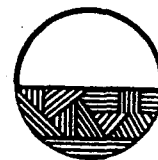


Report. v00160, 199-05-01.
Prelim Site Assessment

V 00160-3

BELL ENVIRONMENTAL



**PRELIMINARY SITE ASSESSMENT REPORT
PEEKSKILL PLAZA SHOPPING CENTER
20 WELCHER AVENUE
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK**

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May 1999
BELL Project # EOGO1-93042-01

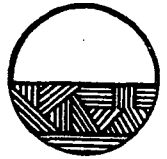
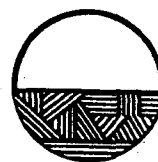


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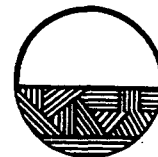
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1.0 EXECUTIVE SUMMARY

Bell Environmental Consultants, Inc. (BELL) has prepared this Preliminary Site Assessment (PSA) Report for the Blue Mountain Plaza Shopping Center Site, which is located in the City of Peekskill, Westchester County, New York (Figure 1). The PSA was conducted pursuant to a Memorandum of Agreement (MOA) entered into by Blue Mountain Plaza Shopping Center and the New York State Department of Environmental Conservation (NYSDEC).

The site consists of a shopping center which was built sometime in the late 1950's/early 1960's (Figure 2). A dry-cleaning establishment has been present in the western most building, located just north of the McDonalds, reportedly since the early 1960's. The adjoining property (Mearl Corporation), located to the north and east of the shopping center, has historically been used as a chemical manufacturing facility.

In 1988, an environmental assessment was conducted at the site as part of a pre-purchase audit. The results of the investigation indicated that tetrachloroethene was present in the ground water in excess of the NYSDEC Ambient Water Quality Standards (AWQS) and toluene was present in the soil at concentrations exceeding the NYSDEC Recommended Soil Cleanup Objectives (RSCO).

Based on the results of these investigations, the site was evaluated by the NYSDEC for placement on the "Inactive Hazardous Waste Disposal Sites" list. A Memorandum of Agreement was entered into between the owners of Peekskill Plaza and the NYSDEC for the purpose of developing and implementing a Preliminary Site Assessment (PSA) to characterize potential hazardous wastes at the site, and to provide the information necessary for the NYSDEC to evaluate the potential risk to human health and/or the environment.

BELL conducted the initial phase of the investigation during April through June 1998. The results of this investigation indicated that two volatile organic contaminants (VOCs), tetrachloroethene and 1,2-dichloroethane, were detected above the NYSDEC AWQS in two wells located in close proximity to the onsite dry cleaning establishment. In addition, several metals were also detected in ground water at concentrations above the NYSDEC standards. These include antimony, iron, lead, magnesium, manganese, and sodium. With the exception of lead, these metals were detected at the same order of magnitude in upgradient and downgradient wells suggesting that these metals are representative of background conditions. No contaminants were detected in soil at concentrations above the NYSDEC RSCO during this investigation. The results of this initial investigation were submitted to the NYSDEC along with a workplan for additional investigative tasks in a Preliminary Assessment/Site Investigation Workplan Addendum dated August 1998.

In order to assess if there are residually impacted soils which are acting as a continuing source for ground water contamination, a passive soil gas survey was completed in October 1998 in the vicinity of the dry cleaning establishment. The results of this investigation



indicated several potential areas where elevated concentrations of VOCs may exist. The results were submitted to the NYSDEC in a letter from BELL dated December 3, 1998.

Based on the results of the passive soil gas survey, additional investigative tasks were conducted during January and February 1999 to further evaluate the presence of residually impacted soils and to delineate the downgradient extent of VOCs and lead in ground water. This phase of the investigation included collecting a second round of ground water samples from the on-site monitoring wells, advancing three soil borings on-site for the collection of soil samples, and completing a series on on-site and off-site temporary ground water sample points.

Results of this investigation indicated that tetrachloroethane, trichloroethene, cis-1,2-dichloroethene, 1,2-dichloroethane, and ethylbenzene were detected in the ground water samples collected on-site and off-site at concentrations above the NYSDEC AWQS. It should be noted that lead was not detected in any of the ground water monitoring wells at concentrations exceeding the AWQS. Low levels of tetrachloroethene, cis-1,2-dichloroethene, and trichloroethene were detected in the on-site soil samples at levels below applicable NYSDEC criteria. No compounds were detected in soil at concentrations exceeding the NYSDEC RSCO.



2.0 INTRODUCTION

2.1 SITE LOCATION

The site contains a shopping center known as Blue Mountain Plaza Shopping Center, which is located in the City of Peekskill, Westchester County, New York (Figure 2). The shopping center consists of four one-story buildings and a large paved parking area. Currently, the shopping center is occupied by the following tenants: A&P supermarket; McDonald's restaurant; a dry cleaner; a laundromat; a beauty salon; a bank; and several other small restaurants. The A&P building and western building are constructed of brick and all other on-site buildings are of concrete block construction. The western-most building contains a basement.

The Blue Mountain Plaza Shopping Center site encompasses approximately 5.4 acres and is bordered to the west by South Street, which parallels the New York Central Railroad rail line; to the north and east by the Mearl Corporation; and to the south by Welcher Avenue. The site topography is relatively flat. Storm water runoff flows towards the on-site storm drains, which discharge to the municipal storm water sewer system. The locations of the existing buildings and selected physiographical features of the site are shown on Figure 2.

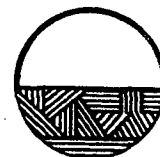
The property is serviced by the municipal water supply which is supplied by the Peekskill Reservoir System. The property is also serviced by the municipal sewer system.

2.2 CURRENT/HISTORICAL SITE OPERATIONS

The site was vacant until sometime between 1941 and 1951, at which time a house was constructed. Until the late 1950's, the site was utilized as a minor league baseball field and a stock car race track. The house and all other structures were demolished in 1958 to accommodate the present-day shopping center.

The A&P building and the western building were constructed in 1959 and the eastern building (20,000 square feet) was constructed in 1978. One 10,000 square foot addition to the A&P building was built in 1978 and a second 4,000 square foot addition was constructed in 1993. The McDonalds restaurant was constructed on the property in 1994. At one point there was a small building which housed a Fotomat, however, this building has since been demolished.

A dry-cleaning establishment has been present in the western-most building, located just north of the McDonalds, reportedly since the early 1960's. The current operator of the dry cleaning establishment has been at the site since the early 1990's. The manager indicated that she had no historic information about the site. There is no information available about previous operators of the facility. An inspection of the existing facility indicated no evidence of existing or historic areas of concern with respect to the dry cleaning facility. The owner of the business indicated that no spills have occurred under the current ownership, that all



necessary records are routinely filed with the appropriate regulatory agency, and that the basement is not currently utilized for dry cleaning operations.

Two heating oil underground storage tanks (UST) are present at the facility. One is located behind the A & P building and the second is located behind the dry cleaning establishment. According to the owner of the dry cleaning business, #2 fuel oil from the UST is used to run the boiler for the dry cleaning shop. The owner did not know the size of the UST. During BELL's inspection the UST was approximately one-half full. The second UST could not be located during this investigation. However, according to the property owner, the UST behind the A&P is a 1,000-gallon heating oil tank, which A&P replaced within the last several years.

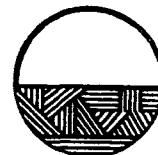
According to the City of Peekskill Building Inspector, there are currently no violations for the subject or adjacent properties. However, in the past, violations involving property maintenance were noted for the subject property. No past violations were noted for adjacent properties.

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

In 1988, an environmental assessment was conducted for the site by Environmental Risk Limited (ERL) on behalf of a prospective purchaser of the property. The purpose of the assessment was to evaluate soil and ground water quality conditions at the site. ERL installed four monitoring wells (PS-1, PS-2, PS-3, and PS-4) and collected ground water samples for analysis of metals, volatile organic compounds (VOCs), and PCBs. Well PS-1 was installed at an assumed downgradient location from the Mearl facility. Well PS-3 was installed at an assumed downgradient position from the gasoline service station on the opposite side of Welcher Avenue and an assumed upgradient position from a large part of the subject property. Wells PS-2 and PS-4 were installed downgradient from suspected underground storage tanks. The locations are shown on Figure 3.

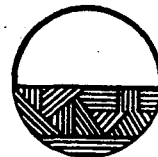
The results of the soil and ground water analyses indicated that PCBs and metals were not detected above applicable NYSDEC standards. The only VOC detected above the NYSDEC guidance values was tetrachloroethene, which was reported in a ground water sample collected from Monitoring Well PS-4 at a concentration of 104 micrograms per liter (ug/l). The ground water sample results from Well PS-4 also indicated the presence of trans-1,2-dichloroethene (4.8 ug/l) and trichloroethene (2.8 ug/l). 1,2-dichloroethane was detected at a concentration of 89.0 micrograms per kilogram (ug/kg) in a soil sample collected from the PS-4 location. With the exception of toluene, no other contaminants were detected at other locations. Toluene was detected at low levels in a ground water sample collected from Monitoring Well PS-3.

ERL conducted a second investigation in 1988, which included the installation of three additional monitoring wells (PS-5, PS-6 and PS-7) which are shown on Figure 3. Soil samples were collected during the installation of these wells and were analyzed for VOCs.



After the wells were installed, ground water samples were collected for the analysis of VOCs from the new wells, as well as Monitoring Well PS-4. The results of the analyses showed that tetrachloroethylene was detected in ground water samples from Wells PS-4, PS-6 and PS-7 at concentrations ranging from 16 ug/l to 200 ug/l. Well PS-7 also contained trans-1,2-dichloroethene and 1,2-dichloroethane at reported concentrations of 9 ug/l and 3 ug/l, respectively. Tetrachloroethene was reported in the soil samples collected from Wells PS-5, PS-6, and PS-7 at concentrations of 83.0 ug/kg, 133.0 ug/kg, and 71.0 ug/kg, respectively. Toluene was also reported in the soil samples from wells PS-5 and PS-6 at concentrations of 7,282 ug/kg and 1,254 ug/kg, respectively. The PS-5 soil sample also had a reported xylene concentration of 170.0 ug/kg.

Based on the results of these investigations, the site was evaluated by the NYSDEC for placement on the "Inactive Hazardous Waste Disposal Sites" list. Upon notification of the status of the site, the property owner contacted the NYSDEC to discuss actions to be taken. As a result, a Memorandum of Agreement (MOA) was entered into between the owners of Peekskill Plaza and the NYSDEC for the purpose of developing and implementing a Preliminary Site Assessment (PSA) to characterize potential hazardous wastes at the site, and to provide the information necessary for the NYSDEC to evaluate the potential risk to human health and/or the environment.



3.0 PURPOSE

The purpose of completing this PSA was to characterize potential hazardous wastes present at the site and to obtain the information necessary for the NYSDEC to evaluate the potential risk to human health and/or the environment. The objectives of this PSA included:

- Interview site owners, operators, and other groups or individuals knowledgeable of site operations.
- Review available records on the site history from state, federal, and local agencies.
- Conduct a site inspection to observe current conditions.
- Implement a remedial investigation to characterize soil and ground water quality at the site.
- Prepare a PSA Report that summarizes the results of the investigation

As part of the remedial investigation, the following investigative activities were implemented at the site:

- Install five monitoring wells and collect soil samples to evaluate the presence of soil contamination at the site.
- Collect two rounds of ground water samples from the five newly installed monitoring wells to characterize ground water conditions.
- Complete a passive soil gas survey and complete three soil borings to assess if there are residually impacted soils at the site.
- Collect eight ground water samples from temporary well points to evaluate the extent of ground water contamination.

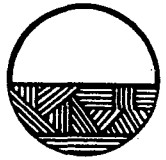


4.0 HYDROGEOLOGY

The Peekskill Plaza site is situated within the Manhattan Prong of the New England Province. Bedrock in this region is characterized by metamorphic paragneiss and schist. The bedrock is overlain by discontinuous layers of boulders and sandy tills. Based on a review of the available geologic logs of monitoring wells installed at and adjacent to the site, the overburden material was primarily comprised of sand with varying amounts of gravel and silt/clay. The stratigraphy was primarily uniform to a maximum depth of 28 feet below ground surface [bgs] (depth of deepest boring on-site).

The depth to ground water at the site ranges from approximately nine to 11 feet bgs in the eastern portion of the site to 20 to 22 feet bgs in the western portion of the site. This slope is most likely related to the significant change in topography located immediately west of the property.

Based upon ground water elevations obtained during this PSA investigation, ground water appears to flow in a west/northwest direction towards the Hudson River. The depth to the ground water surface in the western portion of the site is all at approximately the same elevation. Ground water elevation contour maps identifying flow direction are included as Figures 4, 5, and 6 for ground water gauging events completed on June 4, 1998, October 16, 1998, and January 26, 1999.



5.0 SCOPE AND METHODOLOGY

Field activities and quality assurance procedures were performed in general accordance with the Quality Assurance Project Plan (QAPP), Preliminary Assessment/Site Investigation Workplan, and Preliminary Assessment/Site Investigation Workplan Addendum.

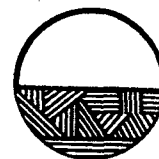
5.1 MONITORING WELL INSTALLATION

From April 21 through April 24, 1998, BELL installed five ground water monitoring wells at the site at the locations shown on Figure 2. This work was performed under the supervision of a BELL geologist.

Four of the five wells (MW-1 through MW-4) were placed in approximately the same locations as the existing site wells (Figure 3), that were installed in the late 1980's as part of a pre-purchase audit. The monitoring well locations were selected in order to collect ground water samples to verify the 1988 ground water results. The fifth well (MW-5) was installed in an area assumed to be upgradient of the site and downgradient of an adjacent property (Mearl Corporation). Three of the well locations were altered from the locations proposed in the Workplan. Well MW-1 and MW-5 were moved to accommodate vehicular traffic and parking, however, the final well locations were selected to be in close proximity to the proposed locations. Well MW-2 had to be relocated due to the proposed location being blocked by a parked car. The final well location was placed as close as possible to the historical Well PS-2 location.

A Dietrich D-120 drill rig was used by General Borings, Inc. of Prospect, Connecticut to drill the monitoring wells. The monitoring wells were completed in unconsolidated sediment using hollow-stem augers. The monitoring wells were installed to total depths ranging from approximately 17 feet bgs at MW-5 to 26 feet bgs at MW-3 and MW-4. Based on field observations of the subsurface lithology at the site, the wells were constructed using 20-slot well screens (0.020-inch slot size openings), instead of 0.010-inch slot size openings as specified in the Workplan. Boring logs and well construction details are included in Appendix A.

The wells were installed with 10 feet of screen and constructed to breach the water table. The wells were constructed of Schedule 40, flush-joint, internally threaded, polyvinyl chloride (PVC) casing and screen. The diameter of the well casings and screens were four inches (inner diameter). Clean silica sand was placed in the annulus of the well and borehole wall from the bottom of the borehole to about 2 feet above the screen. A 2-foot thick bentonite seal was placed immediately above the gravel pack. The remainder of the annulus was sealed with a cement/bentonite slurry (95-percent cement/5-percent bentonite). The wells were completed with flush-mount surface casings to accommodate vehicular traffic at the site. Monitoring well installation procedures are included in Appendix B.



The monitoring wells were developed on May 13 and May 14, 1998 to ensure that a good hydraulic connection exists between the well and aquifer. Well development was achieved by removing fine-grained material from the aquifer, the well gravel pack, and well screen. Dedicated polyethylene flexible tubing was used in each well as the suction line and the wells were surged during development. Monitoring wells were developed with a centrifugal pump until a non-turbid discharge was obtained. Water levels were obtained periodically throughout development to evaluate recovery rates and aquifer characteristics. All monitoring wells, with the exception of MW-5, were observed to have relatively fast recovery rates during development at purge rates ranging from one to 1.5 gallons per minute. Monitoring Well MW-5 pumped dry after being purged at a rate of one to 1.5 gallons per minute for approximately 16 minutes. This well was allowed to recharge after pumping to dryness and was observed to have a slow recovery rate. This procedure was repeated a total of five times until a total of 45 gallons had been purged from Well MW-5.

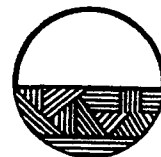
Upon monitoring well completion and development, the vertical elevation of the upper rim of each PVC well casing was surveyed by Peter R. Hustis, Licensed Land Surveyor (NY License No. 49208), of Newburgh, New York. The survey data were used to evaluate the ground water flow direction.

5.2 MONITORING WELL SOIL SAMPLING

During monitoring well installation, soil samples were collected in two-foot intervals every five feet until ground water was encountered. Soils were field screened for the presence of contamination both visually (i.e., staining) and with a HNu photoionization detector (PID) equipped with an 11.7 eV lamp. The soil samples were classified (assessment of grain-size distribution) by the field hydrogeologist. One soil sample from each boring was selected for laboratory analysis based upon field observations (i.e., PID readings, odors, and/or staining) was submitted to a laboratory for analysis of TCL VOCs, TCL SVOCs, TCL PCBs/pesticides, and TAL metals. If the results of field screening did not indicate the presence of potential contamination, the interval located immediately above the ground water table was selected. The following table summarizes the soil samples selected for laboratory analysis:

Well	Sample Depth (ft, bgs)	Headspace Reading (ppm)	Reason Selected
MW-1	9.0 – 11.0	0.5/0.5*	Above Perched Water; Potentially Stained Soils Observed
MW-2	18.0 – 20.0	1.4/1.2*	Above Ground Water
MW-3	18.0 – 20.0	0.3/0.4*	Above Ground Water
MW-4	17.0 – 19.0	0.3	Above Ground Water
MW-5	7.0 – 9.0	1.0	Above Ground Water

* Samples collected across two split spoons



Soil sampling procedures are included in Appendix C. The sampling program was performed in accordance with NYSDEC CLP Analytical Services Protocol.

5.3 GROUND WATER MONITORING WELL SAMPLING

On June 4, 1998 and January 26, 1999, ground water samples were collected from each of the newly installed monitoring wells. Purging and sampling information was recorded in the field book and are summarized in Tables 1 and 2. Ground water sampling log forms are included for each sampling round in Appendix D and ground water sampling procedures are summarized in Appendix E. Ground water samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, TCL PCBs/pesticides, and TAL metals. The sampling program was performed in accordance with NYSDEC CLP Analytical Services Protocol.

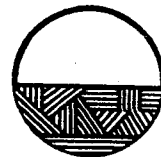
5.4 PASSIVE SOIL GAS SURVEY

A passive soil gas survey was conducted at the site in October 1998. An initial round of screening modules were deployed on October 5 and retrieved on October 16, 1998. Because the utility markout was not completed by the required deadline, BELL was unable to complete the survey. A second phase of deployment occurred on October 16, 1998 and modules were retrieved on October 27, 1998. A total of 21 soil gas samples were collected to evaluate the presence, extent and relative concentration of volatile organic compound (VOC) vapors in the subsurface in the vicinity of the dry cleaning establishment. The passive soil gas survey was conducted on an approximate 30-ft grid base around the outside of the building in which the dry cleaner is a tenant. Several points were also placed within the basement beneath the dry cleaning establishment. Several sample locations were relocated due to access problems associated with vehicular traffic, parked vehicles, and subsurface utilities. BELL utilized a slam bar to advance 1-inch diameter pilot holes for the deployment of the passive samplers to an approximate depth of three feet. Upon installation of the sampling module, the boring was sealed at the ground surface using a cork.

After a predetermined exposure time (approximately 11 days), the modules were removed, placed on ice, and shipped to the analytical laboratory for analysis of selected chlorinated VOCs. GORE-SORBER® Screening modules were used by BELL and were analyzed by the W.L. Gore and Associates Screening Module Laboratory located in Elkton, Maryland. Passive soil gas sample locations are shown on Figure 7 and sample procedures are included in Appendix F.

5.5 TEMPORARY WELL POINT INSTALLATION AND GROUNDWATER SAMPLING

On January 26, 1999 and February 4, 1999, eight temporary well points were installed by S&S Subsurface Investigations, Inc. of Point Pleasant, New Jersey, and utilized for the collection of ground water samples. The purpose of these sample points was to collect ground water

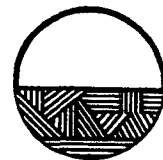


samples to delineate the extent of the ground water contaminant plume. The locations were selected based upon monitoring well sampling results and the interpreted ground water flow direction. As the interpreted ground water flow direction has varied between sampling events, sample locations were selected to the north and west of the dry cleaning establishment to evaluate the complete downgradient impact.

A total of nine locations were proposed in BELL's December 3, 1998 letter, however the location proposed between the McDonalds building and South Street could not be completed due to utility conflicts (i.e., too many utilities present to locate a "clear" spot for drilling). Several other boring locations had to be moved slightly from the proposed locations as a result of utility locations and drill rig accessibility. Final boring locations are shown on Figure 8. Upon collecting the ground water samples, the borings were sealed with the appropriate surface covering. All samples were analyzed for TCL VOCs and lead. Details of the temporary well point installation procedures are included in Appendix G. The sampling program was performed in accordance with NYSDEC CLP Analytical Services Protocol.

5.6 SOIL BORING SAMPLING

On February 4, 1999, three soil borings were installed by S&S Subsurface Investigations, Inc. of Point Pleasant, New Jersey utilizing the Geoprobe™ sampling system. The soil borings were located to assess the soil quality in the suspect areas identified by the passive soil gas survey and are shown on Figure 9. Soil samples were collected continuously in four-foot intervals until ground water was encountered. Samples were field screened both visually (i.e., examining for staining) and using a HNu photoionization detector with an 11.7 eV lamp. Based on the results of the field screening, selected samples (one per boring) were submitted for laboratory analysis of TCL VOCs. The sampling program was performed in accordance with NYSDEC CLP Analytical Services Protocol.



6.0 RESULTS

6.1 PASSIVE SOIL GAS SURVEY

In October 1998, a passive soil gas survey was completed. A total of 22 samples, including a trip blank, were collected for analysis of chlorinated VOCs. The results of the survey indicated several potential anomalies where elevated concentrations of VOCs in the soil may be present in the vicinity of the dry cleaning establishment. The resultant data was geographically plotted on a map of the site. The results are included in Appendix I.

6.2 SOIL INVESTIGATION

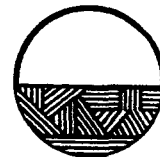
The soil quality phases of the investigation were conducted in April 1998 and February 1999. The initial investigation involved the collection of samples from soil borings completed for monitoring well installation purposes. The purpose of the initial soil sampling event was to assess whether impacted soils were present in areas where volatile organic compounds had been detected in ground water during a 1988 investigation. The second soil sampling event (February 1999) was conducted to assess the quality of soils identified by the passive soil gas survey as being potentially impacted by chlorinated VOCs.

6.2.1 April 1998 Soil Sampling

During the April 1998 monitoring well installation activities, one split-spoon soil sample was collected from each monitoring well/test boring. The samples were submitted for laboratory analysis of TCL VOCs, TCL SVOCs, TCL PCB/pesticides, and TAL metals. The duplicate sample, MW-6 was collected from the same location and depth as the sample from the MW-3 location. The depths of submitted samples and analytical results are included in Table 3 and are shown on Figures 10 and 11. None of the samples submitted contained any VOCs, SVOCs, or PCB/pesticides in excess of the NYSDEC RSCO.

Selected SVOCs and pesticides were detected across the site at low concentrations. It should be noted that 13 SVOCs were detected in the soil sample collected from Well MW-3 while the remaining samples had a maximum of five SVOCs detected. As the concentrations of SVOCs and pesticides across the site were low, the presence of these compounds is not considered to be significant.

With the exception of barium, lead, and zinc, all metals were detected at the same order of magnitude across the site suggesting that these metals are naturally occurring in the soils at the site. Barium, lead, and zinc were detected approximately one order of magnitude higher in the sample and duplicate collected from 18 to 20 foot interval of MW-3 than the other wells.



6.2.2 February 1999 Soil Sampling

On February 4, 1999 BELL collected soil samples from three soil borings completed in the vicinity of the dry cleaners. Based on field screening results, one soil sample from each boring was submitted for laboratory analysis of TCL VOCs. The analytical results are summarized in Table 4 and are shown on Figure 9. Several VOCs were detected including tetrachloroethene, cis-1,2-dichloroethene, and trichloroethene, however all detected concentrations were below the applicable NYSDEC RSCO.

6.3 GROUND WATER INVESTIGATION

Three phases of ground water investigation were conducted as part of this remedial investigation. Two rounds of ground water samples were collected from the onsite monitoring wells in June 1998 and January 1999 to characterize ground water quality. In addition, ground water samples were collected via temporary well points during two sampling events conducted in January and February 1999. The temporary well points were completed in an attempt to delineate the downgradient extent of the ground water plume both onsite and offsite.

6.3.1 Ground Water Sampling Via Monitoring Wells

On June 4, 1998 and January 26, 1999, BELL collected ground water samples from each of the on-site monitoring wells, MW-1 through MW-5. The analytical program included TCL VOCs, TCL SVOCs, TCL PCB/pesticides, and TAL metals. A summary of the results is included in Tables 5 and 6. Results are also shown on Figures 12 and 13.

The results of the ground water investigation indicated that tetrachloroethene and 1,2-dichloroethane were detected above the NYSDEC AWQS in samples collected from two downgradient wells, MW-2 and MW-4, located in close proximity to the onsite dry cleaning establishment. Tetrachloroethene was detected above the AWQS (5 ug/l) in both wells during both sampling events at concentrations ranging from 13 to 15 ug/l in Well MW-4 and 81 to 87 ug/l in Well MW-2. Tetrachloroethene was also detected in a sample collected from Well MW-3 at a concentration of 2 ug/l. The concentrations of 1,2-dichloroethane were detected at concentrations above the AWQS (0.6 ug/l) during the January 1999 sampling round for Well MW-2 (18 ug/l) and during the June 1998 sampling round for Well MW-4 (3 ug/l).

Furthermore, several additional chlorinated VOCs were detected at low levels in the downgradient monitoring wells. A concentration of 1,2-dichloroethene (total) was detected in Well MW-2 during the June 1998 sampling round. The analytical results from the January 1999 sampling round indicate the presence of chloroform (Wells MW-2 and MW-4) and trichloroethene and cis-1,2-dichloroethene in Well MW-2. With the exception of methylene chloride, the chlorinated VOCs detected during the ground water sampling events are compounds that are commonly found in dry-cleaning solvents or are transformation products.



resulting from the environmental degradation of dry cleaning solvent compounds. Although methylene chloride was detected in the field blank for the January 1999 sampling event, this compound is a common laboratory artifact and, therefore, it is unlikely that this compound is present in the ground water at the site.

Low levels of SVOCs were detected in several of the wells during the June 1998 ground water sampling round. The SVOCs were detected in both upgradient and downgradient wells and were well below the AWQS.

Several pesticides were detected in the ground water samples collected during the June 1998 sampling round. The compounds were detected at low levels and were generally consistent across the site.

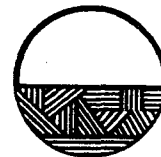
Several metals were also detected in non-filtered ground water samples at concentrations above the NYSDEC standards. During the June 1998 sampling round, metals which exceeded the applicable standards included antimony, iron, lead, magnesium, manganese, and sodium. During the January 1999 sampling round, only iron, manganese, and sodium were detected above the applicable standards. With the exception of lead, these metals were detected at the same order of magnitude in upgradient and downgradient wells and, therefore, do not appear to be related to site operations. Furthermore, the concentration of lead detected in the sample from Well MW-4 during the January 1999 sampling round was well below NYSDEC standards.

6.3.2 Ground Water Sampling Via Temporary Well Points

On January 26, 1999 and February 4, 1999, BELL collected ground water samples from eight temporary well points. The analytical program included TCL VOCs and lead. The results are summarized in Tables 7 and 8 and are indicated on Figure 8.

The results of the delineation samples indicated that several VOCs were detected at concentrations in excess of the AWQS on the subject property as well as off-site on the southbound side of South Street. VOCs detected on-site in excess of the AWQS included cis-1,2-dichloroethene, ethylbenzene, tetrachloroethene, trichloroethene, and 1,2-dichloroethane. VOCs detected in off-site sample points at concentrations exceeding NYSDEC standards included tetrachloroethene and cis-1,2-dichloroethene.

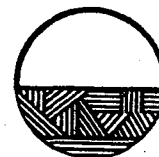
Tetrachloroethene was detected at concentrations which were over two orders of magnitude higher than the AWQS of 5 ug/l in the ground water sample collected from locations HP-7 (880 ug/l) and HP-4 (550 ug/l). The ground water sample collected from location HP-7 also had a reported concentration of cis-1,2-dichloroethene (120 ug/l) which was more than an order of magnitude above the AWQS (5 ug/l). Tetrachloroethene was also detected at a concentration more than an order of magnitude above the AWQS (5 ug/l) in a ground water sample collected from Location HP-5 (160 ug/l). Location HP-7 is



located onsite and immediately downgradient of the building which houses the dry cleaning establishment. Locations HP-4 and HP-5 are located offsite and are also downgradient of the dry cleaning establishment.

The remaining chlorinated VOCs were detected at concentrations slightly above the AWQS in ground water samples collected both sidegradient and downgradient of the dry cleaning establishment. Furthermore, benzene, ethylbenzene, and total xylenes were detected at low concentrations in several samples collected north and west of the dry cleaning establishment. As this area has been utilized for parking for at least 40 years, the presence of the gasoline-related compounds can be attributed to minor leaks from parked vehicles.

In addition, all temporary well points contained concentrations of lead in excess of NYSDEC AWQS. However, as the collection of ground water samples from temporary wells results in highly turbid samples, it is likely that the lead detected is related to the high silt content noted in the samples. The concentrations detected in the onsite monitoring wells were significantly lower.



7.0 CONCLUSIONS

7.1 SOIL

Based on the data collected during the PSA, it appears that there are low levels of chlorinated compounds present in the soil which are related to past operations by the dry cleaning establishment. However, the concentrations detected are below the RSCO and do not appear to pose a significant impact to ground water quality.

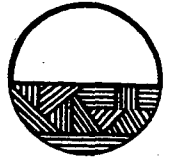
In addition, three metals (barium, lead, and zinc) were detected at elevated levels in a soil sample collected from the MW-3 location at a depth of 18-20 feet bgs. Although these concentrations were significantly higher than concentrations elsewhere on the site, BELL could find no evidence of site operations which produced the noted metals.

7.2 GROUND WATER

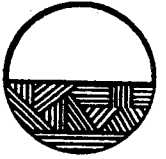
The results of the PSA indicate that chlorinated compounds are present within the vicinity of the onsite dry cleaning establishment. The compounds present are primarily tetrachloroethene, 1,2-dichloroethane, and cis-1,2-dichloroethene. The remaining chlorinated VOCs detected during the ground water sampling events are compounds that are commonly found in dry-cleaning solvents or are transformation products resulting from the environmental degradation of dry cleaning solvent compounds. Because these compounds were not detected in upgradient wells (MW-1 and MW-5), their presence is most likely related to historic operations at the dry cleaning business. The highest concentrations of chlorinated compounds were detected immediately downgradient of the building which houses the dry cleaning establishment. BELL performed an inspection of the facility and found no evidence that current operations are creating discharges to the environment. Furthermore, the results of the passive soil gas survey did not identify the potential presence of historic operations (e.g. a leachfield, etc.) which would be acting as a continuous source of ground water contamination.

Because the area is served by municipal water, it appears that the presence of these compounds does not pose a significant threat to human receptors. To verify this, BELL proposes to perform a vapor survey of all utilities in the vicinity of the impacted area. Furthermore, BELL will perform site canvassing to confirm that there are no potable well users within ¼-mi of the site.

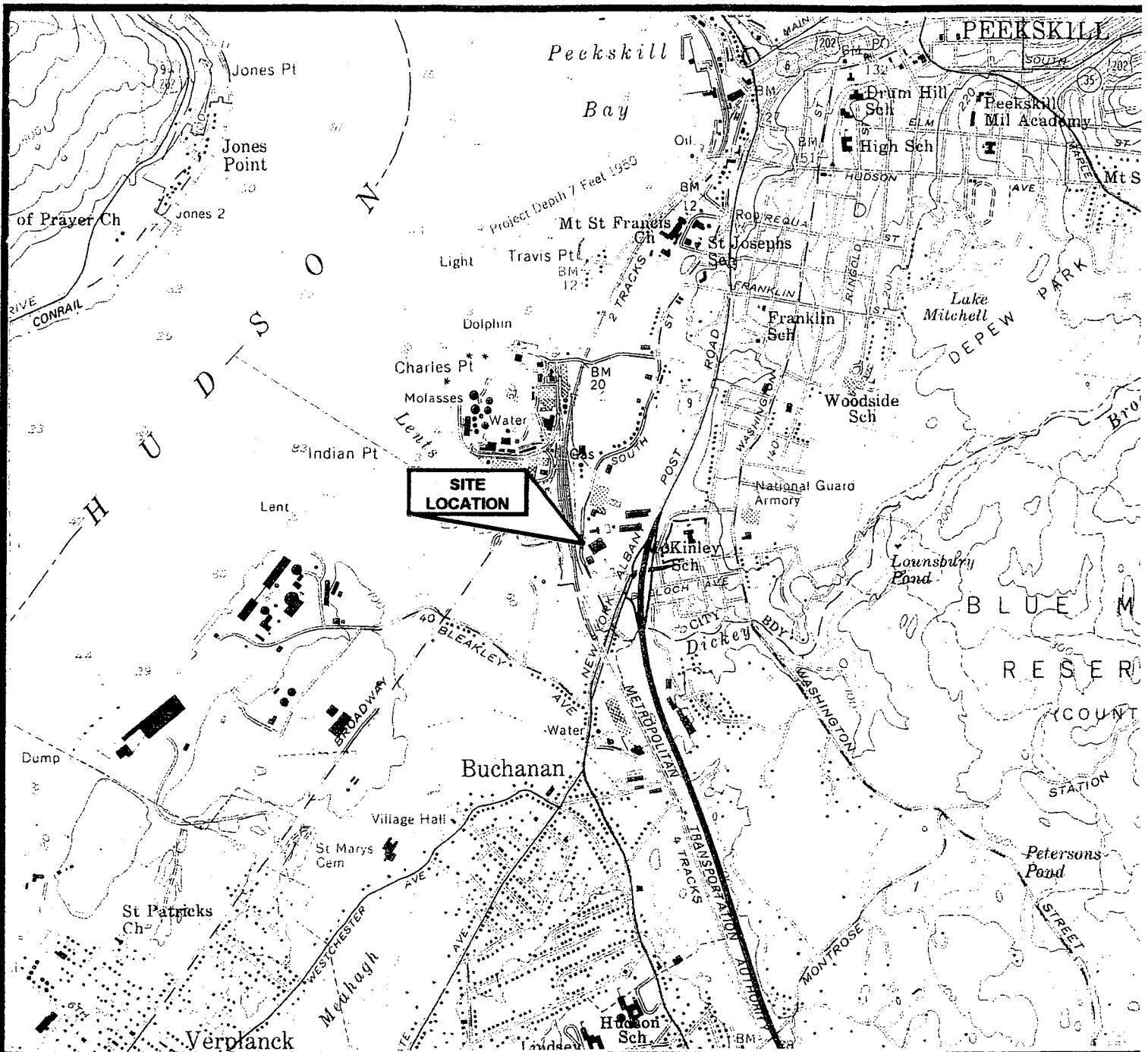
To define the horizontal and vertical extent of chlorinated compounds in ground water, BELL proposes to install two permanent wells offsite at locations approximately 500 ft downgradient from the facility. To complete this task, it will be necessary to obtain offsite access. Furthermore, BELL proposes to install a deep well in the vicinity of temporary well point HP-7. In addition to evaluating the vertical extent of compounds of concern, the well will allow BELL to evaluate the vertical gradient in the vicinity of the impacted area. The



deeper well will also be used to evaluate the potential presence of separate phase product that may be acting as a continuing source. If the NYSDEC is in agreement with this scope of work, BELL will submit a work plan for completion of these tasks.



