Assessment
Figure 2
Site Plan



Brandt Airflex
937 Conklin Street
Farmingdale, NY

N

Groundwater Sample Analyses
From Various Depths Inside the Drywell

ppb Tetrachloroethene Concentrations
in Groundwater Samples

American
Environmental
Assessment Corp

Figure 3
Cross Section

AMERICAN
ANALYTICAL
LABORATORIES

January 31, 1994

Ms. Beatrix Packmohr
American Environmental Assessment
56 Toledo Plaza
Farmingdale, New York 11735

Re: Brandt

Dear Ms. Packmohr:

Enclosed please find the Laboratory Analysis Report(s) for sample(s) received on January 17, 1995. The sample was analyzed by American Analytical Laboratories, Inc. on January 20, 1995 for the following:

Client Sample ID	Analytical Method
IGW 26-28	Tetrachloroethene
IGW 48-50	Tetrachloroethene
IGW 38-40	Tetrachloroethene
IGW 33-35	Tetrachloroethene
IGW 57-59	Tetrachloroethene
IGW 52-54	Tetrachloroethene

If you have any questions or require further information, please call at your convenience. American Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

American Analytical Laboratories, Inc.

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735
(516) 454-6100 • FAX: (516) 454-8027

Client: AEAC	Client ID: see below
Date received: 1/1795	Laboratory ID: 9512085-90
Date extracted: 1/20/95	Matrix: Liquid
Date analyzed: 1/20/95	Contractor: 11418

Tetrachloroethene(PCE) Analysis by EPA Method 624

Client ID	Results ug/L
IGW 26-28	111,500
IGW 48-50	98,400
IGW 38-40	116,950
IGW 33-35	72,650
IGW 57-59	124,370
IGW 52-54	90,450

Michael Venaldi

Laboratory Director

AMERICAN ANALYTICAL LABORATORIES

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 • (516) 454-6100 • FAX: (516) 454-8027

Client: AEAC	Client ID: GW-1
Date received: 8/25/94	Laboratory ID: 941496
Date extracted: 8/28/94	Matrix: Liquid
Date analyzed: 8/28/94	Contractor: 11418

EPA METHOD 624

PARAMETER	CAS No.	RESULTS ug/l
BENZENE	71-43-2	<5
BROMODICHLOROMETHANE	75-27-4	<5
BROMOFORM	75-25-2	<5
BROMOMETHANE	74-83-9	<5
CARBON TETRACHLORIDE	56-23-5	<5
CHLOROBENZENE	108-90-7	<5
CHLOROETHANE	75-00-3	<5
2-CHLOROETHYLVINYL ETHER	110-75-8	<5
CHLOROFORM	67-66-3	<5
CHLOROMETHANE	74-87-3	<5
DIBROMOCHLOROMETHANE	124-48-1	<5
1.2-DICHLOROBENZENE	95-50-1	<5
1.3-DICHLOROBENZENE	541-73-1	<5
1.4-DICHLOROBENZENE	106-46-7	<5
1.1-DICHLOROETHANE	75-34-3	<5
1.2-DICHLOROETHANE	107-06-2	<5
1.1-DICHLOROETHANE	75-35-4	<5
trans-1.2-DICHLOROETHENE	156-60-5	<5
1.2-DICHLOROPROPANE	78-87-5	<5
cis-1.3-DICHLOROPROPENE	10061-01-5	<5
trans-1.3-DICHLOROPROPENE	10061-02-6	<5
ETHYL BENZENE	100-41-4	<5
METHYLENE CHLORIDE	75-09-2	<5
1.1.2.2.-TETRACHLOROETHANE	79-34-5	<5
TETRACHLOROETHENE	127-18-4	68.6
TOLUENE	108-88-3	<5
1.1.1-TRICHLOROETHANE	71-55-6	<5
1.1.2-TRICHLOROETHANE	79-00-5	<5
TRICHLOROETHENE	79-01-6	<5
TRICHLOROFLUOROMETHANE	75-69-4	<5
VINYL CHLORIDE	75-01-4	<5
XYLENE (Total)		<15

5

Laboratory Director

AMERICAN ANALYTICAL LABORATORIES
56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 • (516) 454-6100 • FAX: (516) 454-8027

Client: AEAC	Client ID: GW-2
Date received: 8/25/94	Laboratory ID: 941497
Date extracted: 8/25/94	Matrix: Liquid
Date analyzed: 8/25/94	Contractor: 11418

EPA METHOD 624

PARAMETER	CAS No.	RESULTS ug/l
BENZENE	71-43-2	<5
BROMODICHLOROMETHANE	75-27-4	<5
BROMOFORM	75-25-2	<5
BROMOMETHANE	74-83-9	<5
CARBON TETRACHLORIDE	56-23-5	<5
CHLOROBENZENE	108-90-7	11.7
CHLOROETHANE	75-00-3	<5
2-CHLOROETHYLVINYL ETHER	110-75-8	<5
CHLOROFORM	67-66-3	<5
CHLOROMETHANE	74-87-3	<5
DIBROMOCHLOROMETHANE	124-48-1	<5
1.2-DICHLOROBENZENE	95-50-1	<5
1.3-DICHLOROBENZENE	541-73-1	<5
1.4-DICHLOROBENZENE	106-46-7	<5
1.1-DICHLOROETHANE	75-34-3	<5
1.2-DICHLOROETHANE	107-06-2	<5
1.1-DICHLOROETHANE	75-35-4	<5
trans-1.2-DICHLOROETHENE	156-60-5	<5
1.2-DICHLOROPROPANE	78-87-5	<5
cis-1.3-DICHLOROPROPENE	10061-01-5	<5
trans-1.3-DICHLOROPROPENE	10061-02-6	<5
ETHYL BENZENE	100-41-4	<5
METHYLENE CHLORIDE	75-09-2	<5
1.1.2.2.-TETRACHLOROETHANE	79-34-5	<5
TETRACHLOROETHENE	127-18-4	54.330
TOLUENE	108-88-3	<5
1.1.1-TRICHLOROETHANE	71-55-6	<5
1.1.2-TRICHLOROETHANE	79-00-5	<5
TRICHLOROETHENE	79-01-6	10.552
TRICHLOROFLUOROMETHANE	75-69-4	<5
VINYL CHLORIDE	75-01-4	<5
XYLENE (Total)		<15

