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BELL ENVIRONMENTAL



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

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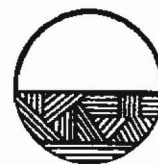
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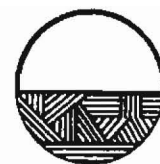


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## **1.0 EXECUTIVE SUMMARY**

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.

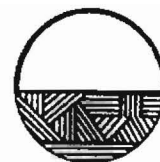
### 2.2 CURRENT/HISTORICAL SITE OPERATIONS

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.

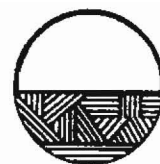
### **2.3 SUMMARY OF PREVIOUS INVESTIGATIONS**

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

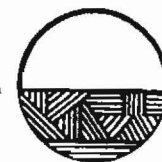
From April 21 through April 24, 1998, BELL installed five ground water monitoring wells at the site at the locations shown on Figure 2. This work was performed under the supervision of a BELL geologist.

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.

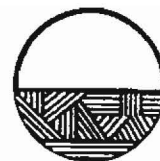
## 5.2 MONITORING WELL SOIL SAMPLING

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<br>(ft, bgs) | Headspace<br>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.

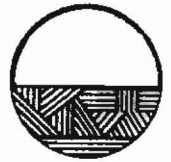
After a predetermined exposure time (approximately 11 days), the modules were removed, placed on ice, and shipped to the analytical laboratory for analysis of selected chlorinated VOCs. GORE-SORBER® Screening modules were used by BELL and were analyzed by the W.L. Gore and Associates Screening Module 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





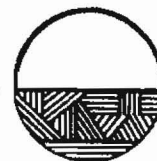


located onsite and immediately downgradient of the building which houses the dry cleaning establishment. Locations HP-4 and HP-5 are located offsite and are also downgradient of the dry cleaning establishment.

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.