FIGURES



SITE LOCATION MAP

Peekskill Plaza
20 Welcher Avenue

Peekskill

Westchester County

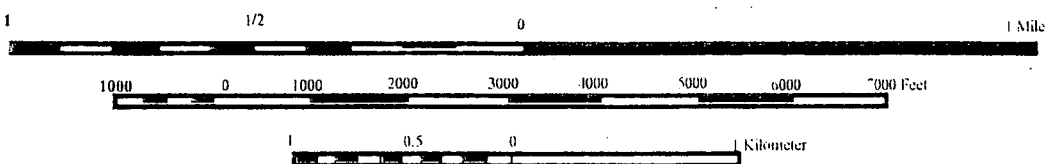
New York

QUAD LOCATION



USGS 7.5 MINUTE
Peekskill, N.Y.
QUADRANGLE

SCALE 1:24,000



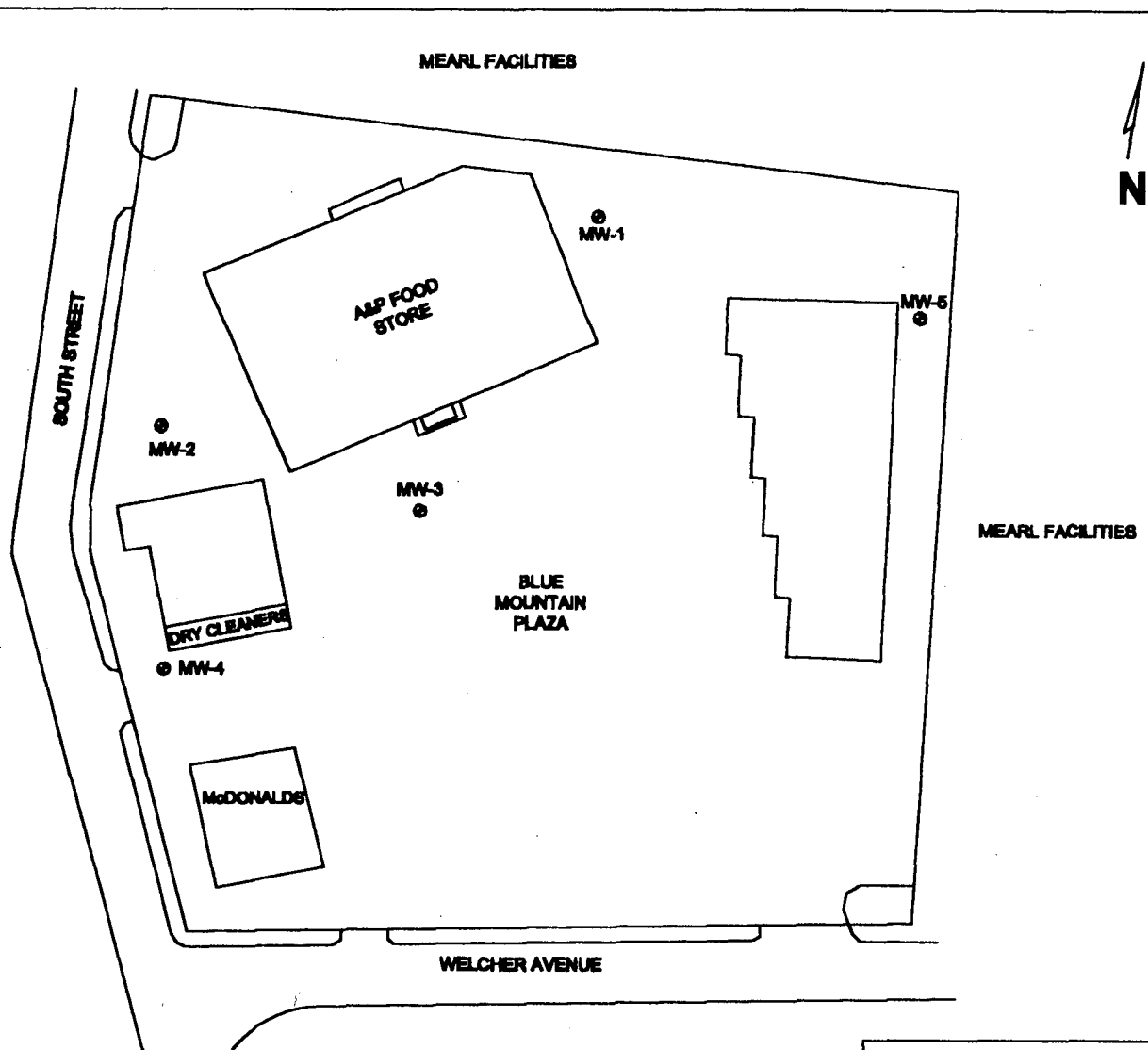
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

N



FIGURE #1

BELL PROJECT # EOC01-93042-01



LEGEND
 ● EXISTING MONITORING WELL LOCATION

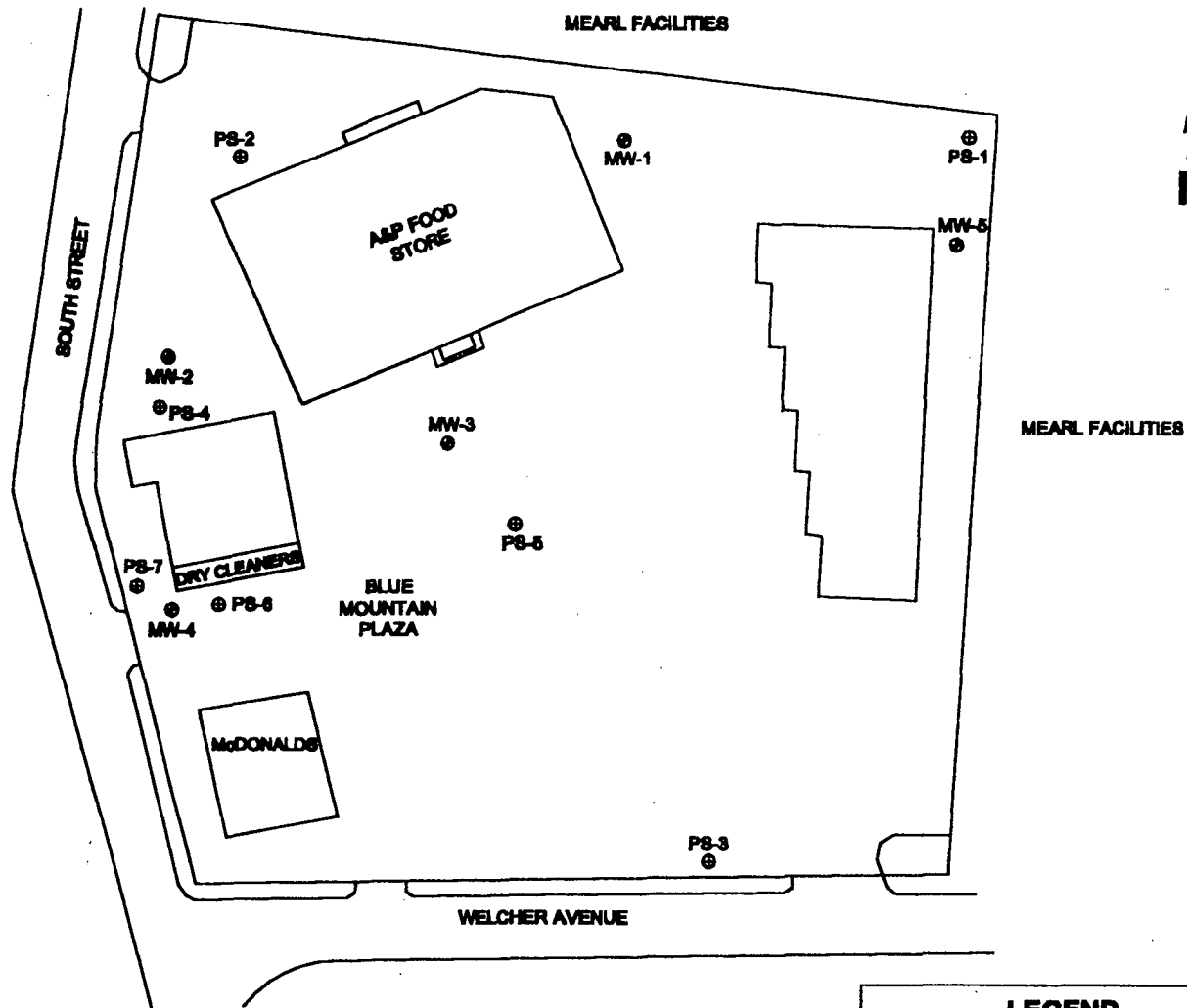
FIGURE 2
SITE PLAN

No.	Building/Feature	Date

For Name and Address
BELL ENVIRONMENTAL
 295 C ROUTE 44
 BUDD LAKE, NJ 07828

Project Name and Address
PEEKSKILL PLAZA
 20 WELCHER AVENUE
 PEEKSKILL, NEW YORK

Drawn: 93042-01
 Date: MAY 1999
 Scale: 1" = 116'



LEGEND

- EXISTING BELL MONITORING WELL LOCATION
- ⊕ ABANDONED ERL MONITORING WELL LOCATION

FIGURE 3
LOCATION OF
EXISTING AND
HISTORICAL
MONITORING
WELLS

No.	Location/Name	Date

Prepared by:
BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

Project Name and Address:
PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

Report No. and Date:
93042-01
MAY 1999
1" = 116'

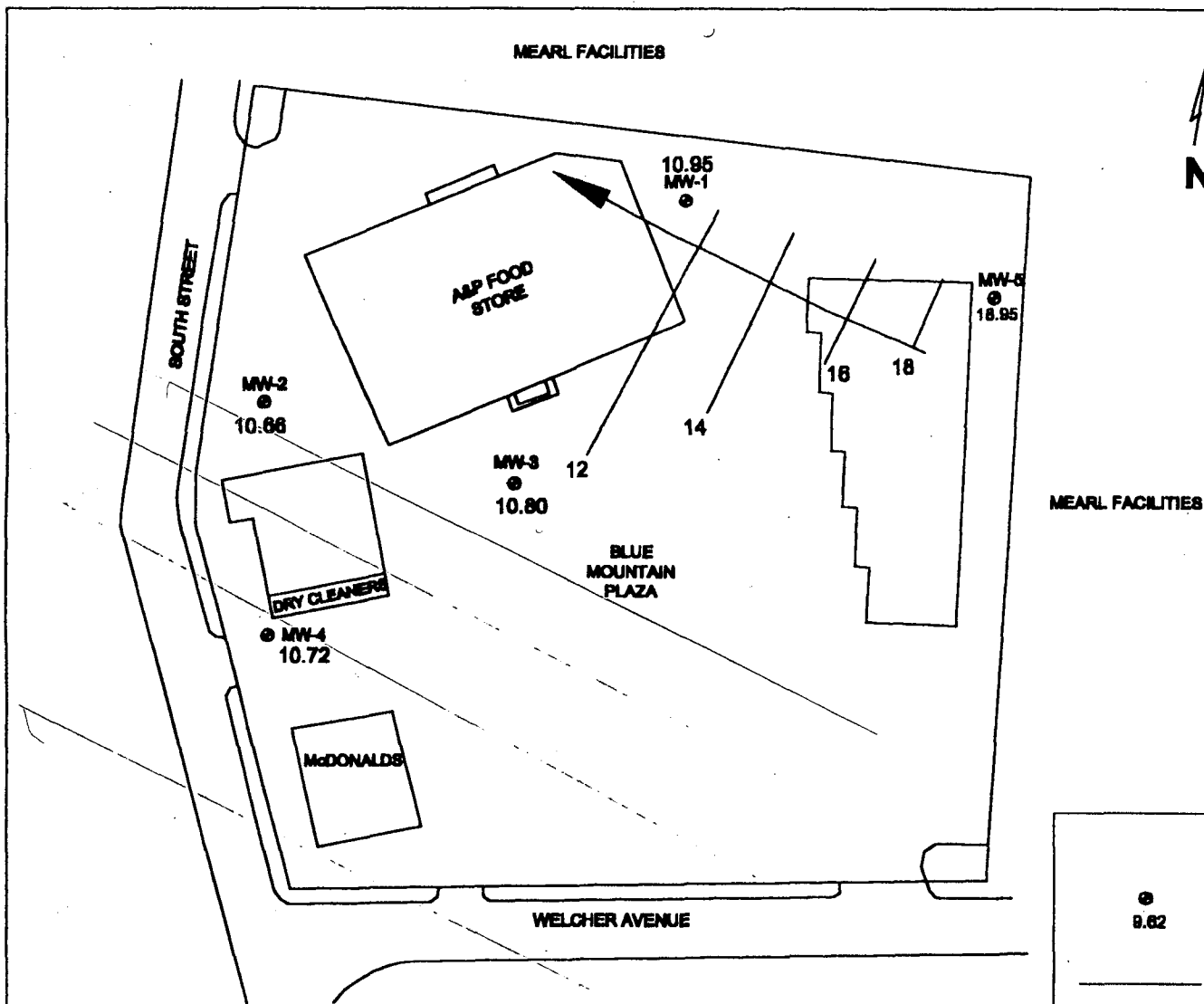


FIGURE 4
INTERPRETED
GROUND WATER
TABLE CONTOUR
MAP FOR
JUNE 4, 1998

No.	Building/Person	Date

BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

93042-01
MAY 1999
1" = 116'

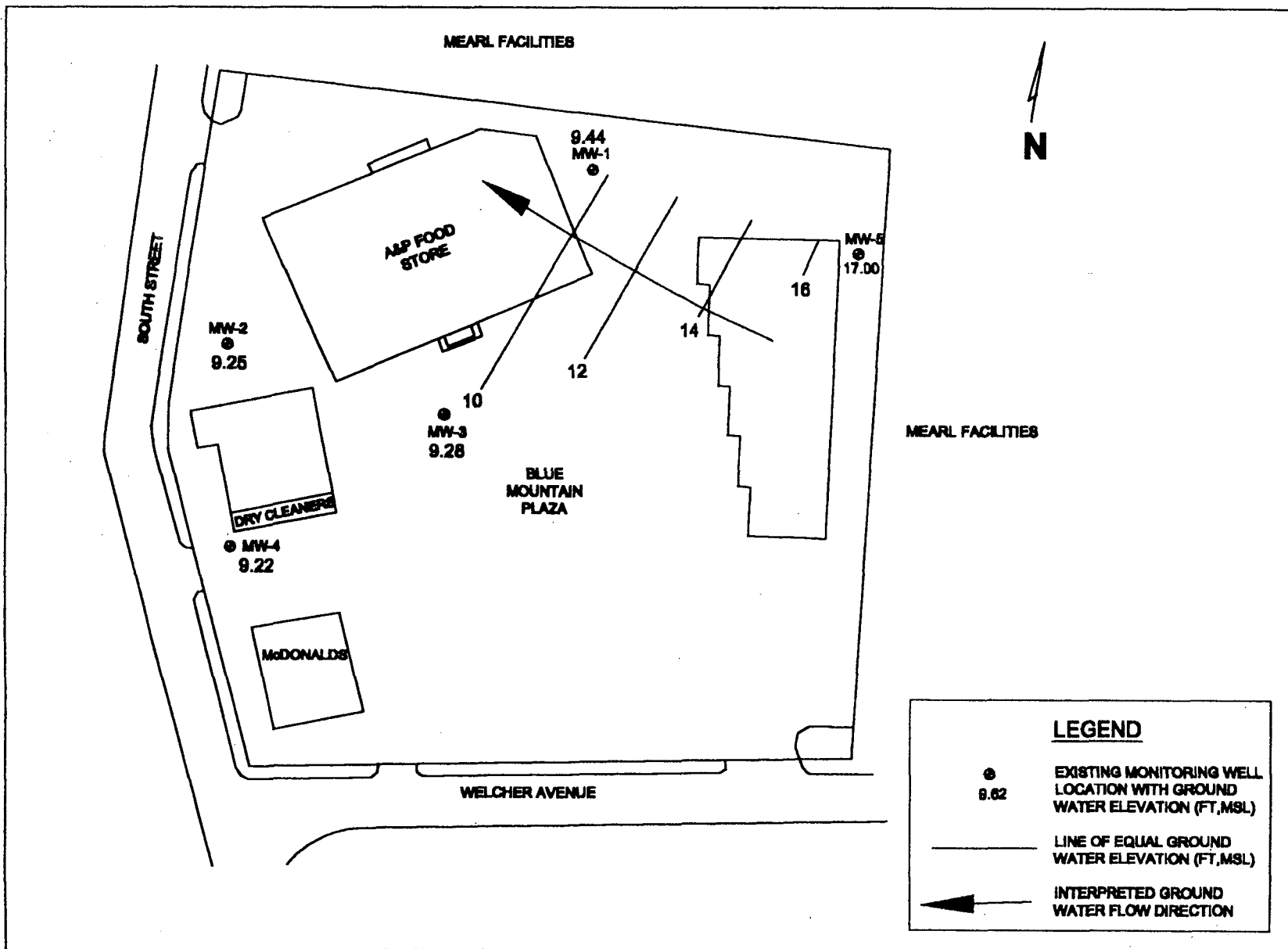


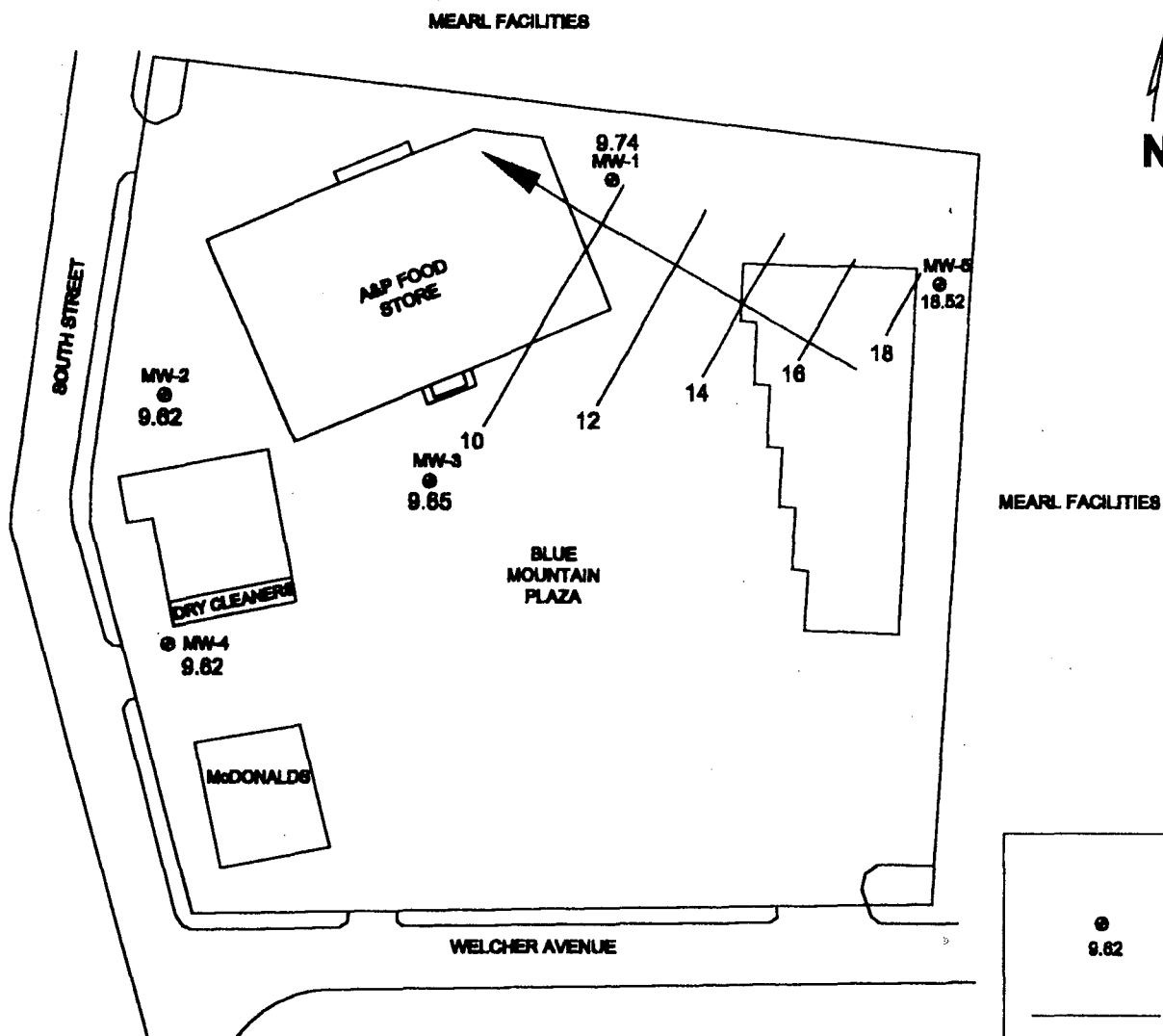
FIGURE 5
INTERPRETED
GROUND WATER
TABLE CONTOUR
MAP FOR
OCTOBER 16, 1998

No.	Revision/Notes	Date

BELL ENVIRONMENTAL
295 C ROUTE 44
BUDD LAKE, NJ 07828

PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

Project: 93042-01
Date: MAY 1999
Scale: 1" = 116'



LEGEND

●
9.62

EXISTING MONITORING WELL
LOCATION WITH GROUND
WATER ELEVATION (FT. MSL)

—
LINE OF EQUAL GROUND
WATER ELEVATION (FT. MSL)

▲
INTERPRETED GROUND
WATER FLOW DIRECTION

FIGURE 6
INTERPRETED
GROUND WATER
TABLE CONTOUR
MAP FOR
JANUARY 26, 1999

BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

PEBSKILL PLAZA
20 WELCHER AVENUE
PEBSKILL, NEW YORK

93042-01
MAY 1999
1" = 116'

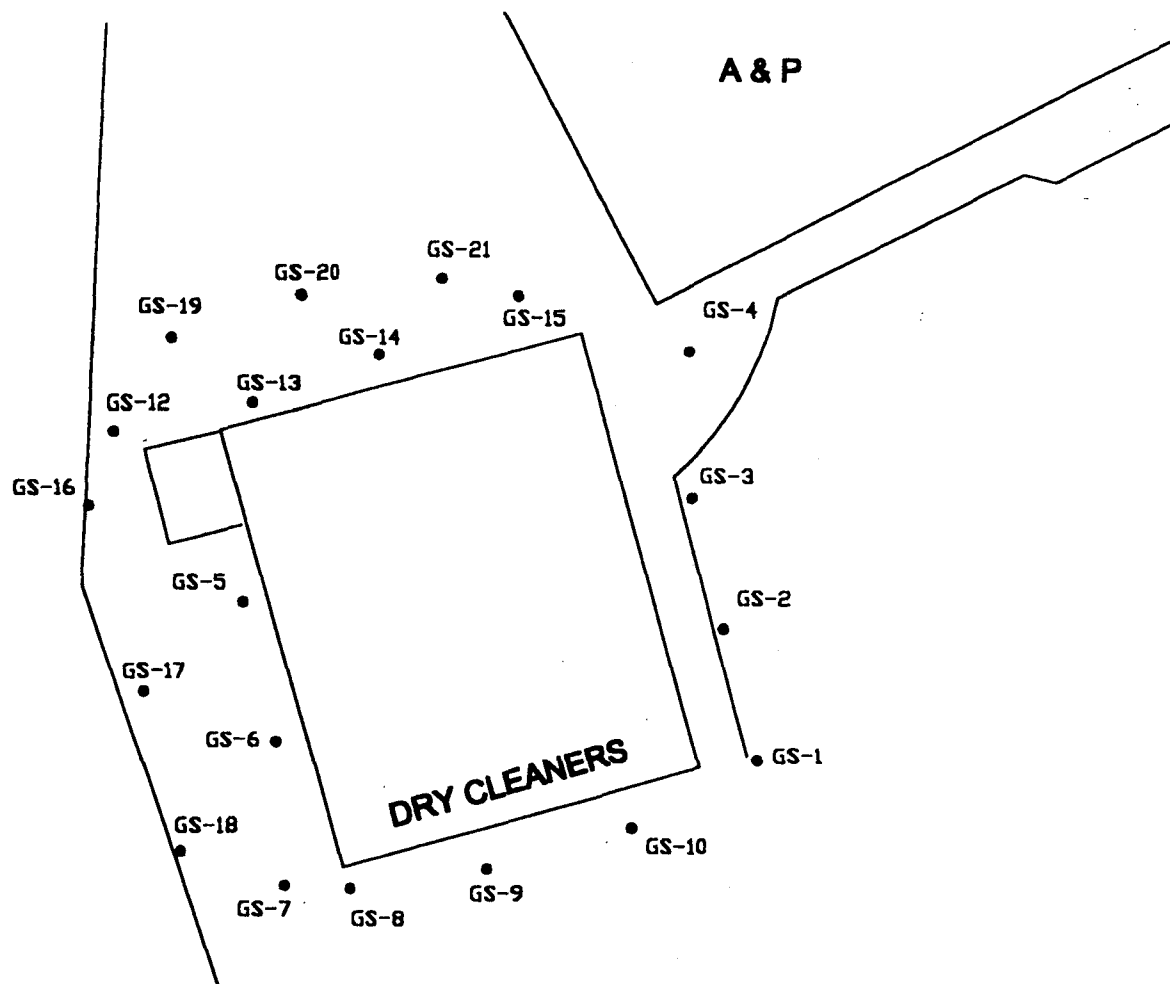


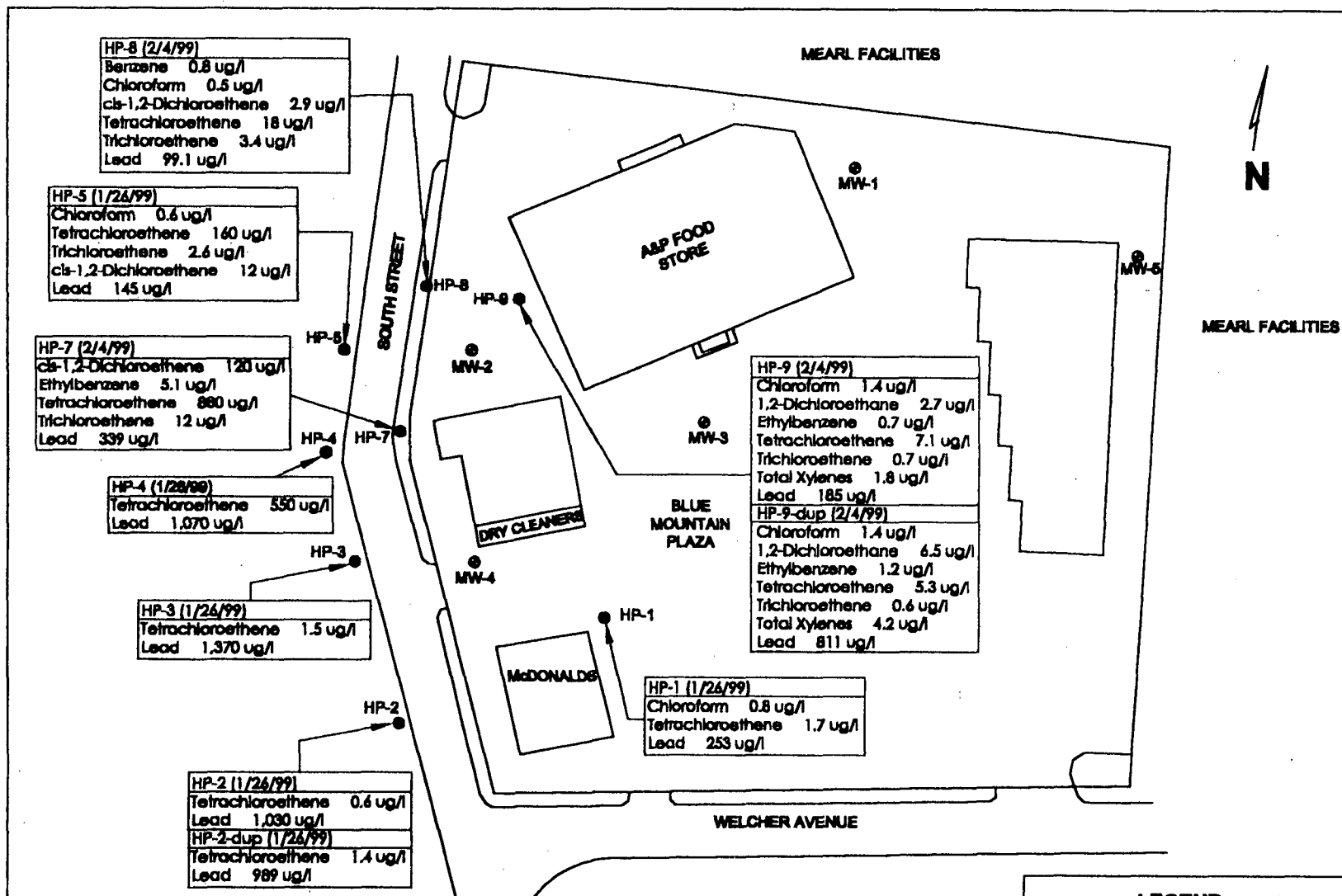
FIGURE 7
PASSIVE SOIL GAS
SURVEY SAMPLE
LOCATIONS

No.	Location/Notes	Date

For Name and Address
BELL ENVIRONMENTAL
295 C ROUTE 44
BUDD LAKE, NJ 07828

Project Name and Address
PEESKILL PLAZA
20 WELCHER AVENUE
PEESKILL, NEW YORK

Project	93042-01	Date	
Month	MAY 1992	Scale	1" = 42'



LEGEND

- EXISTING MONITORING WELL LOCATION
- TEMPORARY WELL POINT LOCATION

FIGURE 8
TEMPORARY WELL
POINT RESULTS FOR
JANUARY 26, 1999
AND
FEBRUARY 4, 1999

Date	Monitoring/Point	Notes

Prepared by:
BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

Project Name and Address:
PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

Page: 93042-01
Date: MAY 1999
Scale: 1" = 116'

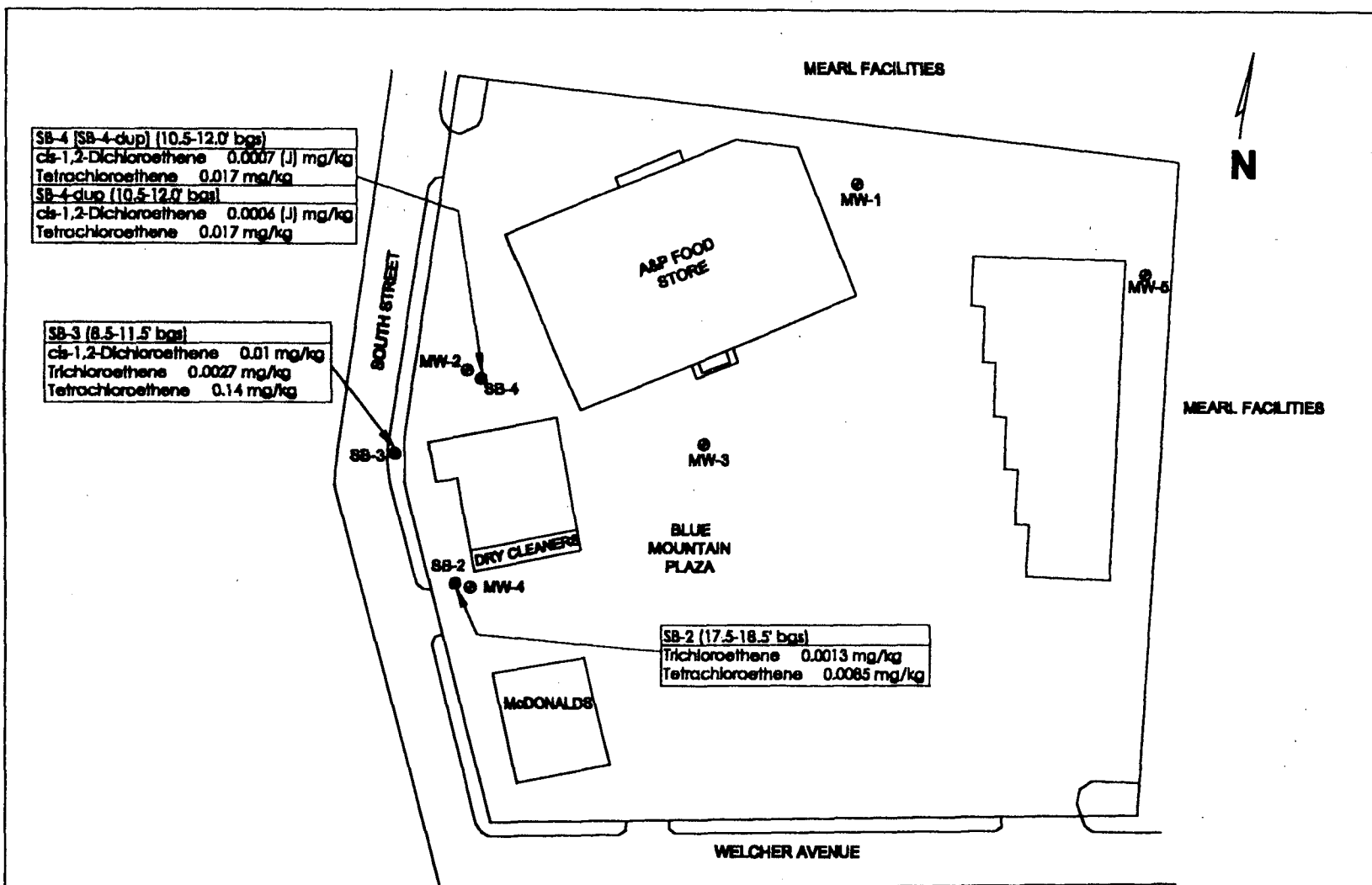


FIGURE 9
SOIL BORING
SAMPLE RESULTS
FOR
FEBRUARY 4, 1999

No.	Location/Notes	Date

Prep. Date and Office
 BELL ENVIRONMENTAL
 295 C ROUTE 46
 BUDD LAKE, NJ 07828

Report Date and Office
 PEEKSKILL PLAZA
 20 WELCHER AVENUE
 PEEKSKILL, NEW YORK

Report No. 93042-01
Date MAY 1999
Scale 1" = 116'

MEARL
FACILITIES

MW-1 (9-11' bgs)
Naphthalene 0.014 (J) mg/kg
Di-n-butylphthalate 0.023 (J) mg/kg
Fluoranthene 0.020 (J) mg/kg
Pyrene 0.340 (J) mg/kg
bis(2-Ethylhexyl)phthalate 0.170 (J) mg/kg

MW-5 (7-9' bgs)
Naphthalene 0.033 (J) mg/kg
Di-n-butylphthalate 0.015 (J) mg/kg
bis(2-Ethylhexyl)phthalate 0.048 (J) mg/kg

MW-2 (18-20' bgs)
Tetrachloroethene 0.006 (J) mg/kg
Naphthalene 0.013 (J) mg/kg
Di-n-butylphthalate 0.010 (J) mg/kg

SOUTH STREET

A&P FOOD
STORE

BLUE
MOUNTAIN
PLAZA

N

MEARL FACILITIES

MW-3 (MW-3-dup) (18-20' bgs)
bis(2-Ethylhexyl)phthalate 0.04 (J) mg/kg [0.074 (J) mg/kg]
Acenaphthalene 0.019 (J) mg/kg [ND]
Phenanthrene 0.110 (J) mg/kg [0.130 (J) mg/kg]
Anthracene 0.023 (J) mg/kg [0.028 (J) mg/kg]
Chrysene 0.130 (J) mg/kg [0.140 (J) mg/kg]
Benzo(g,h,i)perylene 0.034 (J) mg/kg [0.095 (J) mg/kg]
Indeno(1,2,3-cd)pyrene 0.071 (J) mg/kg [0.077 (J) mg/kg]
Benzo(a)pyrene 0.096 (J) mg/kg [0.096 (J) mg/kg]
Benzo(k)fluoranthene 0.065 (J) mg/kg [0.063 (J) mg/kg]
Benzo(b)fluoranthene 0.076 (J) mg/kg [0.081 (J) mg/kg]
Benzo(a)anthracene 0.092 (J) mg/kg [0.100 (J) mg/kg]
Pyrene 0.180 (J) mg/kg [0.200 (J) mg/kg]
Fluoranthene 0.120 (J) mg/kg [0.140 (J) mg/kg]

DRY CLEANERS

MW-4 (17-19' bgs)
Diethylphthalate 0.019 (J) mg/kg
Di-n-butylphthalate 0.067 (J) mg/kg
bis(2-Ethylhexyl)phthalate 0.039 (J) mg/kg

McDONALDS

WELCHER AVENUE

LEGEND

● EXISTING MONITORING WELL LOCATION

FIGURE 10
MONITORING WELL
SOIL SAMPLE
RESULTS FOR
APRIL 21-24, 1998 -
VOLATILE AND
SEMIVOLATILE
ORGANIC
COMPOUNDS

No.	Residence/Person	Date

BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

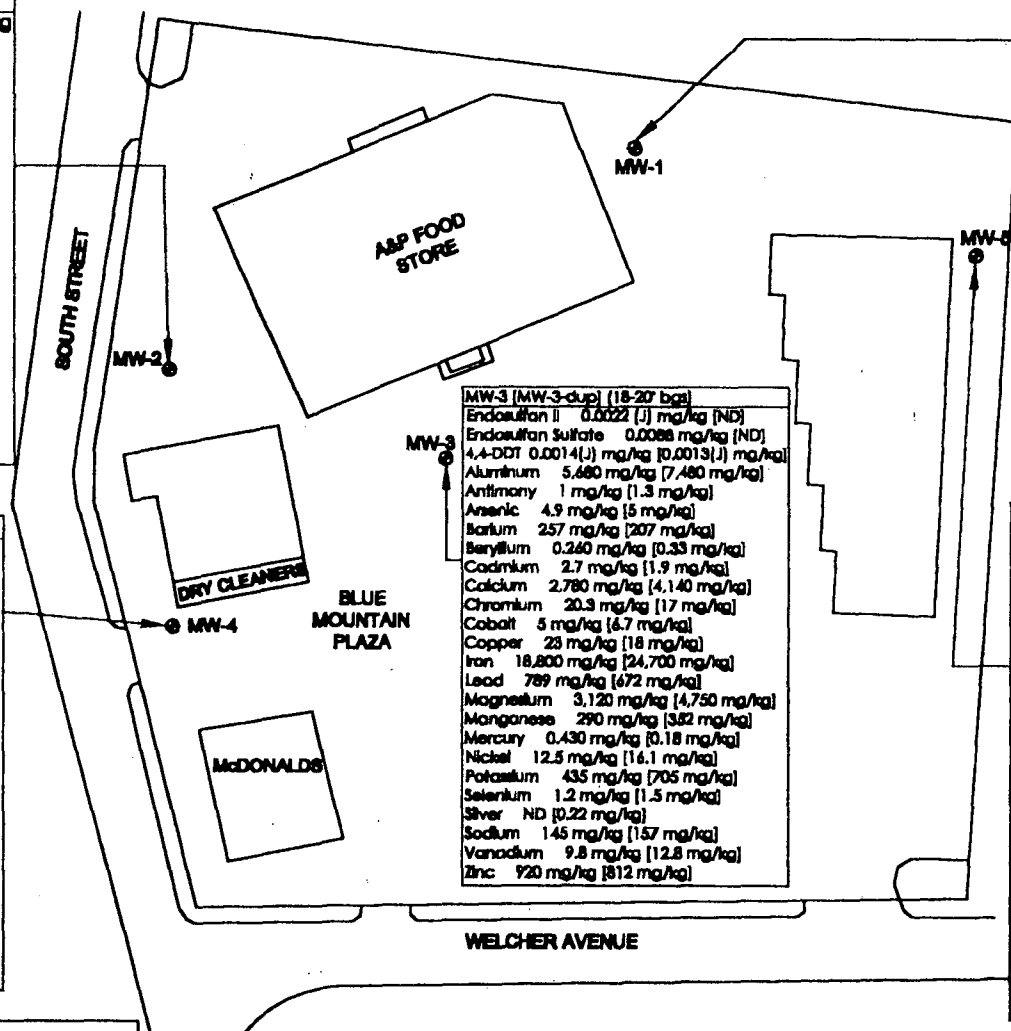
PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

93042-01
MAY 1998
1" = 116'

MW-2 (18-20' bgs)
 delta-BHC 0.014 (J) mg/kg
 Aluminum 8,540 mg/kg
 Arsenic 4 mg/kg
 Barium 28.7 mg/kg
 Beryllium 0.38 mg/kg
 Calcium 1,330 mg/kg
 Chromium 10.1 mg/kg
 Cobalt 7.6 mg/kg
 Copper 20.2 mg/kg
 Iron 23,000 mg/kg
 Lead 10 mg/kg
 Magnesium 4,500 mg/kg
 Manganese 399 mg/kg
 Nickel 17.4 mg/kg
 Potassium 776 mg/kg
 Selenium 1.3 mg/kg
 Sodium 160 mg/kg
 Thallium 0.63 mg/kg
 Vanadium 13.9 mg/kg
 Zinc 59.6 mg/kg

MW-4 (17-19' bgs)
 delta-BHC 0.094 (J) mg/kg
 Aluminum 9,060 mg/kg
 Arsenic 3.4 mg/kg
 Barium 31.7 mg/kg
 Beryllium 0.42 mg/kg
 Calcium 7,310 mg/kg
 Chromium 10.7 mg/kg
 Cobalt 7.6 mg/kg
 Copper 20.4 mg/kg
 Iron 24,000 mg/kg
 Lead 9.4 mg/kg
 Magnesium 6,100 mg/kg
 Manganese 413 mg/kg
 Nickel 18.5 mg/kg
 Potassium 716 mg/kg
 Selenium 1.2 mg/kg
 Sodium 107 mg/kg
 Thallium 0.63 mg/kg
 Vanadium 14.4 mg/kg
 Zinc 66 mg/kg

MEARL FACILITIES



MW-3 (MW-3-dup) (18-20' bgs)
 Endosulfan II 0.0022 (J) mg/kg [ND]
 Endosulfan Sulfate 0.0088 mg/kg [ND]
 4,4-DDT 0.0014 (J) mg/kg [0.0013 (J) mg/kg]
 Aluminum 5,480 mg/kg [7,480 mg/kg]
 Antimony 1 mg/kg [1.3 mg/kg]
 Arsenic 4.9 mg/kg [5 mg/kg]
 Barium 257 mg/kg [207 mg/kg]
 Beryllium 0.260 mg/kg [0.33 mg/kg]
 Cadmium 2.7 mg/kg [1.9 mg/kg]
 Calcium 2,780 mg/kg [4,140 mg/kg]
 Chromium 20.3 mg/kg [17 mg/kg]
 Cobalt 5 mg/kg [6.7 mg/kg]
 Copper 28 mg/kg [18 mg/kg]
 Iron 18,800 mg/kg [24,700 mg/kg]
 Lead 789 mg/kg [672 mg/kg]
 Magnesium 3,120 mg/kg [4,750 mg/kg]
 Manganese 290 mg/kg [382 mg/kg]
 Mercury 0.430 mg/kg [0.18 mg/kg]
 Nickel 12.5 mg/kg [16.1 mg/kg]
 Potassium 435 mg/kg [705 mg/kg]
 Selenium 1.2 mg/kg [1.5 mg/kg]
 Silver ND [0.22 mg/kg]
 Sodium 145 mg/kg [157 mg/kg]
 Vanadium 9.8 mg/kg [12.8 mg/kg]
 Zinc 920 mg/kg [812 mg/kg]