Michael Vasilli

Laboratory Director

AMERICAN ANALYTICAL LABORATORIES

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 • (516) 454-6100 • FAX: (516) 454-8027

Client: AEAC	Client ID: GW-3
Date received: 8/25/94	Laboratory ID: 941498A
Date extracted: 8/25/94	Matrix: Liquid
Date analyzed: 8/25/94	Contractor: 11418

EPA METHOD 624

PARAMETER	CAS No.	RESULTS ug/l
BENZENE	71-43-2	<5
BROMODICHLOROMETHANE	75-27-4	<5
BROMOFORM	75-25-2	<5
BROMOMETHANE	74-83-9	<5
CARBON TETRACHLORIDE	56-23-5	<5
CHLOROBENZENE	108-90-7	<5
CHLOROETHANE	75-00-3	<5
2-CHLOROETHYL VINYL ETHER	110-75-8	<5
CHLOROFORM	67-66-3	<5
CHLOROMETHANE	74-87-3	<5
DIBROMOCHLOROMETHANE	124-48-1	<5
1.2-DICHLOROBENZENE	95-50-1	<5
1.3-DICHLOROBENZENE	541-73-1	<5
1.4-DICHLOROBENZENE	106-46-7	<5
1.1-DICHLOROETHANE	75-34-3	<5
1.2-DICHLOROETHANE	107-06-2	<5
1.1-DICHLOROETHENE	75-35-4	49.2
trans-1.2-DICHLOROETHENE	156-60-5	<5
1.2-DICHLOROPROPANE	78-87-5	<5
cis-1.3-DICHLOROPROPENE	10061-01-5	<5
trans-1.3-DICHLOROPROPENE	10061-02-6	<5
ETHYL BENZENE	100-41-4	<5
METHYLENE CHLORIDE	75-09-2	<5
1.1.2.2.-TETRACHLOROETHANE	79-34-5	<5
TETRACHLOROETHENE	127-18-4	2,300
TOLUENE	108-88-3	<5
1.1.1-TRICHLOROETHANE	71-55-6	<5
1.1.2-TRICHLOROETHANE	79-00-5	<5
TRICHLOROETHENE	79-01-6	85.0
TRICHLOROFLUOROMETHANE	75-69-4	<5
VINYL CHLORIDE	75-01-4	<5
XYLENE (Total)		<15

Michael Venditti
Laboratory Director

ANALYTICAL LABORATORIES
56 TOLEDO STREET • FARMINGDALE, NY 11735
(516) 454-6100
FAX (516) 454-8027

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS: AEA

CONTACT: PAUL

SAMPLER (SIGNATURE): P Troy

DATE: 1/17/95

TIME: 4:45

SAMPLER NAME (PRINT): PAUL TROY

SAMPLE(S) SEALED: (YES) NO

CORRECT CONTAINER(S): (YES) NO

PROJECT LOCATION: BRANDT

SAMPLE INFORMATION:

ANALYSIS REQUIRED: PCE

LABORATORY #	MATRIX	TYPE	PRES.	SAMPLE # - LOCATION	P.O.#
95 12085	GW	G	4°C	1GW 26-28	x
12086				1GW 48-50	x
12087				1GW 38-40	x
12088				1GW 33-35	x
12089				1GW 57-59	x
12090				1GW 52-54	x

LEGEND: MATRIX. S=SOIL; L=LIQUID; SL=SLUDGE; A=AIR

TYPE. G=GRAB; C=COMPOSITE; SS=SPLIT SPOON

TURNAROUND REQUIRED: NORMAL ☐ STAT ☐ BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE / TIME	PRINTED NAME
P Troy	1/17/94 5:30	PAUL TROY		1/17/94 5:30	MIKE VERARDI
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME

ANALYTICAL LABORATORIES
56 TOLEDO STREET • FARMINGDALE, NY 11735
(516) 454-6100
FAX (516) 454-8027

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS: 4EA

CONTACT: Paul Troy

SAMPLER (SIGNATURE): B. Terhune

DATE: 8/25/94

TIME: 4:00

SAMPLER NAME (PRINT): BEATRIX TERHUNE

SAMPLE(S) SEALED: (YES) / NO

CORRECT CONTAINER(S): (YES) / NO

PROJECT LOCATION: 937 COLLINS ST., FARMINGDALE

SAMPLE INFORMATION:

LABORATORY #	MATRIX	TYPE	PRES.	SAMPLE # - LOCATION	ANALYSIS REQUIRED: VOC	P.O.
94/496	L	G	4°C	GW-1	X	
94/497	L	G	4°C	GW-2	X	
94/498A	L	G	4°C	GW-3	X	

LEGEND: MATRIX. S=SOIL; L=LIQUID; SL=SLUDGE; A=AIR

TYPE. G=GRAB; C=COMPOSITE; SS=SPLIT SPOON

TURNAROUND REQUIRED: NORMAL ☐ STAT ☐ BY 1 1

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE 8/25	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE 9/1	PRINTED NAME
B. Terhune	TIME	BEATRIX TERHUNE	Michael Verrelli	TIME 2:20	Mike Verrelli
RELINQUISHED BY (SIGNATURE)	DATE	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE	PRINTED NAME
	TIME				

QUALITY PROFESSIONALISM SERVICE

P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.
P.O. BOX 39
SAYVILLE, N.Y. 11782-0039
(516) 589-6353 FAX (516) 589-8705

March 29, 1995

Mr. Fred Fogelman
Brandt Airflex Corp.
937 Conklin Street
Farmingdale, NY 11735

Re: 937 Conklin Street
Farmingdale, NY

Dear Mr. Fogelman:

The following documents the drilling and sampling operations that were conducted on Friday, March 10, 1995 at the above referenced site. A boring was conducted to a depth of 81 feet upgradient of the truck bay storm drain that has been under investigation for elevated concentrations of tetrachloroethylene (PCE) by the Suffolk County Department of Health Services (SCDHS). The purpose of this boring was to collect a groundwater sample(s) to characterize conditions upgradient of the storm drain and to determine if off site sources of tetrachloroethylene (PCE) are being contributed. The location of the boring was relocated from a location northwest of the storm drain to a location due north of the storm drain. This decision was based upon local groundwater flow direction information supplied by SCDHS representative, Geralyn Fitzpatrick.