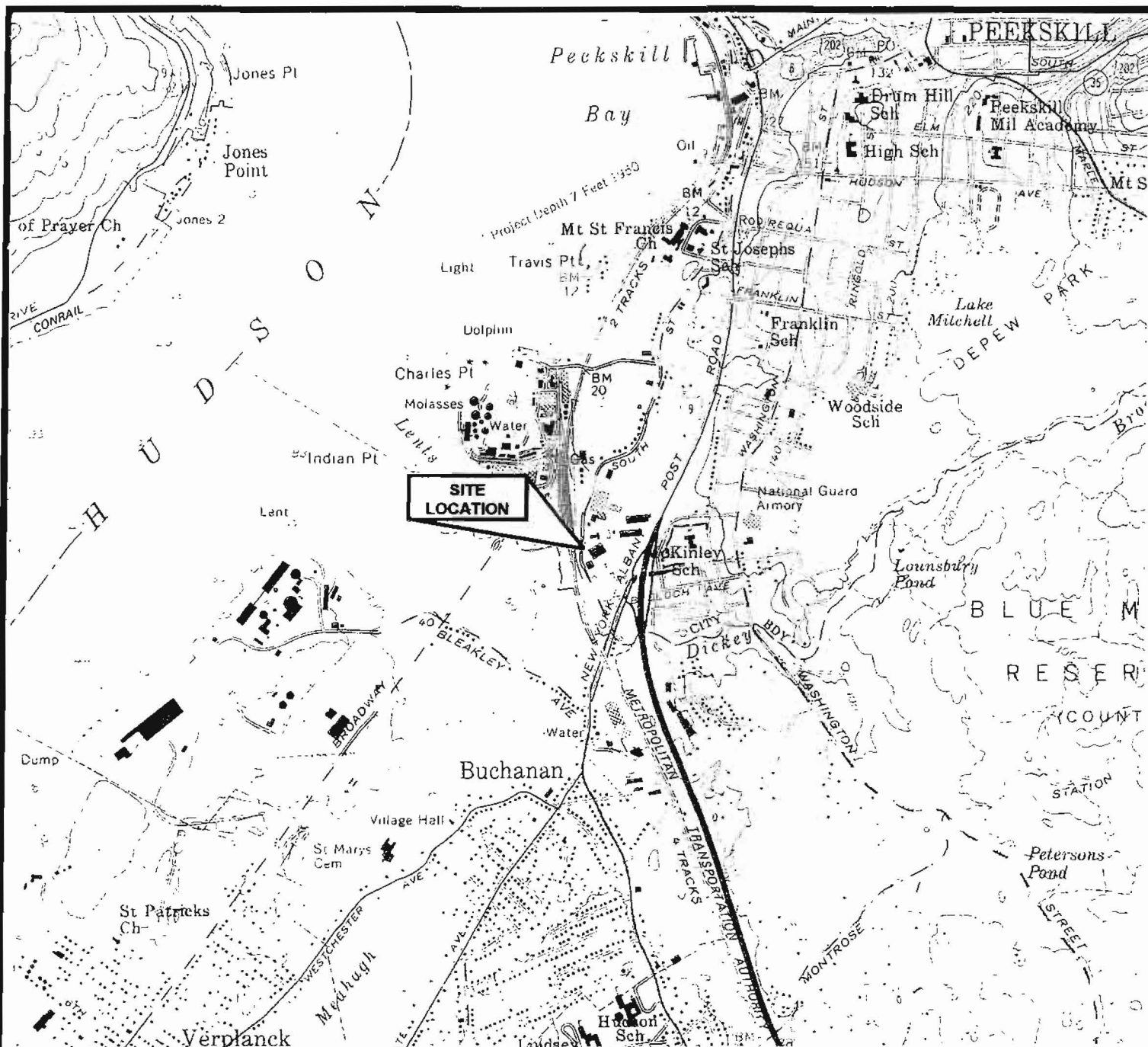




## **FIGURES**







## SITE LOCATION MAP

Peekskill Plaza  
20 Welcher Avenue

Peekskill

Westchester County

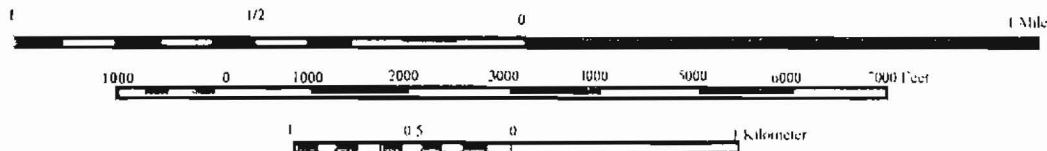
New York

## 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 # EOG01-93042-01



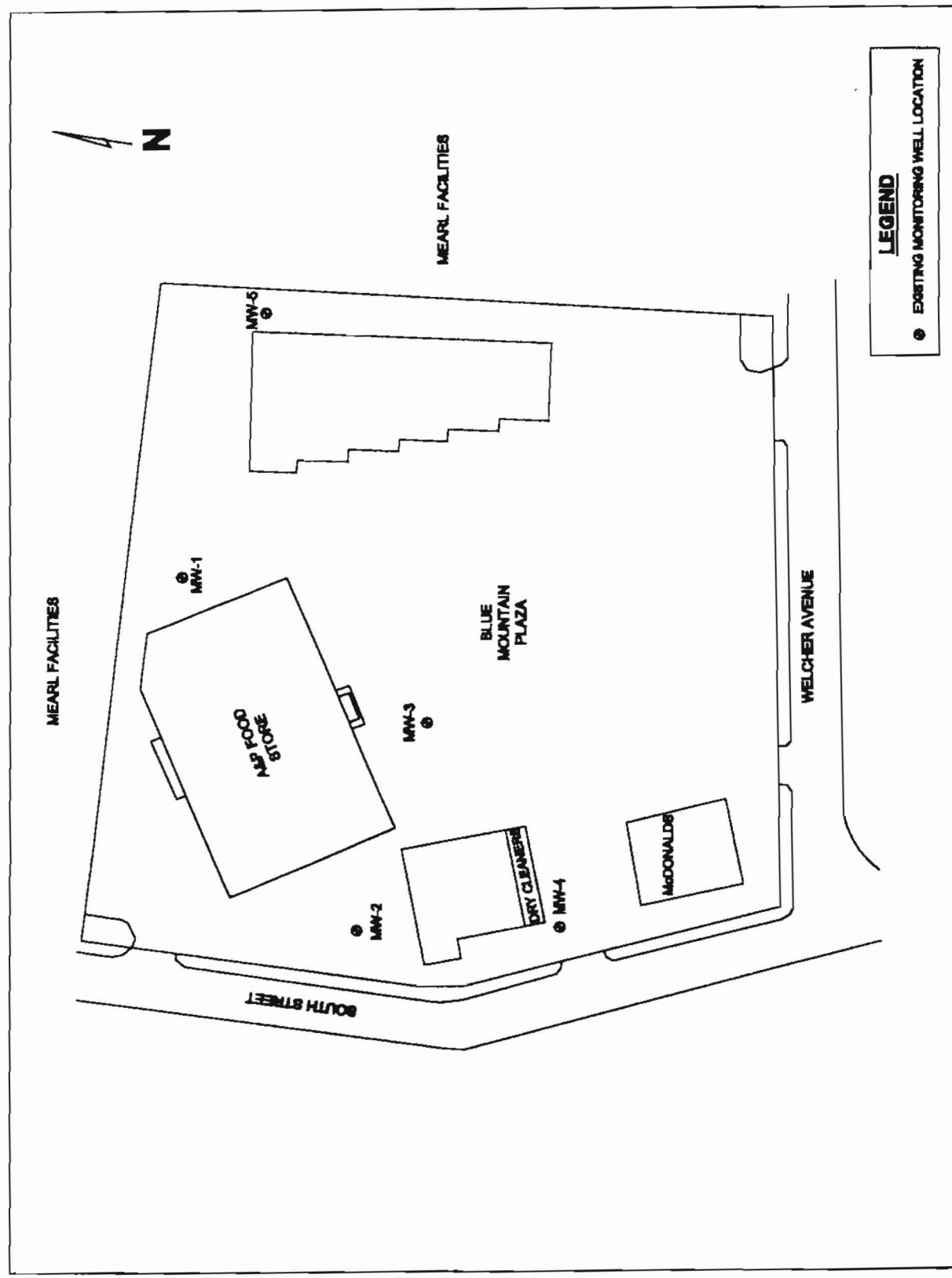
FIGURE 2  
SITE PLAN

| No. | Facility/Name | Date |
|-----|---------------|------|
|     |               |      |
|     |               |      |
|     |               |      |

BEL ENVIRONMENTAL  
 296 C ROUTE 46  
 RUDD LAKE, NJ 07828

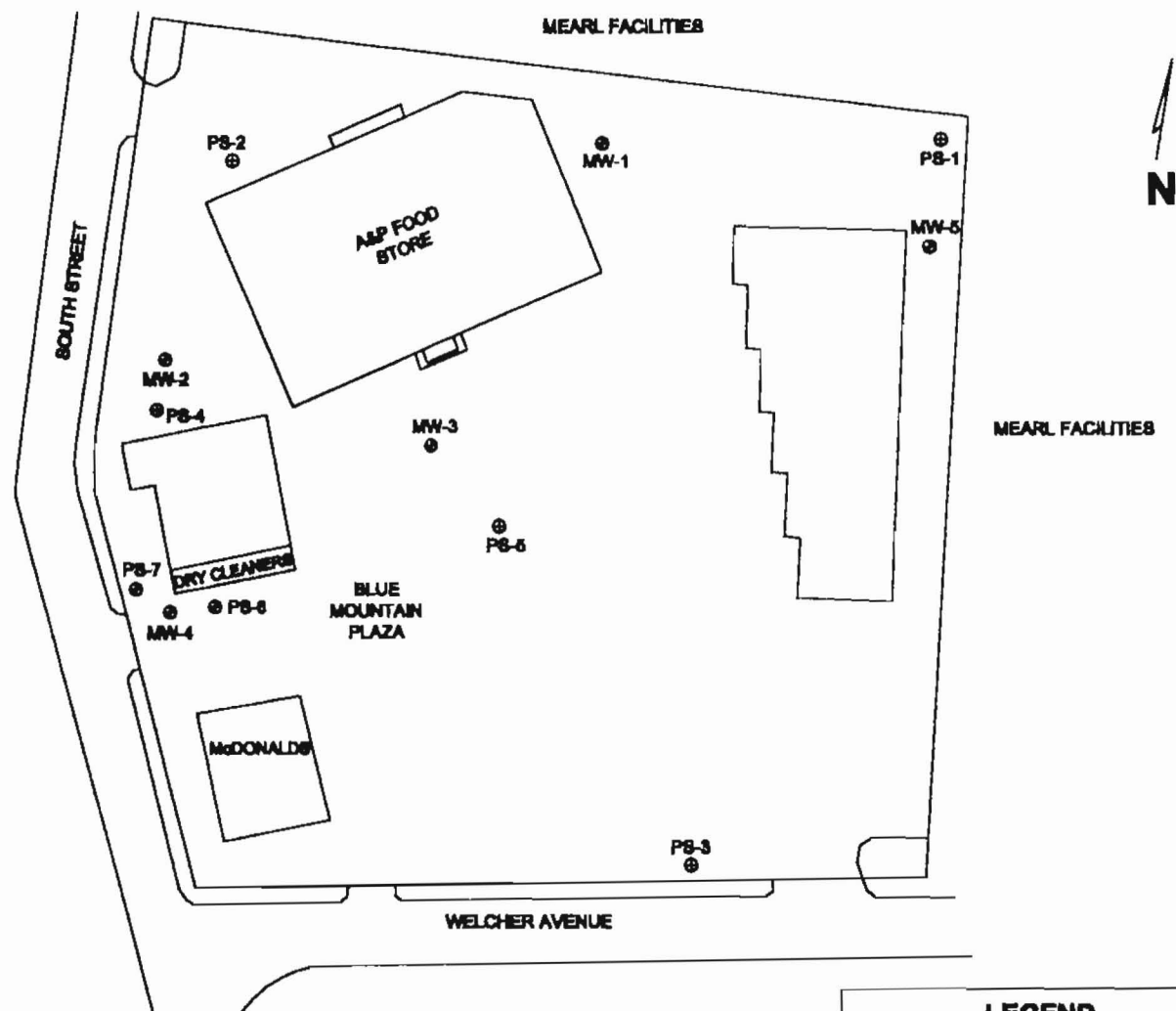
PRESKILL PLAZA  
 20 WELCHER AVENUE  
 PRESKILL, NEW YORK

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



**LEGEND**  
 ● EXISTING MONITORING WELL LOCATION





### LEGEND

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

**FIGURE 3**  
LOCATION OF  
EXISTING AND  
HISTORICAL  
MONITORING  
WELLS

| No. | Location/Access | Status |
|-----|-----------------|--------|
|     |                 |        |
|     |                 |        |

For more information  
**BELL ENVIRONMENTAL**  
 295 C. ROUTE 46  
 BUDD LAKE, NJ 07828