MW-1 (9-11' bgs)
 delta-BHC 0.11 (J) mg/kg
 4,4-DDE 4.7 mg/kg
 4,4-DDT 2.4 (J) mg/kg
 Aluminum 9,770 mg/kg
 Arsenic 4.5 mg/kg
 Barium 37.5 mg/kg
 Beryllium 0.44 mg/kg
 Calcium 3,100 mg/kg
 Chromium 11.6 mg/kg
 Cobalt 8.1 mg/kg
 Copper 23.4 mg/kg
 Iron 25,500 mg/kg
 Lead 15.8 mg/kg
 Magnesium 5,650 mg/kg
 Manganese 588 mg/kg
 Nickel 20.2 mg/kg
 Potassium 955 mg/kg
 Selenium 1.4 mg/kg
 Sodium 208 mg/kg
 Thallium 0.64 mg/kg
 Vanadium 17.7 mg/kg
 Zinc 70.7 mg/kg

MEARL FACILITIES

MW-5 (7-9' bgs)
 delta-BHC 0.120 (J) mg/kg
 4,4-DDE 0.180 (J) mg/kg
 4,4-DDT 0.210 (J) mg/kg
 Aluminum 11,200 mg/kg
 Arsenic 5.5 mg/kg
 Barium 45.8 mg/kg
 Beryllium 0.510 mg/kg
 Calcium 2,090 mg/kg
 Chromium 13,200 mg/kg
 Cobalt 10.3 mg/kg
 Copper 25.2 mg/kg
 Iron 38,000 mg/kg
 Lead 13.6 mg/kg
 Magnesium 5,640 mg/kg
 Manganese 669 mg/kg
 Nickel 23.8 mg/kg
 Potassium 969 mg/kg
 Selenium 3.2 mg/kg
 Sodium 182 mg/kg
 Thallium 1.2 mg/kg
 Vanadium 19.7 mg/kg
 Zinc 77.7 mg/kg

LEGEND

● EXISTING MONITORING WELL LOCATION

FIGURE 11
 MONITORING WELL
 SOIL SAMPLE
 RESULTS FOR
 APRIL 21-24, 1998 -
 PESTICIDES AND
 METALS

BELL ENVIRONMENTAL
 295 C ROUTE 46
 BUDD LAKE, NJ 07828

PEEKSKILL PLAZA
 20 WELCHER AVENUE
 PEEKSKILL, NEW YORK

93042-01

MAY 1999

1" = 116'

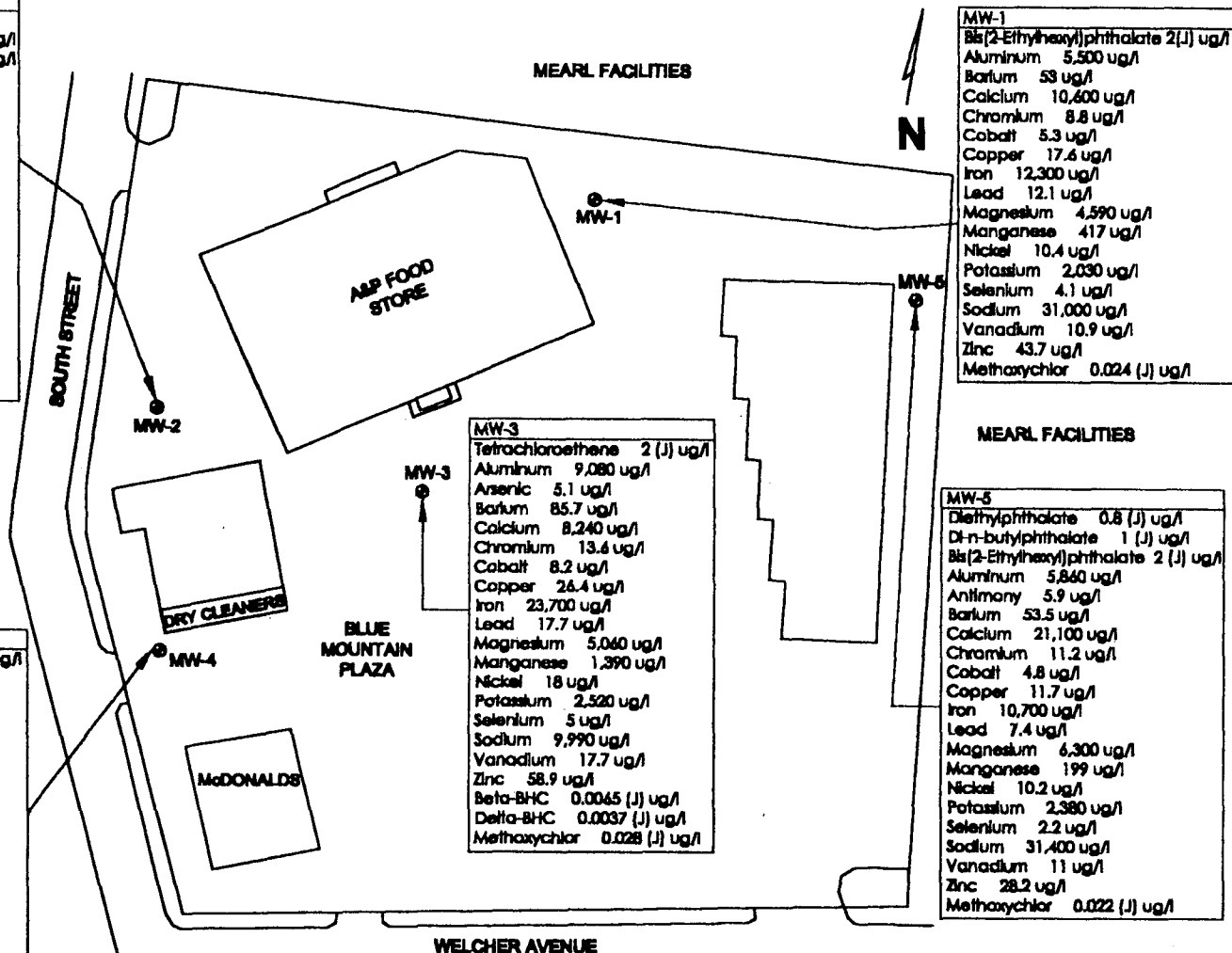
MW-2
Tetrachloroethene 87 ug/l
1,2-Dichloroethene (total) 3 (J) ug/l
bis(2-Ethylhexyl)phthalate 1 (J) ug/l
Aluminum 2,680 ug/l
Arsenic 7.4 ug/l
Barium 101 ug/l
Calcium 131,000 ug/l
Chromium 11.3 ug/l
Cobalt 4.2 ug/l
Copper 12.1 ug/l
Iron 14,200 ug/l
Lead 10.8 ug/l
Magnesium 38,000 ug/l
Manganese 1,170 ug/l
Nickel 6.9 ug/l
Potassium 5,170 ug/l
Selenium 3.7 ug/l
Sodium 126,000 ug/l
Vanadium 5.8 ug/l
Zinc 19.6 ug/l

MW-4
1,2-Dichloroethene (total) 3 (J) ug/l
Tetrachloroethene 13 ug/l
Di-n-butylphthalate 0.5 (J) ug/l
Aluminum 5,350 ug/l
Arsenic 4 ug/l
Barium 126 ug/l
Beryllium 1.4 ug/l
Calcium 50,600 ug/l
Chromium 9.4 ug/l
Cobalt 15.4 ug/l
Copper 66.5 ug/l
Iron 17,000 ug/l
Lead 47 ug/l
Magnesium 12,400 ug/l
Manganese 3,420 ug/l
Nickel 15.7 ug/l
Potassium 3,340 ug/l
Selenium 2.6 ug/l
Sodium 74,300 ug/l
Vanadium 15.9 ug/l
Zinc 63.4 ug/l
Methoxychlor 0.024 (J) ug/l

MW-3
Tetrachloroethene 2 (J) ug/l
Aluminum 9,080 ug/l
Arsenic 5.1 ug/l
Barium 85.7 ug/l
Calcium 8,240 ug/l
Chromium 13.6 ug/l
Cobalt 8.2 ug/l
Copper 26.4 ug/l
Iron 23,700 ug/l
Lead 17.7 ug/l
Magnesium 5,060 ug/l
Manganese 1,390 ug/l
Nickel 18 ug/l
Potassium 2,520 ug/l
Selenium 5 ug/l
Sodium 9,990 ug/l
Vanadium 17.7 ug/l
Zinc 58.9 ug/l
Beta-BHC 0.0045 (J) ug/l
Delta-BHC 0.0037 (J) ug/l
Methoxychlor 0.028 (J) ug/l

MW-1
Bis(2-Ethylhexyl)phthalate 2 (J) ug/l
Aluminum 5,500 ug/l
Barium 53 ug/l
Calcium 10,600 ug/l
Chromium 8.8 ug/l
Cobalt 5.3 ug/l
Copper 17.6 ug/l
Iron 12,300 ug/l
Lead 12.1 ug/l
Magnesium 4,590 ug/l
Manganese 417 ug/l
Nickel 10.4 ug/l
Potassium 2,030 ug/l
Selenium 4.1 ug/l
Sodium 31,000 ug/l
Vanadium 10.9 ug/l
Zinc 43.7 ug/l
Methoxychlor 0.024 (J) ug/l

MW-5
Diethylphthalate 0.8 (J) ug/l
Di-n-butylphthalate 1 (J) ug/l
Bis(2-Ethylhexyl)phthalate 2 (J) ug/l
Aluminum 5,860 ug/l
Antimony 5.9 ug/l
Barium 53.5 ug/l
Calcium 21,100 ug/l
Chromium 11.2 ug/l
Cobalt 4.8 ug/l
Copper 11.7 ug/l
Iron 10,700 ug/l
Lead 7.4 ug/l
Magnesium 6,300 ug/l
Manganese 199 ug/l
Nickel 10.2 ug/l
Potassium 2,380 ug/l
Selenium 2.2 ug/l
Sodium 31,400 ug/l
Vanadium 11 ug/l
Zinc 28.2 ug/l
Methoxychlor 0.022 (J) ug/l



LEGEND

● EXISTING MONITORING WELL LOCATION

FIGURE 12
GROUND WATER
MONITORING WELL
RESULTS FOR
JUNE 4, 1998

BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

93042-01

MAY 1999

1" = 116'

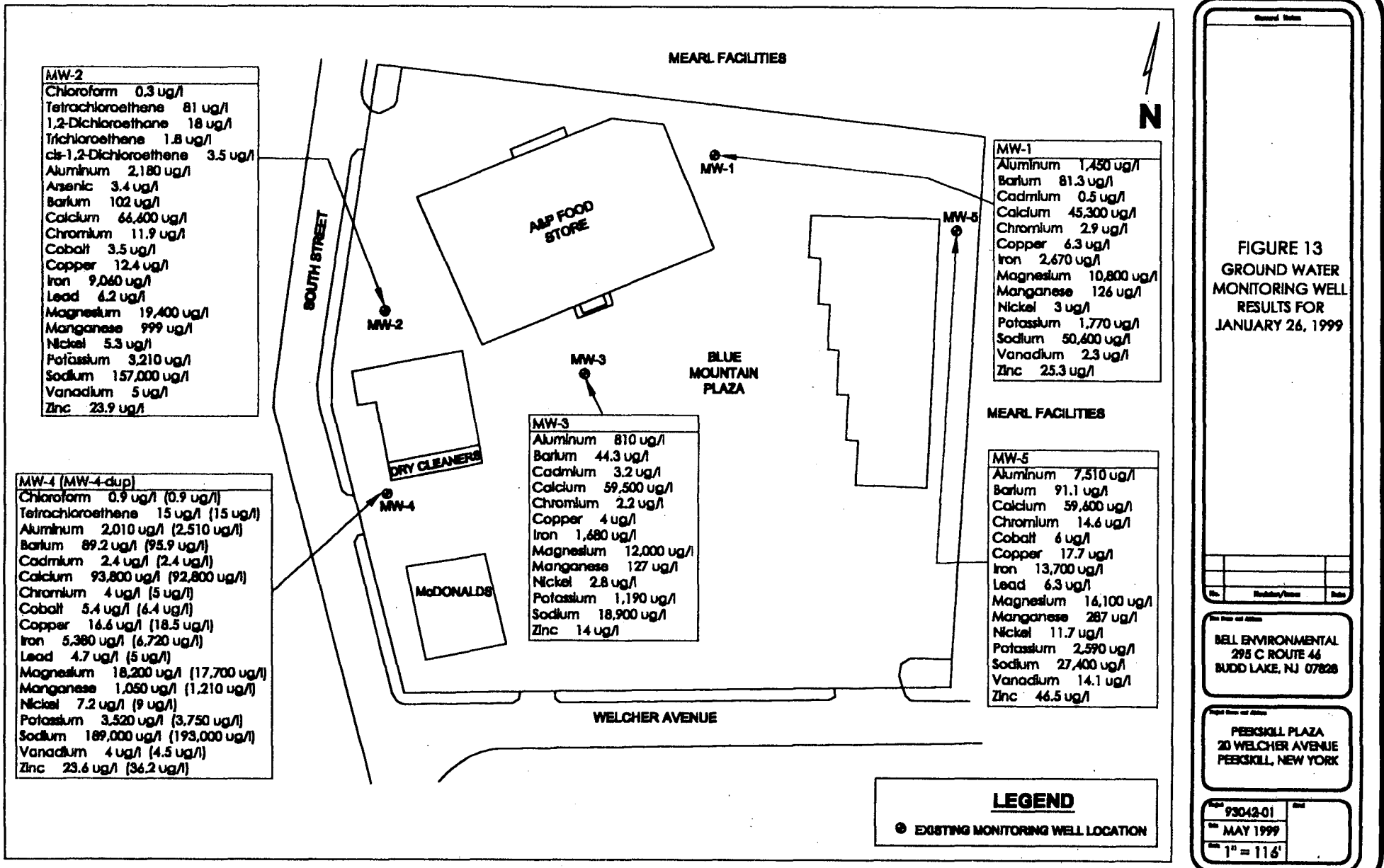
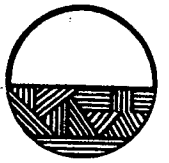


FIGURE 13
GROUND WATER
MONITORING WELL
RESULTS FOR
JANUARY 26, 1999

BELL ENVIRONMENTAL
295 C ROUTE 46
BUDD LAKE, NJ 07828

PEEKSKILL PLAZA
20 WELCHER AVENUE
PEEKSKILL, NEW YORK

93042-01
MAY 1999
1" = 116'



TABLES

TABLE 1

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS

JUNE 4, 1998 SAMPLING EPISODE

WEATHER - SUNNY, CLEAR 70OF 8:00 A.M.

PEEKSKILL PLAZA

PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Free Product Thickness (feet)	Elevation of Top of Casing (feet, MSL)	Total Depth of Well (feet, TOC)	Depth to Top of Screen (feet, TOC)	Length of Screen (feet)	Depth to Water Pre-Purge (feet, TOC)	Elevation of Ground Water (feet, MSL)	Estimated Water in Well (G)	OVM Reading (ppm)
MW-1	--	30.35	25.43	16	10	19.4	10.95	3.94	0
MW-2	--	30.60	25.26	16	10	19.94	10.66	3.48	3.9
MW-3	--	30.61	27.87	18	10	19.81	10.80	5.26	4.1
MW-4	--	30.72	27.80	18	10	20	10.72	5.09	0
MW-5	--	28.35	15.47	7	10	9.4	18.95	3.96	0

Notes:

TOC - Top of Screen; MSL - Mean Sea Level; OVM - Organic vapor monitor;
 ppm - parts per million; G - gallons

TABLE 1 (cont)

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS

JUNE 4, 1998 SAMPLING EPISODE

WEATHER - SUNNY, CLEAR 70OF 8:00 A.M.

PEEKSKILL PLAZA

PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Pre-Purge pH (Standard Units)	Pre-Purge Temperature (°C)	Pre-Purge Conductivity (mS/cm)	Pre-Purge Dissolved Oxygen (mg/l)	Depth to Water (ft, TOC)	Comments
MW-1	8.39	18.2	0.208	7.15	19.4	no odor, no sheen, water is clear
MW-2	7.65	18	1.44	3.69	19.94	NR
MW-3	7.29	18.1	0.314	7.45	19.81	no sheen, no odor, water is slightly turbid
MW-4	7.54	17.7	0.803	3.99	20	no sheen, no odor, water is turbid
MW-5	7.62	15.2	0.26	2.42	9.4	no odor, no sheen
Location	Post-Purge pH (Standard Units)	Post-Purge Temperature (°C)	Post-Purge Conductivity (mS/cm)	Post-Purge Dissolved Oxygen (mg/l)	Depth to Water (ft, TOC)	Comments
MW-1	8.32	16.4	0.273	7.49	19.4	NR
MW-2	7.46	17.2	1.58	5.01	19.94	no sheen, no odor, water is slightly turbid
MW-3	7.29	15.9	0.36	6.38	19.82	no odor, no sheen, water is clear
MW-4	7.56	16.7	0.632	3.28	20	no odor, no sheen, water is cloudy
MW-5	**	**	**	**	14.1	Well purged dry
Location	Post-Sampling pH (Standard Units)	Post-Sampling Temperature (°C)	Post-Sampling Conductivity (mS/cm)	Post-Sampling Dissolved Oxygen (mg/l)	Depth to Water (ft, TOC)	Comments
MW-1	8.2	15	0.21	9.35	19.4	no sheen, no odor
MW-2	6.7	17.8	1.58	3.78	19.94	NR
MW-3	7.3	16.3	0.36	6.83	19.81	NR
MW-4	7.51	16.2	0.603	3.46	20	NR
MW-5	7.44	15.3	0.23	4.26	9.41	NR

Notes:

ppm - parts per million; °C - degrees celsius; uS/cm - microseimens per centimeter;
 NR - not recorded; ** - Well purged dry

TABLE 1 (cont)

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS
 JUNE 4, 1998 SAMPLING EPISODE
 WEATHER - SUNNY, CLEAR 70°F 8:00 A.M.
 PEEKSKILL PLAZA
 PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Purge Start Time	Purge Finish Time	Purge Method	Purge Rate (gpm)	Total Volume Purged (gallons)	Sample Date	Sample Start Time	Sample Method
MW-1	10:48	11:01	Centrifugal Pump	1	13	06/04/1998	11:23	Teflon Bailer
MW-2	13:20	13:26	Centrifugal Pump	2	12	06/04/1998	13:45	Teflon Bailer
MW-3	12:11	12:25	Centrifugal Pump	1.5	21	06/04/1998	12:40	Teflon Bailer
MW-4	14:40	14:51	Centrifugal Pump	2	22	06/04/1998	15:10	Teflon Bailer
MW-5	9:36	9:44	Centrifugal Pump	1	8*	06/04/1998	9:58	Teflon Bailer

Notes:

gpm - Gallons per minute; * well was purged dry

TABLE 2

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS

JANUARY 26, 1999 SAMPLING EPISODE

WEATHER - SUNNY 40°F 9:00 A.M.

PEEKSKILL PLAZA

PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Free Product Thickness (feet)	Elevation of Top of Casing (feet, MSL)	Total Depth of Well (feet, TOC)	Depth to Top of Screen (feet, TOC)	Length of Screen (feet)	Depth to Water Pre-Purge (feet, TOC)	Elevation of Ground Water (feet, MSL)	Estimated Water in Well (G)	OVM Reading (ppm)
MW-1	--	30.35	25.43	16	10	20.61	9.74	3.15	0
MW-2	--	30.60	25.26	16	10	20.98	9.62	2.80	0
MW-3	--	30.61	27.86	18	10	20.96	9.65	4.51	0
MW-4	--	30.72	27.80	18	10	21.1	9.62	4.38	0
MW-5	--	28.35	15.45	7	10	9.83	18.52	3.67	0

Notes:

TOC - Top of Screen; MSL - Mean Sea Level; OVM - Organic vapor monitor;
 ppm - parts per million; G - gallons

TABLE 2 (cont)

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS

JANUARY 26, 1999 SAMPLING EPISODE

WEATHER - SUNNY 40°F 9:00 A.M.

PEEKSKILL PLAZA

PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Pre-Purge pH (Standard Units)	Pre-Purge Temperature (°C)	Pre-Purge Conductivity (mS/cm)	Pre-Purge Dissolved Oxygen (%)	Depth to Water (ft, TOC)	Comments
MW-1	6.56	10.6	0.718	67	20.61	no odor, no sheen, water is turbid
MW-2	6.59	12.5	1.155	*	20.98	no odor, no sheen, water is slightly turbid
MW-3	6.41	10.5	0.71	*	20.96	no sheen, no odor, water is turbid
MW-4	6.63	13	*	*	21.1	NR
MW-5	6.76	8.6	0.366	11	9.83	no odor, no sheen, water is silty turbid
Location	Post-Purge pH (Standard Units)	Post-Purge Temperature (°C)	Post-Purge Conductivity (mS/cm)	Post-Purge Dissolved Oxygen (mg/l)	Depth to Water (ft, TOC)	Comments
MW-1	6.89	12.9	0.74	16.2	20.61	No sheen, no odor, water is clear
MW-2	6.7	14.4	1.342	*	21	no sheen, no odor, water is clear
MW-3	6.7	13.1	0.664	*	20.98	no odor, no sheen, water is clear
MW-4	6.7	13.02	*	*	21.1	no odor, no sheen, water is clear
MW-5	**	**	**	**	**	Well purged dry
Location	Post-Sampling pH (Standard Units)	Post-Sampling Temperature (°C)	Post-Sampling Conductivity (mS/cm)	Post-Sampling Dissolved Oxygen (mg/l)	Depth to Water (ft, TOC)	Comments
MW-1	6.45	9.4	0.724	*	20.61	NR
MW-2	6.69	13.8	1.643	*	20.98	NR
MW-3	6.5	9.5	0.69	*	20.96	NR
MW-4	6.69	11.07	*	*	21.1	NR
MW-5	6.78	8.6	0.363	*	12.51	NR

Notes:

ppm - parts per million; °C - degrees celsius; uS/cm - microseimens per centimeter;

NR - not recorded; ** - Well purged dry; * Probe not working

TABLE 2 (cont)

SUMMARY OF MONITORING WELL PHYSICAL DATA AND RESULTS OF FIELD MEASUREMENTS

JANUARY 26, 1999 SAMPLING EPISODE

WEATHER - SUNNY 40°F 9:00 A.M.

PEEKSKILL PLAZA

PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Location	Purge Start Time	Purge Finish Time	Purge Method	Purge Rate (gpm)	Total Volume Purged (gallons)	Sample Date	Sample Start Time	Sample Method
MW-1	13:08	13:13	Centrifugal Pump	2	10	01/26/1999	13:25	Teflon Bailer
MW-2	13:47	15:54	Centrifugal Pump	2	14	01/26/1999	16:11	Teflon Bailer
MW-3	14:21	14:31	Centrifugal Pump	2	20	01/26/1999	14:50	Teflon Bailer
MW-4	17:07	17:17	Centrifugal Pump	2	20	01/26/1999	17:35	Teflon Bailer
MW-5	11:56	12:02	Centrifugal Pump	2	12*	01/26/1999	12:35	Teflon Bailer

Notes:

gpm - Gallons per minute; * well was purged dry

TABLE 3
SOIL SAMPLING RESULTS SUMMARY - APRIL 21 - 23, 1998
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: VOCs Lab ID: SVOCs, Pesticides/PCBs, Metals Lab ID: Sample Depth (Feet BGS): Sample Date:	MW5 / 7-9 93042-MW5/7-9 81953001 980938A-01 7.0-9.0 04/21/1998			MW1 / 9-11 93042-MW1/9-11 81953002 980938A-02 9.0-11.0 04/21/1998			MW2 / 18-20 93042-MW2/18-20 81953004 980938A-03 18.0-20.0 04/23/1998			MW4 / 17-19 93042-MW4/17-19 81953006 980938A-04 17.0-19.0 04/23/1998			Trip Blank 93042-TRIP 81953007 --- --- 04/23/1998			Recommended Soil Cleanup Objectives
	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	(mg/kg)
VOLATILE ORGANIC COMPOUNDS (mg/kg)																
Dilution Factor:		1.0			1.0			1.0			1.0			1.0		—
Targeted VOCs Detected:																
Methylene Chloride	0.011	ND		0.011	ND		0.011	ND		0.01	ND		0.01	ND		0.1
Tetrachloroethene	0.011	ND		0.011	ND		0.011	0.006	J	0.010	ND		0.010	ND		1.4
Total Targeted VOCs		0			0			0.006			0			0		10
Total Non-Targeted VOCs		0.031	J		0			0			0			0		(with above)
SEMI-VOLATILE ORGANIC COMPOUNDS (mg/kg)																
Dilution Factor:		1.0			1.0			1.0			1.0			1.0		—
Targeted SVOCs Detected:																
Bis(2-Ethylhexyl)Phthalate	0.36	0.048	J	0.35	0.17	J	0.35	ND		0.35	0.039	J		NS		50
Naphthalene	0.36	0.033	J	0.35	0.014	J	0.35	0.013	J	0.35	ND			NS		13
Diethylphthalate	0.36	ND		0.35	ND		0.35	ND		0.35	0.019	J		NS		7.1
Di-n-Butylphthalate	0.36	0.015	J	0.35	0.023	J	0.35	0.01	J	0.35	0.067	J		NS		8.1
Acenaphthylene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		50
Phenanthrene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		50
Anthracene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		50
Chrysene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		0.4
Benzo (g,h,i) perylene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		50
Indeno (1,2,3-cd) pyrene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		3.2
Benzo (a) Pyrene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		0.061 or MDL
Benzo (k) fluoranthene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		1.1
Benzo (b) fluoranthene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		1.1
Benzo (a) anthracene	0.36	ND		0.35	ND		0.35	ND		0.35	ND			NS		.224 or MDL
Fluoranthene	0.36	ND		0.35	0.02	J	0.35	ND		0.35	ND			NS		50
Pyrene	0.36	ND		0.35	0.034	J	0.35	ND		0.35	ND			NS		50
Total Targeted SVOCs		0.048			0.091			0.023			0.086			NS		500
Total Non-Targeted SVOCs		4.238			3.86			1.438			1.852			NS		(with above)
PESTICIDES/PCBs (mg/kg)																
Targeted Pesticides Detected:																
delta-BHC	0.0018	0.012	JPB	0.0018	0.00011	JPB	0.0018	0.00014	JPB	0.0018	0.000094	JPB		NS		0.3
Endosulfan II	0.0035	ND		0.0035	ND		0.0035	ND		0.0035	ND			NS		0.9
4,4'-DDE	0.0035	0.018	JP	0.0035	0.0047		0.0035	ND		0.0035	ND			NS		2.1
4,4'-DDD	0.0035	ND		0.0035	ND		0.0035	ND		0.0035	ND			NS		2.9
Endosulfan Sulfate	0.0035	ND		0.0035	ND		0.0035	ND		0.0035	ND			NS		1
4,4'-DDT	0.0035	0.021	JP	0.0035	0.0024	J	0.0035	ND		0.0035	ND			NS		2.1
alpha-Chlordane	0.0018	ND		0.0018	ND		0.0018	ND		0.0018	ND			NS		NC
gamma-Chlordane	0.0018	ND		0.0018	ND		0.0018	ND		0.0018	ND			NS		0.54
Total Targeted Pesticides		0.051			0.007			0.0001			0.0001			—		10
METALS (mg/kg)																
Targeted Metals Detected:																
Aluminum		11200			9770			8540			9060			NS		SB
Arsenic		5.5			4.5			4			3.4			NS		7.5 or SB
Barium		45.8			37.5	B		28.7	B		31.7	B		NS		300 or SB
Beryllium		0.51	B		0.44	B		0.38	B		0.42	B		NS		0.16 or SB
Calcium		2090	E		3100	E		1330	E		7310	E		NS		SB
Chromium		13.2			11.6			10.1			10.7			NS		10 or SB
Cobalt		10.3	B		8.1	B		7.6	B		7.6	B		NS		30 or SB
Copper		25.2			23.4			20.2			20.4			NS		25 or SB
Iron		38000			25200			23000			24000			NS		2,000 or SB
Lead		13.6			15.8			10			9.4			NS		SB**
Magnesium		5640	E		5650	E		4500	E		6100	E		NS		SB
Manganese		669			588			399			413			NS		SB
Nickel		23.8	E		20.2	E		17.4	E		18.5	E		NS		13 or SB
Potassium		969	B		955	B		776	B		716	B		NS		SB
Selenium		3.2	N		1.4	N		1.3	N		1.2	N		NS		2 or SB
Sodium		182	B		208	B		160	B		107	B		NS		SB
Thallium		1.2	B	0.64	ND		0.63	ND		0.63	ND			NS		SB
Vanadium		19.7			17.7			13.9			14.4			NS		150 or SB
Zinc		77.7	E		70.7	E		59.6	E		66	E		NS		20 or SB

Notes: ND = Not Detected, MDL = Method Detection Limit, NS = Not Sampled, Q = Qualifier, — = Not Applicable, CONC = Concentration.
 NC = No Cleanup Criteria, BGS = Below Ground Surface, (mg/kg) = Milligrams per Kilogram.
 B = Indicates compound detected in the blank as well as the sample, SB = Site Background.
 J = Estimated value - compound detected below the specified detection limit.
 P = Greater than 25% difference for detected concentrations between the two GC columns.
 ** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm.
 Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Inorganic Qualifiers:
 B = result is between IDL & Contract Required Detection Limit.
 E = Estimated value due to interference.
 N = Spiked sample recovery is not within control limits.

Presented above are those compounds which are present in at least one sample.

TABLE 3 (cont)
SOIL SAMPLING RESULTS SUMMARY - APRIL 24, 1998
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: VOCs Lab ID: SVOCs, Pesticides/PCBs, Metals Lab ID: Sample Depth (Feet BGS): Sample Date:		MW-3 /18-20 93042-MW3/18-20 81978001 980954A-01 18.0-20.0 04/24/1998			MW-6 /18-20 93042-MW6/18-20 81978002 980954A-02 18.0-20.0 04/24/1998			FIELD BLANK * 93042-424 81978003 980954A-03 - 04/24/1998			Recommended Soil Cleanup Objectives
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	
VOLATILE ORGANIC COMPOUNDS (mg/kg)											
Dilution Factor:			1.0			1.0			1.0		-
Targeted VOCs Detected:											
Methylene Chloride	0.011	ND			0.011	0.003	J	0.010	ND		0.1
Tetrachloroethene	0.011	ND			0.011	ND		0.010	ND		1.4
Total Targeted VOCs			0			0.003			0		10
Total Non-Targeted VOCs			0			0.031			0		(with above)
SEMI-VOLATILE ORGANIC COMPOUNDS (mg/kg)											
Dilution Factor:			1.0			1.0			1.0		-
Targeted SVOCs Detected:											
bis (2-Ethylhexyl) phthalate	0.36	0.041	J		0.36	0.074	J	0.01	0.001	J	50
Naphthalene	0.36	ND			0.36	ND		0.01	ND		13
Diethylphthalate	0.36	ND			0.36	ND		0.01	0.0005	J	7.1
Di-n-Butylphthalate	0.36	ND			0.36	ND		0.01	ND		8.1
Acenaphthylene	0.36	0.019	J		0.36	ND		0.01	ND		41
Phenanthrene	0.36	0.110	J		0.36	0.13	J	0.01	ND		50
Anthracene	0.36	0.023	J		0.36	0.028	J	0.01	ND		50
Chrysene	0.36	0.130	J		0.36	0.14	J	0.01	ND		0.4
Benzo (g,h,i) perylene	0.36	0.054	J		0.36	0.095	J	0.01	ND		15
Indeno (1,2,3 - cd) pyrene	0.36	0.071	J		0.36	0.077	J	0.01	ND		3.2
Benzo (a) Pyrene	0.36	0.096	J		0.36	0.096	J	0.01	ND		0.061 or MDL
Benzo (k) fluoranthene	0.36	0.065	J		0.36	0.063	J	0.01	ND		1.1
Benzo (b) fluoranthene	0.36	0.076	J		0.36	0.081	J	0.01	ND		1.1
Benzo (a) anthracene	0.36	0.092	J		0.36	0.1	J	0.01	ND		0.224 or MDL
Pyrene	0.36	0.180	J		0.36	0.2	J	0.01	ND		50
Fluoranthene	0.36	0.120	J		0.36	0.14	J	0.01	ND		50
Total Targeted SVOCs			1.077			1.224			0.0015		500
Total Non-Targeted SVOCs			29.878			17.37			0		(with above)
PESTICIDES/PCBs (mg/kg)											
Dilution Factor:			1.0			1.0			1.0		-
Targeted Pesticides Detected:											
Delta-BHC	0.0019	ND			0.0018	ND		0.00005	ND		0.3
Endosulfan II	0.0036	0.0022	JP		0.0036	ND		0.0001	ND		0.9
4,4-ODE	0.0036	ND			0.0036	ND		0.0001	ND		2.1
4,4-DDD	0.0036	ND			0.0036	ND		0.0001	0.000021	J	2.9
Endosulfan Sulfate	0.0036	0.0088	P		0.0036	ND		0.0001	ND		1
4,4-DDT	0.0036	0.0014	JP		0.0036	0.0013	JP	0.0001	ND		2.1
alpha-Chlordane	0.0019	ND			0.0018	ND		0.00005	0.0000044	JP	NC
gamma-Chlordane	0.0019	ND			0.0018	ND		0.00005	0.0000038	JP	0.54
Total Targeted Pesticides			0.012			0.001			0.00003		10
METALS (mg/kg)											
Targeted Metals Detected:											
Aluminum		5680				7480			ND		SB
Antimony		1.0	B			1.3	B		ND		SB
Arsenic		4.9				5.0			ND		7.5 or SB
Barium		257				207			ND		300 or SB
Beryllium		0.260	B			0.33	B		ND		0.16 or SB
Cadmium		2.7	N			1.9	N		ND		1 or SB
Calcium		2780				4140			ND		SB
Chromium		20.3				17.0			ND		10 or SB
Cobalt		5.0	B			6.7	B		ND		30 or SB
Copper		23				18			ND		25 or SB
Iron		18800				24700			ND		2,000 or SB
Lead		789				672			ND		SB**
Magnesium		3120				4750			ND		SB
Manganese		290				352			ND		SB
Mercury		0.43	N			0.18	N		ND		0.10
Nickel		12.5				16.1			ND		13 or SB
Potassium		435	B			705	B		ND		SB
Selenium		1.2	N			1.5	N		ND		2 or SB
Sodium		145	B			157	B		ND		SB
Vanadium		9.8	B			12.8			ND		150 or SB
Zinc		920	E			812	E		ND		20 or SB

Notes:

ND = Not Detected, MDL = Method Detection Limit, Q = Qualifier, — = Not Applicable, CONC = Concentration.
 NC = No Cleanup Criteria, CONC = Concentration, BGS = Below Ground Surface, (mg/kg) = Milligrams per Kilogram.
 B = Indicates compound detected in the blank as well as the sample, SB = Site Background.
 P = Indicates that the quantitative results from the two GC columns differed by more than 25 percent.
 J = Estimated value - compound detected below the specified detection limit.
 P = Greater than 25% difference for detected concentrations between the two GC columns.
 * Field Blank was analyzed in micrograms per liter (ug/L), not (mg/kg).
 ** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm.
 Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Inorganic Qualifiers:

B = result is between IDL & Contract Required Detection Limit, E = Estimated value due to interference.
 N = Spiked sample recovery is not within control limits.

Presented above are those compounds which are present in at least one sample.

TABLE 4
SOIL SAMPLING RESULTS SUMMARY - FEBRUARY 4, 1999
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:	SB-2 6002E 111711 17.5-18.5 02/04/1999			SB-3 6003C 111715 8.5-11.5 02/04/1999			SB-4 6004C 111720 10.5-12.0 02/04/1999			SB-5 (SB-4-DUP) 6005C 111725 10.5-12.0 02/04/1999			FIELD BLANK 1009 111738 --- 02/04/1999			Recommended Soil Cleanup Cleanup Objectives
	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	(mg/kg)
VOLATILE ORGANIC COMPOUNDS (mg/kg)																
Dilution Factor:		1			1			1			1			1		
Targeted VOCs Detected:																
cis-1,2-Dichloroethene	0.005	ND		0.005	0.01		0.005	0.0007	J	0.005	0.0006	J	0.001	ND		NC
Methylene Chloride	0.003	0.0016	JB	0.003	0.001	JB	0.003	0.0009	JB	0.003	0.0009	JB	0.001	ND		0.1
Trichloroethene	0.001	0.0013		0.001	0.0027		0.001	ND		0.001	ND		0.004	ND		0.7
Tetrachloroethene	0.001	0.0085		0.001	0.14		0.001	0.017		0.001	0.017		0.000	ND		1.4
Total Targeted VOCs		0.0114			0.1537			0.0186			0.0185			0		10
Total Non-Targeted VOCs		0			0			0			0			0		(with above)

Notes:

ND = Not Detected, NC = No Cleanup Criteria, PQL = Practical Quantitation Limit, NS = Not Sampled, Q = Qualifier, B = Analyte found in the blank as well as the sample.
J = Estimated value - compound detected below the specified detection limit, CONC = Concentration.

TABLE 5
GROUND WATER SAMPLING RESULTS SUMMARY - JUNE 4, 1998
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:	MW-1 2002 981318A-01 19.4 06/04/1998			MW-2 2004 981318A-02 19.94 06/04/1998			MW-3 2003 981318A-03 19.81 06/04/1998			MW-4 2005 981318A-04 20.0 06/04/1998			New York Ambient Water Quality Standards 1998	New York Ambient Water Quality Guidance Values 1998
	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS (ug/l)														
Dilution Factor:		1.0			1.0			1.0			1.0			
Targeted VOCs Detected:														
1,2-Dichloroethene (total)	10	ND		10	3	J	10	ND		10	ND		5	NC
1,2-Dichloroethane	10	ND		10	ND		10	ND		10	3	J	0.6	NC
Tetrachloroethene	10	ND		10	87		10	2	J	10	13		5	NC
Total Targeted VOCs		0			87			2			13		--	--
Total Non-Targeted VOCs		0			0			3	J		0		--	--
SEMIVOLATILE COMPOUNDS (ug/l)														
Dilution Factor:		1.0			1.0			1.0			1.0			
Targeted SVOCs Detected:														
Di-n-butylphthalate	10	ND		10	ND		10	ND		10	0.5	JB	NC	NC
bis(2-Ethylhexyl)phthalate	10	2	JB	10	1	JB	10	ND		10	ND		50	NC
Total Targeted SVOCs		2			1			0			0.5		--	--
Total Non-Targeted SVOCs		14	J		18	J		33	J		4	J	--	--
PESTICIDES (mg/kg)														
Dilution Factor:		1.0			1.0			1.05			1.11		--	--
Targeted Pesticides Detected:														
Beta-BHC	0.050	ND		0.050	ND		0.053	0.0085	JP	0.056	ND		NC	NC
Delta-BHC	0.050	ND		0.050	ND		0.053	0.0037	JP	0.056	ND		NC	NC
Methoxychlor	0.500	0.024	J	0.500	ND		0.525	0.028	JP	0.555	0.024	J	35	NC
METALS (ug/l)														
Targeted Metals Detected:														
Aluminum	6	5500	NE	6	2680	NE	6	9080	NE	6	5350	NE	NC	NC
Antimony	4	ND		4	ND		4	ND		4	ND		3	NC
Arsenic	2	ND		2	7.4	B	2	5.1	B	2	4	B	25	NC
Barium	1	53	B	1	101	B	1	85.7	B	1	128	B	1,000	NC
Beryllium	1	ND		1	ND		1	ND		1	1.4	B	NC	3
Calcium	18	10600		18	131000		18	8240		18	50600		NC	NC
Chromium	1	8.8	B	1	11.3		1	13.6		1	9.4	B	50	NC
Cobalt	1	5.3	B	1	4.2	B	1	8.2	B	1	15.4	B	NC	NC
Copper	1	17.6	B	1	12.1	B	1	26.4		1	66.5		200	NC
Iron	12	12300		12	14200		12	23700		12	17000		300*	NC
Lead	1	12.1		1	10.8		1	17.7		1	47		25	NC
Magnesium	12	4580	B	12	38000		12	5060		12	12400		NC	35,000
Manganese	1	417		1	1170		1	1390		1	3420		300*	NC
Nickel	2	10.4	B	2	8.9	B	2	18	B	2	15.7	B	100	NC
Potassium	14	2030	B	14	5170		14	2520	B	14	3340	NB	NC	NC
Selenium	2	4.1	B	2	3.7	B	2	5		2	2.8	B	10	NC
Sodium	43	31000	E	43	128000	E	43	9990	E	43	74300	E	20,000	NC
Vanadium	1	10.9	B	1	5.8	B	1	17.7	B	1	15.9	B	NC	NC
Zinc	1	43.7	E	1	19.6	BE	1	58.9	E	1	63.4	E	NC	2,000

Notes:

ND = Not Detected, MDL = Method Detection Limit, NC = No Cleanup Criteria, Q = Qualifier
 -- = Not Applicable, (ug/l) = Micrograms per Kilogram, CONC = Concentration
 J = Estimated value - compound detected below the specified detection limit.
 P = This flag is used for a pesticide/radior target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns.
 B = Indicates compound detected in the blank as well as the sample.
 *A Standard of 500 ug/l applies to the sum of Iron and Manganese concentrations.
 Presented above are those compounds which were present in at least one sample.