The field oversight and sample collection was provided by P.W. Grosser Consulting Engineer and Hydrogeologist, P.C. Drilling services were provided by Land, Air, Water, Environmental Services of Center Moriches, New York. After collection, groundwater samples were relinquished to EcoTest Laboratories, Inc., North Babylon, New York for analysis of halogenated volatile organic compounds by EPA Method 601.

Two representatives of the SCDHS were on site while the work was being performed. Geralyn Fitzpatrick (SCDHS groundwater resources), remained on site for a short time. Ms. Fitzpatrick will be handling the project from this point on. Peter Schramel (SCDHS pollution control) observed the drilling and sampling operations throughout the day and conducted the soil sample collection for the SCDHS.

Hollow stem auger drilling methods were used to insure that the desired depth of 80 feet could be obtained. Groundwater samples were obtained using a hydropunch groundwater sampling device. The hydropunch allows for the collection of one groundwater samples at discreet depths eliminating the need for monitoring well installation. Soil samples were collected at five foot intervals and screened with a photoionization detector (PID). The PID is a portable field instrument capable of detecting the presence of volatile organic compounds in air. The PID has an ionization potential ranging up to 10.2 eV. The ionization potential of PCE falls within this range.

No PID responses above background were detected in the soil samples collected. Therefore, the number of groundwater samples collected was limited to two. One sample was collected from

the water table interface at a depth of 28 to 30 feet below grade. The second sample was collected from a depth of 79 to 81 feet below grade. The basis for the collection of the deep groundwater sample is that PCE is denser than water and has a tendency to sink. Therefore, an upgradient source could exist and not be detected at the water table. The two groundwater samples were collected to distinguish the depth at which upgradient PCE was being contributed (if any).

Based on the absence of PID responses, the SCDHS opted not to split the groundwater samples but collect two soil samples from the 59 to 61 foot and 69 to 71 foot below grade intervals. Peter Schramel indicated that the laboratory results will take three to four weeks and would be provided upon request.

The groundwater samples were delivered to EcoTest Laboratories for analysis on the day of sampling. The laboratory reports are attached along with a copy of the chain of custody. The following table summarizes the laboratory data for those compounds that were detected:

PARAMETER	**28-30'**	**79-81'**	**NYSDEC**
Units ug/L			**STD***
1,1 Dichloroethane	ND	2	5
1,1,1 Trichloroethane	ND	5	5
Trichloroethylene	ND	2	5
Tetrachloroethylene	ND	5	5

* New York State Department of Environmental Conservation, Division of Water Technical and Operational Guidance Series, Ambient Water Quality Standards and Guidance Values, 10/93.

According to Ms. Fitzpatrick, the SCDHS is aware that a regional PCE problem exists in the area. The concentration of PCE detected in the deep sample is consistent with Ms Fitzpatrick's comment regarding regional conditions. However, this concentration is not indicative of an upgradient source significant enough to cause the high levels detected in the deep groundwater sample (57-59 ft.) collected by AEA, Inc.

It is anticipated that the SCDHS will require further action to determine the horizontal and vertical extent of PCE concentrations in the groundwater beneath the site. Off site investigation is also likely to be required. This typically involves the preparation of a work plan and health and safety plan to document the work to be performed at the site and the methodologies to be employed.

Please contact me with any question or comments that you may have and to discuss strategy.

Very truly yours,

Frank P. Castellano
Senior Hydrogeologist

enc.

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN(*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C951017/1 03/22/95

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Lisa Santoro

SOURCE OF SAMPLE: 937 Conklin St., Farmingdale, BAF-9501
COLLECTED BY: Client DATE COL'D:03/10/95 RECEIVED:03/10/95

SAMPLE: Water sample, B-1, 28-30'

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<2
Bromomethane	ug/L	<2
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	<2
Chloroethane	ug/L	<2
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<2
1,1 Dichloroethane	ug/L	<2
1,2 Dichloroethene	ug/L	<2
Chloroform	ug/L	<2
1,2 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<2
Carbon Tetrachloride	ug/L	<2
Bromodichloromethane	ug/L	<2
1,2 Dichloropropane	ug/L	<4
t-1,3Dichloropropene	ug/L	<4
Trichloroethylene	ug/L	<2
Chlorodibromomethane	ug/L	<2
112 Trichloroethane	ug/L	<4
c 13 Dichloropropene	ug/L	<4
2chloroethvinylether	ug/L	<4
Bromoform	ug/L	<4
1122Tetrachloroethan	ug/L	<4
Tetrachloroethene	ug/L	<2

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<2
1,3 Dichlorobenzene	ug/L	<4
1,2 Dichlorobenzene	ug/L	<4
1,4 Dichlorobenzene	ug/L	<4

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C951017/2 03/22/95

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Lisa Santoro

SOURCE OF SAMPLE: 937 Conklin St., Farmingdale, BAF-9501
COLLECTED BY: Client DATE COL'D:03/10/95 RECEIVED:03/10/95

SAMPLE: Water sample, B-1, 80'

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	2
1,2 Dichloroethene	ug/L	<1
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	5
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<2
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	2
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c 13 Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	5

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.
P.O. BOX 39
SAYVILLE, N.Y. 11782-0039
(516) 589-6353 FAX (516) 589-8705

July 5, 1995

Mr. Fred Fogelman
Brandt Airflex Corp.
937 Conklin Street
Farmingdale, NY 11735

Re: 937 Conklin Street
Farmingdale, New York

Dear Mr. Fogelman:

Attached please find the analytical reports for the second boring conducted at the above referenced site. The boring was conducted on April 19, 1995 and was located in the northwest corner of the property upgradient of the truck bay storm drain. This storm drain has been under investigation for elevated concentrations of tetrachloroethylene (PCE) by the Suffolk County Department of Health Services (SCDHS). The purpose of this boring was to collect additional groundwater sample(s) to further determine if off site sources of PCE are impacting groundwater quality beneath the site.