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

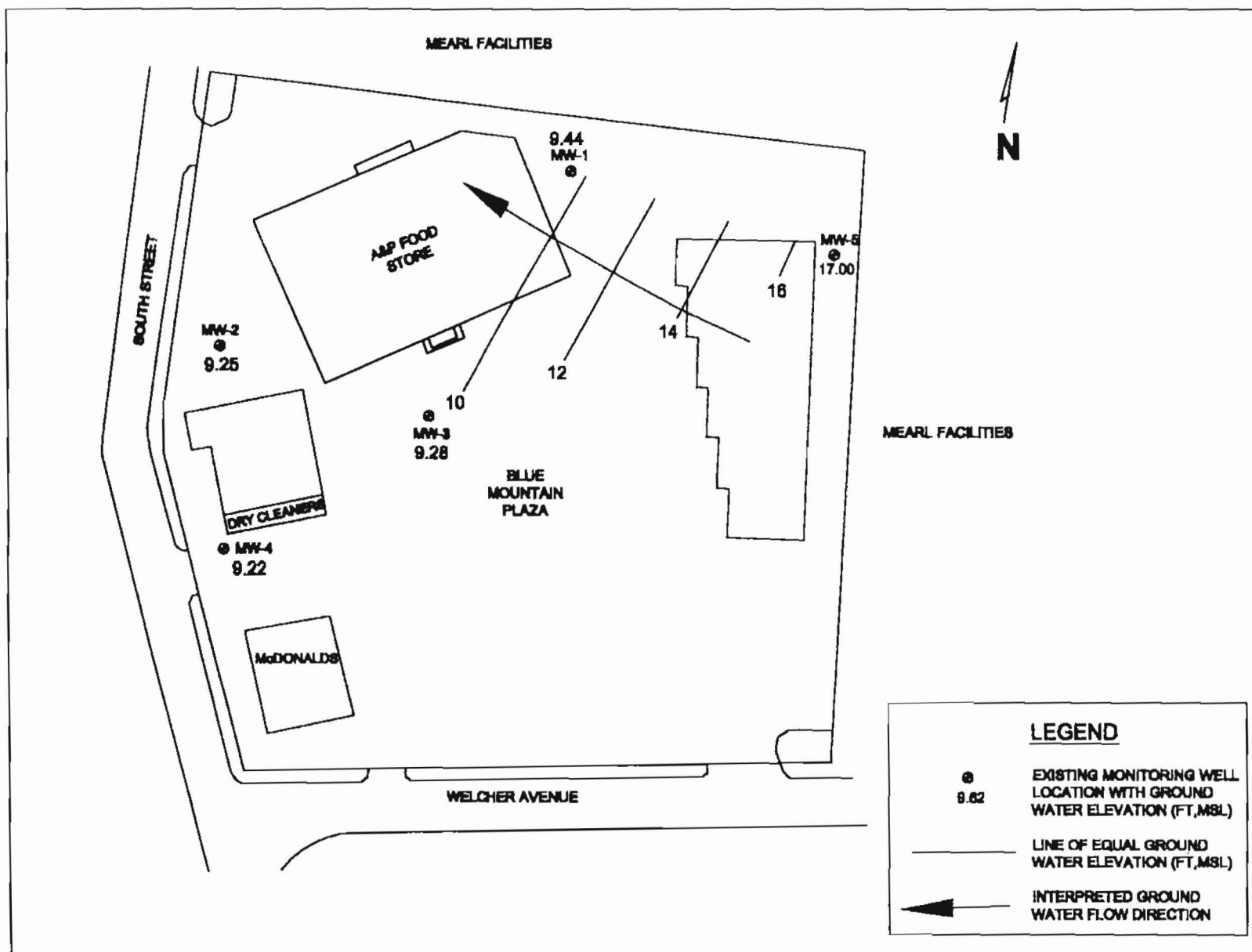
Plot  
 93042-01  
 Date  
 MAY 1999  
 Scale  
 1" = 116'











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

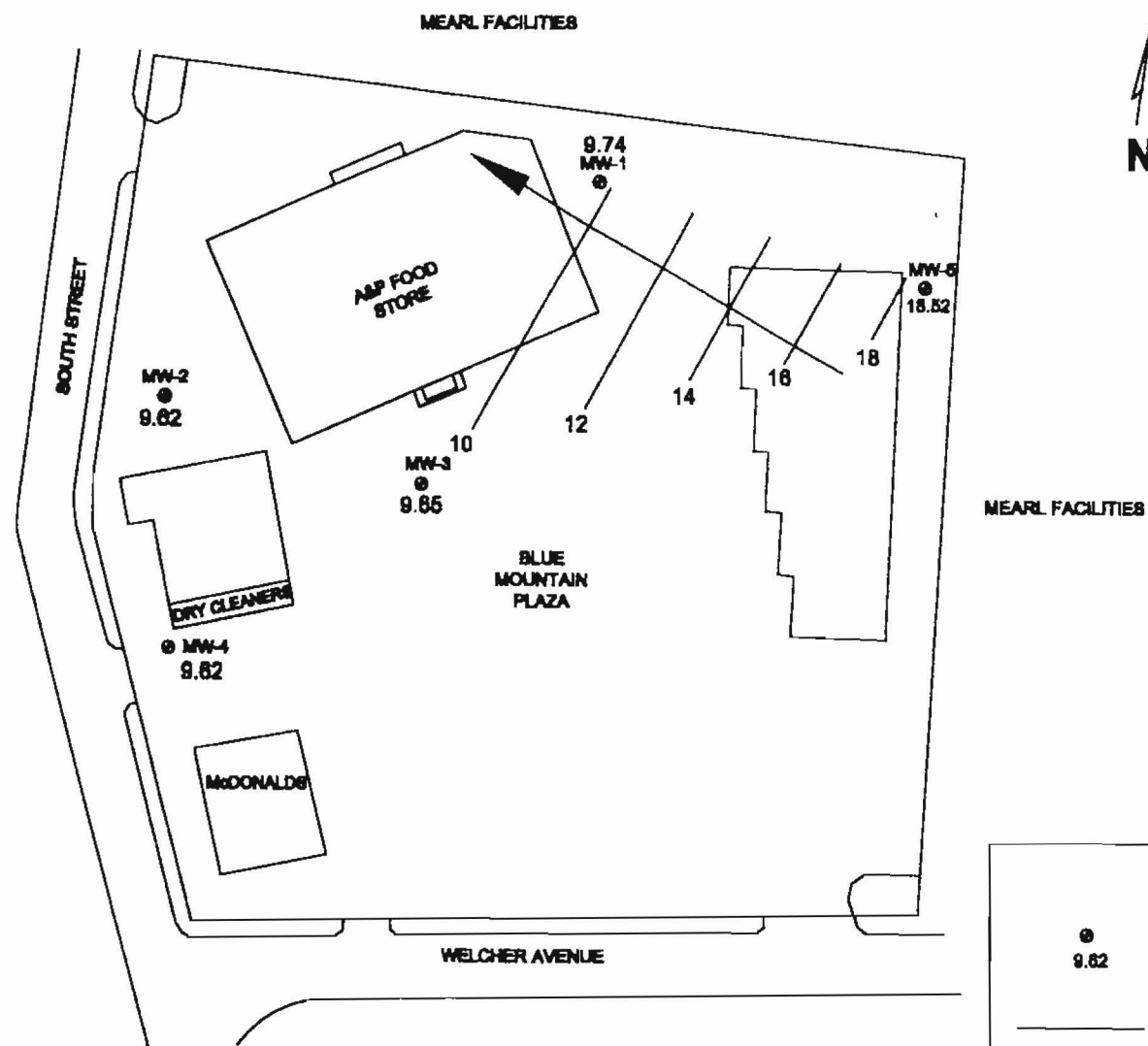
| No. | Building/Feature | Date |
|-----|------------------|------|
|     |                  |      |