Inorganic Qualifiers:

B = result is between IDL & Contract Required Detection Limit.
 E = estimated value do to interference.
 N = spiked sample recovery is not within control limits.

TABLE 5 (cont)
GROUND WATER SAMPLING RESULTS SUMMARY - JUNE 4, 1998
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER CO, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:		MW - 5 2001 981318A-05 9.41 06/04/1998			FIELD BLANK 1001 981318A-06 -- 06/04/1998			TRIP BLANK 1002 981318A-07 -- 06/04/1998			New York Ambient Water Quality Standards 1998	New York Ambient Water Quality Guidance Values 1998
		PQL	CONC	Q	PQL	CONC	Q		CONC		(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS (ug/l)												
Dilution Factor:			1.0			1.0			1.0			
Targeted VOCs Detected:												
1,2-Dichloroethene (total)		10	ND		10	ND		10	ND		5	NC
1,2-Dichloroethane		10	ND		10	ND		10	ND		0.6	NC
Tetrachloroethene		10	ND		10	ND		10	ND		5	NC
Total Targeted VOCs			0			0			0		--	--
Total Non-Targeted VOCs			0			0			0		--	--
SEMIVOLATILE COMPOUNDS (ug/l)												
Dilution Factor:			1.0			1.0						
Targeted SVOCs Detected:												
Diethylphthalate		10	0.8	J	10	1	JB		NA		NC	50
Di-n-butylphthalate		10	1	JB	10	0.8	JB		NA		NC	NC
bis(2-Ethylhexyl)phthalate		10	2	JB	10	2	JB		NA		5	NC
Total Targeted SVOCs			3.8			3.8					--	--
Total Non-Targeted SVOCs			49	J		50	J				--	--
PESTICIDES (ug/l)												
Dilution Factor:			1.05			1.0						
Targeted Pesticides Detected:												
Methoxychlor		0.525	0.022		0.500	0.018	J		NA		35	NC
METALS (ug/l)												
Targeted Metals Detected:												
Aluminum		6	5860	NE	6	6	NE		NA		NC	NC
Antimony		4	5.9	B	4	ND			NA		3	NC
Barium		1	53.5	B	1	ND			NA		1,000	NC
Calcium		18	21100		18	ND			NA		NC	NC
Chromium		1	11.2		1	1.1	B		NA		50	NC
Cobalt		1	4.8	B	1	ND			NA		NC	NC
Copper		1	11.7	B	1	ND			NA		200	NC
Iron		12	10700		12	25.3	B		NA		300*	NC
Lead		1	7.4		1	ND			NA		25	NC
Magnesium		12	6300		12	ND			NA		NC	35,000
Manganese		1	199		1	ND			NA		300*	NC
Nickel		2	10.2	B	2	ND			NA		100	NC
Potassium		14	2380	B	14	23	B		NA		NC	NC
Selenium		2	2.2	B	2	ND			NA		10	NC
Sodium		43	31400	E	43	97.9	BE		NA		20,000	NC
Vanadium		1	11	B	1	ND			NA		NC	NC
Zinc		1	28.2	E	1	ND	E		NA		NC	2,000

Notes:

ND = Not Detected, MDL = Method Detection Limit, Q = Qualifier, NR = Not Required, '-' = Not Applicable.
 NC = No Cleanup Criteria, (ug/l) = Micrograms per liter, CONC = Concentration.
 B = Indicates compound detected in the blank as well as the sample.
 J = Estimated value - compound detected below the specified detection limit.
 P = This flag is used for a pesticide/aracior target analyte when there is a greater than 25 percent difference for detected concentrations between the two GC columns.
 *A Standard of 500 ug/l applies to the sum of Iron and Manganese concentrations.

Inorganic Qualifiers:

B = result is between IDL & Contract Required Detection Limit.
 E = estimated value do to interference.
 N = spiked sample recovery is not within control limits.

TABLE 6
GROUND WATER SAMPLING RESULTS SUMMARY - JANUARY 26, 1999
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:		MW - 1 2011 109721 20.61 01/26/1999			MW - 2 2012 109722 20.98 01/26/1999			MW - 3 2013 109723 20.96 01/26/1999			MW - 5 2015 109725 9.83 01/26/1999			New York Ambient Water Quality Standard	New York Ambient Water Quality Guidance
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS (ug/l)															
Dilution Factor:			1.0			1.0			1.0			1.0			
Targeted VOCs Detected:															
Chloroform		0.2	ND		0.2	0.3		0.2	ND		0.2	ND		7	NC
Methylene Chloride		1	ND		1	ND		1	ND		1	ND		5	NC
Tetrachloroethene		0.1	ND		0.1	81.0		0.1	ND		0.1	ND		5	NC
1,2 - Dichloroethane		0.2	ND		0.2	18.0		0.2	ND		0.2	ND		0.6	NC
Trichloroethene		0.4	ND		0.4	1.8		0.4	ND		0.4	ND		5	NC
cis - 1,2 - Dichloroethene		1	ND		1	3.5		1	ND		1	ND		5**	NC
Total Targeted VOCs			0.0			104.6			0.0			0.0			
Total Non-Targeted VOCs			0.0			0.0			0.0			0.0			
METALS (ug/l)															
Targeted Metals Detected:															
Aluminum		62.6	1450		62.6	2180		62.6	810		62.6	7510		NC	NC
Arsenic		3.2	ND		3.2	3.4		3.2	ND		3.2	ND		25	NC
Barium		1.7	81.3		1.7	102		1.7	44.3		1.7	91.1		1,000	NC
Cadmium		0.4	0.5		0.4	ND		0.4	3.2		0.4	ND		5	NC
Calcium		42.5	45300		42.5	66600		42.5	59500		42.5	59600		NC	NC
Chromium		1.6	2.9		1.6	11.9		1.6	2.2		1.6	14.6		50	NC
Cobalt		1.7	ND		1.7	3.5		1.7	ND		1.7	6		NC	NC
Copper		3.7	6.3		3.7	12.4		3.7	4		3.7	17.7		200	NC
Iron		39.2	2670		39.2	9060		39.2	1680		39.2	13700		300*	NC
Lead		2.3	ND		2.3	6.2		2.3	ND		2.3	6.3		25	NC
Magnesium		41.6	10800		41.6	19400		41.6	12000		41.6	16100		NC	35,000
Manganese		1.2	126		1.2	999		1.2	127		1.2	287		300*	NC
Nickel		1.6	3		1.6	5.3		1.6	2.8		1.6	11.7		100	NC
Potassium		315.0	1770		315.0	3210		315.0	1190		315.0	2590		NC	NC
Sodium		396.0	50600		396.0	157000		396.0	18900		396.0	27400		20,000	NC
Vanadium		1.8	2.3		1.8	5		1.8	ND		1.8	14.1		NC	NC
Zinc		5.8	25.3		5.8	23.9		5.8	14		5.8	46.5		NC	2,000

Notes:
 ND = Not Detected, MDL = Method Detection Limit, NS = Not Sampled, Q = Qualifier, B = Analyte found in the blank as well as the sample.
 J = Estimated value - compound detected below the specified detection limit, NC = No Cleanup Criteria, CONC = Concentration.
 * A standard of 500 ug/l applies to the sum of Iron and Manganese concentrations
 ** Criteria is a total of the cis and trans compounds.
 Pesticides and PCB's were analyzed, but not detected in the samples.

TABLE 6 (cont)
GROUND WATER SAMPLING RESULTS SUMMARY - JANUARY 26, 1999
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:		MW - 4 2014 109724 21.1 01/26/1999			MW - 4 (DUP) 2114 109726 21.1 01/26/1999			TRIP BLANK 1001 109727 -- 01/26/1999			FIELD BLANK 1006 109731 -- 01/26/1999			New York Ambient Water Quality Standard	New York Ambient Water Quality Guidance Value	
		MDL	CONC	Q	MDL	CONC	Q	PQL	CONC	Q	MDL	CONC	Q	(ug/l)	(ug/l)	
VOLATILE ORGANIC COMPOUNDS (ug/l)																
Dilution Factor:			1.0			1.0			1.0			1.0				
Targeted VOCs Detected:																
Chloroform	0.2	0.9		0.2	0.9		0.2	ND		0.2	ND		7	NC		
Methylene Chloride	1	ND		1	ND		1.0	ND		1	8.0		5	NC		
Tetrachloroethene	0.1	15.0		0.1	15.0		0.1	ND		0.1	ND		5	NC		
1,2 - Dichloroethane	0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.6	NC		
Trichloroethene	0.4	ND		0.4	ND		0.4	ND		0.4	ND		5	NC		
cis - 1,2,-Dichloroethene	1	ND		1	ND		1.0	ND		1	ND		5**	NC		
Total Targeted VOCs			15.9		15.9			0.0			8.0					
Total Non-Targeted VOCs			0.0		0.0			0.0			0.0					
METALS (ug/l)																
Targeted Metals Detected:																
Aluminum	62.6	2010		62.6	2510			NA		62.6	ND		NC	NC		
Arsenic	3.2	ND		3.2	ND			NA		3.2	ND		25	NC		
Barium	1.7	89.2		1.7	95.9			NA		1.7	ND		1,000	NC		
Cadmium	0.4	2.4		0.4	2.4			NA		0.4	ND		5	NC		
Calcium	42.5	93800		42.5	92800			NA		42.5	51.7		NC	NC		
Chromium	1.6	4		1.6	5			NA		1.6	ND		50	NC		
Cobalt	1.7	5.4		1.7	6.4			NA		1.7	ND		NC	NC		
Copper	3.7	16.6		3.7	18.5			NA		3.7	ND		200	NC		
Iron	39.2	5380		39.2	6720			NA		39.2	ND		300*	NC		
Lead	2.3	4.7		2.3	5			NA		2.3	ND		25	NC		
Magnesium	41.6	18200		41.6	17700			NA		41.6	ND		NC	35,000		
Manganese	1.2	1050		1.2	1210			NA		1.2	ND		300*	NC		
Nickel	1.6	7.2		1.6	9			NA		1.6	ND		100	NC		
Potassium	315.0	3520		315.0	3750			NA		315.0	ND		NC	NC		
Sodium	396.0	189000		396.0	193000			NA		396.0	ND		20,000	NC		
Vanadium	1.8	4		1.8	4.5			NA		1.8	ND		NC	NC		
Zinc	5.8	23.6		5.8	36.2			NA		5.8	ND		NC	2,000		

Notes:

ND = Not Detected, NA = Not Analyzed, MDL = Method Detection Limit, NS = Not Sampled, Q = Qualifier, B = Analyte found in the blank as well as the sample.

J = Estimated value - compound detected below the specified detection limit, NC = No Cleanup Criteria, CONC = Concentration.

* A standard of 500 ug/l applies to the sum of Iron and Manganese concentrations.

** Criteria is a total of the cis and trans compounds.

Pesticides and PCB's were analyzed, but not detected in the samples.

TABLE 7
TEMPORARY WELL POINT GROUND WATER SAMPLING RESULTS SUMMARY - JANUARY 26, 1999
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Depth (ft): Sample Date:	HP-1 2121 109715 22 01/26/1999			HP-2 2122 109716 22 01/26/1999			HP-6 (HP-2-DUP) 2126 109720 22 01/26/1999			HP-3 2123 109717 22 01/26/1999			New York Ambient Water Quality Standard	New York Ambient Water Quality Guidance Value
	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS (ug/l)														
Dilution Factor:		1.0			1.0			1.0			1.0			
Targeted VOCs Detected:														
Chloroform	0.2	0.8		0.2	ND		0.2	ND		0.2	ND		7	NC
Tetrachloroethene	0.1	1.7		0.1	0.6		0.1	1.4		0.1	1.5		5	NC
Trichloroethene	0.4	ND		0.4	ND		0.4	ND		0.4	ND		5	NC
cis - 1,2 - Dichloroethene	1	ND		1	ND		1	ND		1	ND		5*	NC
Total Targeted VOCs		2.5			0.6			1.4			1.5			
Total Non-Targeted VOCs		0.0			0.0			0.0			0.0			
METALS (ug/l)														
Lead	6.9	253		23.0	1030		23.0	989		23.0	1370		25	NC

Notes:

ND = Not Detected, MDL = Method Detection Limit, NS = Not Sampled, Q = Qualifier, B = Analyte found in the blank as well as the sample.

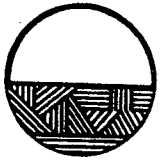
J = Estimated value - compound detected below the specified detection limit, NC = No Cleanup Criteria, CONC = Concentration.

* Criteria is a total of the cis and trans compounds.

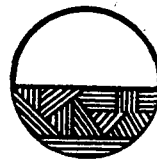
TABLE 8
TEMPORARY WELL POINT GROUND WATER SAMPLE RESULTS SUMMARY - FEBRUARY 4, 1999
PEEKSKILL PLAZA
PEEKSKILL, WESTCHESTER COUNTY, NEW YORK

Sample Designation: BELL Sample Number: Lab ID: Sample Date:	HP-7 2127 111739 02/04/1999			HP-8 2128 111740 02/04/1999			HP-9 2129 111741 02/04/1999			HP-10 (HP-9-DUP) 2130 111742 02/04/1999			FB-HP 1010 111743 02/04/1999			TRIP BLANK 1013 111746 02/04/1999			New York State Ambient Water Quality Standards	New York State Ambient Water Quality Guidance
	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	PQL	CONC	Q	(ug/l)	(ug/l)
VOLATILE ORGANIC COMPOUNDS (ug/l)																				
Dilution Factor:		10.0			1.0			1.0			1.0			1.0			1.0			
Targeted VOCs Detected:																				
Benzene	2.4	ND		0.2	0.8		0.2	ND		0.2	ND		0.2	ND		0.2	ND		1	NC
Chloroform	2.0	ND		0.2	0.5		0.2	1.4		0.2	1.4		0.2	ND		0.2	ND		7	NC
1,2-Dichloroethane	2.2	ND		0.2	ND		0.2	2.7		0.2	6.5		0.2	ND		0.2	ND		0.6	NC
cis-1,2-Dichloroethene	10.0	120		1.0	2.9		1.0	ND		1.0	ND		1.0	ND		1.0	ND		5*	NC
Ethylbenzene	2.4	5.1		0.2	ND		0.2	0.7		0.2	1.2		0.2	ND		0.2	ND		6	NC
Tetrachloroethene	1.0	880		0.1	18.0		0.1	7.1		0.1	5.3		0.1	ND		0.1	ND		5	NC
Trichloroethene	4.1	12.0		0.4	3.4		0.4	0.7		0.4	0.6		0.4	ND		0.4	ND		5	NC
Total Xylenes	10.0	ND		1.0	ND		1.0	1.8		1.0	4.2		1.0	ND		1.0	ND		5	NC
Total Targeted VOCs		1017.1			25.6			14.4			19.2			0			0		--	--
Total Non-Targeted VOCs		0			0			0			0			0			0		--	--
METALS (ug/l)																				
Lead	12.0	339		6.0	99.1		6.0	185		30.0	811		0.6	0.92			NA		25	NC

Notes: ND = Not Detected, NC = No Cleanup Criteria, NA = Not Analyzed, Q = Qualifier, PQL = Practical Quantitation Limit, CONC = Concentration
 * Criteria is a total of the cis and trans compounds.



APPENDICES



APPENDIX A

Boring Logs and Well Construction Details

BELL ENVIRONMENTAL

Job # 93042-01

Project: Peekskill Plaza

Geologist: Roger Edens

Drilling Contractor: General Borings, Inc.

Drilling Equipment: Dietrich D-120

Boring Diameter: 8"

Total Depth: 26'

WELL NUMBER: MW-1

Location: Peekskill, New York

Well Permit #: N/A

Start Date: 4-21-98

Complete Date: 4-24-98

Depth to Water: 19'

Sample Type: Split Spoon

Protective Casing: Flushmount

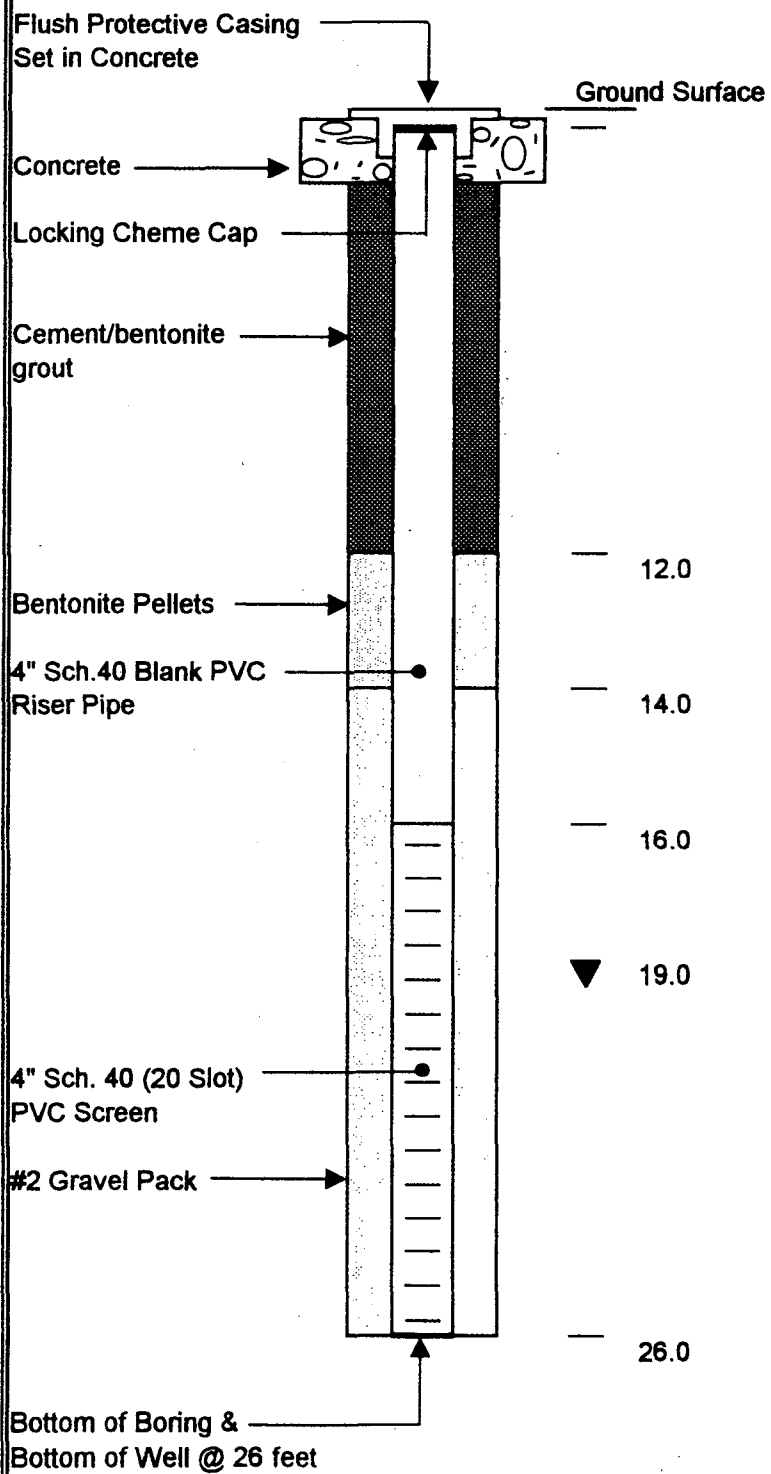


FIGURE NOT TO SCALE

Job #: 93042-01		Boring #: MW-2			
Project: Peekskill Plaza		Location: Peekskill New York			
Geologist: Roger Edens		Driller: Ed Pelkey			
		License #: N/A			
Drilling Contractor: General Borings Inc.					
Drilling Equipment: Dietrich D-120					
Date Start: 4-22-98		Date Complete: 4-24-98	Completion Depth: 27'		
Sampler: Split Spoon		Hammer Weight: 130	Fall: 30"		
Well Casing: 4" Schedule 40 PVC		Length: 16'	Slot Size: 0.020		
Screen: 4" Schedule 40 PVC		Length: 10'	Water: 19'		
Filter Pack: # 2 gravel		Interval: 14'-26'	Bentonite: 12'-14'		
Remarks:					
LOG OF BORING					
SPLIT SPOON SAMPLES			DEPTH (feet)	SOIL DESCRIPTION Modified Burmeister	REMARKS
HNu	Rec.	Blows			
			0-0.5	Pavement, base stone.	Groundwater at 19'
0.5	12"	17,10,7,8	0.5-2.5	Brown Reworked F-C Sand, some C-F Gravel, some Silt-Clay, Moist.	
			2.5-5	Same as Below.	
0.5	12"	4,7,7,5	5-7	Brown F-M Sand, little Silt-Clay, Moist. 2" F-C Gravel bed in center of spoon.	
			7-10	Same.	
0.6	14"	5,5,6,6	10-12	Brown M-F Sand, little Silt-Clay, little Gravel, Moist.	
			12-15	Same	
0.7	14"	10,10,7,7	15-17	Brown well graded C-F Sand, some C-F Gravel, little Silt-Clay, Moist.	
1.4	12"	11,6,9,7	17-19	Brown well graded C-F Sand, some (-) M-F Gravel, little Silt-Clay, Moist.	
1.2	15"	8,7,9,10 3" Spoon	19-21	Brown well graded C-F Sand, some F-C Gravel, little Silt-Clay, Saturated.	
			21-25	Same as Above	
	14"	10,10,10,14	25-27	Greenish Grey C-F Sand, little M-C Gravel, little Silt-Clay.	
				EOB = 27' BG	

BELL ENVIRONMENTAL

Job # 93042-01

Project: Peekskill Plaza

Geologist: Roger Edens

Drilling Contractor: General Borings, Inc.

Drilling Equipment: Dietrich D-120

Boring Diameter: 8"

Total Depth: 26'

WELL NUMBER: MW-2

Location: Peekskill, New York

Well Permit #: N/A

Start Date: 4-22-98

Complete Date: 4-24-98

Depth to Water: 19'

Sample Type: Split Spoon

Protective Casing: Flushmount

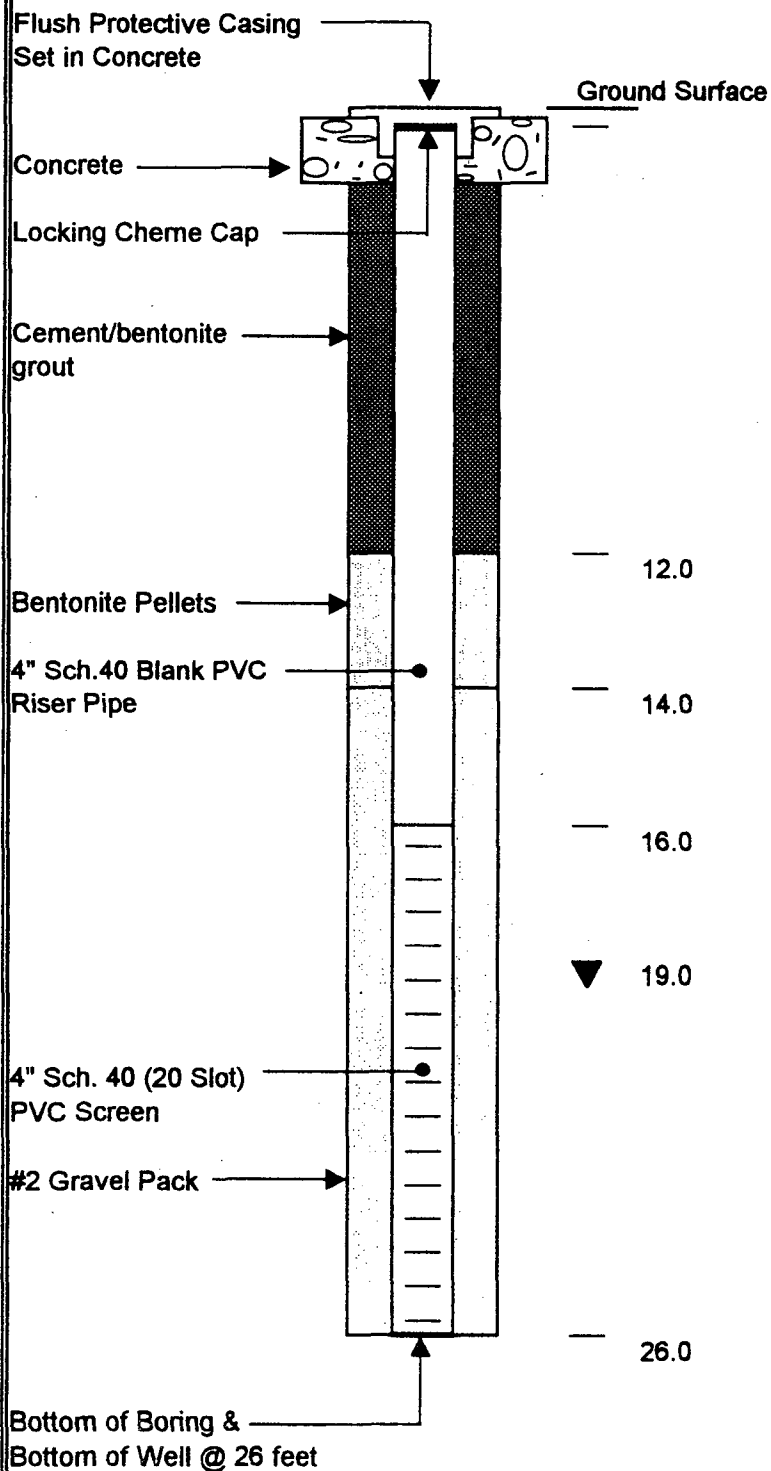


FIGURE NOT TO SCALE

Job #: 93042-01	Boring #: MW-3	
Project: Peekskill Plaza	Location: Peekskill New York	
Geologist: Roger Edens	Driller: Ed Pelkey	License #: N/A
Drilling Contractor: General Borings Inc.		
Drilling Equipment: Dietrich D-120		
Date Start: 4-23-98	Date Complete: 4-24-98	Completion Depth: 28'
Sampler: Split Spoon	Hammer Weight: 130	Fall: 30"
Well Casing: 4" Schedule 40 PVC	Length: 18'	Slot Size: 0.020
Screen: 4" Schedule 40 PVC	Length: 10'	Water: 20.9'
Filter Pack: # 2 gravel	Interval: 16'-28'	Bentonite: 14'-16'
Remarks:		

LOG OF BORING

SPLIT SPOON SAMPLES			DEPTH (feet)	SOIL DESCRIPTION Modified Burmeister	REMARKS
HNu	Rec.	Blows			
			0-0.5	Pavement, base stone.	Fill Material
0.2	6"	12,28,36,16	0.5-2.5	Brown reworked native and fill of F-C Sand, some F-C Gravel, little Silt-Clay, trace Cobbles, Moist.	
			2.5-5	Same.	
0.2	4"	7,5,4,5	5-7	Brown and dark brown reworked F-C Sand, some Gravel, some Silt-Clay.	
			7-10	Same as Above	
0.1	12"	4,5,9,11	10-12	Light greyish brown F-M Sand, little Silt.	
			12-15	Same	
0.2	17"	9,9,10,12	15-17	Brown well graded F-C Sand, some (-) Silt-Clay, little F-C Gravel, Moist.	
0.3	20"	8,17,19,18 3" Spoon	17-19	6" Brown Silt-Clay, and F-C Sand, trace F-C Gravel, Moist 14" Brown C-F Sand, little (+) F-C Gravel, trace Silt-Clay, Moist.	
0.4	19"	25,22,21,18 3" Spoon	19-21	Brown C-F Sand, little (+) F-C Gravel, trace Silt-Clay, Moist.	Groundwater at 20.9'
			21-25	Same	
	14"	8,13,10,10	25-27	Brown C-F Sand, little F-C Gravel, trace Silt-Clay, Moist.	
			27-28	Same	

BELL ENVIRONMENTAL

Job # 93042-01

Project: Peekskill Plaza

Geologist: Roger Edens

Drilling Contractor: General Borings, Inc.

Drilling Equipment: Dietrich D-120

Boring Diameter: 8"

Total Depth: 28'

WELL NUMBER: MW-3

Location: Peekskill, New York

Well Permit #: N/A

Start Date: 4-23-98

Complete Date: 4-24-98

Depth to Water: 20.9'

Sample Type: Split Spoon

Protective Casing: Flushmount

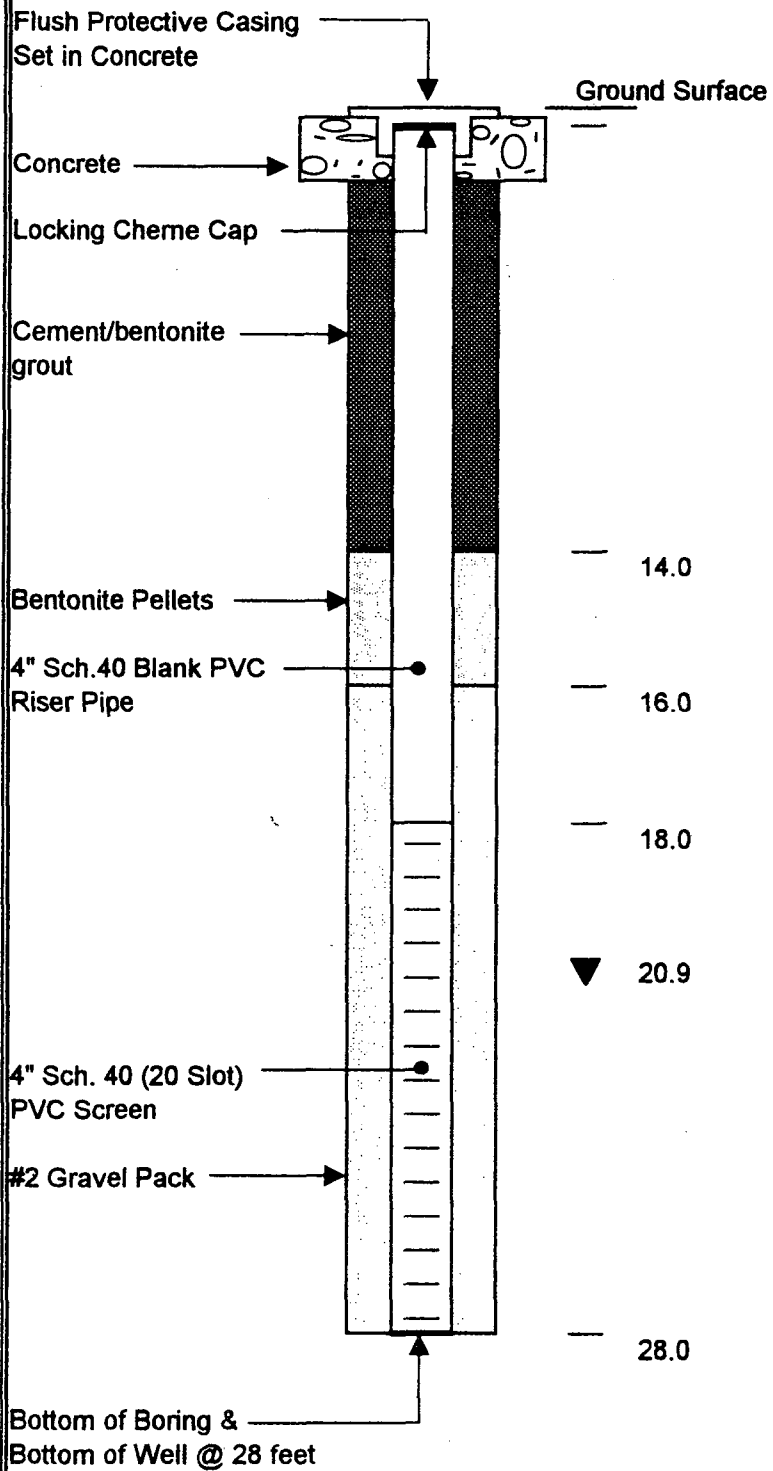


FIGURE NOT TO SCALE

Job #: 93042-01		Boring #: MW-4	
Project: Peekskill Plaza		Location: Peekskill New York	
Geologist: Roger Edens		Driller: Ed Pelkey	
		License #: N/A	
Drilling Contractor: General Borings Inc.			
Drilling Equipment: Dietrich D-120			
Date Start: 4-23-98		Date Complete: 4-24-98	Completion Depth: 28'
Sampler: Split Spoon		Hammer Weight: 130	Fall: 30"
Well Casing: 4" Schedule 40 PVC		Length: 18'	Slot Size: 0.020
Screen: 4" Schedule 40 PVC		Length: 10'	Water: 21'
Filter Pack: # 2 gravel		Interval: 16'-28'	Bentonite: 14'-16'
Remarks:			

LOG OF BORING

SPLIT SPOON SAMPLES			DEPTH (feet)	SOIL DESCRIPTION Modified Burmeister	REMARKS
HNu	Rec.	Blows			
			0-0.5	Pavement, base stone.	Groundwater at 21'
0.4	16"	16,16,17,15	0.5-2.5	Brown Reworked F-C Sand, some C-F Gravel, some Silt-Clay, Moist.	
			2.5-5	Same as Below.	
0.1	5"	12,7,54/4	5-6.4	Brown F-C Sand, some F-C Gravel, little Silt-Clay, little Cobbles, Moist.	
			6.4-10	Same.	
0.4	10"	6,5,4,5	10-12	Brown C-F Sand, little, F-C Gravel, little Silt-Clay, trace Cobbles, Moist.	
			12-15	Same	
0.4	12"	11,12,9,6	15-17	Brown F-C Sand, some (-) Cobbles, little M-F Gravel, little Silt-Clay, Moist.	
0.3	15"	9,10,10,18 3" Spoon	17-19	Brown C-F Sand, little Cobbles, little F-M Gravel, little Silt-Clay, Moist.	
0.4	4"	23,30,28,20 3" Spoon	19-21	Brown C-F Sand, little Cobbles, little F-M Gravel, little Silt-Clay, Moist.	
	19"	10,10,9,2	21-23	Brown C-F Sand, some M-F Gravel, little (-) Silt-Clay., Saturated.	
			32-25	Same	
	9"	10,11,12,9	25-27	Brown C-F Sand, little F Gravel, little Silt-Clay, trace Cobbles	
			27-28	Same	

BELL ENVIRONMENTAL

Job # 93042-01

Project: Peekskill Plaza

Geologist: Roger Edens

Drilling Contractor: General Borings, Inc.

Drilling Equipment: Dietrich D-120

Boring Diameter: 8"

Total Depth: 28'

WELL NUMBER: MW-4

Location: Peekskill, New York

Well Permit #: N/A

Start Date: 4-23-98

Complete Date: 4-24-98

Depth to Water: 21'

Sample Type: Split Spoon

Protective Casing: Flushmount

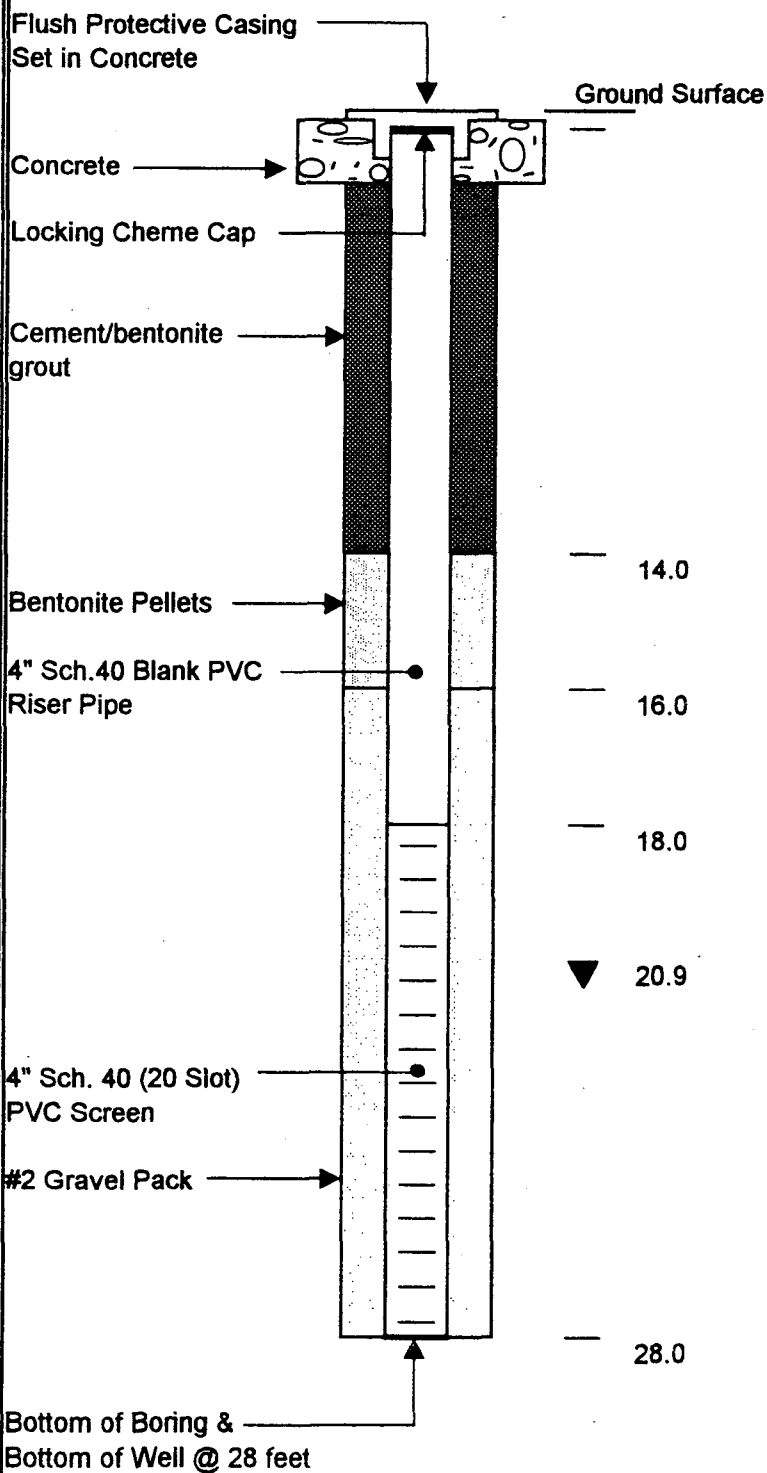


FIGURE NOT TO SCALE

Job #: 93042-01			Boring #: MW-5		
Project: Peekskill Plaza			Location: Peekskill New York		
Geologist: Roger Edens			Driller: Ed Pelkey		License #: N/A
Drilling Contractor: General Borings Inc.					
Drilling Equipment: Dietrich D-120					
Date Start: 4-21-98		Date Complete: 4-24-98		Completion Depth: 17'	
Sampler: Split Spoon		Hammer Weight: 130		Fall: 30"	
Well Casing: 4" Schedule 40 PVC		Length: 7'		Slot Size: 0.020	
Screen: 4" Schedule 40 PVC		Length: 10'		Water: 10'	
Filter Pack: # 2 gravel		Interval: 5'-17'		Bentonite: 3'-5'	
Remarks:					
LOG OF BORING					
SPLIT SPOON SAMPLES			DEPTH (feet)	SOIL DESCRIPTION Modified Burmeister	REMARKS
HNu	Rec.	Blows			
			0-1	Pavement, Concrete	Groundwater at 10'
			1-2	Same as below	
0	12"	30,16,14,12	2-4	Brown M-C Sand, little Gravel, Moist.	
1	18"	6,4,3,4	5-7	Brown F-C Sand, little Silt-Clay, Moist.	
1	16"	7,10,9,7	7-9	8" Brown F-C Sand, trace (+) Silt-Clay, trace F-C Gravel, Moist. 8" Brown C-F Sand, trace Silt, Moist.	
			9-10	Same	
	18"	2,2,5,5	10-12	8" Brown C-F Sand, trace Silt-Clay.	
			12-15	Same	
	24"	4,6,5,6	15-17	11" Brown thinly bedded F-M Sand, some Silt. 10" Brown C-F Sand, trace Gravel. 3" Brown F Sand, some Silt-Clay.	
				EOB 17' BG	

BELL ENVIRONMENTAL

Job # 93042-01

Project: Peekskill Plaza

Geologist: Roger Edens

Drilling Contractor: General Borings, Inc.