The same protocol established for the first soil boring conducted at the site in March 1995 was followed for the second boring. Field oversight and sample collection were provided by P.W. Grosser Consulting Engineer and Hydrogeologist, P.C. (P.W. Grosser Consulting). Drilling services were provided by Land, Air, Water, Environmental Services of Center Moriches, New York. Groundwater samples were delivered to EcoTest Laboratories, Inc., North Babylon, New York for analysis of halogenated volatile organic compounds by EPA Method 601.

On the date of sampling, Janet Gremli and Robert Morcerf of the SCDHS were on site and split the deep groundwater sample. To date, P.W. Grosser Consulting has not received correspondence from the SCDHS regarding the site.

No PID responses above background levels were detected in the soil samples collected. Therefore, the number of groundwater samples collected was limited to two. One sample was collected from the water table interface at a depth of 27 to 32 feet below grade. The second sample was collected from a depth of 79 to 80 feet below grade. The samples were delivered to EcoTest Laboratories for analysis on the day of sampling. The laboratory reports and chain of custody document are attached.

As indicated in the laboratory reports, only PCE was detected in the shallow sample at a concentration of 27 ug/L which exceeds the current New York State Department of Environmental

Conservation (NYSDEC) groundwater standard of 5 ug/L. No volatile organic compounds were detected in the deep sample. This reinforces the presence of a regional PCE problem and will be useful in negotiating a clean up standard in the future. However, the large disparity between the upgradient groundwater samples and the groundwater samples collected previously by American Environmental Assessment, Inc. indicate that the stormwater drywell is in fact the source of the problem.

P.W. Grosser Consulting recently gained access to the NYSDEC file for the East Farmingdale Fire Department. The file indicates that there is a soil vapor extraction and pump and treat system existing at the Fire Department site to remediate a petroleum product spill. The latest information contained in the file indicates that the system was operating as of April 28, 1995. Groundwater contour maps contained in the file indicate a localized zone of capture from the pumping well, though it could not be determined whether the zone of capture included the Brandt Airflex property.

As discussed in the past, it is anticipated that the SCDHS will require further action to determine the horizontal and vertical extent of PCE concentrations in the groundwater beneath the site. Off site investigation is also likely to be required. This typically involves the installation and sampling of monitoring wells. In consideration of the density of the PCE it is anticipated that deep monitoring wells will be necessary to determine the vertical extent of the plume. Once the extent of the plume is determined, clean up will likely be required.

Please contact me with any question or comments that you may have and to discuss strategy.

Very truly yours,

Frank P. Castellano

Frank P. Castellano
Senior Hydrogeologist

FPC:f
attach.

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTIN(

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C951672/1 05/05/95

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Lisa Santoro

SOURCE OF SAMPLE: Farmingdale, 937 Conklin St., BAC 9501
COLLECTED BY: Client DATE COL'D:04/19/95 RECEIVED:04/19/95

SAMPLE: Water sample, B-2, 27-32', 1145 pm

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<2
Bromomethane	ug/L	<2
Dichlordifluomethane	ug/L	<4
Vinyl Chloride	ug/L	<2
Chloroethane	ug/L	<2
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<4
1,1 Dichloroethene	ug/L	<2
1,1 Dichloroethane	ug/L	<2
1,2 Dichloroethene	ug/L	<2
Chloroform	ug/L	<2
1,2 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<2
Carbon Tetrachloride	ug/L	<2
Bromodichloromethane	ug/L	<2
1,2 Dichloropropane	ug/L	<2
t-1,3Dichloropropene	ug/L	<4
Trichloroethylene	ug/L	<2
Chlorodibromomethane	ug/L	<2
112 Trichloroethane	ug/L	<4
c 13 Dichloropropene	ug/L	<4
2chloroethvinylether	ug/L	<4
Bromoform	ug/L	<4
1122Tetrachloroethan	ug/L	<4
Tetrachloroethene	ug/L	27

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<2
1,3 Dichlorobenzene	ug/L	<4
1,2 Dichlorobenzene	ug/L	<4
1,4 Dichlorobenzene	ug/L	<4

cc:

REMARKS:

DIRECTOR

cp= 8198 NYSDOH ID# 10320

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LAB NO.C951672/2 05/05/95

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Lisa Santoro

SOURCE OF SAMPLE: Farmingdale, 937 Conklin St., BAC 9501
COLLECTED BY: Client DATE COL'D:04/19/95 RECEIVED:04/19/95

SAMPLE: Water sample, B-2, 79-80', 2:15 pm

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<2
Bromomethane	ug/L	<2
Dichlordifluomethane	ug/L	<4
Vinyl Chloride	ug/L	<2
Chloroethane	ug/L	<2
Methylene Chloride	ug/L	<2
Trichlorofluomethane	ug/L	<4
1,1 Dichloroethene	ug/L	<2
1,1 Dichloroethane	ug/L	<2
1,2 Dichloroethene	ug/L	<2
Chloroform	ug/L	<2
1,2 Dichloroethane	ug/L	<2
111 Trichloroethane	ug/L	<2
Carbon Tetrachloride	ug/L	<2
Bromodichloromethane	ug/L	<2
1,2 Dichloropropane	ug/L	<2
t-1,3Dichloropropene	ug/L	<4
Trichloroethylene	ug/L	<2
Chlorodibromomethane	ug/L	<2
112 Trichloroethane	ug/L	<4
c 13 Dichloropropene	ug/L	<4
2chloroethvinylether	ug/L	<4
Bromoform	ug/L	<4
1122Tetrachloroethan	ug/L	<4
Tetrachloroethene	ug/L	<2

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<2
1,3 Dichlorobenzene	ug/L	<4
1,2 Dichlorobenzene	ug/L	<4
1,4 Dichlorobenzene	ug/L	<4

cc:

REMARKS:

DIRECTOR

November 22, 1996

Mr. Fred Fogelman
Brandt-Airflex Corporation
937 Conklin Street
East Farmingdale, New York 11735