**For Maps and Other:**  
 BELL ENVIRONMENTAL  
 295 C ROUTE 46  
 BUDD LAKE, NJ 07828

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

**Scale:** 1" = 116'  
**Date:** MAY 1999  
**Project No.:** 930-42-01





**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

General Notes

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

| No. | Description/Notes | Date |
|-----|-------------------|------|
|     |                   |      |
|     |                   |      |

For this set of drawings

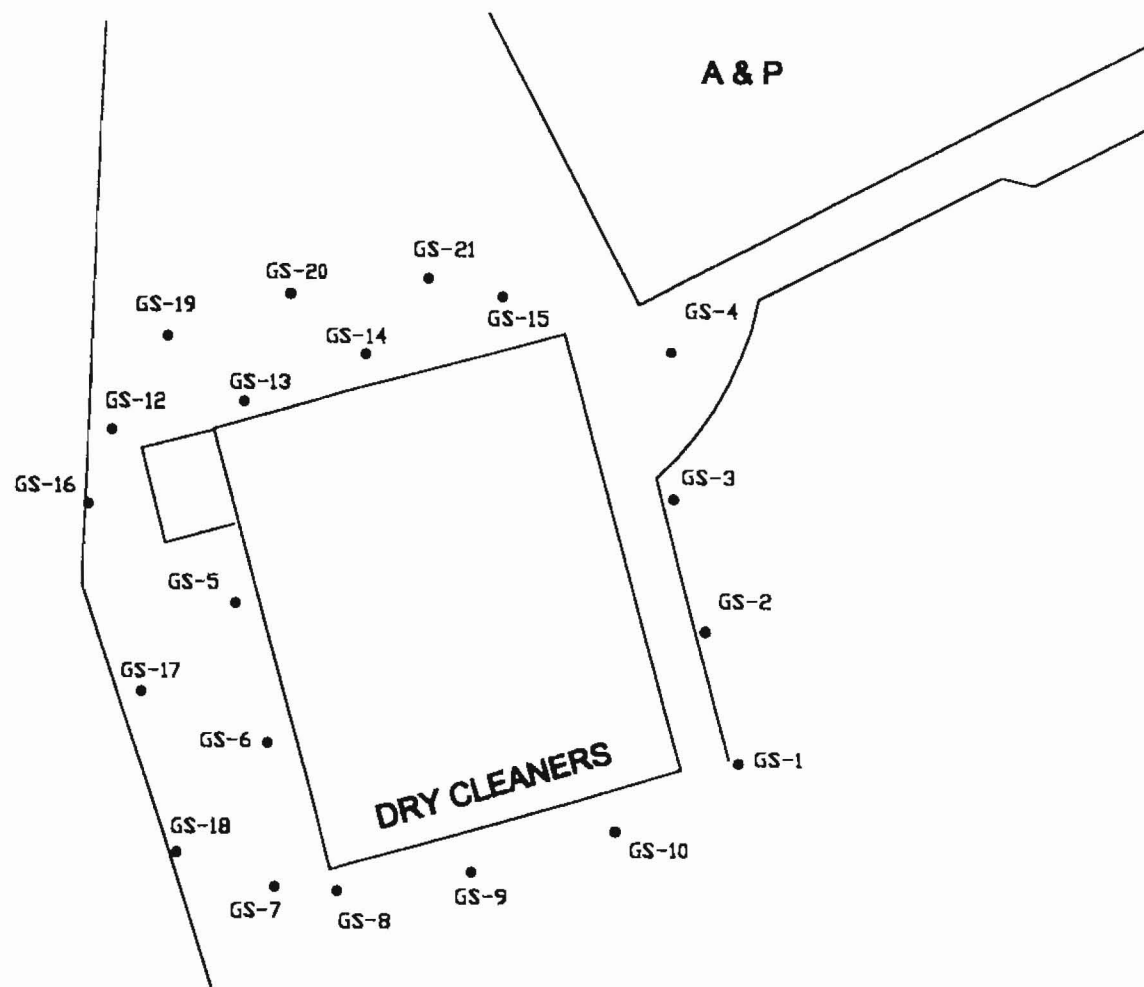
**BELL ENVIRONMENTAL**  
 295 C ROUTE 46  
 BUDD LAKE, NJ 07828

Project Name and Address

**PEBSKILL PLAZA**  
 20 WELCHER AVENUE  
 PEBSKILL, NEW YORK

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





**FIGURE 7**  
PASSIVE SOIL GAS  
SURVEY SAMPLE  
LOCATIONS

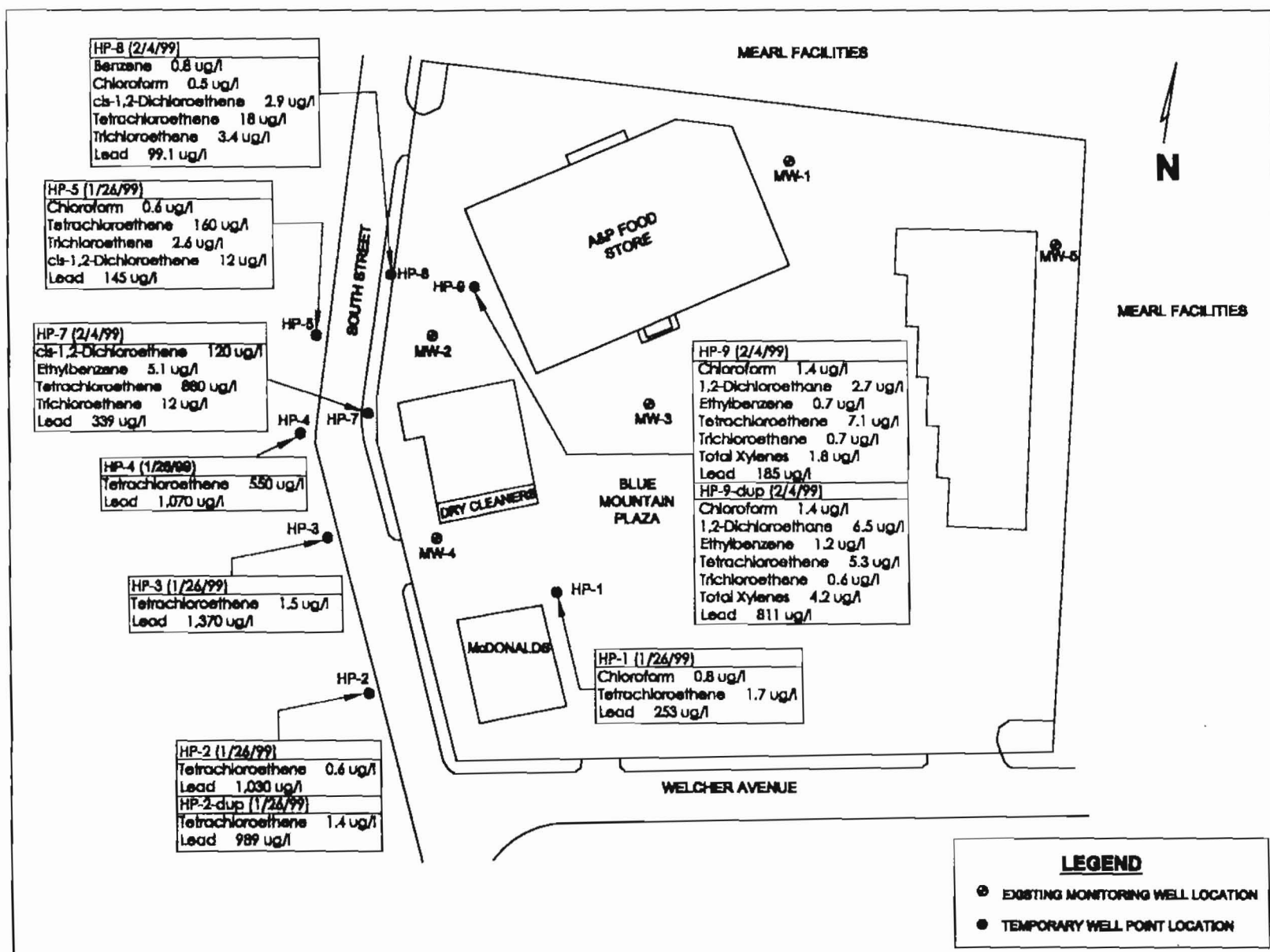
| No. | Building/Room | Date |
|-----|---------------|------|
|     |               |      |
|     |               |      |
|     |               |      |