Drilling Equipment: Dietrich D-120

Boring Diameter: 8"

Total Depth: 17'

WELL NUMBER: MW-5

Location: Peekskill, New York

Well Permit #: N/A

Start Date: 4-21-98

Complete Date: 4-24-98

Depth to Water: 10'

Sample Type: Split Spoon

Protective Casing: Flushmount

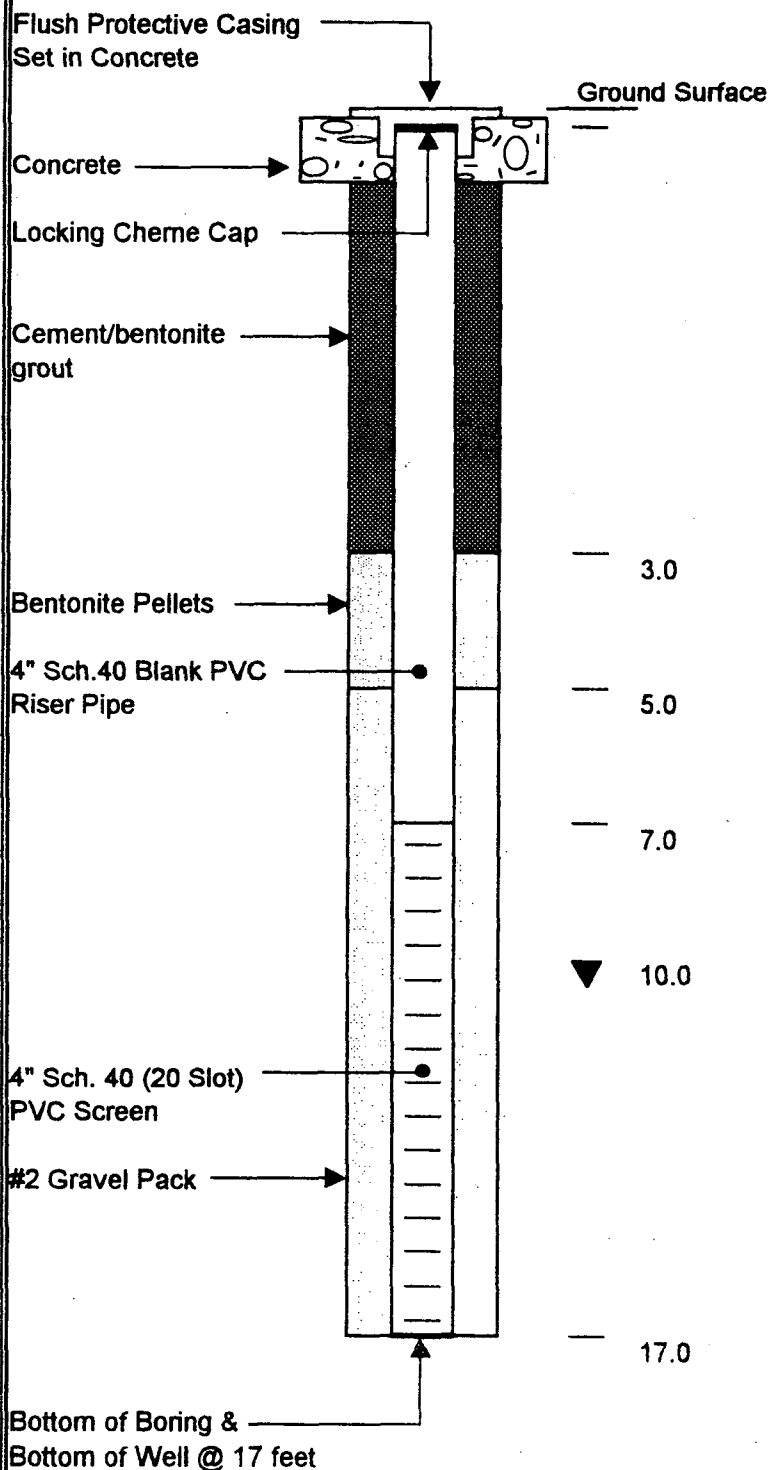
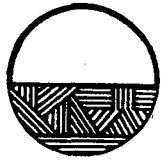


FIGURE NOT TO SCALE



APPENDIX B

Monitoring Well Installation Procedures



APPENDIX B

MONITORING WELL INSTALLATION PROCEDURES

Monitoring Well Construction

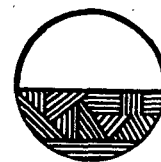
The installation of the monitoring wells began as soon as practical after each borehole was completed. Once well installation began, no breaks in the process were allowed until the well had been completed and secured against unauthorized access.

The monitoring wells were constructed of new 4-inch diameter, flush-joint, internally-threaded, Schedule 40 PVC casing with 10 feet of 4-inch diameter, PVC screen. The actual depth of the wells was determined during drilling of the borehole, based on the depth water is encountered. The well screen had slot-size openings of 0.020 inch (20 slot). Prior to installation, each length of casing and screen was measured and recorded by the hydrogeologist on the daily log sheet.

The monitoring wells were installed by inserting the screen and casing into the hollow-stem augers. A #2 gravel pack was then be placed in the annular space between the screen and augers. The gravel was a standard water-washed, sorted, bagged product. The augers were lifted slowly as the gravel pack was added, in a manner such that some gravel pack remained in the augers. In this manner, a continuous gravel pack around the well screen was assured. The height of the gravel with respect to the bottom of the lead auger was checked using a weighted steel tape that was periodically lowered inside the annular space. The gravel pack extended from the bottom of the borehole to approximately 2 feet above the top of the screen.

A 2-foot thick bentonite seal was placed above the gravel pack. The bentonite seal was poured down the annulus of the casing and borehole wall. The thickness of the bentonite seal was verified by field measurements comparing the depth to the gravel pack to the depth to the top of the seal.

The grout seal consisted of a mixture of 95 pounds Portland Type I cement, 5 pounds bentonite powder, and 6.5 gallons of water, mixed to a uniform consistency. The grout was poured in the annular space to fill the remaining borehole above the bentonite seal to land surface. Each well was completed



with at water-tight seal and cap, and was protected by a locking, flush-mounted, self-draining, curb box assembly.

Well Development

After allowing the grout to cure for at least 12 hours, each well was developed to remove the fine-grained material from the formation around the screen zone and to ensure that a good hydraulic connection exists between the well and the aquifer. Well development was accomplished by pumping with a centrifugal pump and mechanical surging of the well. Development water was containerized for disposal by the property owner. Development was continued until the well responded to water-level changes in the formation and the well produced clear, sediment-free water to the extent practical.

Dispersing agents, acids, disinfectants, or other additives were not used during development, nor were they introduced into the well at anytime. During development, water was removed from the entire column of water standing in the well by periodically lowering and raising the pump intake.

The following data was recorded during well development:

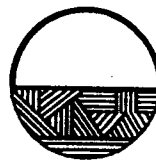
- The development technique used.
- The type and size of pump used and the rate of withdrawal.
- The static water level measured from the top of the well casing before and after development is completed.
- The calculated quantity of fluid standing in the well prior to development.
- The sounded well depth before and after development to determine if siltation has occurred inside the well.
- The physical appearance of the water including changes during development in clarity, color, particulate, and odor.
- The total volume of water extracted from the well during development.

Equipment Decontamination

The drill casings, rods, samplers, tools, rig, and any piece of equipment that comes in contact (directly or indirectly) with the formation, was steam cleaned



on-site prior to drilling. Equipment was steam cleaned between each borehole at a specific decontamination area, and prior to leaving the site. All on-site steam cleaning activities were monitored by the field hydrogeologist.



APPENDIX C

Drilling and Formation Sampling Procedures



APPENDIX C

DRILLING AND FORMATION SAMPLING PROCEDURES

DRILLING METHODOLOGY

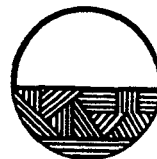
The boreholes were drilled by using the hollow-stem auger drilling method. This drilling technique employs truck-mounted equipment that rotates hollow-stem auger flights into unconsolidated formations. Drill cuttings are lifted continuously to the surface on the outside of the auger flights. An 8- to 12-inch diameter borehole was advanced to the desired depth to facilitate the installation of a 4-inch diameter well.

FORMATION SAMPLING METHODOLOGY

Formation samples were collected from the boreholes using a barrel core sampler (split-spoon). The split-spoon sampler is 24 inches long and 2 inches in diameter. The split-spoon is attached to the sampling rods that are inserted into the augers. The sampler was advanced into the formation by driving it with a 140-pound hammer dropped from a height of 30 inches. A hydrogeologist described the lithology of the sample collected by the split-spoon sampler and prepared a sample/core log.

Formation sampling procedures were as follows:

1. The field hydrogeologist, both of whom were wearing clean, disposable gloves, gave a clean split-spoon sampler to the driller (or helper).
 2. The driller using the standard penetration method collected the sample.
 3. The field hydrogeologist took the split-spoon sampling device from the driller and placed it on clean polyethylene sheeting.
 4. The end cap was unscrewed and the spoon opened to expose the sample.
 5. A clean stainless-steel spatula was used to remove and discard the top 2 to 3 inches of the sample, which is typically not representative of the formation material.
 6. A description of the sample was recorded on a sample/core log form.
-



7. The sampling equipment was decontaminated as described in the equipment decontamination section below.

Decontamination of Equipment

All downhole equipment used during sampling was decontaminated by steam cleaning before being brought on-site, between borehole locations, and before leaving the site at the completion of work. Steam cleaning was conducted at a pre-determined location on-site.

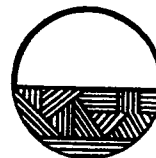
The following procedures were used to decontaminate split-spoon sampling devices and non-aqueous sampling equipment:

1. Wash and scrub with a laboratory-grade detergent (MicroTM).
2. Generous tap water rinse.
3. Thorough distilled and deionized water rinse.

Phthalate-free gloves were worn during decontamination procedures.

Disposal of Drill Cuttings

All drill cuttings generated during the drilling process were containerized and stored on site for disposal by the property owner.



APPENDIX D

Ground Water Sampling Logs

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: June 4, 1998Location: Peekskill, New York Well Designation: MW-1Weather: 70° sunny, clear Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 25.43 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 1c. Depth to Water (ft): 19.4 Purge Start Time: 10:48d. Water Column (a-c): 6.03 Purge Finish Time: 11:01e. Well Volume (dxConv*): 3.94 Purge Volume (gal): 13

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water is clear

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>19.4</u>	<u>19.4</u>	<u>19.4</u>
pH:	<u>8.39</u>	<u>8.32</u>	<u>8.20</u>
Temperature (°C):	<u>18.2</u>	<u>16.4</u>	<u>15.0</u>
Conductivity (mS/cm):	<u>0.208</u>	<u>0.273</u>	<u>0.210</u>
Dissolved Oxygen (ppm):	<u>7.15</u>	<u>7.49</u>	<u>9.35</u>

BELL Sample Number: 2002 Sample Time: 11:23Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: June 4, 1998Location: Peekskill, New York Well Designation: MW-2Weather: 70° sunny, clear Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 3.9 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 25.26 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2c. Depth to Water (ft): 19.94 Purge Start Time: 13:20d. Water Column (a-c): 5.32 Purge Finish Time: 13:26e. Well Volume (dxConv*): 3.48 Purge Volume (gal): 12

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water is slightly turbid after purge

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>19.94</u>	<u>19.94</u>	<u>19.94</u>
pH:	<u>7.65</u>	<u>7.46</u>	<u>6.70</u>
Temperature (°C):	<u>18.0</u>	<u>17.2</u>	<u>17.8</u>
Conductivity (mS/cm):	<u>1.44</u>	<u>1.58</u>	<u>1.58</u>
Dissolved Oxygen (ppm):	<u>3.69</u>	<u>5.01</u>	<u>3.78</u>

BELL Sample Number: 2004 Sample Time: 13:45Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: June 4, 1998Location: Peekskill, New York Well Designation: MW-3Weather: 70° sunny, clear Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 4.1 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 27.87 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 1.5c. Depth to Water (ft): 19.81 Purge Start Time: 12:11d. Water Column (a-c): 8.06 Purge Finish Time: 12:25e. Well Volume (dxConv*): 5.26 Purge Volume (gal): 21

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water is clear

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>19.81</u>	<u>19.82</u>	<u>19.81</u>
pH:	<u>7.29</u>	<u>7.29</u>	<u>7.30</u>
Temperature (°C):	<u>18.1</u>	<u>15.9</u>	<u>16.3</u>
Conductivity (mS/cm):	<u>0.314</u>	<u>0.360</u>	<u>0.360</u>
Dissolved Oxygen (ppm):	<u>7.45</u>	<u>6.38</u>	<u>6.83</u>

BELL Sample Number: 2003 Sample Time: 12:40Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: June 4, 1998Location: Peekskill, New York Well Designation: MW-4Weather: 70° sunny, clear Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 27.8 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2c. Depth to Water (ft): 20.00 Purge Start Time: 14:40d. Water Column (a-c): 7.80 Purge Finish Time: 14:51e. Well Volume (dxConv*): 5.09 Purge Volume (gal): 22

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water is cloudy at purge start and finish

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>20.00</u>	<u>20.00</u>	<u>20.00</u>
pH:	<u>7.54</u>	<u>7.56</u>	<u>7.51</u>
Temperature (°C):	<u>17.7</u>	<u>16.7</u>	<u>16.2</u>
Conductivity (mS/cm):	<u>0.803</u>	<u>0.632</u>	<u>0.603</u>
Dissolved Oxygen (ppm):	<u>3.99</u>	<u>3.28</u>	<u>3.46</u>

BELL Sample Number: 2005/2105 (duplicate) Sample Time: 15:10Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: June 4, 1998Location: Peekskill, New York Well Designation: MW-5Weather: 70° sunny, clear Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 15.47 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 1c. Depth to Water (ft): 9.40 Purge Start Time: 9:36d. Water Column (a-c): 6.07 Purge Finish Time: 9:44e. Well Volume (dxConv*): 3.96 Purge Volume (gal): 8

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Well purged dry after approximately 8 gallonsOdors/Sheens/Color: No odor; No sheen

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>9.4</u>	<u>14.1</u>	<u>9.41</u>
pH:	<u>7.62</u>	<u>N/A</u>	<u>7.44</u>
Temperature (°C):	<u>15.2</u>	<u>N/A</u>	<u>15.3</u>
Conductivity (mS/cm):	<u>0.260</u>	<u>N/A</u>	<u>0.230</u>
Dissolved Oxygen (ppm):	<u>2.42</u>	<u>N/A</u>	<u>4.26</u>

BELL Sample Number: 2001 Sample Time: 9:58Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOG

Project Name: Peekskill Plaza Date: January 26, 1999
Location: Peekskill, New York Well Designation: MW-1
Weather: 40° sunny Sampler(s): Paul Volkmer

Well Security/Integrity: OK

Organic Vapor Reading: 0.0 ppm

Monitoring Instrument: Mini Rae PID

Sounding Method/Device: Slope Water Level Indicator

Well Diameter/Material: 4-inch PVC

a. Well Depth (ft): 25.43 Purge Method: Centrifugal Pump

b. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2

c. Depth to Water (ft): 20.61 Purge Start Time: 13:08

d. Water Column (a-c): 4.82 Purge Finish Time: 13:13

e. Well Volume (dxConv*): 3.15 Purge Volume (gal): 10

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recovery

Odors/Sheens/Color: No odor; No sheen; Water is turbid at start, clear at finish

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>20.61</u>	<u>20.61</u>	<u>20.61</u>
pH:	<u>6.56</u>	<u>6.86</u>	<u>6.45</u>
Temperature (°C):	<u>10.6</u>	<u>12.9</u>	<u>9.4</u>
Conductivity (µS/cm):	<u>718</u>	<u>740</u>	<u>724</u>
Dissolved Oxygen (%):	<u>67</u>	<u>16.2</u>	<u>Not working</u>

BELL Sample Number: 2011 Sample Time: 13:25

Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: January 26, 1999Location: Peekskill, New York Well Designation: MW-2Weather: 40° sunny Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 25.26 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2c. Depth to Water (ft): 20.98 Purge Start Time: 15:47d. Water Column (a-c): 4.28 Purge Finish Time: 15:54e. Well Volume (dxConv*): 2.80 Purge Volume (gal): 14

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water is slightly turbid at start and clear at end

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>20.98</u>	<u>21.00</u>	<u>20.98</u>
pH:	<u>6.59</u>	<u>6.70</u>	<u>6.69</u>
Temperature (°C):	<u>12.5</u>	<u>14.4</u>	<u>13.8</u>
Conductivity (mS/cm):	<u>1.155</u>	<u>1.342</u>	<u>1.643</u>
Dissolved Oxygen (%):	<u>Not working</u>	<u>Not working</u>	<u>Not working</u>
BELL Sample Number: <u>2012</u>		Sample Time: <u>16:11</u>	
Sample Parameters: <u>TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals</u>			

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: January 26, 1999Location: Peekskill, New York Well Designation: MW-3Weather: 40° sunny Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 27.86 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2c. Depth to Water (ft): 20.96 Purge Start Time: 14:21d. Water Column (a-c): 6.90 Purge Finish Time: 14:31e. Well Volume (dxConv*): 4.51 Purge Volume (gal): 20

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Water turbid at start and is clear at end

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>20.96</u>	<u>20.98</u>	<u>20.96</u>
pH:	<u>6.41</u>	<u>6.70</u>	<u>6.50</u>
Temperature (°C):	<u>10.5</u>	<u>13.1</u>	<u>9.5</u>
Conductivity (μS/cm):	<u>710</u>	<u>664</u>	<u>690</u>
Dissolved Oxygen (%):	<u>Not working</u>	<u>Not working</u>	<u>Not Working</u>

BELL Sample Number: 2013 Sample Time: 14:50Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOGProject Name: Peekskill Plaza Date: January 26, 1999Location: Peekskill, New York Well Designation: MW-4Weather: 40° sunny Sampler(s): Paul VolkmerWell Security/Integrity: OKOrganic Vapor Reading: 0.0 ppmMonitoring Instrument: Mini Rae PIDSounding Method/Device: Slope Water Level IndicatorWell Diameter/Material: 4-inch PVCa. Well Depth (ft): 27.80 Purge Method: Centrifugal Pumpb. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2c. Depth to Water (ft): 21.10 Purge Start Time: 17:07d. Water Column (a-c): 6.70 Purge Finish Time: 17:17e. Well Volume (dxConv*): 4.38 Purge Volume (gal): 20

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

Recovery Comments (i.e., pump dry): Good recoveryOdors/Sheens/Color: No odor; No sheen; Discharge is clear after purge

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	<u>21.10</u>	<u>21.10</u>	<u>21.10</u>
pH:	<u>6.63</u>	<u>6.70</u>	<u>6.69</u>
Temperature (°C):	<u>13.0</u>	<u>13.02</u>	<u>11.07</u>
Conductivity (mS/cm):	<u>Not working</u>	<u>Not working</u>	<u>Not working</u>
Dissolved Oxygen (%):	<u>Not working</u>	<u>Not working</u>	<u>Not working</u>

BELL Sample Number: 2014/2114(duplicate) Sample Time: 17:35Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals

GROUND WATER FIELD MONITORING DATA LOG

Project Name: Peekskill Plaza Date: January 26, 1999

Location: Peekskill, New York Well Designation: MW-5

Weather: 40° sunny Sampler(s): Paul Volkmer

Well Security/Integrity: OK

Organic Vapor Reading: 0.0 ppm

Monitoring Instrument: Mini Rae PID

Sounding Method/Device: Slope Water Level Indicator

Well Diameter/Material: 4-inch PVC

a. Well Depth (ft): 15.45 Purge Method: Centrifugal Pump

b. Depth to LNAPL (ft): N/A Purge Rate (gpm): 2

c. Depth to Water (ft): 9.83 Purge Start Time: 11:56

d. Water Column (a-c): 5.62 Purge Finish Time: 12:02

e. Well Volume (dxConv*): 3.67 Purge Volume (gal): 12

* Conversion Factors (gallons/linear foot): 0.1632 (2-inch); 0.6528 (4-inch); 1.4688 (6-inch); 2.6112 (8-inch)

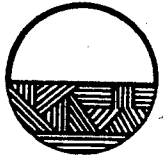
Recovery Comments (i.e., pump dry): Well purged dry after 12 gallons

Odors/Sheens/Color: No odor; No sheen; Discharge is silty/turbid

	Pre-Purge	Post Purge	Post-Sampling
Depth to Water:	9.83	N/A	12.51
pH:	6.76	N/A	6.78
Temperature (°C):	8.6	N/A	8.6
Conductivity (μS/cm):	366	N/A	363
Dissolved Oxygen (%):	11	N/A	Not working

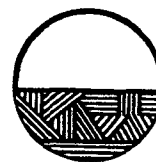
BELL Sample Number: 2015 Sample Time: 12:35

Sample Parameters: TCL VOCs, TCL SVOCs, TCL PCB/Pesticides, TAL Metals



APPENDIX E

Ground Water Sampling Procedures



APPENDIX E

GROUND WATER SAMPLING PROCEDURES

BELL's ground water sampling protocols are based on technically sound standard practices as published in, for example, "Manual of Ground-Water Sampling Procedures," by Scalf et al., NWWA/USEPA 1981, "Handbook for Sampling and Sample Preservation of Water and Wastewater" (USEPA 1982), and "RCRA Ground-Water Monitoring Technical Enforcement Guidance Document" (USEPA 1986). All pertinent information regarding ground water sampling procedures were recorded on a bound field book. Ground water samples were collected by BELL's sampling personnel who are trained and experienced in the collection of environmental samples.

The sampling crew was fully informed of their tasks before the scheduled sampling date. The samplers obtained information from having read the site sampling plan and from meeting with the project manager, project director, field hydrogeologist, and health and safety officer.

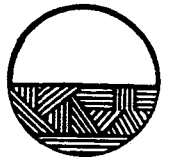
Preparation For Sampling

Before well sampling began, the following tasks were performed at each well:

- The well was located.
- The well was accessed by removing the curb box cover and lock.
- The condition of the well was inspected.
- The well designation, date and time, and other relevant data was recorded.
- The well cap was removed.
- The top of the well casing was wiped clean.
- The depth to water was measured.

Sampling Equipment

All sampling equipment was thoroughly cleaned before and after use. Any supplies, such as tubing that cannot be properly cleaned after use was discarded in an appropriate



manner. Equipment that came into contact with the ground water sample, was decontaminated according to the procedures outlined in the equipment decontamination section. The water level indicator used for water-level measurements was cleaned and rinsed with distilled water prior to use. A new length of polypropylene cord was attached to the bailer prior to sample collection. Equipment such as conductivity and pH meters was calibrated according to manufacturer's instructions.

Well Evacuation

Standing water was removed from the well casing prior to collecting ground water samples. For low yielding wells, the well casing was purged at the lowest possible rate to reduce the potential of pumping to dryness. Water removed from wells was containerized and properly disposed of by the property owner. The polyethylene tubing attached to a centrifugal pump was lowered into the well just below the anticipated pumping water level. New tubing was dedicated to each well sampled. Once the tubing was lowered to the desired setting, it was secured. The water level in the pumped well was periodically monitored so that if it dropped near the pump intake, the pump could be lowered or the discharge reduced. Care was taken to ensure that the water column above the pump intake was removed from the well prior to sampling.

Three to five times the calculated volume of water in the well was removed to ensure collection of a sample that is representative of formation water. The volume of standing water in each well was calculated by subtracting the depth to water from the sounded depth of the well; this number was multiplied by a coefficient which relates the diameter of the well to gallons per linear foot (0.6532 gallons/linear foot for a four-inch well), to obtain the volume of standing water in the well. If the well could not maintain a continuous yield until three volumes were evacuated, it was pumped dry and sampled after the water level recovered.

Ground Water Sample Collection

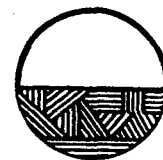
Ground water samples were collected with disposable bottom-filling Teflon bailer. The bailer was lowered slowly so that the water in the well was minimally disturbed. Water was allowed to enter the bailer through a hole in the bottom and was prevented from draining out by an inert (Teflon) ball-check valve. A polypropylene cord attached to a Teflon-coated leader was used to raise and lower the bailer. The polypropylene cord was discarded after each well was sampled. Care was taken so that the bailer would not come in contact with any surfaces outside the well casing. Sampling personnel donned a new pair of disposal gloves for each well sampled and when handling a clean bailer.



Filling Sample Containers

The containers were inspected to ensure that they were the correct type and number and, if required, contained the correct preservative. The labels were properly filled out and affixed to the containers. Care was taken to avoid bottle breakage and to prevent contact of any foreign substance with interior surface of the bottles, vials, or caps. Caps were not removed until sampling actually occurred and just long enough to fill the container. The sample containers were kept cool, dust-free, and out of the sun. The procedures that sampling personnel followed to collect samples are described below:

1. All containers were labeled with waterproof labels using indelible ink, marked with project information, well number, and date.
2. Prior to sampling, the sampling equipment was cleaned as described in the equipment decontamination section. Water samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs and Pesticides, and TAL metals. When organic compounds (other than VOCs) were sampled, amber-tinted glass was used to inhibit photochemical reactions that may influence the concentrations. Specific containers and preservatives for each analysis are provided in Table 1-5 of the QAPP.
3. Clean gloves were worn by personnel when handling a clean bailer.
4. The bailer was placed on clean plastic sheeting. An appropriate length of polypropylene cord was attached to the bailer and a secure knot was tied.
5. The bailer was lowered into the water column gradually to minimize turbulence. The bailer was allowed to sink and become fully submerged. Water from the first bailer was utilized for VOC sample collection. The remaining containers were filled in the following order: SVOCs, PCB/pesticides, and metals.
6. A sample was collected for field parameters, pH, temperature, and specific conductance. The conductivity meter was calibrated with a standard and adjusted for temperature; the pH meter was calibrated with pH 4 and 7 buffers. The pH electrode and conductance cell were immersed in a beaker filled with the sample and the data was recorded.
7. VOC and metals samples were collected in pre-acidified containers.
8. The well cap was secured and the well was locked.
9. Samples were packed on ice in a cooler and the field book and chain-of-custody form were completely filled out. Samples were delivered to the laboratory within 24



hours after sample collection and the receiver's signature was recorded on the chain-of-custody form.

10. The cord, gloves, bailers, and sheeting was discarded in a proper manner.

Sample Containers And Preservation

Prior to implementation of the field sampling program, the laboratory was contacted to obtain sample-handling specifications. These specifications comply with ASP requirements for sample handling and analysis and were cross-checked by BELL. If any questions or problems arose, the laboratory was contacted to resolve the problems.

Sample Containers

Acceptable containers for water samples are made of glass, or polyethylene plastic. The type of container used was dependent on the specific analyte being investigated. Polyethylene containers were used for samples for inorganic parameters, and glass containers were used to collect samples for organic analysis. Glass containers had Teflon-lined lids or septa. Specific containers and preservative for each analysis was provided in Table 1-5 of the QAPP.

Preservation

All samples were preserved at approximately 4 degrees Centigrade in a sealed cooler during transport to the laboratory for analysis. Frozen, plastic-ice containers or sealable plastic bags full of ice were used to keep the samples cold during shipping and the type of preservation used were recorded on the water sampling log. Appropriate chemical preservatives were added by the laboratory to the empty sample containers prior to collecting the samples.

Field Analyses

Measurements for temperature, pH, and specific conductance were made in the field at the time of sampling. Approximately 250 ml of sample was placed in a clean, unpreserved polyethylene container. Field parameters were measured and recorded in the field book.

Temperature

Temperature was measured with a rapidly equilibrating, mercury-filled Celsius thermometer.



pH

The pH was determined with a glass hydrogen-ion electrode compared against a reference electrode of known potential by means of a pH meter. Because pH is exponentially related to concentration, great care was exercised in making a measurement. At the beginning of the sampling day, the pH meter was calibrated with two standard buffer solutions.

Before a measurement was made, the probe was completely rinsed with deionized and distilled water. The probe was lowered into a container of sample and allowed to equilibrate. To facilitate equilibration, the probe was used to stir the water sample gently. A pH reading was made as soon as the reading on the meter equilibrated. Between measurements, the probe was immersed in deionized water. The pH meter was recalibrated periodically during the sampling round to ensure accurate and precise

Specific Conductance

The ability of a solution to conduct an electrical current is a function of the concentration and charge of the ions in solution and the rate at which the ions move under the influence of an electrical potential. A battery-powered meter was used to take the conductivity measurements. The probe was kept clean and calibrated daily with a conductivity standard.

To measure specific conductance, the instrument was adjusted to the sample temperature, and the probe was lowered into the sample and stirred gently. A reading can be taken within seconds after immersion. Before each use, the probe was cleaned with deionized or distilled water. The conductivity meter was recalibrated periodically during the sampling round to ensure accurate and precise measurements.

Quality Control Sample Collection

Replicate and blank samples were used to monitor sampling and laboratory performance. To ensure unbiased handling and analysis by the laboratory, the identities of replicate samples were disguised by means of coding.

Replicate Analyses

Replicate samples were collected from a well to provide laboratory reproducibility. When samples were collected, the water from the bailer was distributed first to fill one container and then to fill the second replicate container. The frequency of replicate analyses was discussed further in the QAPP.



Blanks

Trip blanks were incorporated into this field investigation. They consisted of organic-free water prepared by the laboratory which traveled unopened with the sample bottles. These blanks were analyzed with the samples for VOCs to detect whether samples have been contaminated by VOCs as a result of handling in the field, during shipment, or in the laboratory. One trip blank accompanied each day's shipment of water samples to the laboratory for VOC analysis.

Equipment field blanks were prepared for each day of sampling to monitor the effectiveness of the decontamination procedures.

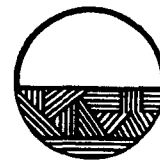
Field Documentation

The handling history of all ground water samples and blanks collected were carefully recorded on appropriate forms to document the integrity of each sample from the time the sampling team entered the site through sample collection and shipment to the laboratory.

Daily Log

Daily logs were kept in the site field book and were used by the field team to record all sampling events and field observations. Entries in the daily logs were dated by the person making the entry and the field book was kept in a secure, dry place. The following information was included on the log forms:

- Date and time of arrival at site
 - Name of client
 - Location
 - Weather
 - Names of sampling personnel
 - Work progress
 - Quality Control samples
 - Departure time
 - Delays
-

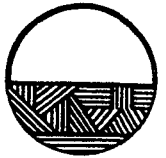


- Unusual situations
- Well damage
- Departure from established QA/QC field procedures and explanation
- Instrument problems
- Accidents

Water Sampling Log

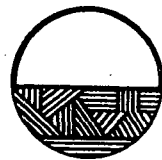
The sampling team prepared a water sampling log in the field book at the time of sampling to record information about each sample collected. In addition to project information, the log included the following:

- Date and time of sampling
 - Well evacuation data
 - Physical appearance of samples
 - Field observations
 - Results of field analyses
 - Sampling method and material
 - Constituents sampled for
 - Sample container and preservation
-



APPENDIX F

Passive Soil Gas Survey Procedures



APPENDIX F

PASSIVE SOIL GAS SURVEY PROCEDURES

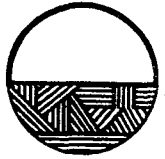
The passive soil gas survey conducted utilized GORE-SORBER® Modules. GORE-SORBER® Modules are patented passive soil vapor sampling devices developed by W.L. Gore & Associates, Inc. for the sampling of subsurface areas for VOCs and SVOCs. The GORE-SORBER Screening Modules used consist of several separate GORE-SORBER® passive sorbent collection devices (sorbenters). The typical sorbenter is 15 to 25 millimeters long with a 3 millimeter inside diameter and contains 40 milligrams of suitable granular activated carbon, depending on the compounds to be detected. The sorbenters are contained in a one-foot long length of vapor-permeable, inert, hydrophobic, microporous GORE-TEX® expanded polytetrafluoroethylene (PTFE). This construction allows VOC and SVOC vapors to freely penetrate the module and collect on the adsorbent material while excluding the adsorption of water.

BELL's passive soil gas survey protocols were designed to be consistent with the recommendations provided by W.L. Gore & Associates, Inc. Laboratory analytical and quality assurance procedures are included as part of the laboratory report included in Appendix I.

GORE-SORBER® modules were shipped to BELL's office by W.L. Gore & Associates prior to the passive soil gas survey. Individual GORE-SORBER® modules were sealed in individual vials. The vials were stored in the shipping package, away from any potential sources of organic vapors.

The following procedures were followed for module installation:

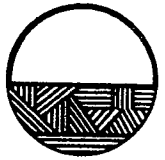
- Prior to installing the modules, a 30-foot sample grid was marked off in the study area.
- A slam bar was used at each sample location to drill each pilot hole where the module was to be inserted.
- Pilot holes were approximately 1-inch in diameter and were drilled to a depth of three feet.
- Wearing clean, disposable nitrile gloves, the field scientist removed the module from the sealed vial and re-sealed the vial.
- An appropriate length of nylon cord was attached to the module and to the cork.
- An insertion rod was used to lower the module into the hole and the cork was used to seal the pilot hole.
- The field scientist recorded all pertinent information including the sample module number, location, date and time of insertion, and comments.



- One module was selected as a trip blank and was kept in its sealed vial in the sample box until all sample modules were retrieved.

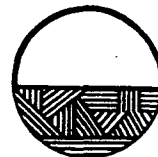
The following procedures were used during module retrieval:

- After a module exposure time of approximately 11 days, the cork was removed.
 - Wearing clean, disposable nitrile gloves, the field scientist removed the module from the ground.
 - The cork and associated cord were cut from the module and discarded.
 - The module was placed in its labeled container and sealed.
 - Upon retrieval of all modules, the Chain of Custody was completed and the samples were placed on ice.
 - The field scientist recorded all pertinent information including the sample module number, location, retrieval date and time, and any other comments.
 - Samples were shipped overnight to the Gore Screening Modules Laboratory in Elkton, Maryland.
-



APPENDIX G

Temporary Well Point Installation and Sampling Procedures



APPENDIX G

TEMPORARY WELL POINT INSTALLATION AND SAMPLING PROCEDURES

DRILLING METHODOLOGY

The boreholes were drilled by using the hollow-stem auger drilling method. This drilling technique employs truck-mounted equipment that rotates hollow-stem auger flights into unconsolidated formations. Drill cuttings are lifted continuously to the surface on the outside of the auger flights. A one to two-inch diameter borehole was advanced to the desired depth (several feet below ground water table). Once at the desired depth, the augers were removed and a ten-foot long, one-inch PVC screen, associated one-inch PVC casing was introduced into the boring.

Equipment Decontamination

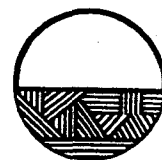
The drill casings, rods, samplers, tools, rig, and any piece of equipment that comes in contact (directly or indirectly) with the formation, was steam cleaned on-site prior to drilling. Equipment was steam cleaned between each borehole at a specific decontamination area, and prior to leaving the site. All on-site steam cleaning activities were monitored by the field hydrogeologist.

SAMPLING METHODOLOGY

Ground water samples were collected with small-diameter, disposable bottom-filling Teflon bailers. The bailer was lowered slowly so that the water in the well was minimally disturbed. Water was allowed to enter the bailer through a hole in the bottom and was prevented from draining out by an inert (Teflon) ball-check valve. A polypropylene cord was used to raise and lower the bailer. The polypropylene cord was discarded after each well was sampled. Care was taken so that the bailer would not come in contact with any surfaces outside the well casing. Sampling personnel donned a new pair of disposal gloves for each well sampled and when handling a clean bailer.

Filling Sample Containers

The containers were inspected to ensure that they were the correct type and number and, if required, contained the correct preservative. The labels were properly filled out and affixed to the containers. Care was taken to avoid bottle breakage and to prevent contact of any foreign substance with interior surface of



the bottles, vials, or caps. Caps were not removed until sampling actually occurred and just long enough to fill the container. The sample containers were kept cool, dust-free, and out of the sun. The procedures that sampling personnel followed to collect samples are described below:

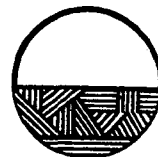
1. All containers were labeled with waterproof labels using indelible ink, marked with project information, well number, and date.
2. Prior to sampling, the sampling equipment was cleaned as described in the equipment decontamination section. Water samples were analyzed for TCL VOCs and lead.
3. Personnel wore dedicated gloves when handling each bailer.
4. The bailer was placed on clean plastic sheeting. An appropriate length of polypropylene cord was attached to the bailer and a secure knot was tied.
5. The bailer was lowered into the water column gradually to minimize turbulence. The bailer was allowed to sink and become fully submerged. Water from the first bailer was utilized for VOC sample collection. Next, the container for the lead sample was filled.
6. VOC and lead samples were collected in pre-acidified containers.
7. Samples were packed on ice in a cooler and the field book and chain-of-custody form were completely filled out. Samples were delivered to the laboratory within 24 hours after sample collection and the receiver's signature was recorded on the chain-of-custody form.
8. The cord, gloves, bailers, and sheeting was discarded in a proper manner.

Sample Containers And Preservation

Prior to implementation of the field sampling program, the laboratory was contacted to obtain sample-handling specifications. These specifications comply with ASP requirements for sample handling and analysis and were cross-checked by BELL. If any questions or problems arose, the laboratory was contacted to resolve the problems.

Sample Containers

Acceptable containers for water samples are made of glass, or polyethylene plastic. The type of container used was dependent on the specific analyte being



investigated. Polyethylene containers were used for samples for lead, and glass containers were used to collect samples for VOC analysis. Glass containers had Teflon-lined lids or septa. Specific containers and preservative for each analysis was provided in Table 1-5 of the QAPP.

Preservation

All samples were preserved at approximately 4 degrees Centigrade in a sealed cooler during transport to the laboratory for analysis. Frozen, plastic-ice containers or sealable plastic bags full of ice were used to keep the samples cold during shipping and the type of preservation used were recorded on the water sampling log. Appropriate chemical preservatives were added by the laboratory to the empty sample containers prior to collecting the samples.

Quality Control Sample Collection

Replicate and blank samples were used to monitor sampling and laboratory performance. To ensure unbiased handling and analysis by the laboratory, the identities of replicate samples were disguised by means of coding.

Replicate Analyses

Replicate samples were collected from a well to provide laboratory reproducibility. When samples were collected, the water from the bailer was distributed first to fill one container and then to fill the second replicate container. The frequency of replicate analyses was discussed further in the QAPP.

Blanks

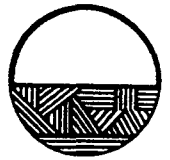
Trip blanks were incorporated into this field investigation. They consisted of organic-free water prepared by the laboratory, which traveled unopened with the sample bottles. These blanks were analyzed with the samples for VOCs to detect whether samples have been contaminated by VOCs as a result of handling in the field, during shipment, or in the laboratory. One trip blank accompanied each day's shipment of water samples to the laboratory for VOC analysis.