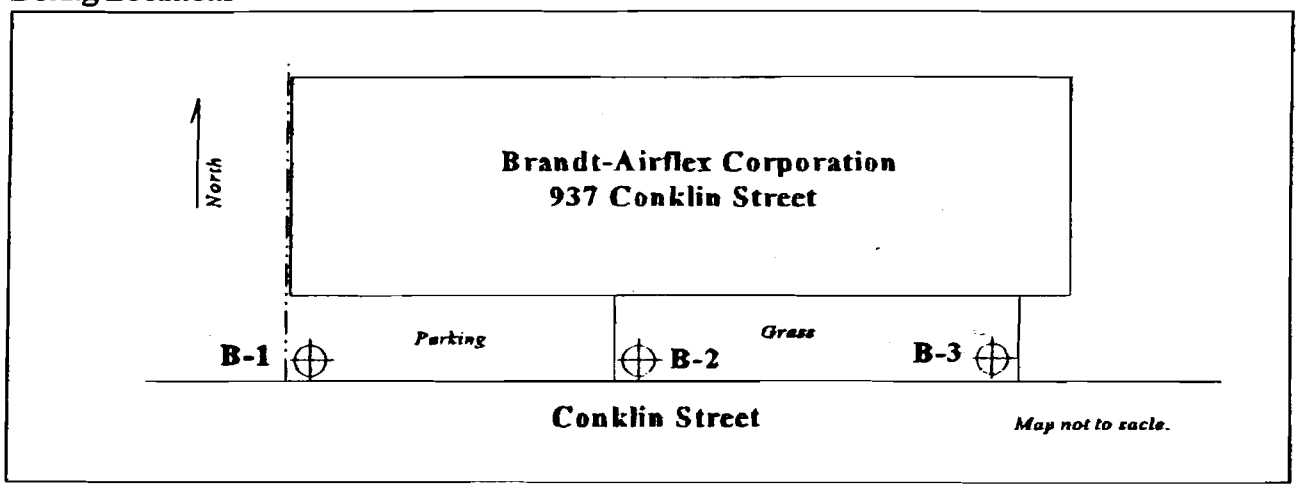
Re: Groundwater Analysis Results
at 937 Conklin Street

Dear Mr. Fogelman,

P. W. Grosser Consulting Engineer & Hydrogeologist, P.C. (P.W. Grosser Consulting) has prepared the following summary of the analysis results of the groundwater samples collected on November 5, 1996.

On November 5, 1996 three geoprobe points were advanced down to the groundwater table and water samples were collected for analysis. Four water samples were collected from three locations in the front of the property along Conklin Street. The sampling locations were assigned identification numbers of B-1 (26'-30'), B-2 (26'-30'), B-2 (68'-72'), and B-3 (26'-30'). The three samples designated B-1(26'-30'), B-2(26'-30'), B-3(26'-30'), were collected at the water table and one, B-2 (68'-72'), was collected deeper, midway through the formation. Sampling locations are shown in the Figure below.

Boring Locations



Samples collected were analyzed for Volatile Organic Compounds (VOCs) and contaminants detected are summarized below.

Summary of the Analytes Detected from the Brandt-Airflex Facility.

All data are in parts per billion.

Sample Number Date Collected	NYSDEC GW Std.	B-1 (26'-30') 11/5/96	B-2 (26'-30') 11/5/96	B-2 (68'-72') 11/5/96	B-3 (26'-30') 11/5/96
Vinyl Chloride	2	<1	<1	1	<1
t-1,2-Dichloroethene	5	<1	<1	1	<1
1,1-Dichloroethane	5	1	[illegible]	<1	<1
Chloroform	7	<1	3	<1	3
1,1,1-Trichloroethane	5	3	[illegible]	<1	<1
Trichloroethene	5	[illegible]	[illegible]	5	[illegible]
Tetrachloroethene	5	[illegible]	[illegible]	[illegible]	[illegible]
c-1,2-Dichloroethene	5	[illegible]	[illegible]	[illegible]	[illegible]
Acetone	50	10	<10	<10	<10

Shading indicates that the analyte exceeds NYSDEC groundwater standards.

From the data summary, it is apparent that the three locations exceed current NYSDEC groundwater standards for tetrachloroethene and c-1,2-dichloroethene. Trichloroethene was also detected at all locations except at B-2 (68'-72'). Sample B-2 (26'-30') showed contamination exceeding standards for 1,1-dichloroethane and 1,1,1-trichloroethane.

Please contact us to arrange a meeting to discuss the findings and a strategy to proceed.

Very truly yours,
P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.

Frank P. Castellano
Senior Hydrogeologist
FPC:tsj/encl
\\Enterprise\users2\SHARED\PWG\BAC\9601\CORRES\Analsis.wpd

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN(*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/1 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B1 (26-30), 9:25 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	3
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	41
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	1100
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	24
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
* 937 Conklin Street, Farmingdale.

DIRECTOR

rn= 26426 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/1 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B1 (26-30), 9:25 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	<1	

cc:

REMARKS: Page 2 of 2.

* 937 Conklin Street, Farmingdale.

DIRECTOR

rp= 26427 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/2 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B2 (26-30), 9:45 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	47
Chloroform	ug/L	3
111 Trichloroethane	ug/L	44
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	57
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	3300
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	100
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
* 937 Conklin Street, Farmingdale.

DIRECTOR

rn= 26428 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/2 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B2 (26-30), 9:45 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	<1	

cc:

REMARKS: Page 2 of 2.

* 937 Conklin Street, Farmingdale.

DIRECTOR

rn= 26429 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/3 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B2 (68-72), 10:35 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	5
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	22
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	200
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
* 937 Conklin Street, Farmingdale.

DIRECTOR

rn= 26430 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/3 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B2 (68-72), 10:35 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	1	

cc:

REMARKS: Page 2 of 2.

* 937 Conklin Street, Farmingdale.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/4 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B3 (26-30), 11:15 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	3
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	51
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	3800
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	19
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
* 937 Conklin Street, Farmingdale.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C964624/4 11/11/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt-Airflex*, BAC-9601
COLLECTED BY: Client DATE COL'D:11/05/96 RECEIVED:11/05/96

SAMPLE: Water sample, B3 (26-30), 11:15 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	<1	

cc:

REMARKS: Page 2 of 2.