For Name and Address  
**BELL ENVIRONMENTAL**  
 295 C ROUTE 46  
 BUDD LAKE, NJ 07828

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

|                                                                                  |              |
|----------------------------------------------------------------------------------|--------------|
| Date<br><b>7/30/92-01</b><br>Date<br><b>MAY 1999</b><br>Scale<br><b>1" = 42'</b> | Date<br><br> |
|----------------------------------------------------------------------------------|--------------|





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

NEW ENVIRONMENTAL  
295 C ROUTE 46  
BUDDO LAKE, NJ 07828

PEEKSKILL PLAZA  
20 WELCHER AVENUE  
PEEKSKILL, NEW YORK

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

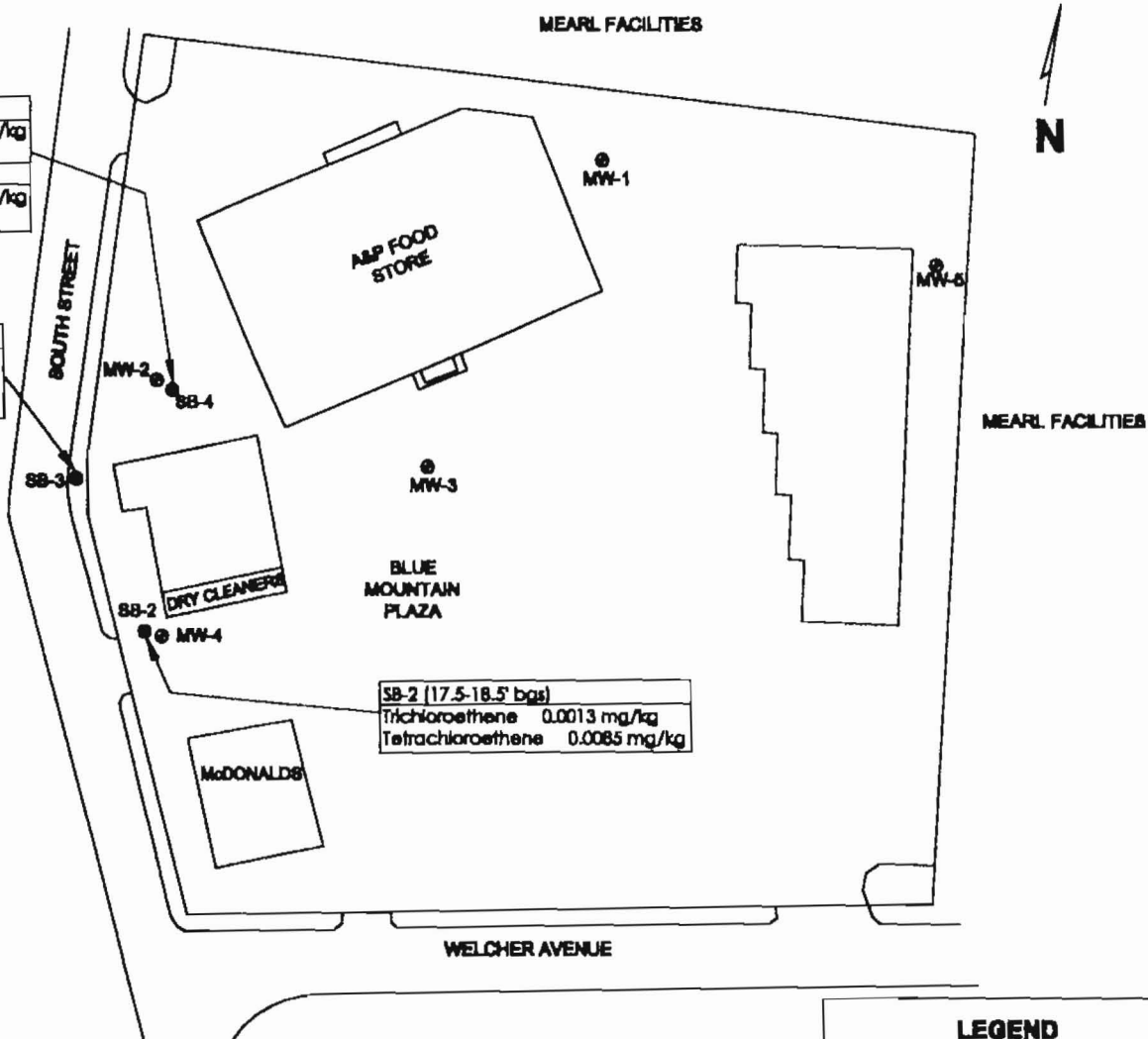




SB-4 (SB-4-dup) (10.5-12.0' bgs)  
 cis-1,2-Dichloroethene 0.0007 (J) mg/kg  
 Tetrachloroethene 0.017 mg/kg  
 SB-4-dup (10.5-12.0' bgs)  
 cis-1,2-Dichloroethene 0.0006 (J) mg/kg  
 Tetrachloroethene 0.017 mg/kg

SB-3 (8.5-11.5' bgs)  
 cis-1,2-Dichloroethene 0.01 mg/kg  
 Trichloroethene 0.0027 mg/kg  
 Tetrachloroethene 0.14 mg/kg

SB-2 (17.5-18.5' bgs)  
 Trichloroethene 0.0013 mg/kg  
 Tetrachloroethene 0.0085 mg/kg