Equipment field blanks were prepared for each day of sampling to monitor the effectiveness of the decontamination procedures.



APPENDIX H

Soil Boring Sampling Procedures



APPENDIX H

SOIL BORING SAMPLING PROCEDURES

The boreholes were drilled by using the Geoprobe™ sampling system. This drilling technique employs truck-mounted equipment that pushes a hollow Teflon sampling tube (Macrocore™) into unconsolidated formations. No drill cuttings were generated.

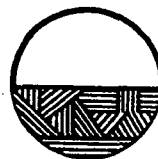
Once the Macrocore was inserted to the desired depth, it was withdrawn. Formation samples were collected by cutting open the Macrocore™. The Macrocore™ is 48 inches long and 2 inches in diameter. The Macrocore was encased in a stainless steel protective case. The Macrocore™ assembly was attached to sampling rods which were advanced into the ground.

Formation sampling procedures were as follows:

1. A clean Macrocore™ sampler was given to the driller by the helper.
2. The sample was collected by the driller using the standard Geoprobe™ penetration method.
3. The field hydrogeologist took the Macrocore™ sampling device from the driller and placed it on the clean sampling table.
4. The Macrocore™ was cut open.
5. A clean stainless-steel spatula was used to remove and discard the top 2 to 3 inches of the sample, which is typically not representative of the formation material.
6. A description of the sample was recorded on a sample/core log form.
7. The sampling equipment was decontaminated as described in the equipment decontamination section below.

Decontamination of Equipment

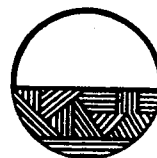
All downhole equipment used during sampling was decontaminated by steam cleaning before being brought on-site, between borehole locations, and before leaving the site at the completion of work. Steam cleaning was conducted at a pre-determined location on-site.



The following procedures were used to decontaminate split-spoon sampling devices and non-aqueous sampling equipment:

1. Wash and scrub with a laboratory-grade detergent (Micro™).
2. Generous tap water rinse.
3. Thorough distilled and deionized water rinse.

Phthalate-free gloves were worn during decontamination procedures.



APPENDIX I

Passive Soil Gas Survey Results



W. L. GORE & ASSOCIATES, INC.

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® EXPLORATION SURVEY
GORE-SORBER® SCREENING SURVEY

1 of 6

GORE-SORBER® Screening Survey Final Report

Peekskill Plaza Dry Cleaner

November 3, 1998

Gore Production Order No. 097945

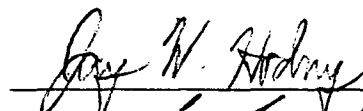
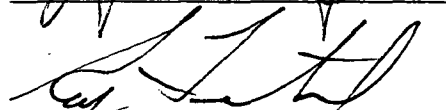
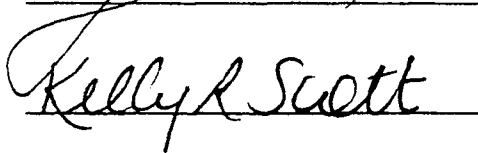
Prepared For:
Bell Environmental Consultants
114 Beach Street, P.O. Box 628
Rockaway, NJ 07866

W.L. Gore & Associates, Inc.

Written/Submitted by:
Jay W. Hodny, Ph.D., Project Manager

Reviewed/Approved by:
Ray F. Fenstermacher, P.G., Project Manager

Analytical Data Reviewed by:
Kelly R. Scott, Chemist

I:\MAPPING\PROJECTS\097945\981103R.DOC

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GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order #

97945



W. L. Gore & Associates, Inc., Environmental Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: <u>Bell Environmental Consultg</u>	Site Name: <u>Peckskill Plaza Dry Cleaner</u>
Address: <u>114 Beach Street</u>	Site Address: _____
<u>P.O. Box 628</u>	
<u>Rockaway, NJ 07866</u>	
Phone: <u>973-586-4800</u>	Project Manager: <u>L. Colestin</u>
FAX: <u>973-586-2929</u>	Customer Project No.: <u>EDG61-93042-02</u>
	Customer P.O. #: <u>3010</u> Quote #: <u>12382</u>

Serial # of Modules Shipped	# of Modules for Installation <u>20</u>	# of Trip Blanks <u>2</u>
# <u>169637</u> through # <u>169658</u>	Total Modules Shipped: <u>22</u>	Pieces
# _____ through # _____	Total Modules Received: _____	Pieces
# _____ through # _____	Total Modules Installed: _____	Pieces
# _____ through # _____	Serial # of Trip Blanks (Client Decides)	#
# _____ through # _____	#	#
GORE ANALYTICAL OPTION:	#	#
[A <u>10</u>]	#	#

Installation Performed By:	Installation Method(s) (circle those that apply):
Name (please print): <u>Paul Volkmere</u>	<u>Slide Hammer</u> Hammer Drill Auger
Company/Affiliation: <u>BELL ENV.</u>	Other: _____

Installation Start Date and Time: <u>10/5/98</u> / : AM PM
Installation Complete Date and Time: <u>10/15/98</u> / : AM PM

Retrieval Performed By:	Total Modules Retrieved: <u>10</u>	Pieces
Name (please print): <u>Paul Volkmere</u>	Total Modules Lost in Field: <u>0</u>	Pieces
Company/Affiliation: <u>BELL ENV.</u>	Total Unused Modules Returned: <u>10</u>	Pieces

Retrieval Start Date and Time: <u>10/16/98</u> / : AM PM
Retrieval Complete Date and Time: <u>10/16/98</u> / : AM PM

Relinquished By: <u>Terry Shelton</u>	Date: <u>10/2/98</u>	Time: <u>8:00 am</u>	Received By: <u>[Signature]</u>	Date: <u>1/4</u>	Time: <u>12:00</u>
Affiliation: <u>W.L. Gore & Associates, Inc.</u>			Affiliation: <u>BELL</u>		
Relinquished By: <u>[Signature]</u>	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Affiliation: <u>BELL ENV.</u>			Affiliation: _____		
Relinquished By: _____	Date: _____	Time: _____	Received By: <u>T. Line</u>	Date: <u>10/11/98</u>	Time: <u>2:30</u>
Affiliation: _____			Affiliation: <u>W.L. Gore & Associates, Inc.</u>		

7.0°C
9767665

**GORE-SORBER® Screening Survey
Final Report**

REPORT DATE: November 3, 1998

AUTHOR: JWH

SITE INFORMATION

Site Reference: Peekskill Plaza Dry Cleaner

Customer Purchase Order Number: 3010

Gore Production Order Number: 097945

Gore Site Code: ATS, ATY

FIELD PROCEDURES

Modules shipped: 22

Installation Date(s): 10/5,16/98

Modules Installed: 21 total

Field work performed by: Bell Environmental Consultants

Retrieval date(s): 10/16,27/98

Exposure Time: 11, 9 [days]

Modules Retrieved: 21

Trip Blanks Returned: 1

Modules Lost in Field: 0

Unused Modules Returned: 0

Date/Time Received by Gore: 10/20/98 @ 2:30 PM; 10/28/98 @ 1:10PM **By:** TC

Recorded Cooler/Water Temperature Control Blank temperature: 7.0, 2.8 [°C]

Chain of Custody Form attached: √

Chain of Custody discrepancies: None

Comments: None

GORE-SORBER® Screening Survey Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990. The Laboratory is audited regularly by a quality system design, development and auditing company.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbents, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbents remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation. Samples remain frozen until analysis and unanalyzed sorbents are archived in the freezer for potential future analysis.

Analytical Method Quality Assurance:

The analytical method employed is a modified EPA method 8260A/8270B. Before each run sequence, two instrument blanks, a sorbent containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorbent containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbents not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection

Quality Assurance Level: 2 (ANA-4/A1)

Instrument ID: # 1, 2 **Chemist:** KS

Data Subdirectory: 097945

Compounds/mixtures requested: Gore Chlorinated VOC Target Compounds (A10)

Deviations from Standard Method: None

Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

**GORE-SORBER® Screening Survey
Final Report**

DATA TABULATION

CONTOUR MAPS ENCLOSED: Three B-sized color contour maps

LIST OF MAPS ENCLOSED:

- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- cis- & trans-1,2-Dichloroethene (c,t-1,2-DCE)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- Currently, soil gas surveys are not designed to replace soil or groundwater matrix sampling. Following a soil gas survey, matrix sampling is recommended in select areas to establish the nature of the contamination (i.e., soil, groundwater, or both), and the relationship to the soil gas levels.

GORE-SORBER® Screening Survey Final Report

- QA/QC trip blank modules were provided to document contamination occurring that was not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.
- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central GC elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids. Attenuation of the VOC/SVOC soil gas components may suggest the presence of a less volatile fluid, when in fact, a more volatile fluid existed but the volatile components have weathered away.

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. The maximum contour level was set at the maximum value observed.
- During the analysis of modules #169648, -652, and -657, the masses of analytes eluting from the instrumentation caused an instrument detector overload (under maximum dilution conditions). Therefore, some values reported in the data table are indicated with a ">" sign. This indicates that the microgram levels were at least this high. Quantification of these compounds is integrated up to a point of confidence in the chromatograms. For mapping purposes, those values reported with a ">" sign were set equal to that value.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The last four digits of each module number are incorporated into the TIC identification (e.g.: ATY9647TC.D represents module #169647).
- PCE was reported in the trip blank. No detectable levels of any target analyte were reported in the method blanks. Thus, target analyte levels, reported for the field-installed modules, that exceed trip and method blank levels, have a high probability of originating from on-site sources.
- Several target chlorinated compounds were observed in moderate to high levels, most notably PCE.
- The visual presentation of the soil gas plumes was restricted to areas sampled.
- The spatial distribution of the compounds selected for mapping revealed elevated soil gas levels along the north, west, and south sides of a building (assuming north is to the top of the map). Less elevated soil gas levels were observed along the eastern edge of the area sampled.
- Soil gas plume delineation was limited due to the number of soil gas samples collected and the spatial distribution of the sampling grid. The plumes appear to extend into areas of the site that were not sampled for soil gas. If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas. Subsequent soil gas sampling events can be combined onto one set of maps providing increased resolution of the subsurface impact.

**GORE-SORBER® Screening Survey
Final Report**

**KEY TO DATA TABLE
Peekskill Plaza Dry Cleaner**

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
11DCE	1,1-dichloroethene
11DCA	1,1-dichloroethane
CHCl ₃	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl ₄	carbon tetrachloride
TCE	trichloroethene
112TCA	1,1,2-trichloroethane
PCE	tetrachloroethene
CIBENZ	chlorobenzene
1112TetCA	1,1,1,2-tetrachloroethane
1122TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
12DCB	1,2-dichlorobenzene

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
 BELL ENVIRONMENTAL CONSULTANTS, ROCKAWAY, NJ
 GORE CHLORINATED VOC (A10)
 PEEKSKILL PLAZA DRY CLEANER
 SITE ATS, PRODUCTION ORDER NO. 097945

DATE ANALYZED	SAMPLE NUMBER	11DCE, ug	ct12DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	CCl4, ug	TCE, ug	112TCA, ug
	MDL=	0.01	0.02	0.04	0.03	0.02	0.04	0.04	0.04	0.04	0.02	0.03
10/30/98	169647	nd	8.94	0.15	nd	8.79	1.59	nd	nd	nd	4.04	nd
10/30/98	169648	nd	7.08	nd	nd	7.08	0.17	nd	nd	nd	19.44	nd
10/30/98	169649	nd	7.94	nd	nd	7.94	0.15	nd	nd	nd	12.13	nd
10/30/98	169650	nd	0.26	nd	nd	0.26	nd	nd	nd	nd	4.14	nd
10/30/98	169651	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.58	nd
10/30/98	169652	nd	5.13	nd	nd	5.13	0.21	nd	nd	nd	18.94	nd
10/30/98	169653	nd	0.36	nd	nd	0.36	2.03	nd	nd	nd	2.50	nd
10/30/98	169654	nd	nd	nd	nd	nd	0.16	nd	nd	nd	0.52	nd
10/30/98	169655	nd	4.18	nd	nd	4.18	0.08	nd	nd	nd	3.26	nd
10/30/98	169656	nd	2.40	nd	nd	2.40	0.19	nd	nd	nd	14.80	nd
10/30/98	169657	nd	22.75	0.26	nd	22.49	0.53	nd	nd	nd	29.66	nd
10/21/98	169637	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
10/21/98	169638	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
10/21/98	169639	nd	nd	nd	nd	nd	nd	1.70	nd	nd	nd	nd
10/21/98	169640	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
10/21/98	169641	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.31	nd
10/21/98	169642	nd	nd	nd	nd	nd	0.21	nd	nd	nd	2.44	nd
10/21/98	169643	nd	21.44	0.15	nd	21.29	0.77	nd	nd	nd	15.88	nd
10/21/98	169644	nd	0.83	nd	nd	0.83	0.69	nd	nd	nd	7.02	nd
10/21/98	169645	nd	0.77	nd	nd	0.77	0.29	nd	nd	nd	1.88	nd
10/21/98	169646	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.53	nd
10/30/98	169658(TB)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
10/30/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
10/21/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
		11DCE, ug	ct12DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	CCl4, ug	TCE, ug	112TCA, ug
	Maximum	nd	22.75	0.26	0.00	22.49	2.03	1.70	nd	nd	29.66	nd

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
 BELL ENVIRONMENTAL CONSULTANTS, ROCKAWAY, NJ
 GORE CHLORINATED VOC (A10)
 PEEKSKILL PLAZA DRY CLEANER
 SITE ATS, PRODUCTION ORDER NO. 097945

SAMPLE NUMBER	PCE, ug	CIBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	14DCB, ug	12DCB, ug
MDL=	0.04	0.04	0.02	0.02	0.02	0.02	0.02
169647	208.09	nd	nd	nd	nd	nd	nd
169648	>1708.93	nd	nd	nd	nd	nd	nd
169649	763.03	nd	nd	nd	nd	nd	nd
169650	297.14	nd	nd	nd	nd	nd	nd
169651	259.11	nd	nd	nd	nd	nd	nd
169652	>1317.4	nd	nd	nd	nd	nd	nd
169653	229.40	nd	nd	nd	nd	nd	nd
169654	120.03	nd	nd	nd	nd	nd	nd
169655	124.03	nd	nd	nd	nd	nd	nd
169656	1092.37	nd	nd	nd	nd	nd	nd
169657	>1515.9	nd	nd	nd	nd	nd	nd
169637	17.81	nd	nd	nd	nd	nd	nd
169638	0.27	nd	nd	nd	nd	nd	nd
169639	0.45	nd	nd	nd	nd	nd	nd
169640	9.49	nd	nd	nd	nd	nd	nd
169641	134.70	nd	nd	nd	nd	nd	nd
169642	140.15	nd	nd	nd	nd	nd	nd
169643	217.33	nd	nd	nd	nd	nd	nd
169644	106.65	nd	nd	nd	nd	nd	nd
169645	128.37	nd	nd	nd	nd	nd	nd
169646	121.02	nd	nd	nd	nd	nd	nd
169658(TB)	0.43	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
	PCE, ug	CIBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	14DCB, ug	12DCB, ug
Maximum	>1708.93	nd	nd	nd	nd	nd	nd

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order #

97945



W. L. Gore & Associates, Inc., Environmental Products Group

100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: <u>Bell Environmental Consulting</u>		Site Name: <u>Peckskill Plaza Dry Cleaner</u>	
Address: <u>114 Beach Street</u> <u>P.O. Box 628</u> <u>Rockaway, NJ 07866</u>		Site Address: _____	
Phone: <u>973-586-4800</u>		Project Manager: _____	
FAX: <u>973-586-2929</u>		Customer Project No.: _____	
		Customer P.O. #: <u>3010</u> Quote #: <u>12382</u>	
Serial # of Modules Shipped		# of Modules for Installation <u>20</u> # of Trip Blanks <u>2</u>	
# <u>169637</u> through # <u>169658</u>	Total Modules Shipped: <u>22</u> Pieces		
# _____ through # _____	Total Modules Received: _____ Pieces		
# _____ through # _____	Total Modules Installed: _____ Pieces		
# _____ through # _____	Serial # of Trip Blanks (Client Decides) # _____		
# _____ through # _____	# <u>169658</u> ✓ # _____		
GORE ANALYTICAL OPTION:		# _____	# _____
<u>[A 10]</u>		# _____	# _____
Installation Performed By:		Installation Method(s) (circle those that apply):	
Name (please print): <u>BELL ENVIRONMENTAL</u>		<u>Slide Hammer</u> Hammer Drill Auger	
Company/Affiliation: <u>PAUL VOIKMER</u>		Other: _____	
Installation Start Date and Time: <u>10/16/98</u> / / : AM PM			
Installation Complete Date and Time: <u>10/16/98</u> / / : AM PM			
Retrieval Performed By:		Total Modules Retrieved: <u>11</u> Pieces	
Name (please print): <u>PAUL VOIKMER</u>		Total Modules Lost in Field: <u>0</u> Pieces	
Company/Affiliation: <u>BELL ENVIRONMENTAL</u>		Total Unused Modules Returned: <u>0</u> Pieces	
Retrieval Start Date and Time: / / : AM PM			
Retrieval Complete Date and Time: / / : AM PM			
Relinquished By: <u>Terry Shelton</u>	Date: <u>10/2/98</u>	Time: <u>8:00am</u>	Received By: _____
Affiliation: <u>W.L. Gore & Associates, Inc.</u>			Affiliation: _____
Relinquished By: <u>PAUL VOIKMER</u>	Date: <u>10/2/98</u>	Time: <u>5:00</u>	Received By: _____
Affiliation: <u>BELL ENV.</u>			Affiliation: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: <u>TU</u>
Affiliation: _____			Affiliation: <u>W.L. Gore & Associates, Inc.</u>

2.80C
97076F34

GORE-SORBER® Exploration Survey
Installation and Retrieval Log

SITE/PROSPECT NAME & LOCATION

Page 1 of 1

Installer's Signature

[Signature]

Peekskill Plaza
Welcher Ave
Peekskill NY

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	MODEL SETS		COMMENTS
				Check for Yes	Location (e.g. well ID)	
1.	✓ 169647	10/16/98 10:24	10/27/98 10:52		GS-11	
2.	✓ 169648	10/16/98 11:47	10/27/98 10:24		GS-12	
3.	✓ 169649	10/16/98 12:07	10/27/98 10:28		GS-13	
4.	✓ 169650	10/16/98 12:32	10/27/98 10:33		GS-14	
5.	✓ 169651	10/16/98 12:48	10/27/98 10:36		GS-15	
6.	✓ 169652	10/16/98 1:30	10/27/98 10:19		GS-16	
7.	✓ 169653	10/16/98 1:42	10/27/98 10:14		GS-17	
8.	✓ 169654	10/16/98 1:54	10/27/98 10:13		GS-18	
9.	✓ 169655	10/16/98 2:13	10/27/98 10:17		GS-19	
10.	✓ 169656	10/16/98 2:34	10/27/98 10:40		GS-20	
11.	✓ 169657	10/16/98 3:04	10/27/98 10:43		GS-21	
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GORE-SORBER® Exploration Survey
Installation and Retrieval Log

SITE/PROSPECT NAME & LOCATION

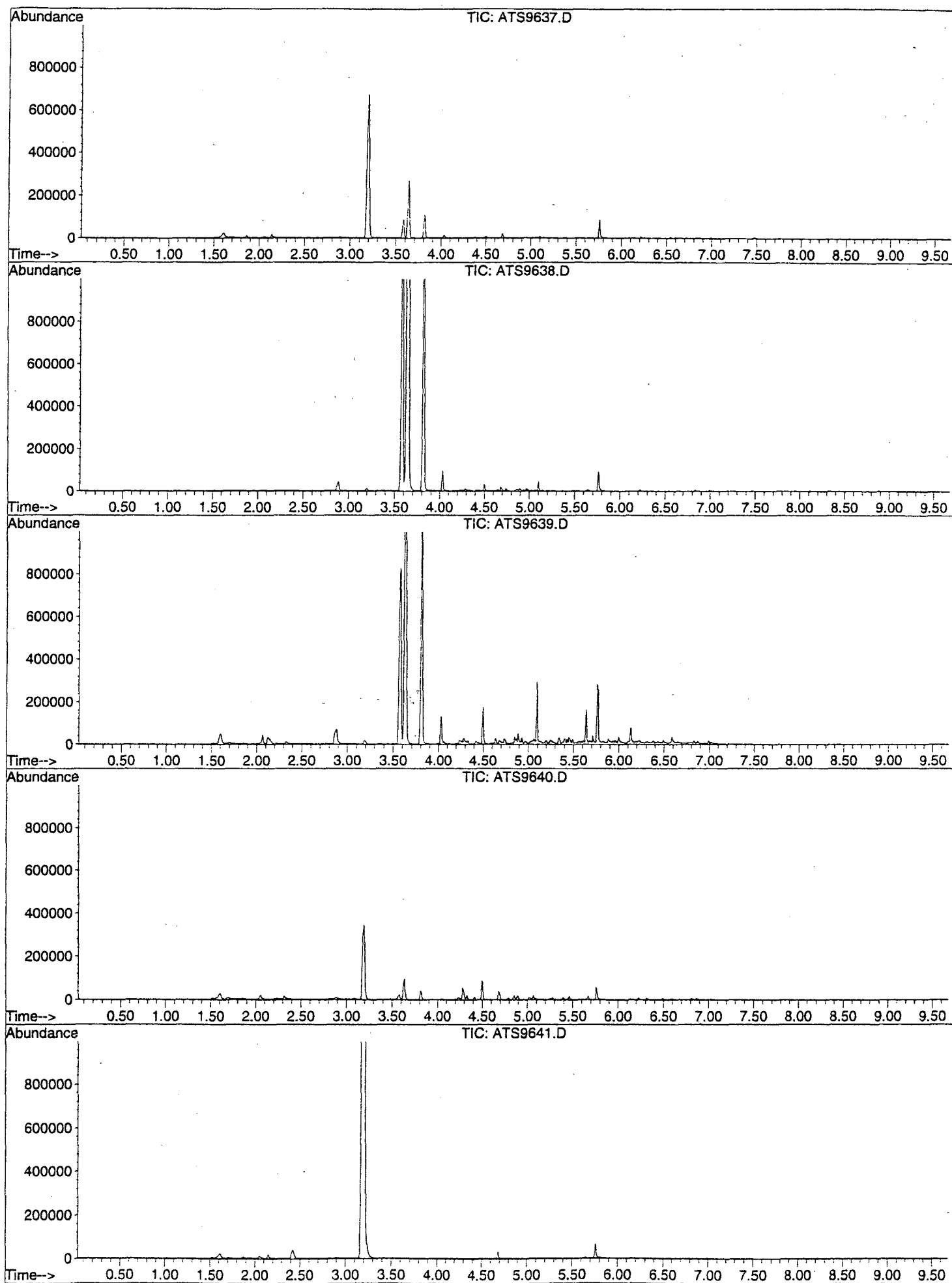
Page 1 of 1

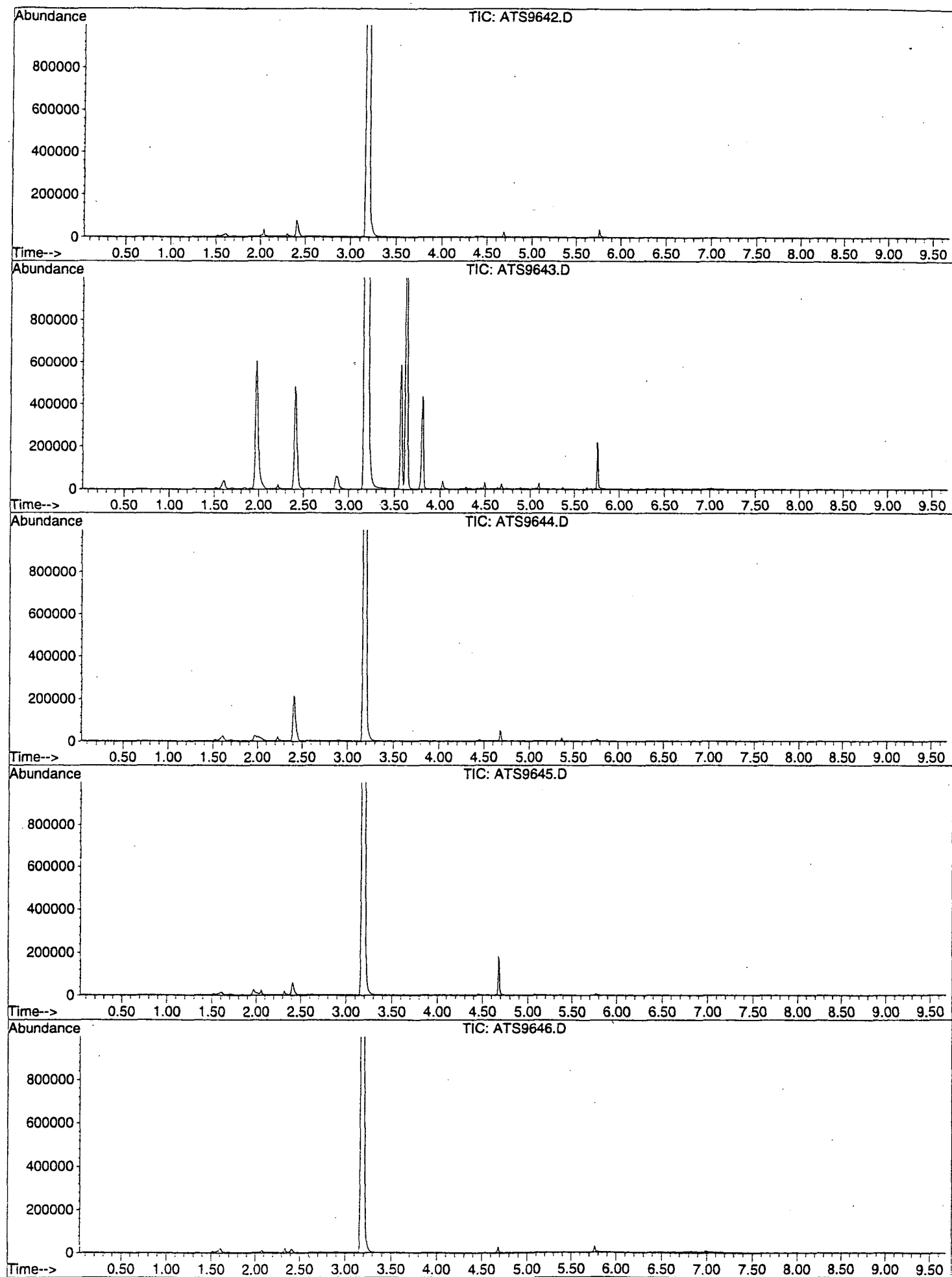
Installer's Signature

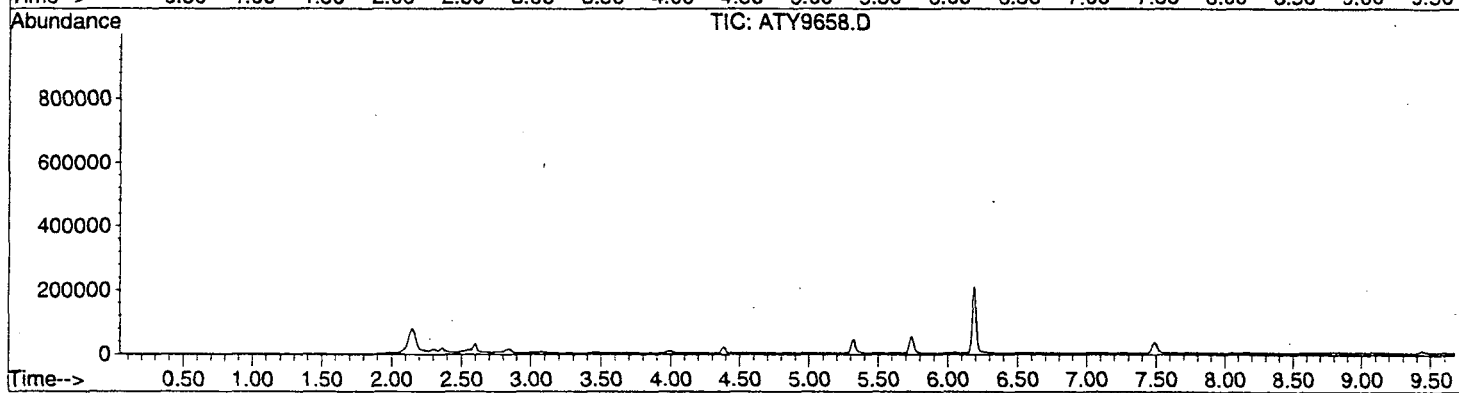
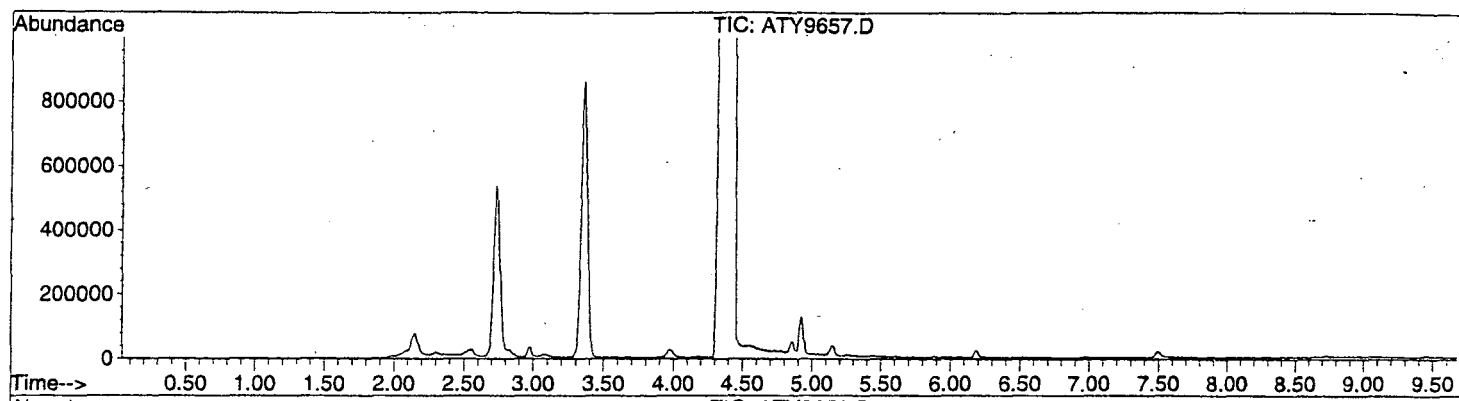
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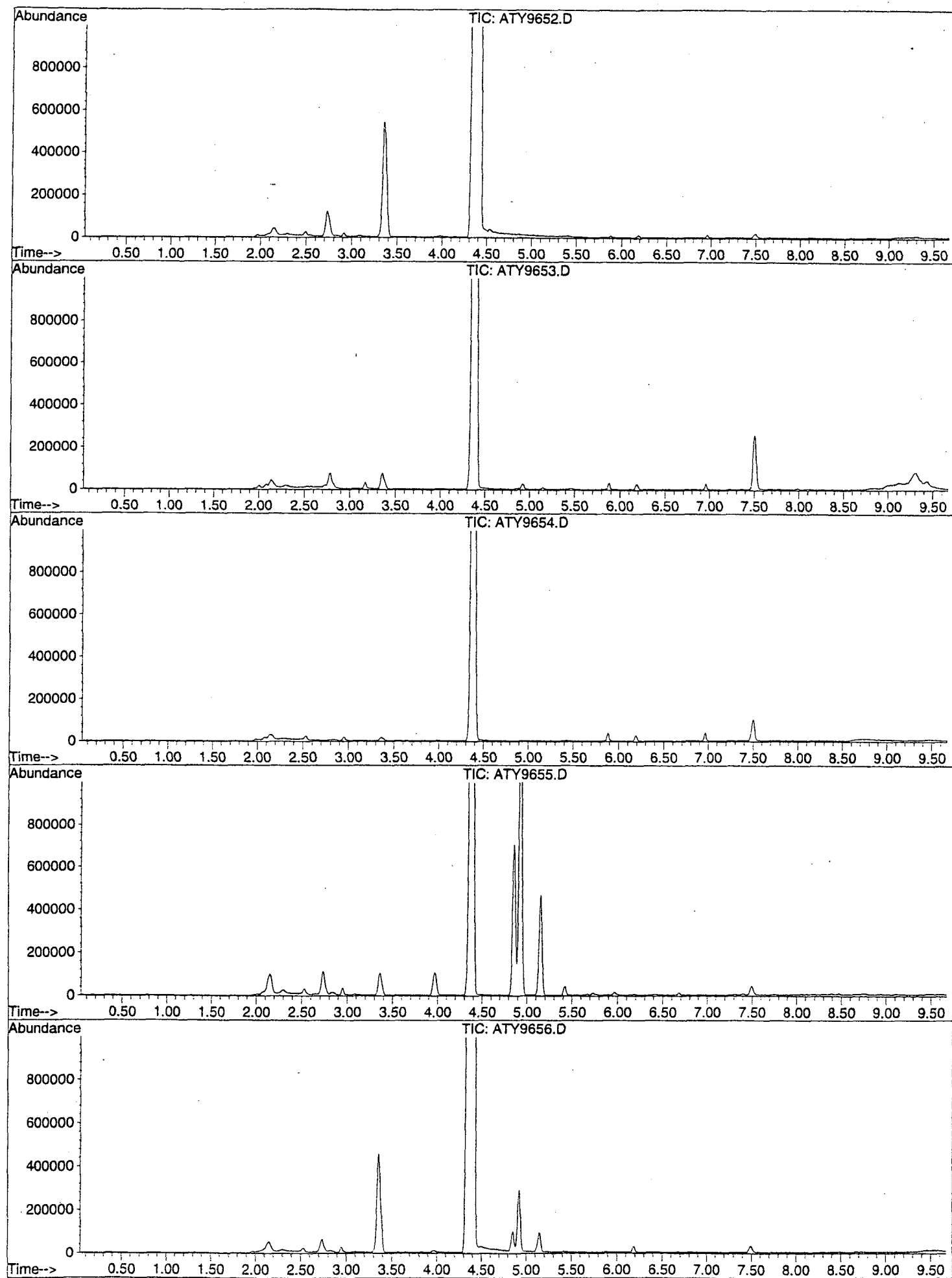
PEEKSKILL PLAZA
WELCHER AVE
PEEKSKILL NY