* 937 Conklin Street, Farmingdale.

DIRECTOR

rp= 26433 NYSDOH ID# 10320

January 6, 1997

Mr. Fred Fogelman
Brandt-Airflex Corporation
937 Conklin Street
East Farmingdale, New York 11735

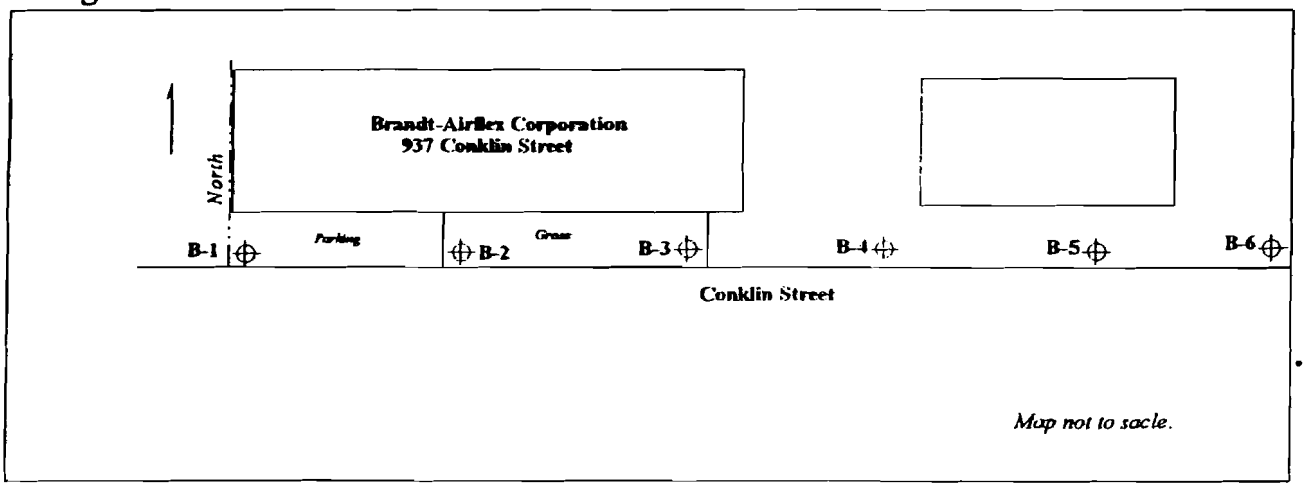
Re: Groundwater Analysis Results
at 937 Conklin Street

Dear Mr. Fogelman,

P. W. Grosser Consulting Engineer & Hydrogeologist, P.C. (P.W. Grosser Consulting) has prepared the following summary of the analysis results of the additional groundwater samples collected on December 12, 1996.

On December 12, 1996 three geoprobe points were advanced down to the groundwater table and water samples were collected for analysis. Four water samples were collected from three locations in the front of the property along Conklin Street. The sampling locations were assigned identification numbers of B-4 (26'-30'), B-4 (68'-72"), B-5 (26'-30'), and B-6 (26'-30'). The three samples designated B-4(26'-30'), B-5(26'-30'), and B-6(26'-30'), were collected at the water table and one, B-4 (68'-72'), was collected deeper, midway through the formation. Sampling locations are shown in the Figure below, with the three previous sample locations from November 5, 1996.

Boring Locations



Samples collected were analyzed for Volatile Organic Compounds (VOCs) and contaminants detected are summarized below, along with the previous data collected.

Summary of the Analytes Detected from the Brandt-Airflex Facility.

All data are in parts per billion.

Sample Number / Date Collected	NYSDEC GW Std.	B-1 (26'-30') 11/5/96	B-2 (26'-30') 11/5/96	B-3 (26'-30') 11/5/96	B-3 (68'-72') 11/5/96	B-4 (26'-30') 12/12/96	B-4 (68'-72') 12/12/96	B-5 (26'-30') 12/12/96	B-6 (26'-30') 12/12/96
Vinyl Chloride	2	<1	<1	1	<1	<1	<1	<1	<1
t-1,2-Dichloroethene	5	<1	<1	1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5	<1	47	<1	<1	<1	<1	<1	<1
Chloroform	7	<1	3	<1	3	3	3	3	3
1,1,1-Trichloroethane	5	3	48	<1	<1	<1	<1	<1	<1
Trichloroethene	5	41	57	5	53	<1	<1	<1	<1
Tetrachloroethene	5	1100	3300	220	3000	1	<1	<1	<1
c-1,2-Dichloroethene	5	24	100	200	19	<1	<1	<1	<1
Acetone	50	10	<10	<10	<10	<10	<10	<10	<10
Methyl tertiary Butyl Ether		<1	<1	<1	<1	<1	3	<1	<1

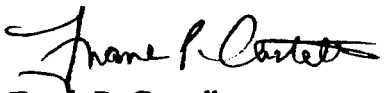
Methyl tertiary Butyl Ether

Shading indicates that the analyte exceeds NYSDEC groundwater standards.

From the data summary, it is apparent that groundwater samples from borings B4, B5, and B6 do exceed any NYSDEC groundwater standards.

Please contact us to arrange a meeting to discuss the findings and a strategy to proceed.

Very truly yours,
P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.



Frank P. Castellano
Senior Hydrogeologist
FPC:tsj/encl
F:\SHARED\PWG\BAC\9602\CORRES\GW.LET

RECEIVED DEC 2 3 1996

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C965126/1 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-6, 26-30', 9:20 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	<1
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C965126/1 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-6, 26-30', 9:20 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	<1	

cc:

REMARKS: Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN(*

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LAB NO.C965126/2 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-5, 26-30', 9:55 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	<1
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

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LAB NO.C965126/2 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-5, 26-30', 9:55 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	<1	

cc:

REMARKS: Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

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LAB NO.C965126/3 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

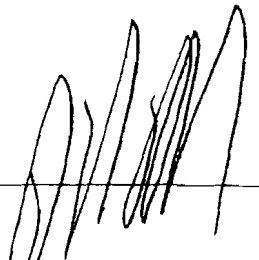
SAMPLE: Water sample, B-4, 68-72', 10:40 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	<1
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene

DIRECTOR 

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTIN*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C965126/3 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-4, 68-72', 10:40 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	3	

cc:

REMARKS: Page 2 of 2.