#### LEGEND

- EXISTING MONITORING WELL LOCATION
- SOIL BORING LOCATION

FIGURE 9  
 SOIL BORING  
 SAMPLE RESULTS  
 FOR  
 FEBRUARY 4, 1999

BELL ENVIRONMENTAL  
 295 C ROUTE 44  
 BUDO LAKE, NJ 07828

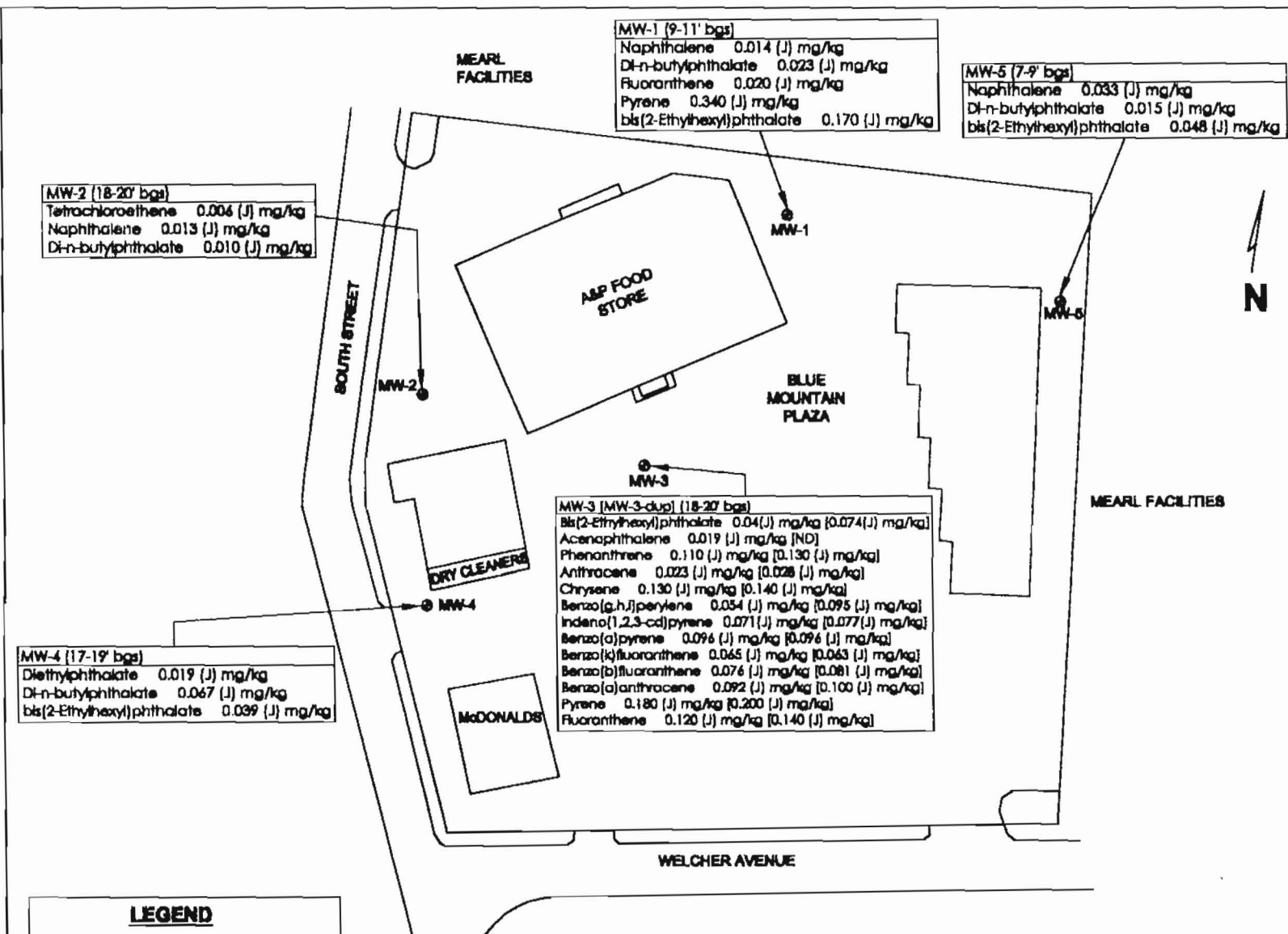
PEBSKILL PLAZA  
 20 WELCHER AVENUE  
 PEBSKILL, NEW YORK

Project 93042-01

Date MAY 1999

Scale 1" = 116'





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

| No. | Station/Point | Date |
|-----|---------------|------|
|     |               |      |

See Note on Sheet  
**BELL ENVIRONMENTAL**  
295 C ROUTE 46  
BUDD LAKE, N.J. 07828

Project Name and Address  
**PEBICKILL PLAZA**  
20 WELCHER AVENUE  
PEBICKILL, NEW YORK

Order # **93042-01** Date  
MAY 1998  
Scale **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 7.4 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

A&P FOOD  
STORE

**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 5,680 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 [4.7 mg/kg]  
 Copper 23 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

SOUTH STREET

BLUE  
MOUNTAIN  
PLAZA

McDONALD'S

WELCHER AVENUE



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

| No. | Location/Name | Date |
|-----|---------------|------|
|     |               |      |

For Data on this:  
**BELL ENVIRONMENTAL**  
 295 C ROUTE 46  
 BUDD LAKE, NJ 07828

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

Job No: 93042-01  
 Date: MAY 1999  
 Scale: 1" = 116'

## LEGEND

● EXISTING MONITORING WELL LOCATION



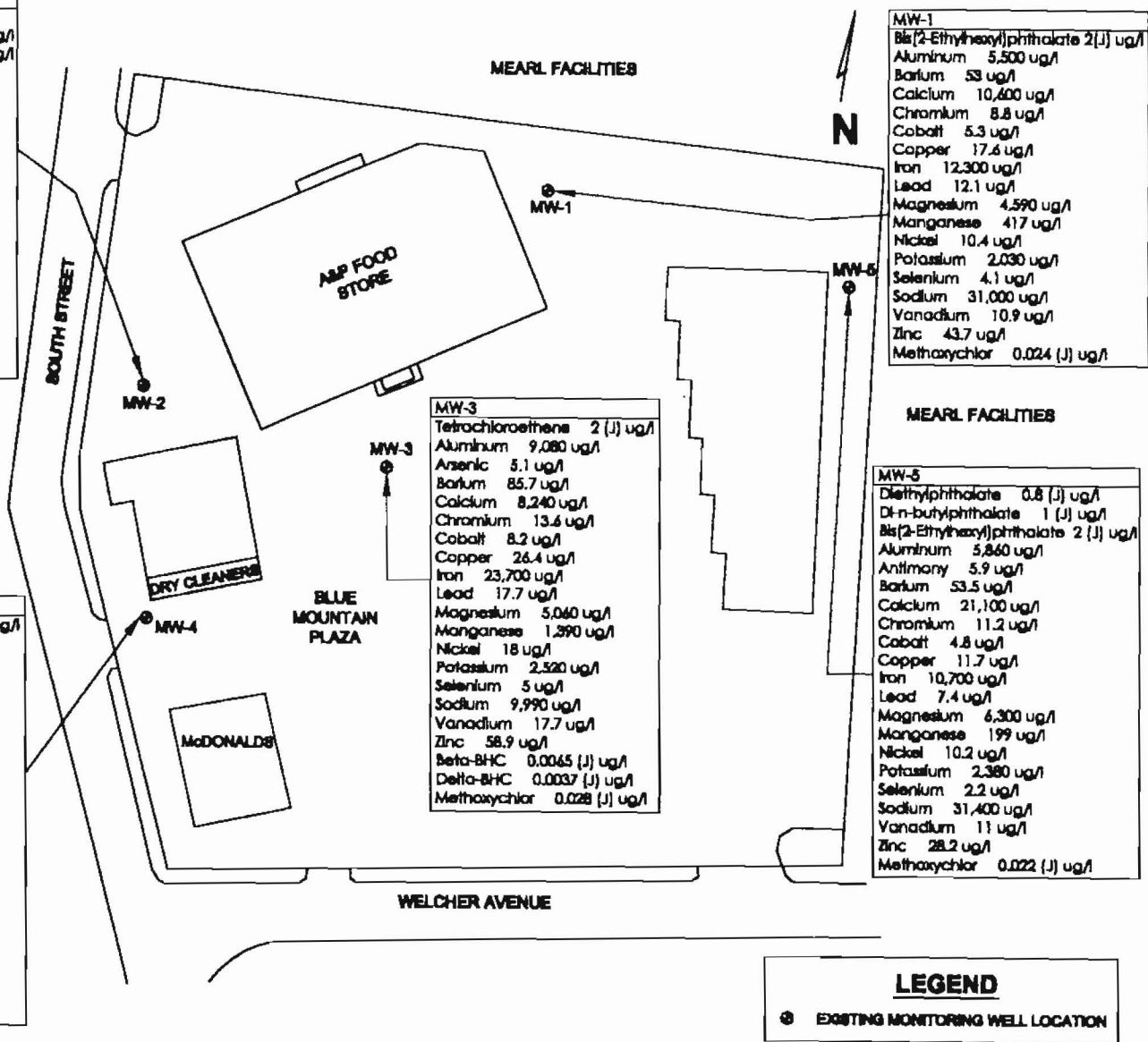
**MW-2**  
 Tetrachloroethene 87 ug/l  
 1,2-Dichloroethene (total) 3 (J) ug/l  
 bis(2-Ethylhexyl)phthalate 1 (J) ug/l  
 Aluminum 2,680 ug/l  
 Arsenic 7.4 ug/l  
 Barium 101 ug/l  
 Calcium 131,000 ug/l  
 Chromium 11.3 ug/l  
 Cobalt 4.2 ug/l  
 Copper 12.1 ug/l  
 Iron 14,200 ug/l  
 Lead 10.8 ug/l  
 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 0.0065 (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