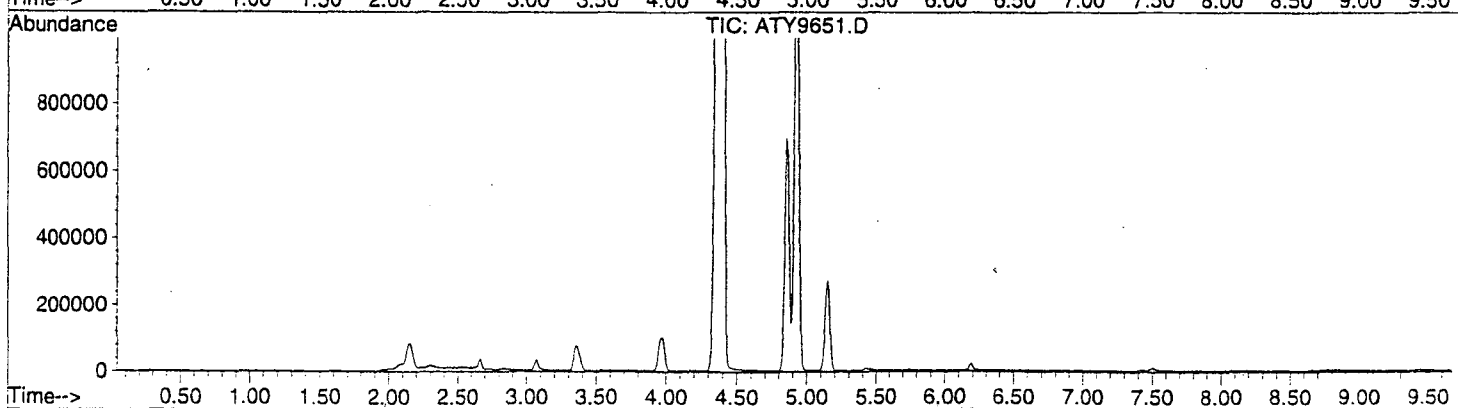
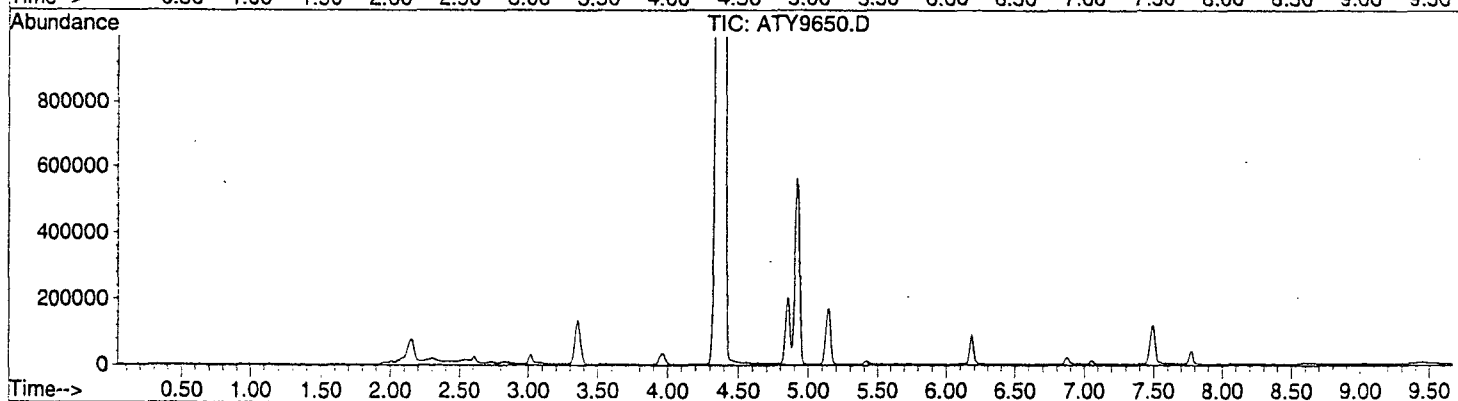
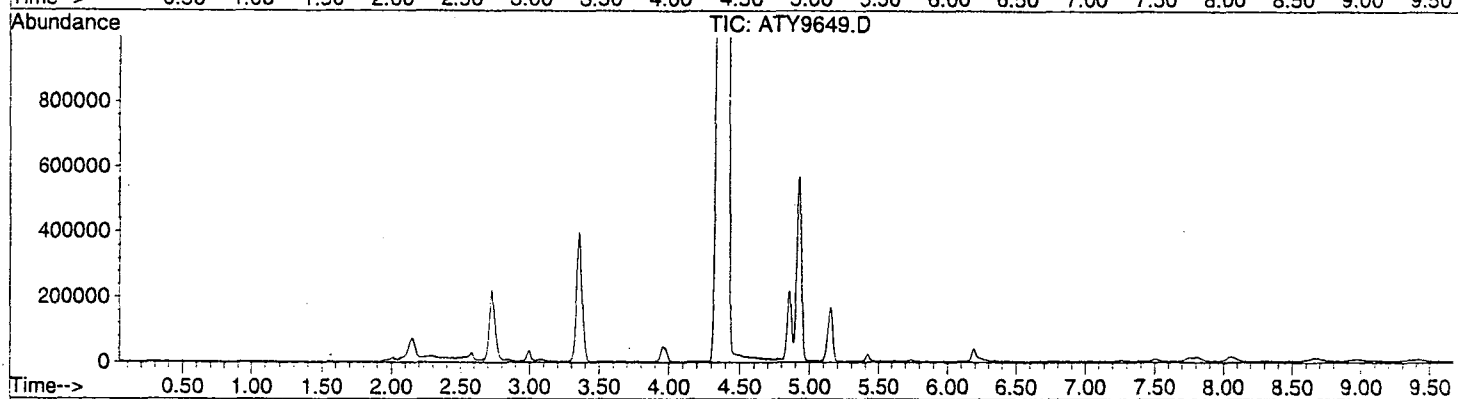
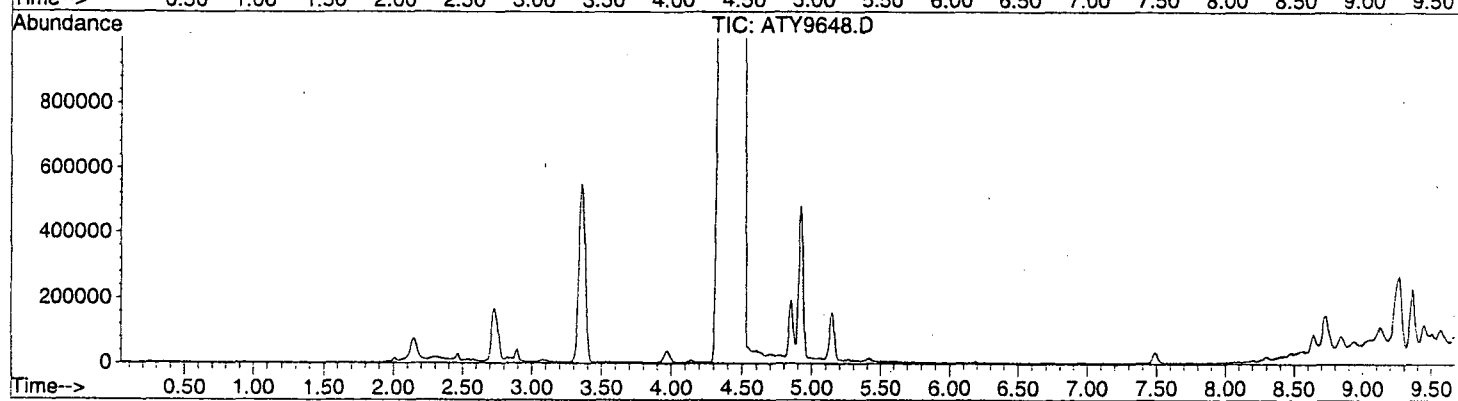
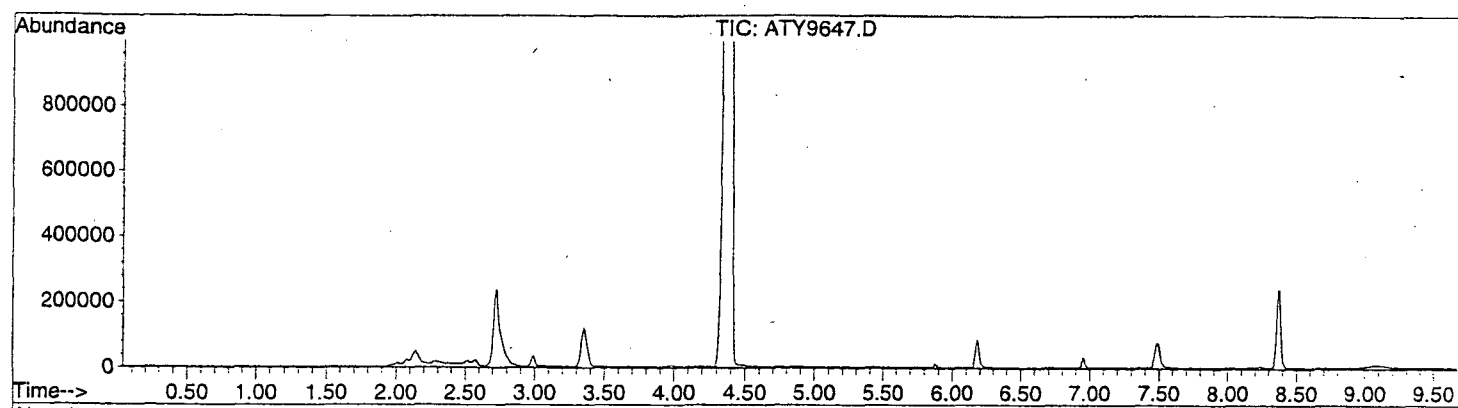
LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	MODEL SETS		COMMENTS
				Check for Yes	Location (e.g. well ID)	
1.	✓ 169637	10/5/96 12:17	10/16/96 15:10		GS-1	
2.	✓ 169638	10/5/96 12:30	10/16/96 15:12		GS-2	
3.	✓ 169639	10/5/96 12:50	10/16/96 15:14		GS-3	
4.	✓ 169640	10/5/96 13:07	10/16/96 15:16		GS-4	
5.	✓ 169641	10/5/96 13:34	10/16/96 15:18		GS-5	
6.	✓ 169642	10/5/96 13:56	10/16/96 15:20		GS-6	
7.	✓ 169643	10/5/96 14:10	10/16/96 15:22		GS-7	
8.	✓ 169644	10/5/96 14:42	10/16/96 15:24		GS-8	
9.	✓ 169645	10/5/96 15:15	10/16/96 15:26		GS-9	
10.	✓ 169646	10/5/96 15:32	10/16/96 15:28		GS-10	
11.						
12.						
13.						
14.						* Additional Modules
15.						To Follow
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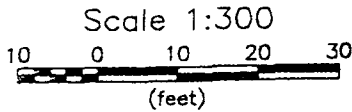
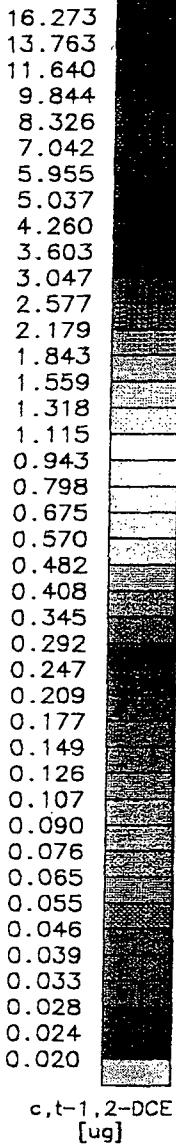
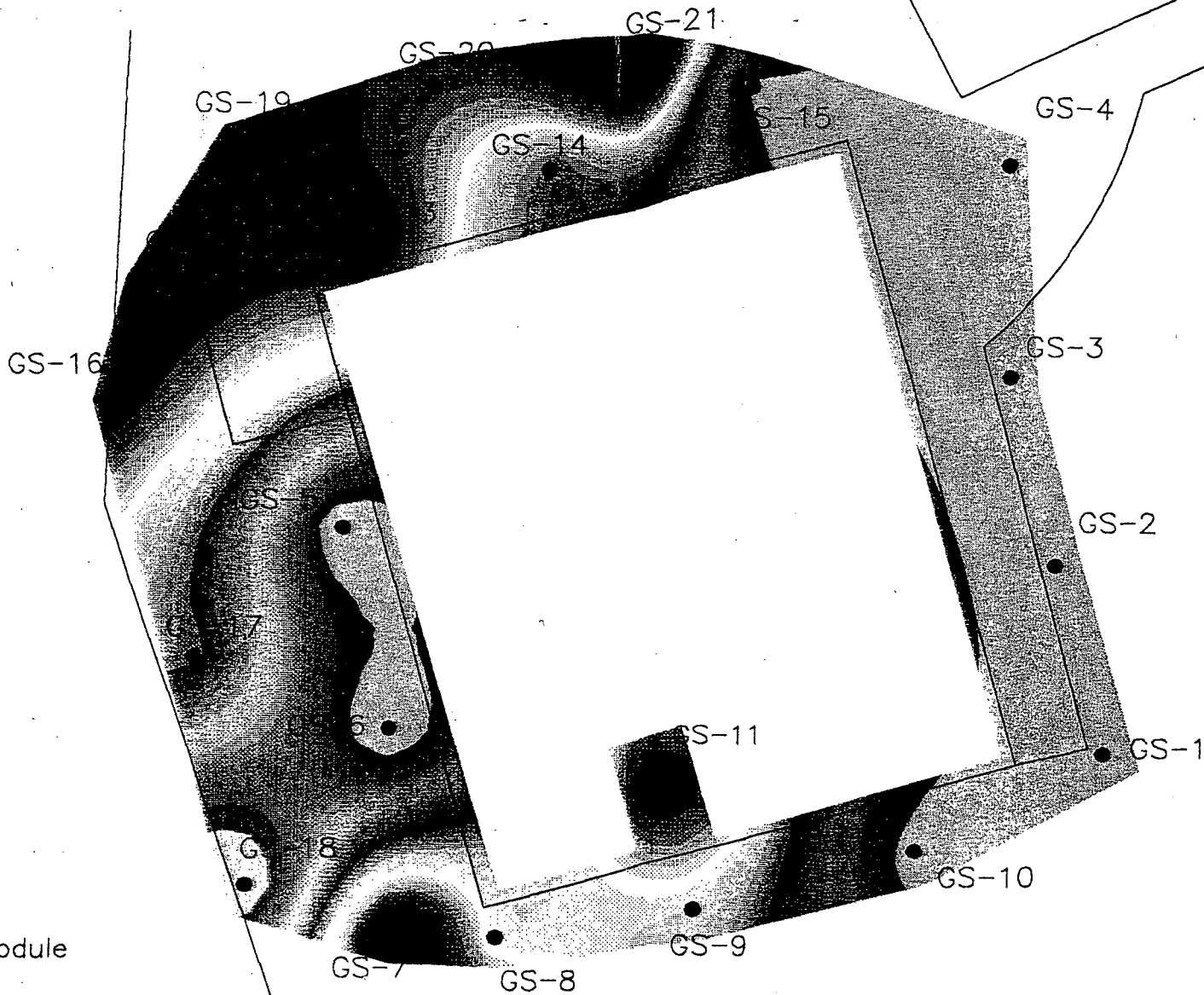






LOCATION	TAG #
GS-1	169637
GS-2	169638
GS-3	169639
GS-4	169640
GS-5	169641
GS-6	169642
GS-7	169643
GS-8	169644
GS-9	169645
GS-10	169646
GS-11	169647
GS-12	169648
GS-13	169649
GS-14	169650
GS-15	169651
GS-16	169652
GS-17	169653
GS-18	169654
GS-19	169655
GS-20	169656
GS-21	169657

● GORE-SORBER Module
GS-10 Location



NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND
DESORBED FROM GORE-SORBER SCREENING MODULES,
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION.

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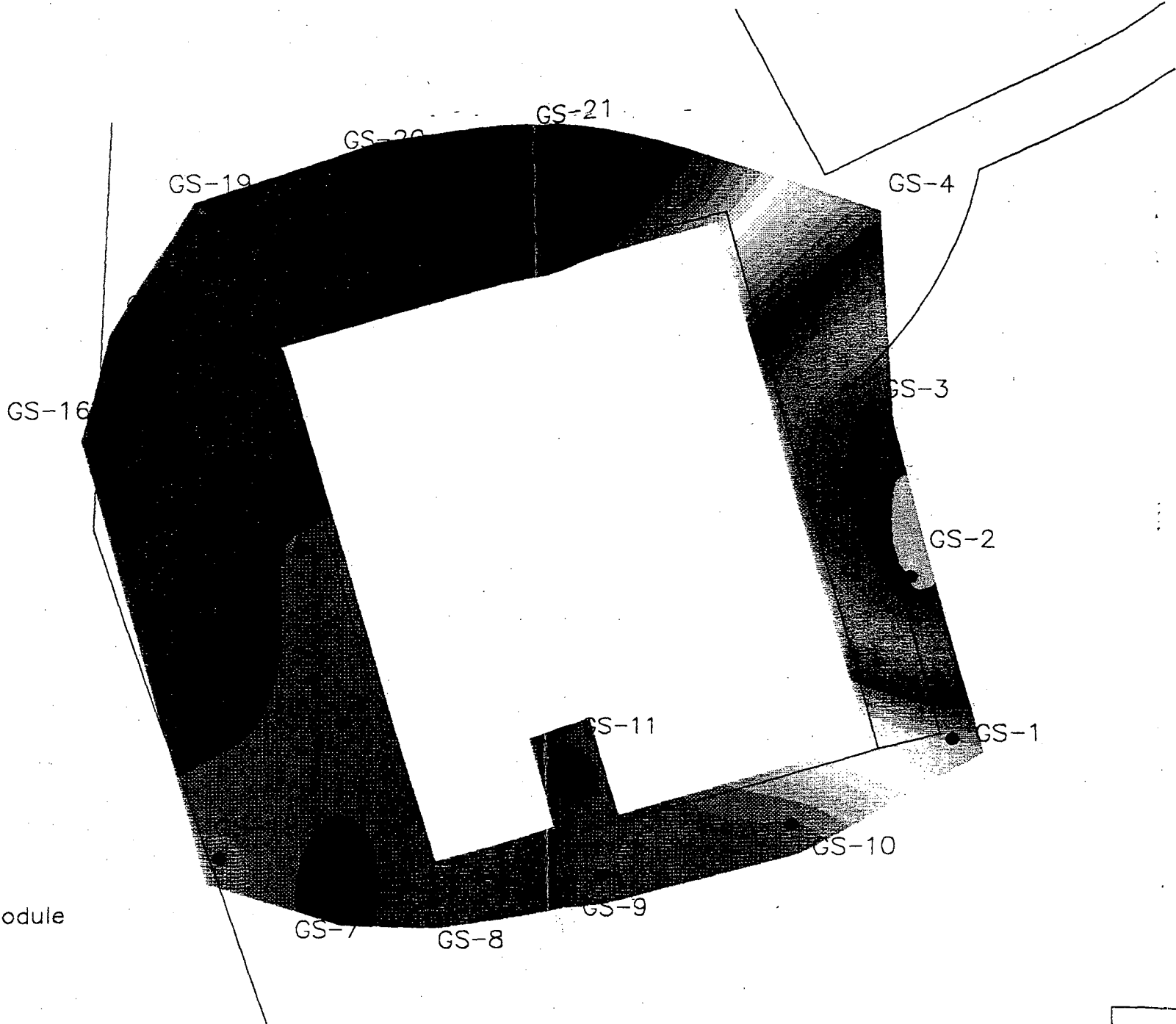
GORE-SORBER
GORE-SORBER SCREENING SURVEY
GORE-SORBER SCREENING MODULE

ORIG. CAD: 93042-BASE-GROTEX.DWG

IS REG. U.S. PAT. & T.M. OFF.
IS A SERVICE MARK OF W.L. GORE & ASSOCIATES
IS A TRADEMARK OF W.L. GORE & ASSOCIATES

GORE-SORBER SCREENING SURVEY			
		W.L. GORE & ASSOCIATES, INC.	
P.O. BOX 10 100 CHESAPEAKE BLVD. ELKTON, MD 21921 (410) 392-7600			
PEEKSKILL PLAZA DRY CLEANER		REV. #:	
cis- & trans-1,2-DICHLOROETHENE		REV. DATE:	
BELL ENVIRONMENTAL CONSULTANTS, ROCKAWAY, NJ			
DATE DRAWN:	3 NOV 1998	GRID FILE:	DE01.GRD
DRAWN BY:	JH	PLOT FILE:	DEC.PLT
DATE GRIDDED:	3 NOV 1998	PROJECT NUMBER:	097945
GRIDDED BY:	JH	SITE CODE:	ATS,ATY

LOCATION	TAG #
GS-1	169637
GS-2	169638
GS-3	169639
GS-4	169640
GS-5	169641
GS-6	169642
GS-7	169643
GS-8	169644
GS-9	169645
GS-10	169646
GS-11	169647
GS-12	169648
GS-13	169649
GS-14	169650
GS-15	169651
GS-16	169652
GS-17	169653
GS-18	169654
GS-19	169655
GS-20	169656
GS-21	169657



● GORE-SORBER Module Location
GS-10

Scale 1:300
10 0 10 20 30
(feet)

NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND DESORBED FROM GORE-SORBER SCREENING MODULES, IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH MASS SELECTIVE DETECTION.

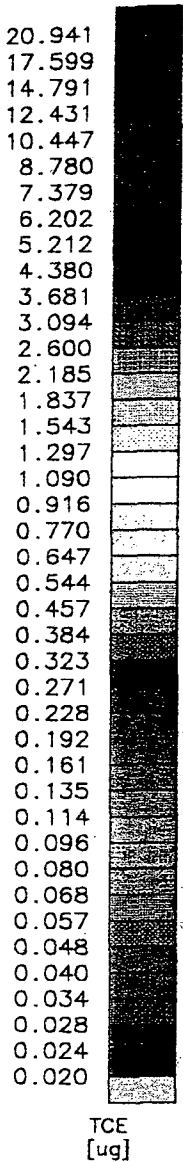
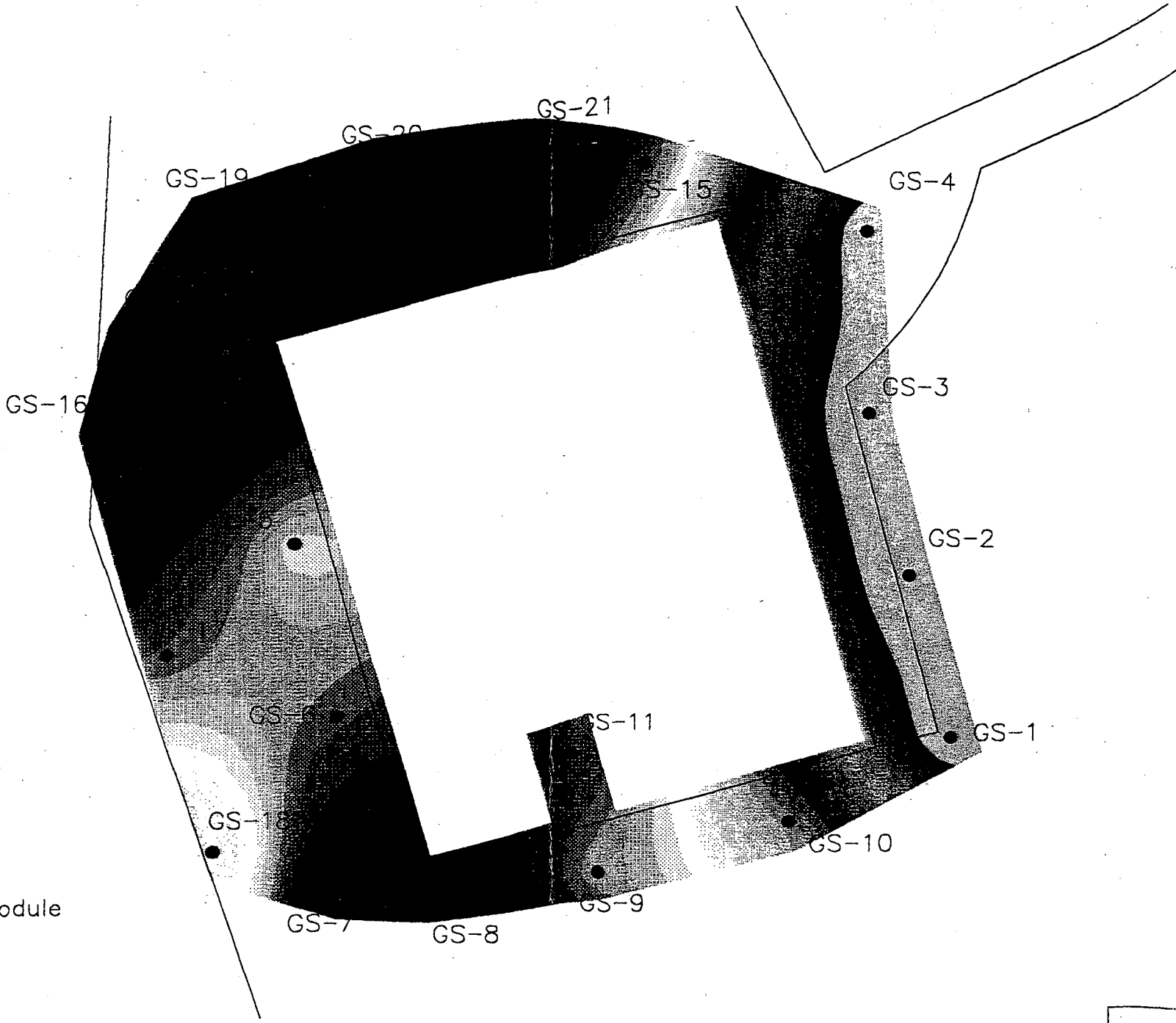
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GORE-SORBER
GORE-SORBER SCREENING SURVEY
GORE-SORBER SCREENING MODULE
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GORE-SORBER SCREENING SURVEY			
		W.L. GORE & ASSOCIATES, INC.	
		P.O. BOX 10 100 CHESAPEAKE BLVD ELKTON, MD 21921 (410) 392-7600	
PEEKSKILL PLAZA DRY CLEANER		REV. #:	
TETRACHLOROETHENE		REV. DATE:	
BELL ENVIRONMENTAL CONSULTANTS, ROCKAWAY, NJ			
DATE DRAWN:	3 NOV 1998	GRID FILE:	PC01.GRD
DRAWN BY:	JH	PLOT FILE:	PCC.PLT
DATE GRIDDED:	3 NOV 1998	PROJECT NUMBER:	097945
GRIDDED BY:	JH	SITE CODE:	ATS.ATY

LOCATION	TAG #
GS-1	169637
GS-2	169638
GS-3	169639
GS-4	169640
GS-5	169641
GS-6	169642
GS-7	169643
GS-8	169644
GS-9	169645
GS-10	169646
GS-11	169647
GS-12	169648
GS-13	169649
GS-14	169650
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GS-16	169652
GS-17	169653
GS-18	169654
GS-19	169655
GS-20	169656
GS-21	169657

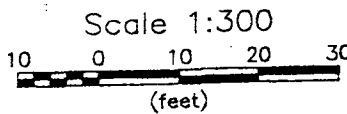
● GORE-SORBER Module Location
GS-10



NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND
DESORBED FROM GORE-SORBER SCREENING MODULES.
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION.

THIS DRAWING AND ANY ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT AND MUST NOT
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GORE-SORBER SCREENING MODULE
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GORE-SORBER SCREENING SURVEY			
		W.L. GORE & ASSOCIATES, INC.	
P.O. BOX 10 100 CHESAPEAKE BLVD ELKTON, MD 21921 (410) 392-7600			
PEEKSKILL PLAZA DRY CLEANER		REV. #:	
TRICHLOROETHENE		REV. DATE:	
BELL ENVIRONMENTAL CONSULTANTS, ROCKAWAY, NJ			
DATE DRAWN:	3 NOV 1998	GRID FILE:	TE01.GRD
DRAWN BY:	JH	PLOT FILE:	TEC.PLT
DATE GRIDDED:	3 NOV 1998	PROJECT NUMBER:	097945
GRIDDED BY:	JH	SITE CODE:	ATS,ATY



**PRELIMINARY SITE ASSESSMENT REPORT
PEEKSKILL PLAZA SHOPPING CENTER
APPENDIX J
DATA USABILITY SUMMARY REPORT
& LABORATORY RESPONSES**

PROFESSIONAL SITE SERVICES

6420 MetroWest Blvd. - Suite 1003

Orlando, FL 32835

Tel: (407)294-6537

Fax: (407)298-9459

May 25, 1999

Ms. Lori Calestini
Bell Environmental Consultants, Inc.
295C Route 46
Lakefront Professional Center
Budd Lake, NJ 07828

Dear Ms. Calestini:

Accompanying this letter, please find the Data Usability Summary Report (DUSR) for the Peekskill Plaza project. This report was prepared in accordance with the New York State Department of Environmental Conservation guidance documents supplied by Bell.

Should you have any questions or comments, please feel free to give me a call at 609-918-9178 until June 2. After that time, I will be returning to Orlando. Effective June 4, I can be reached at 407-294-6537.

Thank you for this opportunity to provide services to Bell Environmental.

Sincerely,



Rex A. Hunter, CIH

Peekskill Plaza DUSR

This Data Usability Summary Report (DUSR) provides the results of a review of five (5) analytical data packages produced in support of the Peekskill Plaza project for Bell Environmental, Inc., of Budd Lake, NJ. The review was based on the New York State Department of Environmental Conservation (NYSDEC) "Guidance for the Development of Data Usability Summary Reports" (9/97) and the NYSDEC Analytical Services Protocol (10/95) (ASP).

Analytical data packages reviewed were identified as follows:

<u>ID#</u>	<u>Laboratory</u>	<u>Sampling Date(s)</u>
20980-81953	American Env. Network	4/21-23/98
20980-81978	American Env. Network	4/24/98
7098-1318A	American Env. Network	6/4/98
L110	STL Envirotech	1/26/99
L436	STL Envirotech	2/4/99

The DUSR guidance document requires the reviewer to answer six questions and provide a qualitative assessment of the data. These six questions are

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?
2. Have all holding times been met?
3. Do all the QC data ... fall within the protocol required limits and specifications?
4. Have all of the data been generated using established and agreed upon analytical protocols?
5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
6. Have all the correct data qualifiers been used?

A review of each data package listed above, relative to these questions, is presented in the following section. Also, a qualitative evaluation of the data suitability is presented.

Data Package #20980-81953

This data package covers seven samples (4 soils and three aqueous samples) submitted for analysis of volatiles, semivolatiles, pesticides, PCBs, metals, and cyanide.

Peekskill Plaza DUSR

Question 1. - The data package is not complete based on the ASP. The following completeness deficiencies were noted.

No Sample Data Summary Package (SDSP).

The following sections of the ASP were not found:

- 3.2 Contract Lab Sample Information Sheets
- 3.3 NYSDEC Data Package Summary Forms
- 3.5.1.6 Instrument Detection Limits (volatiles)
- 3.6.1.3 QC Check Sample/Standard (semivolatiles)
- 3.6.3.3 Internal Standard Area Summary (semivolatiles)
- 3.9.2.11 Holding Times (metals)
- 3.10.2.2 CRQL Standards for Wet Chemical Analysis (cyanide)

Question 2. - According to the Case Narrative, the pesticides/PCBs were extracted outside of the holding time.

Question 3. - No. Those outside limits include terphenyl-d14 surrogate recovery and 5 of 63 semivolatile MS/MSD recoveries (but the report noted only 4 of 63).

Question 4. - Yes

Question 5. - Yes

Question 6. - Yes

In addition, this review noted the following potential exceptions to the report.

The potential presence of a TCL/TIC analyte in the volatile analysis of sample MW-4(17-19).

The inclusion of library search reports for compounds not listed in the TIC list for the semivolatile analysis of samples MW-5(7-9) and MW-1(9-11).

It should also be noted that the sample submitter did not request that matrix spike/matrix spike duplicate analysis be performed on any of the samples submitted. Thus, no data was included for this. This was not noted as an incompleteness under Question 1 because the sampler did not request it.

It is felt by this reviewer that the above noted deficiencies do not adversely affect the data package to the point that it is not usable. Thus, this package is appears to be suitable and no resampling/reanalysis is recommended.

Data Package 20980-81978

Peekskill Plaza DUSR

This data package covers three samples (2 soils and one aqueous sample) submitted for analysis of volatiles, semivolatiles, pesticides, PCBs, metals, and cyanide.

Question 1. - The data package is not complete based on the ASP. The following completeness deficiencies were noted.

No SDSP.

The following sections of the ASP were not found:

- 3.2 Contract Lab Sample Information Sheets
- 3.3 NYSDEC Data Package Summary Forms
- 3.5.1.6 Instrument Detection Limits (volatiles)
- 3.5.4.2.3 Reconstructed ion chromatogram and quantitation report for VBLKE1 (volatiles)
- 3.5.4.6 QC Check Sample/Standard (volatiles)
- 3.5.6 Copy of Extraction Logs (volatiles)
- 3.7.1.3 QC Check Sample/Standard Recovery (pesticides)
- 3.9.2.11 Holding Times (metals)
- 3.10.2.2 CRQL Standards for Wet Chemical Analysis (cyanide)

Question 2. - According to the Case Narrative, the pesticides/PCBs were extracted outside of the holding time.

Question 3. - No. Those outside limits include terphenyl-d14 surrogate recovery and 5 of 63 semivolatile MS/MSD recoveries (but the report noted only 4 of 63).

Question 4. - Yes

Question 5. - No. For sample MW-3(18-20), results from the first run of the pesticides were reported for endosulfan sulfate and 4,4'-DDT, but the second run results were reported for endosulfan II. For sample PBLK54, aldrin was detected at 0.0227 ug/l, but reported as 0.050U.

Question 6. - No. The data qualifier "P" was used for the result for delta-BHC on sample PBLK58, but no second analysis was found to substantiate this.

It should also be noted that the sample submitter did not request that matrix spike/matrix spike duplicate analysis be performed on any of the samples submitted. Thus, no data was included for this. This was not noted as an incompleteness under Question 1 because the sampler did not request it.

No other problems or deficiencies were noted.

Peekskill Plaza DUSR

It is felt by this reviewer that the above noted deficiencies do not adversely affect the data package to the point that it is not usable. Thus, this package is appears to be suitable and no resampling/reanalysis is recommended.

Data Package 7098-1318A

This data package covers seven samples (all aqueous) plus a duplicate, matrix spike, and matrix spike duplicate from one of these sample locations submitted for analysis of volatiles, semivolatiles, pesticides, PCBs, metals, and cyanide.

Question 1. - The data package is substantially complete based on the ASP, although there was some minor re-ordering of pages.

Question 2. - Yes

Question 3. - No. Semivolatile MS Blank Recovery Summary had 2 analytes out of limits (report stated 0), semivolatile MS/MSD Recovery had spike out of limits, water pesticide surrogate recovery had one decachlorobiphenyl out of limits, water pesticide MS blank recovery had 3 of 6 out of limits, spike sample recovery for aluminum on one sample was out of limits.

Question 4. - Yes

Question 5. - No. For samples MW-3, MW-4 MS, and MW-4 MSD, results were reported from both the first and second analysis for pesticides within each sample.

Question 6. - Yes

The only other problem noted was that cyanide was not listed under "other" on the NYSDEC Sample Identification and Analytical Requirement Summary.

It is felt by this reviewer that the above noted deficiencies do not adversely affect the data package to the point that it is not usable. Thus, this package is appears to be suitable and no resampling/reanalysis is recommended.

Data Package L110

This data package covers seven samples (all aqueous) submitted for analysis of volatiles and lead, seven samples (all aqueous) submitted for analysis of volatiles, semivolatiles, pesticides, PCBs, and metals, and one sample (trip blank) for volatiles only.

It must be noted that the following review is complete within the time and budget constraints allowed. This must be noted because the format of this report was

Peekskill Plaza DUSR

not in accordance with the ASP Category B protocol. The reviewer has done the most complete job possible within these constraints to evaluate this package.

Question 1. - The data package is not complete based on the ASP. The following completeness deficiencies were noted.

No SDSP.

The following sections of the ASP were not found or problems noted were encountered:

Volatiles

- 3.1 SDG Narrative - incomplete and out of order
- 3.2 Contract Lab Sample Information Sheets - not found
- 3.3 NYSDEC Data Package Summary Forms - not found
- 3.5 GC/MS Volatiles Data - incomplete, out of order and had volatile and semivolatile data for both QC and actual analyses mixed together
- 3.6 GC/MS Semivolatiles Data - incomplete, out of order and had volatile and semivolatile data for both QC and actual analyses mixed together
- 3.7 GC/ECD Pesticide/Aroclor Data - incomplete, out of order, and missing some QC data
- 3.9 Inorganic Data - incomplete, out of order, and missing some QC data

Question 2. - Yes

Question 3. - Cannot evaluate due to incomplete or out of order data

Question 4. - Yes

Question 5. - No. There are potentially TCLs/TICs not identified during the semivolatiles analysis of the following samples, based on a review of the chromatograms: sample ID 2014 and 2114.

Question 6 - Although not all QC data could be reviewed, it appears as if all correct qualifiers have been used.

This data package did not comprise all of the elements of the Category B protocol. Also, the document was not ordered in compliance with the protocol. As a limited amount of time was available to review this document, the reviewer does not feel confident recommending it be acceptable. It is the recommendation of this reviewer that a complete validation of the data be performed before any recommendations on reanalysis are made.

Data Package L436

Peekskill Plaza DUSR

This data package covers eleven samples (four soil and seven aqueous samples) submitted for analysis of volatiles and lead.

It must be noted that the following review is complete within the time and budget constraints allowed. This must be noted because the format of this report was not in accordance with the ASP Category B protocol. The reviewer has done the most complete job possible within these constraints to evaluate this package.

Question 1. - The data package is not complete based on the ASP. The following completeness deficiencies were noted.

No SDSP.

The following sections of the ASP were not found or problems noted were encountered:

Volatiles

- 3.1 SDG Narrative - incomplete and out of order
- 3.2 Contract Lab Sample Information Sheets - not found
- 3.3 NYSDEC Data Package Summary Forms - not found
- 3.5.1.1 System Monitoring Compound Summary -out of order
- 3.5.1.2 MS/MSD Summary - out of order
- 3.5.1.3 QC Check Sample/Standard - not found
- 3.5.1.4 Method Blank Summary - out of order
- 3.5.1.5 GC/MS Instrument Performance Check - out of order
- 3.5.1.6 Instrument Detection Limits - not found

Metals

- 3.9.2.1 Initial & Continuing Calibration - out of order
- 3.9.2.2 CRDL Standard for AA and Linear Range Analysis for ICP - not found
- 3.9.2.3 Blanks - out of order
- 3.9.2.4 ICP Interference Check Sample - not found
- 3.9.2.10 ICP Serial Dilution - not found
- 3.9.2.11 Holding Times - not found
- 3.9.3 Verification of Instrument Parameters - not found

Question 2. - Yes

Question 3. - Not all of this data was found, but the data found appeared to be within required protocol specifications and/or limits.

Question 4. - Yes

Question 5. - No. There are potentially TCLs/TICs not identified during the volatiles analysis of the following samples, based on a review of the

Peekskill Plaza DUSR

chromatograms: sample ID 6002E, 6003C, 6004C, 6005C, 1007C, 1008C, 2129, 1011, and 1012.

Question 6 - Although not all QC data could be reviewed, it appears as if all correct qualifiers have been used.

This data package did not comprise all of the elements of the Category B protocol. Also, the document was not ordered in compliance with the protocol. As a limited amount of time was available to review this document, the reviewer does not feel confident recommending it be acceptable. It is the recommendation of this reviewer that a complete validation of the data be performed before any recommendations on reanalysis are made.

Severn Trent

Severn Trent Laboratories Inc.

628 Rt. 10 • Whippany, NJ 07981 • (973) 428-8181 • Fax (973) 428-0858

6/15/99

Bell Environmental
Lakefront Professional Center
295 C Route 46
Budd Lake, NJ 07828

Attn : Julie Flynn

Re: DUSR for STL report number 81953 – Bell project Peekskill

Dear Ms. Flynn,

This letter is in response to the question posed by NJDEP concerning the STL reports 81953, 81978 responses for volatiles.

Report 81953:

Sample MW-4 (17-19) The presence of a compound not listed in Voa TIC – the TIC compound at 18.00 is column bleed therefore was not reported. Spectra is enclosed.

Report 81978:

Reconstructed Ion Chromatogram & quant report for VBLKE1 : enclosed

QC check standard : VBLKBS enclosed

Extraction log : enclosed

BNA inquiries :

QC check sample/standard – was enclosed in report pages 000117, 000118, 000119

Internal standard area – was enclosed in report pages 000120, 000121, 000122, 000123

Holding times for metals – enclosed is mercury prep log page 000773, 000774 (holding time is 26 days, all other metals are 6 months. Also submitted are inorganic prep forms for ICP and Mercury.

Severn Trent Laboratories Inc.

CRDL standard for CN – enclosed is the Standard log showing a standard at 10 ug/L page 000792.

As noted the pesticides were extracted out of holding time.

The BNA spike recovery form was corrected to show 5 compounds were outside QC limits. Page 000113 has been corrected.

STL 81978

Holding times metals – the prep sheets pages 000844,000845,000846,000847 enclosed along with summary sheets.

CRDL for CN – report page 000872 enclosed.

Corrected form for BNA MS/MSD

The remaining information requested will be supplied by STL-CT through Paul Hobart. If you have further questions please feel free to contact me at 973-581-6482.

Sincerely,



Daniel Glenn
Client Service Manager
STL, Inc.