DIRECTOR

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LAB NO.C965126/4 12/18/96

P.W. Grosser Consulting
P.O. Box 39, 100 South Main Street
Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-4, 26-30', 10:55 am

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Xylene	ug/L	<3
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Styrene	ug/L	<1
Bromobenzene	ug/L	<1
Chlorotoluene	ug/L	<2
p-Ethyltoluene	ug/L	<1
135-Trimethylbenzene	ug/L	<1
124-Trimethylbenzene	ug/L	<1
Freon 113	ug/L	<1
Dichlordifluomethane	ug/L	<1
1245 Tetramethylbenz	ug/L!	<1
124-Trichlorobenzene	ug/L	<1
c-1,2-Dichloroethene	ug/L	<1
Dibromochloropropane	ug/L	<1
Bromochloromethane	ug/L	<1
2,2-Dichloropropane	ug/L	<1
1,1-Dichloropropene	ug/L	<1

cc:

REMARKS: Page 1 of 2.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene

DIRECTOR

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LAB NO.C965126/4 12/18/96

P.W. Grosser Consulting
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Sayville, NY 11782
ATTN: Tom St. John

SOURCE OF SAMPLE: Brandt Airflex, BAC-9602
COLLECTED BY: Client DATE COL'D:12/12/96 RECEIVED:12/12/96

SAMPLE: Water sample, B-4, 26-30', 10:55 am

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/L	<1	
Naphthalene	ug/L	<1	
1,3-Dichloropropane	ug/L	<1	
1,2 Dibromoethane	ug/L	<1	
1112Tetrachloroethan	ug/L	<1	
123-Trichloropropane	ug/L	<1	
Hexachlorobutadiene	ug/L	<1	
Acetone	ug/L	<10	
Methyl Ethyl Ketone	ug/L	<10	
Methylisobutylketone	ug/L	<10	
Isopropylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Chlorodifluoromethan	ug/L	<1	
n-Propylbenzene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p Diethylbenzene	ug/L	<1	
123-Trichlorobenzene	ug/L	<1	
ter.ButylMethylEther	ug/L	1	

cc:

REMARKS: Page 2 of 2.

DIRECTOR

APPENDIX B

RESUMES OF KEY PERSONNEL

Paul W. Grosser, Ph.D., P.E.
President

Years with this firm: 9
Years with other firms: 14

Education:
Ph.D. in Civil Engineering,
Polytechnic Institute of New York (1984)
M.E. in Civil Engineering,
Stevens Institute of Technology (1976)
B.E. in Civil Engineering,
Stevens Institute of Technology (1975)

Areas of Expertise:
Groundwater Resources
Remedial Design
Risk Assessment and Solid Waste Management

Registrations/Certificates:
Licensed Professional Engineer in NY, NJ, MD, IN, NH, and MA (NYS #58694)
NJDEPE-Certified UST Closure, Testing, Investigation

Memberships:
American Society of Civil Engineers
American Water Works Association
Long Island Water Conference
National Society of Professional Engineers
American Geophysical Union
National Water Well Association
American Consulting Engineers Council

Professional Profile:
Dr. Grosser is responsible for business and technical operations of the firm. Since founding the firm in 1990 he has served as the principal for hundreds of projects. Dr. Grosser is a well-respected expert in the fields of groundwater/soil contamination including surface/groundwater modelling, petroleum investigations, risk assessments, remediation design, and water supply/water resources.

Selected Projects:
Dutchess Terminal - Dr. Grosser completed this petroleum investigation for the NYSDEC. It involved the identification of spilled product from five different bulk oil storage companies. The hydrogeologic investigation was crucial in order to identify the sources of contamination and evaluate the effectiveness of a groundwater remediation system. By investigating the site, the NYSDEC sought to identify potential responsible parties for cost recovery.

Southampton Hospital - Dr. Grosser used a model to simulate the transport of viruses in the groundwater environment. The model evaluated the potential impact of a proposed medical arts building on public supply wells.

Water Authority of Great Neck North - Dr. Grosser provided various consulting services including a subsurface investigation being conducted at one of the WAGNN's well fields, and a well impact investigation conducted to assess the impact of proposed Great Neck North wells, located off the peninsula, on surrounding wells. He has provided expert testimony and prepared an aquifer management plan to identify the most effective way to manage the groundwater resources of the service area.

Clarkstown and Croton Landfills - Under a subcontract, Dr. Grosser served as project manager for a risk assessment at these sites. The projects involved contaminant transport modelling, study of general site ecology, and evaluation of potential health risks.

Publications:
"Use of Granular Activated Carbon Filters for the Removal of Pesticides from Ground Water", Presented at the Third Annual Groundwater Technology Meeting, Sept. 1987, CUNY. Published in Pollution, Risk Assessment and Remediation in Groundwater Systems, ed.Khanbilvardi/Fillos.

"Selection of Cost-Effective Organic Removal Systems for Water Supply", with S. McLendon and J. Molloy, ASCE National Conference on Environmental Engineering, Massachusetts, 1985.

Frank P. Castellano, P.G.
Senior Hydrogeologist

Years with this firm: 6
Years with other firms: 3

Education:
M.S. in Hydrogeology, Adelphi University (1994)
B.S. in Water Resources,
SUNY at Oneonta (1989)

Areas of Expertise:
RI/FS
Soil/GW/Surface Water Sampling
Superfund Site Remediation

Registrations/Certifications:
Professional Geologist,
State of Pennsylvania
OSHA Health & Safety 40 Hour Training,
Refresher, January 1998
BNL Radiological Worker I, May 1997

Memberships:
National Ground Water Association
Long Island Geologists Licensing Steering Committee

Publications:
"Case Studies Using the USCG Oil Identification System for Petroleum Spill Source Identification." Presented at the 1993 Petroleum Hydrocarbons and Organic Chemicals in Ground Water Conference in Texas. November 1993.