**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

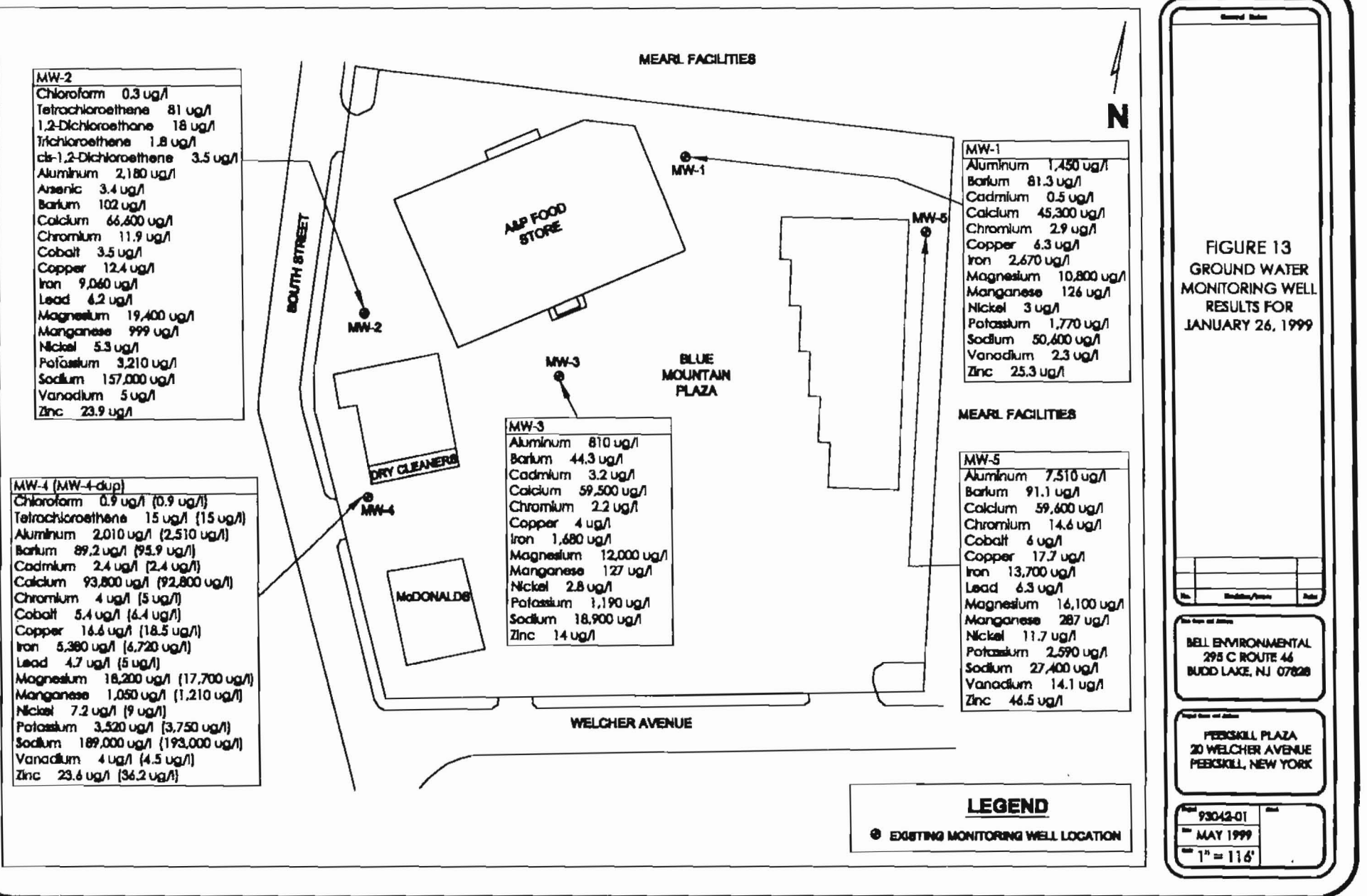
Page 93042-01

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

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





## **TABLES**



TABLE 1

## 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 | 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<br>pH<br>(Standard Units)     | Pre-Purge<br>Temperature<br>(°C)     | Pre-Purge<br>Conductivity<br>(mS/cm)     | Pre-Purge<br>Dissolved<br>Oxygen (mg/l)     | Depth to<br>Water<br>(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<br>pH<br>(Standard Units)    | Post-Purge<br>Temperature<br>(°C)    | Post-Purge<br>Conductivity<br>(mS/cm)    | Post-Purge<br>Dissolved<br>Oxygen (mg/l)    | Depth to<br>Water<br>(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<br>pH<br>(Standard Units) | Post-Sampling<br>Temperature<br>(°C) | Post-Sampling<br>Conductivity<br>(mS/cm) | Post-Sampling<br>Dissolved<br>Oxygen (mg/l) | Depth to<br>Water<br>(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<br>Start Time | Purge<br>Finish Time | Purge<br>Method  | Purge Rate<br>(gpm) | Total Volume<br>Purged (gallons) | Sample Date | Sample<br>Start Time | Sample<br>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<br>pH<br>(Standard Units)     | Pre-Purge<br>Temperature<br>(°C)     | Pre-Purge<br>Conductivity<br>(mS/cm)     | Pre-Purge<br>Dissolved<br>Oxygen (%)        | Depth to<br>Water<br>(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<br>pH<br>(Standard Units)    | Post-Purge<br>Temperature<br>(°C)    | Post-Purge<br>Conductivity<br>(mS/cm)    | Post-Purge<br>Dissolved<br>Oxygen (mg/l)    | Depth to<br>Water<br>(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<br>pH<br>(Standard Units) | Post-Sampling<br>Temperature<br>(°C) | Post-Sampling<br>Conductivity<br>(mS/cm) | Post-Sampling<br>Dissolved<br>Oxygen (mg/l) | Depth to<br>Water<br>(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<br>Start Time | Purge<br>Finish Time | Purge<br>Method  | Purge Rate<br>(gpm) | Total Volume<br>Purged (gallons) | Sample Date | Sample<br>Start Time | Sample<br>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:<br>BELL Sample Number:<br>VOCs Lab ID:<br>SVOCs, Pesticides/PCBs, Metals Lab ID:<br>Sample Depth (Feet BGS):<br>Sample Date: |  | MW5 / 7-9<br>93042-MW5/7-9<br>81953001<br>980938A-01<br>7.0-9.0<br>04/21/1998 |       |     | MW1 / 9-11<br>93042-MW1/9-11<br>81953002<br>980938A-02<br>9.0-11.0<br>04/21/1998 |         |     | MW2 / 18-20<br>93042-MW2/18-20<br>81953004<br>980938A-03<br>18.0-20.0<br>04/22/1998 |         |     | MW4 / 17-19<br>93042-MW4/17-19<br>81953006<br>980938A-04<br>17.0-19.0<br>04/23/1998 |          |     | Trip Blank<br>93042-TRIP<br>81953007<br>—<br>—<br>04/23/1998 |      | Recommended<br>Soil<br>Cleanup<br>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                                                                         |       |     | 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           |
| Dibenzophthalate                                                                                                                                 |  | 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   |                                              | 224 or MDL   |
| Benzo (a) anthracene                                                                                                                             |  | 0.36                                                                          | ND    |     | 0.35                                                                             | ND      |     | 0.35                                                                                | ND      |     | 0.35                                                                                | ND       |     |                                                              | NS   |                                              | 50           |
| 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                                                                             |         |     | 28.7                                                                                |         |     | 31.7                                                                                |          |     | NS                                                           |      |                                              | 300 or SB    |
| Beryllium                                                                                                                                        |  | 0.51                                                                          |       |     | 0.44                                                                             |         |     | 0.38                                                                                |         |     | 0.42                                                                                |          |     | NS                                                           |      |                                              | 0.16 or SB   |
| Calcium                                                                                                                                          |  | 2090                                                                          |       |     | 3100                                                                             |         |     | 1330                                                                                |         |     | 7310                                                                                |          |     | NS                                                           |      |                                              | SB           |
| Chromium                                                                                                                                         |  | 13.2                                                                          |       |     | 11.6                                                                             |         |     | 10.1                                                                                |         |     | 10.7                                                                                |          |     | NS                                                           |      |                                              | 10 or SB     |
| Cobalt                                                                                                                                           |  | 10.3                                                                          |       |     | 8.1                                                                              |         |     | 7.6                                                                                 |         |     | 7.6                                                                                 |          |     | NS                                                           |      |                                              | 30 or SB     |
| Copper                                                                                                                                           |  | 28.2                                                                          |       |     | 23.4                                                                             |         |     | 20.2                                                                                |         |     | 20.4                                                                                |          |     | NS                                                           |      |                                              | 25 or SB     |
| Iron                                                                                                                                             |  | 38000                                                                         |       |     | 25500                                                                            |         |     | 23000                                                                               |         |     | 24000                                                                               |          |     | NS                                                           |      |                                              | 2,000 or SB  |
| Lead                                                                                                                                             |  | 13.8                                                                          |       |     | 15.8                                                                             |         |     | 10                                                                                  |         |     | 9.4                                                                                 |          |     | NS                                                           |      |                                              | SB**         |
| Magnesium                                                                                                                                        |  | 5640                                                                          |       |     | 5650                                                                             |         |     | 4500                                                                                |         |     | 6100                                                                                |          |     | NS                                                           |      |                                              | SB           |
| Manganese                                                                                                                                        |  | 669                                                                           |       |     | 588                                                                              |         |     | 399                                                                                 |         |     | 413                                                                                 |          |     | NS                                                           |      |                                              | SB           |