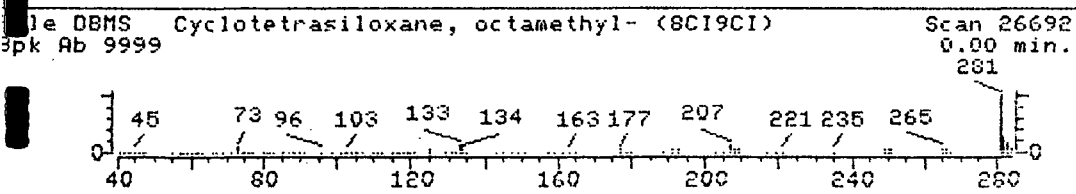
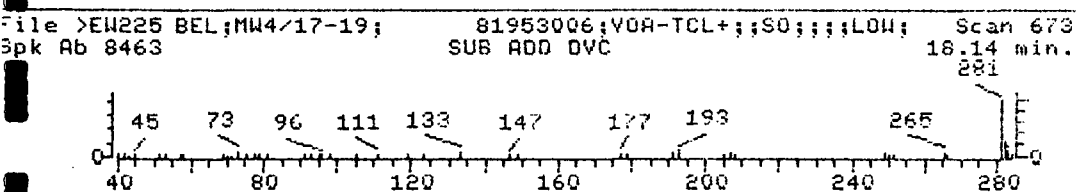
1. Cyclotetrasiloxane, octamethyl- (8CI9CI)

296 C8H24O4Si4

Sample file: >EW225 Spectrum #: 673
Search speed: 1 Tilting option: N No. of ion ranges searched: 44

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CBN	C_I	R_IV
1.	78	556672	31261	DBMS	69	67	2	0	96	0	55 15

Peak#: 8 Area: 144717. Est Conc: 10. Date: 05/01/98 19:47 Inst: BEL



Column Bleed

QUANT REPORT

Operator ID: IEA
 Output File: EEW212::QQ
 Data File: >EW212::G1
 Name: MSE;VBLKE1;
 Misc: VBLKE1;VOA-TCL;;;SO;;;LOW;

Quant Rev: 6 Quant Time: 980501 16:38
 Injected at: 980501 16:18
 Dilution Factor: 1.00000

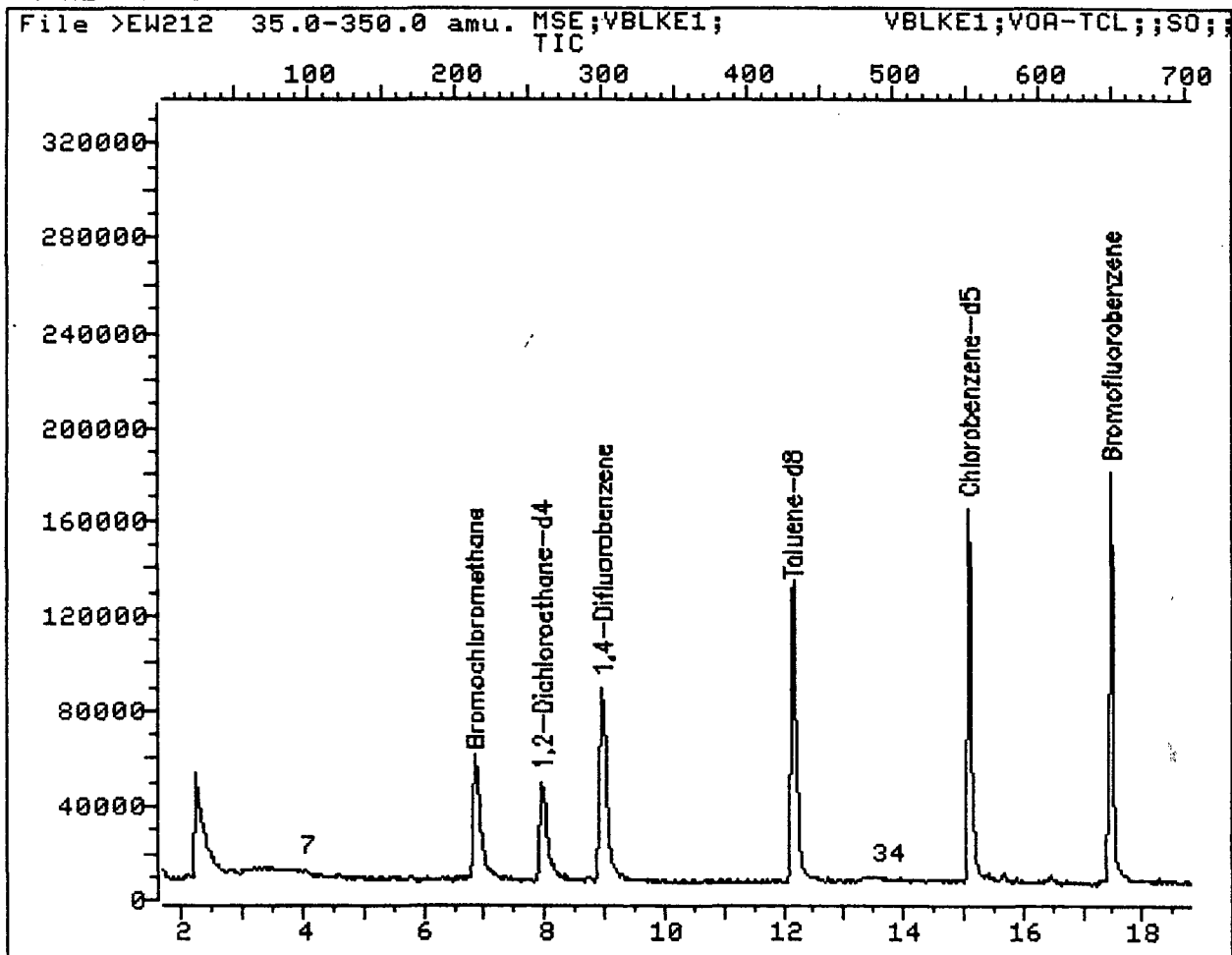
ID File: I_SCLP::N1
 Title: EPA HAZ. SUBSTANCE LIST VOA
 Last Calibration: 980501 16:12

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	6.85	127.9	57252	50.00	ug/KG	100
~~7)~~	~~Acetone~~	~~4.03~~	~~43.0~~	~~5748~~	~~6.76~~	~~ug/KG~~	~~100~~
18)	1,2-Dichloroethane-d4	7.97	65.0	129338	46.23	ug/KG	88
21)	*1,4-Difluorobenzene	8.97	113.9	265430	50.00	ug/KG	97
33)	*Chlorobenzene-d5	15.10	116.9	230185	50.00	ug/KG	97
~~34)~~	~~2-Hexanone~~	~~13.66~~	~~43.0~~	~~5304~~	~~2.02~~	~~ug/KG~~	~~73~~
39)	Toluene-d8	12.16	98.0	275781	50.21	ug/KG	95
45)	Bromofluorobenzene	17.49	95.0	177949	52.64	ug/KG	97

* Compound is ISTD

Su
5/1/98

TOTAL ION CHROMATOGRAM



Data File: >EW212::G1

Quant Output File: EEW212::QQ

Name: MSE;VBLKE1;

Misc: VBLKE1;VOA-TCL;;SO;;;LOW;

Id File: I_SCLP::N1

Title: EPA HAZ. SUBSTANCE LIST VOA

Last Calibration: 980501 16:12

Operator ID: IEA

Quant Time: 980501 16:38

Injected at: 980501 16:18

AEN-NJ Instrument Log
VOA-CC/MS Department

MSE

Analyst/Date/Seq. S. Vinsky 9/1/98

Analytical Fractions VOA

Instrument ID MSE

Tune File T_E Date Tuned 9/1/98

Calibration Standards

Standard	Lot #	Conc (ug/ml)	vol(ul)
BFB	VOAWS 0003618	25	2
IS/SUR	VOAWS 0009754	50	5
CLP MIX	VOAWS 0054618	50	5
WORK STD	VOAWS	50	5
DICH/TRI	VOAWS	50	5
8260 IS/SS	VOAWS	50	5
8260 Full	VOAWS	50	5
8260 Misc	VOAWS	100	2.5
8260 CR	VOAWS	100	2.5
	VOAWS		
	VOAWS		

IS/RTLimits

600/500

IS#1

RT

IS#2

RT

IS#3

RT

IS/RT Limits

CLP/8260

IS#1

RT

IS#2

RT

IS#3

RT

Reviewed By SLC

2nd Review

#	LAB ID	CLIENT ID	CLIENT	DATA FILE	ALS #	INJ VOL	DIL	BATCH	METHOD	LIST	PROTOCOL	COMMENTS
1	50 HCBFB			SEB490	DI	2ml		E			CLP	OK
2	VSTD01067	VSTD00001		SEW207	1	5ml	1.0	E	I-CLP	TU		OK
3	02067	02067		208	2			E				OK
4	05067	05067		209	3			E				OK
5	10067	10067		210	4			E				OK
6	20067	20067		211	5			E				OK
7								E				
8	V8.1167	V8.1167		SEW212	7	5u	1.0	E	I-CLP	TU	CLP	OK
9	V8.1165	V8.1165		215	5	5ml		E				OK
10								E				
11	81915001	MW3/15-20	BEZ	SEW218	10	5u	1.0	E	I-CLP	TU	WP	OK
12	002	MW 6/18-20		219	11			E				OK
13	002MS			220	12			E				OK
14	102MS			221	13			E				OK
15	81952001	MW 5/7-9		222	14			E				OK
16	002	MW 1/9-11		223	15			E				OK
17	004	MW 2/15-20		224	2			E				OK
18	006	MW 4/17-19		225	3			E				OK
19	C. 9. 501			226	4			E				OK
20	81952001			227	5			E				OK
21								E				
22								E				
23								E				
24								E				
25								E				

SLC 9/17/98

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKBS

Lab Name: IEA-NJ

Job No. : 81953

Matrix: (soil/water) Soil

Lab Sample ID: VBLKBS

Sample wt/vol: 5 (g/mL) g

Lab File ID: >EW215

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. 0

Date Analyzed: 05/01/98

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/kg Q

74-87-3	Chloromethane	90	
74-83-9	Bromomethane	51	
75-01-4	Vinyl Chloride	87	
75-00-3	Chloroethane	54	
75-09-2	Methylene Chloride	83	
67-64-1	Acetone	120	
75-15-0	Carbon Disulfide	92	
75-35-4	1,1-Dichloroethene	91	
75-34-3	1,1-Dichloroethane	86	
540-59-0	1,2-Dichloroethene (total)	170	
67-66-3	Chloroform	90	
107-06-2	1,2-Dichloroethane	91	
78-93-3	2-Butanone	140	
71-55-6	1,1,1-Trichloroethane	92	
56-23-5	Carbon Tetrachloride	94	
75-27-4	Bromodichloromethane	95	
78-87-5	1,2-Dichloropropane	95	
10061-01-5	cis-1,3-Dichloropropene	97	
79-01-6	Trichloroethene	95	
124-48-1	Dibromochloromethane	100	
79-00-5	1,1,2-Trichloroethane	100	
71-43-2	Benzene	92	
10061-02-6	Trans-1,3-Dichloropropene	100	
75-25-2	Bromoform	100	
108-10-1	4-Methyl-2-Pentanone	120	
591-78-6	2-Hexanone	120	
127-18-4	Tetrachloroethene	94	
79-34-5	1,1,2,2-Tetrachloroethane	100	
108-88-3	Toluene	90	
108-90-7	Chlorobenzene	90	
100-41-4	Ethylbenzene	89	
100-42-5	Styrene	92	
1330-20-7	Total Xylenes	92	

QUANT REPORT

Operator ID: IEA

Quant Rev: 6

Quant Time: 980501 17:19

Output File: EEW215::QQ

Injected at: 980501 16:59

Data File: >EW215::G1

Dilution Factor: 1.00000

Name: MSE;VBLK;

Misc: VBLK;VOA-TCL+;;SO;;;LOW;

ID File: I_SCLP::N1

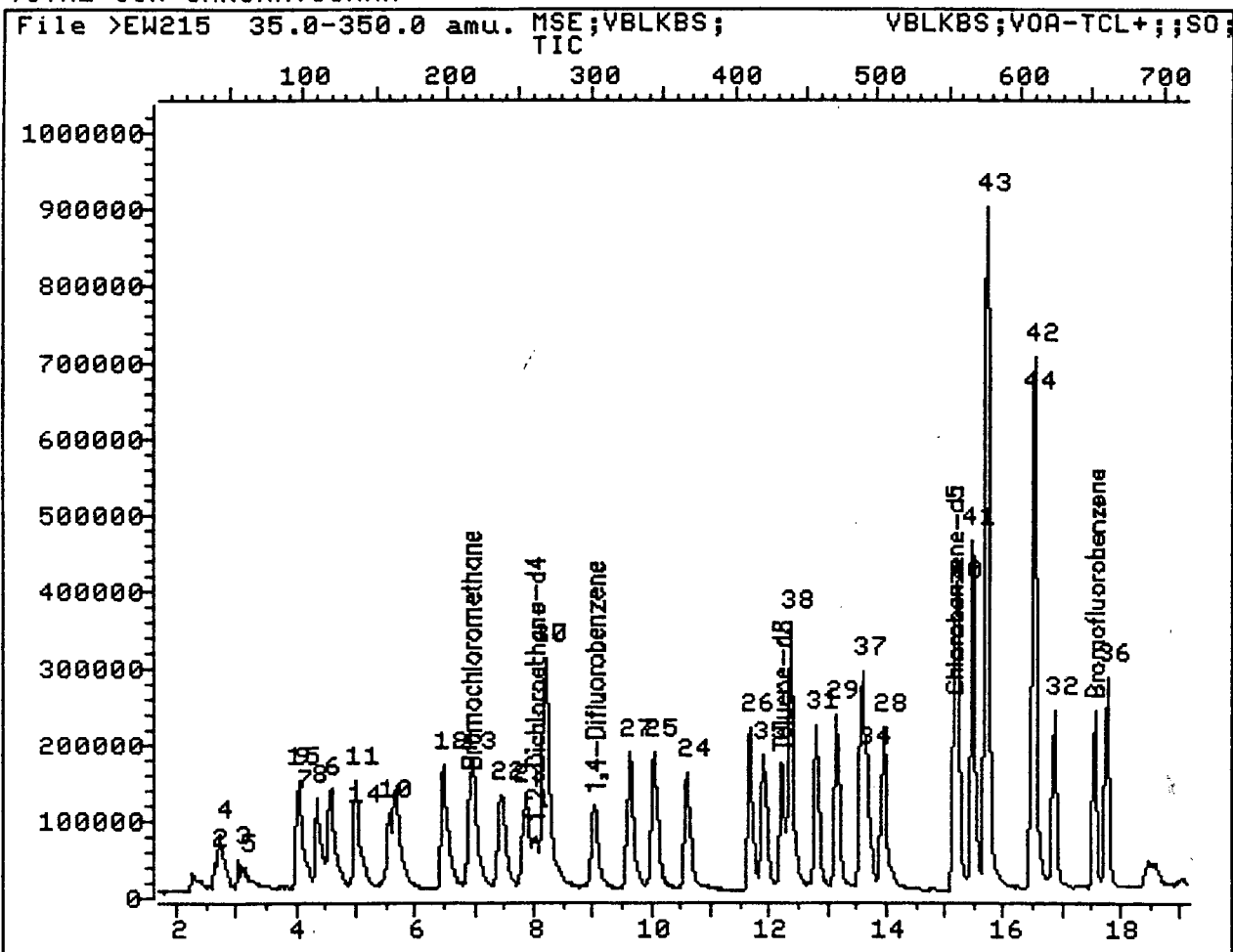
Title: EPA HAZ. SUBSTANCE LIST VOA

Last Calibration: 980501 16:12

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	6.93	127.9	69531	50.00	ug/KG	100
2)	Chloromethane	2.67	50.0	201732	89.54	ug/KG	99
3)	Bromomethane	3.04	93.9	83279M	50.79	ug/KG	91
4)	Vinyl Chloride	2.75	62.0	195831	87.46	ug/KG	96
5)	Chloroethane	3.14	64.0	81158	53.62	ug/KG	100
6)	Methylene Chloride	4.57	84.0	204745	82.62	ug/KG	55
7)	Acetone	4.06	43.0	128434	124.39	ug/KG	100
8)	Carbon Disulfide	4.35	75.9	618193	92.30	ug/KG	100
9)	1,1-Dichloroethene	4.04	95.9	180569	91.00	ug/KG	93
10)	1,1-Dichloroethane	5.54	63.0	400578	86.45	ug/KG	99
11)	trans-1,2-Dichloroethene	4.99	96.0	198770	82.88	ug/KG	92
12)	cis-1,2-Dichloroethene	6.49	96.0	206757	89.70	ug/KG	91
13)	Chloroform	6.98	82.9	425212	89.96	ug/KG	96
14)	Methyl T-Butyl Ether	5.03	73.0	15571	93.57	ug/KG	95
15)	Tertiary Butyl Alcohol	4.04	59.0	14825	100.53	ug/KG	100
17)	1,2-Dichloroethane	8.20	62.0	346588	90.97	ug/KG	93
18)	1,2-Dichloroethane-d4	8.03	65.0	175937	51.78	ug/KG	97
19)	2-Butanone	6.49	72.0	39202	140.46	ug/KG	95
21)	*1,4-Difluorobenzene	9.03	113.9	330331	50.00	ug/KG	95
22)	1,1,1-Trichloroethane	7.44	97.0	359705	92.43	ug/KG	97
23)	Carbon Tetrachloride	7.86	116.8	320506	93.69	ug/KG	94
24)	Bromodichloromethane	10.61	83.0	386122	95.14	ug/KG	92
25)	1,2-Dichloropropane	10.05	63.0	271290	95.47	ug/KG	62
26)	cis-1,3-Dichloropropene	11.68	75.0	378715	96.88	ug/KG	99
27)	Trichloroethene	9.64	129.8	241611	95.23	ug/KG	92
28)	Dibromochloromethane	13.97	128.8	332326	101.15	ug/KG	96
29)	1,1,2-Trichloroethane	13.17	96.9	218147	100.59	ug/KG	92
30)	Benzene	8.20	78.0	705417	92.31	ug/KG	90
31)	Trans-1,3-Dichloropropene	12.80	75.0	354442	104.06	ug/KG	95
32)	Bromoform	16.86	172.8	285151	103.37	ug/KG	95
33)	*Chlorobenzene-d5	15.16	116.9	296181	50.00	ug/KG	99
34)	2-Hexanone	13.70	43.0	413804	122.54	ug/KG	95
35)	4-Methyl-2-Pentanone	11.93	43.0	539714	121.46	ug/KG	95
36)	1,1,2,2-Tetrachloroethane	17.76	83.0	419841	104.54	ug/KG	97
37)	Tetrachloroethene	13.60	163.8	214500	94.24	ug/KG	98
38)	Toluene	12.36	91.0	780075	90.50	ug/KG	96
39)	Toluene-d8	12.22	98.0	356415	50.43	ug/KG	95
40)	Chlorobenzene	15.23	111.9	512305	90.31	ug/KG	86
41)	Ethylbenzene	15.48	106.0	254241	88.75	ug/KG	98
42)	Styrene	16.52	104.0	541468	92.49	ug/KG	94
43)	m&p-Xylenes	15.72	106.0	656391	183.91	ug/KG	94
44)	o-Xylenes	16.50	106.0	319691	90.95	ug/KG	88
45)	Bromofluorobenzene	17.55	95.0	228159	52.45	ug/KG	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EW215::G1

Quant Output File: EEW215::QQ

Name: MSE;VBLKBS;

Misc: VBLKBS;VOA-TCL+;;SO;;;LOW;

Id File: I_SCLP::N1

Title: EPA HAZ. SUBSTANCE LIST VOA

Last Calibration: 980501 16:12

Operator ID: IEA

Quant Time: 980501 17:19

Injected at: 980501 16:59

AEN-NJ Instrument Log
VOA-GC/MS Department

MSE

Analyst/Date/Seq. S. Klukey 3/1/98

Calibration Standards

IS/RTLimits

IS/RT Limits

600/500

CLP/8260

Analytical Fractions VOA

Instrument ID MSE

Tune File T_E Date Tuned 3/1/98

Standard	Lot #	Conc (ug/ml)	vol(ul)
BFB	VOAWS 000984	25	2
IS/SUR	VOAWS 000976	50	5
CLP MIX	VOAWS 000940	50	5
WORK STD	VOAWS	50	5
DICH/TRI	VOAWS	50	5
8260 IS/SS	VOAWS	50	5
8260 Full	VOAWS	50	5
8260 Misc	VOAWS	100	2.5
8260 CR	VOAWS	100	2.5
	VOAWS		
	VOAWS		

IS#1

IS#1

RT

RT

IS#2

IS#2

RT

RT

IS#3

IS#3

RT

RT

Reviewed By SK

2nd Review

#	LIS ID	CLIENT ID	CLIENT	DATA FILE	ALS #	INJ VOL	DIL	BATCH	METHOD	LIST	PROTOCOL	COMMENTS
1	STD 1.0 BFB			253494	DT	2ul		E			CLP	OK 3/1/98-1:15
2	VSTD 2.0 1067	VSTD1067		253494	1	5ml	1.0	E	I-WUP	TV		OK
3	VSTD 1.2 067	VSTD0067		247	2			E				OK
4	VSTD 1.5 067	VSTD0067		248	3			E				OK
5	VSTD 1.6 067	VSTD0067		249	4			E				OK
6	VSTD 2.0 067	VSTD0067		250	5			E				OK
7								E				
8	VALVE 1	VALVE7		25252	7	5ml	1.0	E	I-WUP		CLP	OK
9								E				
10	8/9/98 207		BFL	25253	8	5ml	1.0	E	I-WUP		CLP	OK
11	8/9/98 207			254	9		1.1	E				OK
12	HOLD 2.0 067	HOLD 2.0 067		255	10		1.0	E				OK
13								E				
14								E				
15								E				
16								E				
17								E				
18								E				
19								E				
20								E				
21								E				
22								E				
23								E				
24								E				
25								E				

SK

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

000117

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No.: _____

SDG No.: A0938

Lab File ID: J4869

DFTPP Injection Date: 04/27/98

Instrument ID: HP5972J

DFTPP Injection Time: 1002

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.8
68	Less than 2.0% of mass 69	0.2 (0.3) 1
69	Present	65.7
70	Less than 2.0% of mass 69	0.3 (0.5) 1
127	40.0 - 60.0% of mass 198	50.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	19.9
365	Greater than 1.0% of mass 198	2.66
441	Present, but less than mass 443	11.2
442	40.0 - 110.0% of mass 198	71.1
443	17.0 - 23.0% of mass 442	13.8 (19.4) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD020R5	SSTD020R5	>JM4870	04/27/98	1051
02	SSTD080R7	SSTD080R7	>JM4872	04/27/98	1225
03	SSTD120R8	SSTD120R8	>JM4873	04/27/98	1312
04	SSTD160R9	SSTD160R9	>JM4874	04/27/98	1356
05	SSTD050J1	SSTD050J1	>JM4875	04/27/98	1444
06					
07					
08					
09					
10					
11					
12					
13					
14					
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16					
17					
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK 000118
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No.: _____

SDG No.: A0938

Lab File ID: J4944

DFTPP Injection Date: 05/04/98

Instrument ID: HP5972J

DFTPP Injection Time: 1139

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.8
68	Less than 2.0% of mass 69	0.5 (0.7) 1
69	Present	67.6
70	Less than 2.0% of mass 69	0.5 (0.7) 1
127	40.0 - 60.0% of mass 198	52.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.0% of mass 198	2.24
441	Present, but less than mass 443	9.3
442	40.0 - 110.0% of mass 198	57.6
443	17.0 - 23.0% of mass 442	11.3 (19.6) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050K8	SSTD050K8	>J4944	05/04/98	1139
02	SBLKQJ	SBLKQJ	>J4949	05/04/98	1554
03	SBLKQJFMS	SBLKQJFMS	>J4950	05/04/98	1644
04	MW-2 (18-20)	980938A-03	>J4951	05/04/98	1735
05	MW-4 (17-19)	980938A-04	>J4952	05/04/98	1826
06	MW-1 (9-11)	980938A-02	>J4954	05/04/98	2008
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

000119

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No.: _____

SDG No.: A0938

Lab File ID: J5002

DFTPP Injection Date: 05/08/98

Instrument ID: HP5972J

DFTPP Injection Time: 0843

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	50.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Present	67.2
70	Less than 2.0% of mass 69	0.2 (0.4) 1
127	40.0 - 60.0% of mass 198	53.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	19.5
365	Greater than 1.0% of mass 198	2.41
441	Present, but less than mass 443	11.7
442	40.0 - 110.0% of mass 198	71.9
443	17.0 - 23.0% of mass 442	13.9 (19.3) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050N8	SSTD050N8	>J5002	05/08/98	0843
02	MW-5 (7-9)	980938A-01	>J5006	05/08/98	1206
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Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No. :

SDG No. : A0938

Date Analyzed: 05/04/98

Time Analyzed:1139

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IS2 (NPT) = Naphthalene-d8

DATE _____

AREA LOWER LIMIT = - 50% of internal standard area

RT LOWER LIMIT = -0.50 minutes of internal standard RT

```
* Values outside of OC limits.
```

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT Case No.: 0938A SAS No.: _____ SDG No.: A0938

Lab File ID: (Standard): >J4944

Date Analyzed: 05/04/98

Instrument ID: HP5972J

Time Analyzed: 1139

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	218245	18.62	144758	24.03	112007	26.71
UPPER LIMIT	436490	19.12	289516	24.53	224014	27.21
LOWER LIMIT	109122	18.12	72379	23.53	56004	26.21
EPA SAMPLE NO.						
01 SBLKQJ	217366	18.61	142349	24.02	125483	26.70
02 SBLKQJFMS	244340	18.63	149801	24.03	117813	26.71
03 MW-2 (18-20)	252331	18.62	161787	24.02	135387	26.72
04 MW-4 (17-19)	223748	18.62	144093	24.02	125363	26.71
05 MW-1 (9-11)	227541	18.62	106524	24.02	116750	26.71
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IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No. :

SDG No. : A0938

Date Analyzed: 05/08/98

Time Analyzed:0843

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IS2 (NPT) = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

```
* Values outside of OC limits.
```

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No. :

SDG No. : A0938

Lab File ID: (Standard) : >J5002

Date Analyzed: 05/08/98

Instrument ID: HP5972J

Time Analyzed:0843

[illegible]

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

```
* Values outside of OC limits.
```

Mercury Preparation and Analysis Runlog
Instrument-TJA QS-1

000773

Preparation Date	05/04/98	STD. & Spike ID	WTC-W-2764	CCV & ICV ID.	WTC-W-2767
Preparation Analyst	EC	Instrumental Analysis Date	05/05/98		
Waterbath Temperature	95°C	Instrumental Analyst	EC		

ROD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
1	standard 0.0		100 ml		100 ml	—		10:30
2	0.2		99.8 ml			0.2 ml		10:31
3	1.0		99.0 ml			1.0 ml		10:32
4	2.0		98.0 ml			2.0 ml		10:33
5	5.0		95.0 ml			5.0 ml		10:34
6	10.0		90.0 ml			10.0 ml		10:35
7	ICV		95.0 ml			5.0 ml		10:36
8	ICB		100 ml			—		10:37
9	CCV		95.0 ml			5.0 ml		10:38
10	CCB		100 ml			—		10:39
11	DB		100 ml			—		10:40
12	ICB		0.20			—		10:41
13	980965A-01		0.22			—		10:42
14	010		0.21			—		10:43
15	015		0.20			1.0 ml		10:44
16	015		0.21			1.0 ml		10:45
17	02		0.23			—		10:46
18	03		0.21			—		10:47
19	04		0.20			—		10:48
20	98098A-01		0.24			—		10:49
21	CCV2		95.0 ml			5.0 ml		10:50
22	CCB		100 ml			—		10:51
23	980973A-02		0.20			—		10:52
24	03		0.21			—		10:53
25	04		0.21			—		10:54
26	05		0.20			—		10:55
27	98098A-01		0.20			—		10:56
28	02		0.20		100 ml	—		10:57

Secondary Review By: DM/MB Date: 5/5/98

Mercury Preparation and Analysis Runlog

Instrument-TJA QS-1

Preparation Date	05/04/98	STD. & Spike ID.	ml-w-2766	CCV & ICV ID.	ml-w-2767
Preparation Analyst	CC	Instrumental Analysis Date	05/05/98		
Waterbath Temperature	95°C	Instrumental Analyst	CC		

BOD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
29	980938A-03		0.24		100 ml	—		10:58
31	04		0.25		↓	—		10:59
32	980954A-01		0.22		↓	—		11:00
35	02		0.21		↓	—		11:01
81	CC03		95.0 ml		↓	5.0ml		11:02
91	CC03		100 ml		100 ml	—		11:03
37	980954A-03							08/04/98
39	CC04 980658A-07		0.36		100 ml	—		11:04
47	CC04 09		0.29		↓	—		11:05
80	CC04		95.0 ml		↓	5.0ml		11:06
89	CC04		100 ml		100 ml	—		11:07

Secondary Review By: DMJuna Date: 5/5/98

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

ICAP

12/91

merc

12/91

QuikCalc II Calibration, Method: cyanide-CLP
Calibration Reference: 9805050A.001

Calibration Statistics For Channel 1: CN-CLP

Reg: 1 Slope: 5.54214, Intercept: -6.382, CC: 0.9999 Rspns Lim: >-99999999

Std	Ave Rspns	Conc	Derived	%Res	Rspns 1	Rspns 2	Rspns 3
A	1660	300.000	300.623	-0.2	1660		
2 B	1100	200.000	199.661	0.2	1100		
C	543	100.000	99.080	0.9	543		
D	268	50.000	49.424	1.2	268		
5 E	48	10.000	9.802	2.0	48		
6 F	1	0.000	1.410	-----	1		

3D
SOIL SEMIVOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY 000113

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0938A

SAS No.: _____

SDG No.: A0938

Matrix Spike - EPA Sample No.: SBLKOJ

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPIKE % REC #	QC. LIMITS REC.
Phenol	1300	0	1300	100	5-112
bis(2-Chloroethyl) ether	1300	0	1400	108	12-158
2-Chlorophenol	1300	0	1300	100	23-134
1,3-Dichlorobenzene	1300	0	1200	92	1-172
1,4-Dichlorobenzene	1300	0	1200	92	20-124
1,2-Dichlorobenzene	1300	0	1300	100	32-129
2-Methylphenol	1300	0	1300	100	37-113
bis(2-Chloroisopropyl) ether	1300	0	1300	100	36-166
4-Methylphenol	1300	0	1300	100	32-108
N-Nitroso-di-n-propylamine	1300	0	1500	115	1-230
Hexachloroethane	1300	0	1100	85	40-113
Nitrobenzene	1300	0	1200	92	35-180
Isophorone	1300	0	1300	100	21-196
2-Nitrophenol	1300	0	1400	108	29-182
2,4-Dimethylphenol	1300	0	1200	92	64-238
bis(2-Chloroethoxy) methane	1300	0	1000	77	33-184
2,4-Dichlorophenol	1300	0	1300	100	44-117
1,2,4-Trichlorobenzene	1300	0	1300	100	44-142
Naphthalene	1300	0	1300	100	21-133
4-Chloroaniline	1300	0	1400	108	1-368
Hexachlorobutadiene	1300	0	1300	100	24-116
4-Chloro-3-methylphenol	1300	0	1400	108	22-147
2-Methylnaphthalene	1300	0	1200	92	36-112
Hexachlorocyclopentadiene	1300	0	1100	85*	1-74
2,4,6-Trichlorophenol	1300	0	1400	108	34-144
2,4,5-Trichlorophenol	1300	0	1400	108	45-129
2-Chloronaphthalene	1300	0	1400	108	60-118
2-Nitroaniline	1300	0	1400	108	61-138
Dimethylphthalate	1300	0	1500	115*	1-112
Acenaphthylene	1300	0	1300	100	33-145

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 84 out of 63 outside limits

COMMENTS: _____

PS 03/12/98

000844

Mercury Preparation and Analysis Runlog Instrument-TJA QS-1

Preparation Date	05/04/98	STD. & Spike ID	WTL-W-2766	CCV & ICV ID.	WTL-W-2767
Preparation Analyst	QC	Instrumental Analysis Date	05/05/98		
Waterbath Temperature	95°C	Instrumental Analyst	QC		

BOD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
1	standard 0.0		100 ml		100 ml	—		10:30
2	0.2		99.8 ml			0.2 ml		10:31
3	1.0		99.0 ml			1.0 ml		10:32
4	2.0		98.0 ml			2.0 ml		10:33
5	5.0		95.0 ml			5.0 ml		10:34
6	10.0		90.0 ml			10.0 ml		10:35
7	ICV		95.0 ml			5.0 ml		10:36
8	JCS		100 ml			—		10:37
9	CCV1		95.0 ml			5.0 ml		10:38
10	CCV1		100 ml			—		10:39
11	DBS		100 ml			—		10:40
12	ICV		0.20			—		10:41
13	980965A-01		0.22			—		10:42
14	0.10		0.21			—		10:43
15	0.15		0.20			1.0 ml		10:44
16	0.15		0.21			1.0 ml		10:45
17	0.2		0.23			—		10:46
18	0.3		0.21			—		10:47
19	0.4		0.20			—		10:48
20	980935A-01		0.24			—		10:49
21	CCV2		95.0 ml			5.0 ml		10:50
22	CCV2		100 ml			—		10:51
23	980935A-02		0.20			—		10:52
24	0.3		0.21			—		10:53
25	0.4		0.21			—		10:54
26	0.5		0.26			—		10:55
27	980935A-01		0.20			—		10:56
28	0.2		0.20		100 ml	—		10:57

Secondary Review By: JMA/umb Date: 5/5/98

000845

Preparation Date	05/04/98	STD. & Spike ID.	MLW-2764	CCV & ICV ID.	MLW-2767
Preparation Analyst	CC	Instrumental Analysis Date	05/05/98		
Waterbath Temperature	95°C	Instrumental Analyst	CC		

BOD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
29	980535A-03		0.24		100 ml	—		10:58
31	04		0.25		↓ ↓	—		10:59
32	980554A-01		0.22		↓ ↓	—		11:00
35	02		0.21		↓ ↓	—		11:01
81	CC03		95.0 ml		↓ ↓	5.0 ml		11:02
91	CC03		100 ml		100 ml	—		11:03
27	980554A-03							08/04/98
39	CC04 980658A-07		0.36		100 ml	—		11:04
47	CC04 09		6.29		↓ ↓	—		11:05
80	CC04		95.0 ml		↓ ↓	5.0 ml		11:06
89	CC04		100 ml		100 ml	—		11:07

Secondary Review By: DMJ/MD Date: 5/6/98

000846

Mercury Preparation and Analysis Runlog
Instrument-TJA QS-1

05/07/98

Preparation Date	05/07/98	STD. & Spike ID.	WTL-W-2766	CCV & ICV ID.	WDL-W-2767
Preparation Analyst	CC	Instrumental Analysis Date	05/08/98		
Waterbath Temperature	95°C	Instrumental Analyst	CC		

BOD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
1	Standard 0.0		100. ml		100 ml	—		10:06
2	0.2		99.8			0.2ml		10:01
3	1.0		99.0			1.0ml		10:02
4	2.0		98.0			2.0ml		10:03
5	5.0		95.0			5.0ml		10:04
6	10.0		90.0			10.0ml		10:05
7	ICV		95.0			5.0ml		10:00
8	ICB		100.			—		10:07
9	CCV1		95.0			5.0ml		10:08
10	CCB1 -		100.			—		10:09
11	PBW1		100.			—		10:10
12	ICSW1		95.0			5.0ml		10:11
13	FDH 1		99.0			1.0ml		10:12
14	2		99.0			1.0ml		10:13
15	3		99.0			1.0ml		10:14
16	4		99.0			1.0ml		10:15
17	5		99.0			1.0ml		10:16
18	6		99.0			1.0ml		10:17
19	7		99.0			1.0ml		10:18
20	CCV2		95.0			5.0ml		10:19
21	CCB2		100.			—		10:20
22	PBW2		100			—		10:21
23	ICSW2		95.0			5.0ml		10:22
24	980944A-01	BAH	100			—		10:23
25	02		100			—		10:24
26	03		100			—		10:25
27	04		100			—		10:26
28	05		100 ml		100 ml	—		10:27

Secondary Review By *[Signature]* 05/08/98

Mercury Preparation and Analysis Runlog

Instrument-TJA QS-1

Preparation Date	05/07/98	STD. & Spike ID.	W-2766	CCV & ICV ID.	W-2767
Preparation Analyst	CC	Instrumental Analysis Date	05/08/98		
Waterbath Temperature	95°C	Instrumental Analyst	CC		

BOD	Sample ID	Client ID	Initial	Dilution	Final Volume	Standard B	Reported	Time
27	980908A-01		100 ml		160 ml	—		10:28
28	02		100		1	—		10:29
29	980908A-03		100			—		10:30
45	CCV3		95.0			5.0ml		10:31
46	CCB3		100			—		10:32
80	980908A-038		100			—		10:33
31	035		100			1.0ml		10:34
32	0350		100			1.0ml		10:35
95	CCV4		95.0	↓	↓ ↓	5.0ml		10:36
96	CCB4		100 ml		100 ml	—		10:37

Secondary Review By:

Date: 05/08/98

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

ICAP

12/91

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

merc

12/91

000872

QuikCalc II Calibration, Method: cyanide-CLP
Calibration Reference: 9805050B.001

Calibration Statistics For Channel 1: CN-CLP

Reg: 1 Slope: 5.64210, Intercept: -6.166, CC: 1.0000 Rspns Lim: >-9999999

Std	Ave Rspns	Conc	Derived	%Res	Rspns 1	Rspns 2	Rspns 3
1 A	1689	300.000	300.511	-0.2	1689		
2 B	1122	200.000	199.882	0.1	1122		
3 C	552	100.000	98.957	1.0	552		
4 D	273	50.000	49.421	1.2	273		
5 E	51	10.000	10.063	-0.6	51		
6 F	0	0.000	1.167	-----	0		

3D
SOIL SEMIVOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

000110

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 0954A

SAS No.: _____

SDG No.: A0954

Matrix Spike - EPA Sample No.: SBLKQJ _____

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPIKE % REC #	QC. LIMITS REC.
Phenol	1300	0	1300	100	5-112
bis(2-Chloroethyl) ether	1300	0	1400	108	12-158
2-Chlorophenol	1300	0	1300	100	23-134
1,3-Dichlorobenzene	1300	0	1200	92	.1-172
1,4-Dichlorobenzene	1300	0	1200	92	20-124
1,2-Dichlorobenzene	1300	0	1300	100	32-129
2-Methylphenol	1300	0	1300	100	37-113
bis(2-Chloroisopropyl) ether	1300	0	1300	100	36-166
4-Methylphenol	1300	0	1300	100	32-108
N-Nitroso-di-n-propylamine	1300	0	1500	115	.1-230
Hexachloroethane	1300	0	1100	85	40-113
Nitrobenzene	1300	0	1200	92	35-180
Isophorone	1300	0	1300	100	21-196
2-Nitrophenol	1300	0	1400	108	29-182
2,4-Dimethylphenol	1300	0	1200	92	64-238
bis(2-Chloroethoxy) methane	1300	0	1000	77	33-184
2,4-Dichlorophenol	1300	0	1300	100	44-117
1,2,4-Trichlorobenzene	1300	0	1300	100	44-142
Naphthalene	1300	0	1300	100	21-133
4-Chloroaniline	1300	0	1400	108	.1-368
Hexachlorobutadiene	1300	0	1300	100	24-116
4-Chloro-3-methylphenol	1300	0	1400	108	22-147
2-Methylnaphthalene	1300	0	1200	92	36-112
Hexachlorocyclopentadiene	1300	0	1100	* 85	1-74
2,4,6-Trichlorophenol	1300	0	1400	108	34-144
2,4,5-Trichlorophenol	1300	0	1400	108	45-129
2-Chloronaphthalene	1300	0	1400	108	60-118
2-Nitroaniline	1300	0	1400	108	61-138
Dimethylphthalate	1300	0	1500	115*	.1-112
Acenaphthylene	1300	0	1300	100	33-145

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 4 out of 63 outside limits

COMMENTS: PS - 05/17/98



STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
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www.stl-inc.com

July 1, 1999

Bell Environmental Consultants
Lakefront Professional Center
295 Route 46
Budd Lake, NJ

Attention: Ms. Lori Calestini

Re: Job Nos. L110 and L436 - Peekskill Plaza

Dear Ms. Calestini:

In response to the comments contained in the Data Usability Summary Report you submitted to us on May 26, 1999, we have revised the reports for the above-referenced jobs to comply with the format and content requirements specified by the New York State DEC for ASP Category B deliverables.

You should now have two copies of each revised report. If I can be of further assistance in this matter, please do not hesitate to contact me.

Very truly yours,

Brian Reddy
Project Manager

Other Laboratory Locations:

- 149 Rangeway Road, North Billerica MA 01862
- 16203 Park Row, Suite 110, Houston TX 77084
- 200 Monroe Turnpike, Monroe CT 06468
- 120 Southcenter Court, Suite 300, Morrisville NC 27560
- 315 Fullerton Avenue, Newburgh NY 12550

- 11 East Olive Road, Pensacola FL 32514
- Westfield Executive Park, 53 Southampton Road, Westfield MA 01085
- 628 Route 10, Whippany NJ 07981
- 55 South Park Drive, Colchester VT 05446

a part of
Severn Trent Services Inc



Severn Trent Laboratories

200 Monroe Turnpike
Monroe CT 06468

Tel: (203) 261-4458

Fax: (203) 268-5346

July 1, 1999

Ms. Julie Flynn
Bell Environmental
298 C Route 46
Budd Lake, NJ
07828

Subj.: Peekskill Plaza DUSR
Data Validation Report

Dear Ms. Flynn,

This letter responds to the fifth question from your data validation report regarding the reporting of Pesticides. The CLP methodology used for the pesticide analysis requires that the lower of the two results from each column be reported on the Form I. The results from both columns are reported on the Form X.

If you have any additional questions or concerns, please do not hesitate to call me at 203-452-3264. Thank you.

Sincerely,

Paul Hobart
Project Manager

Other Laboratory Locations:

- 149 Rangeway Road, North Billerica MA 01862
- 16203 Park Row, Suite 110, Houston TX 77084
- 120 Southcenter Court, Suite 300, Morrisville NC 27560

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- Westfield Executive Park, 53 Southampton Road, Westfield MA 01085
- 628 Route 10, Whippany NJ 07981

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122

3C
SEMIVOLATILE MATRIX SPIKE BLANK RECOVERY SUMMARY

Lab Name: IEA/CT

Contract: _____

Lab Code: IEACT

Case No.: 1318A

SAS No.: _____

SDG No.: A1318

Matrix Spike - EPA Sample No.: MW-4

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMITS REC.
Phenol	75	0	57	76	12-110
2-Chlorophenol	75	0	57	76	27-123
1,4-Dichlorobenzene	50	0	42	84	36-97
N-Nitroso-di-n-propylamine	50	0	51	102	41-116
1,2,4-Trichlorobenzene	50	0	46	92	39-98
4-Chloro-3-methylphenol	75	0	66	88	23-97
Acenaphthene	50	0	43	86	46-118
4-Nitrophenol	75	0	76	101*	10-80
2,4-Dinitrotoluene	50	0	48	96	24-96
Pentachlorophenol	75	0	88	117*	9-103
Pyrene	50	0	45	90	26-127

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 92 out of 11 outside limitsCOMMENTS: m. cell 6/24/99