Professional Profile:
Mr. Castellano manages hydrogeologic investigations and remedial projects for federal and private clients in the New York metropolitan area. His responsibilities as a federal project manager have expanded under a basic ordering agreement with Brookhaven National Laboratory. Mr. Castellano is very familiar with federal contracting regulation and coordinates projects with the Department of Energy, Army Corps of Engineers, local regulators, BNL's engineering and environmental managers, and other contractors.

Mr. Castellano has almost 10 years experience working on Phase II, contamination, and remedial investigations.

Selected Projects:
Brookhaven National Laboratory - Mr. Castellano coordinates a variety of projects for BNL. He coordinated the field sampling phase of a large scale UIC compliance project and prepared scopes of work in accordance with SCDHS, EPA, NYSDEC, and DOE specifications. Based upon analytical data, Mr. Castellano determined which Class V injection wells should be closed and which required further remediation.

Mr. Castellano has also been working as principal-in-charge for a task order contract. Services under this task order range from routine environmental sampling to hazardous waste management. He coordinated all phases of the projects and prepared scopes of work in accordance with SCDHS, EPA, NYSDEC, and DOE specifications.

Mr. Castellano also served as deputy project manager for a large scale excavation project. In addition to coordinating the excavation of the animal pits and landfill areas, he was responsible for the oversight and coordination of BNL.

Nassau County Department of Public Works, Surface Water and Sediment Characterization
Mr. Castellano served as project manager and regulatory liaison in support of several dredging permit applications sought by the NCDPW to conduct desilting/maintenance of several ponds located within the county. Mr. Castellano negotiated a scope of work with the NYSDEC aimed at characterizing the pond sediments for disposal purposes as well as for suitability for fisheries habitat. Based upon the results of these efforts, Mr. Castellano assisted the NCDPW in modifying the proposed dredging effort to accommodate the concerns of the NYSDEC. Modifications have included the addition of a synthetic liner to maintain water levels, the addition of clean silt and sand to protect depths to reveal uncontaminated sediments. Remedial activities performed for the ponds included on-site remediation of contaminated dredge sediments to yield a non-hazardous material suitable for reuse.

David J. Lewitt
Field Hydrogeologist

Years with this firm: 1
Years with other firms: 6

Education:
M.S. Program in Hydrogeology, SUNY at Stony Brook (1999)
B.S. in Chemistry, University of Florida (1990)
Independent Coursework - Mineralogy, Paleontology, Structural Geology, Stratigraphy-Sedimentology

Areas of Expertise:
Site investigation
Soil/Groundwater remediation
Hazardous waste treatment and disposal
Chemical analysis
Instrumentation

Registrations/Certifications
Rad Worker I & III
Confined Space Entry (29CFR1910.146)
OSHA 40hr HAZWOPER

Memberships
American Chemical Society BS Degree

Professional Profile:
Mr. Lewitt provides field oversight and conducts soil and subsurface groundwater investigations. Through this, activities are conducted to determine the nature and extent of contamination and to devise options for remediation. Mr. Lewitt's experiences include a variety of issues concerning sampling protocol, remedial alternatives, field supervision, report writing, and inactive hazardous waste sites.

alternatives, field supervision, reporting, inactive hazardous waste sites.

Selected Projects:

BNL Chemical Holes Debris Processing- Processing and characterization of residual radioactive mixed waste debris. Field oversight for all operations and hands-on Level C protective equipment work.

BNL offsite remedial action on VOC plume- Evaluation of monitoring well data and pumping well/air stripping activities. Periodic sampling of groundwater.

Sewer System Design and Connection- Hook-up of sanitary septic system to SCDPW Southwest Sewer District. Sewer design investigations, cesspool sampling, and cesspool closure activities.

Kris E. Almskog
Project Hydrogeologist

Years with this firm: 3
Years with other firms: 0

Education:
B.S. in Environmental Geology,
SUNY at Stony Brook (1997)

Areas of Expertise:
Monitoring/Remedial Well Installation
Underground Storage Tanks
Soil/Groundwater Investigations
Soil Excavations

Registrations/Certifications:
OSHA Health & Safety 40 Hour Training
BNL Radiological Worker I and II, March 1998
Confined Space Entry (29CFR1910.146), June 1999
Respirator Fit Test Certification

Professional Profile:
Mr. Almskog provides field oversight and conducts soil and subsurface water sampling services. Most recently, Mr. Almskog has been providing oversight of field sampling activities at Brookhaven National Laboratory's OU III off-site removal action project. For other environmental investigations, such as Phase II investigations, he provides oversight, sampling, evaluates hydrogeologic conditions coordinates field activities with contractors.

Selected Projects:
Brookhaven National Laboratory – Mr. Almskog is currently providing sampling services and oversight for an off-site groundwater remdial system. He was responsible for construction observation and documentation for numerous monitoring well and remediation well installations. During the start up phase of the system, he he will be collecting groundwater quality data for analysis to determine the effectivness of the treatment system.

Brookhaven National Laboratory – As part of a PCB excavation project Mr. Almskog recently conducted sampling activities defining the vertical and horizontal extent of PCB contaminated soils. Upon completion of the sampling, he was responsible for oversight of the excavation, disposal of the soils and for collection of confirmatory endpoint samples. Due to the hazards involved with the contaminated soils Mr. Almskog was responsible for controlling the site and the personnel working in the area.

Green Bus Lines - The firm conducted an underground tank investigation at five bus terminals. Mr. Almskog was part of the team performing field oversight of soil sampling using a Geoprobe. One area contains 80 underground storage tanks and Mr. Almskog was integral in determining the source and amount of contamination in that area.

Town of Southampton, North Sea Landfill - Mr. Almskog is responsible for evaluating and entering data relevant to monthly and quarterly monitoring of this landfill leachate project.

Bright Bay Lincoln - Mr. Almskog provided quarterly sampling and reporting to evaluate the ongoing groundwater quality of the site, as it was being remediated by a soil vapor extraction system designed by PWGC. The DEC recently ordered the spill number for the site be closed based opon these reports.

Bigman Electronics - Mr. Almskog performed soil sampling and coordinated with the contractor to determine the best method to remove lead contaminated soil from a limited access area.