| Nickel                                                                                                                                           |  | 23.8                                                                          |       |     | 20.2                                                                             |         |     | 17.4                                                                                |         |     | 18.5                                                                                |          |     | NS                                                           |      |                                              | 13 or SB     |
| Potassium                                                                                                                                        |  | 969                                                                           |       |     | 955                                                                              |         |     | 776                                                                                 |         |     | 716                                                                                 |          |     | NS                                                           |      |                                              | SB           |
| Selenium                                                                                                                                         |  | 3.2                                                                           |       |     | 1.4                                                                              |         |     | 1.3                                                                                 |         |     | 1.2                                                                                 |          |     | NS                                                           |      |                                              | 2 or SB      |
| Sodium                                                                                                                                           |  | 182                                                                           |       |     | 208                                                                              |         |     | 160                                                                                 |         |     | 107                                                                                 |          |     | NS                                                           |      |                                              | SB           |
| Thallium                                                                                                                                         |  | 1.2                                                                           |       |     | ND                                                                               |         |     | ND                                                                                  |         |     | ND                                                                                  |          |     | NS                                                           |      |                                              | SB           |
| Vanadium                                                                                                                                         |  | 19.7                                                                          |       |     | 17.7                                                                             |         |     | 13.9                                                                                |         |     | 14.4                                                                                |          |     | NS                                                           |      |                                              | 150 or SB    |
| Zinc                                                                                                                                             |  | 77.7                                                                          |       |     | 70.7                                                                             |         |     | 59.6                                                                                |         |     | 66                                                                                  |          |     | 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.

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

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.



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

| Sample Designation:<br>BELL Sample Number:<br>VOCs Lab ID:<br>SVOCs, Pesticides/PCBs, Metals Lab ID:<br>Sample Depth (Feet BGS):<br>Sample Date: | MW-3 /18-20<br>93042-MW3/18-20<br>81978001<br>980954A-01<br>18.0-20.0<br>04/24/1998 |        |    | MW-6 /18-20<br>93042-MW6/18-20<br>81978002<br>980954A-02<br>18.0-20.0<br>04/24/1998 |        |    | FIELD BLANK *<br>93042-424<br>81978003<br>980954A-03<br>—<br>04/24/1998 |           |    | Recommended<br>Soil<br>Cleanup<br>Objectives |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|----|-------------------------------------------------------------------------------------|--------|----|-------------------------------------------------------------------------|-----------|----|----------------------------------------------|
|                                                                                                                                                  | MDL                                                                                 | CONC   | Q  | MDL                                                                                 | CONC   | Q  | MDL                                                                     | CONC      | Q  | (mg/kg)                                      |
| <b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>                                                                                                        |                                                                                     |        |    |                                                                                     |        |    |                                                                         |           |    |                                              |
| 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)                                 |
| <b>SEMI-VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>                                                                                                   |                                                                                     |        |    |                                                                                     |        |    |                                                                         |           |    |                                              |
| 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                                           |
| Napthalene                                                                                                                                       | 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)                                 |
| <b>PESTICIDES/PCBs (mg/kg)</b>                                                                                                                   |                                                                                     |        |    |                                                                                     |        |    |                                                                         |           |    |                                              |
| 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-DDE                                                                                                                                          | 0.0036                                                                              | ND     |    | 0.0036                                                                              | ND     |    | 0.0001                                                                  | ND        |    | 2.1                                          |
| 4,4-DDO                                                                                                                                          | 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                                           |
| <b>METALS (mg/kg)</b>                                                                                                                            |                                                                                     |        |    |                                                                                     |        |    |                                                                         |           |    |                                              |
| 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  |                                                                                     | 706    | B  |                                                                         | ND        |    | SB                                           |
| Selenium                                                                                                                                         |                                                                                     | 1.2    | N  |                                                                                     | 1.5    | N  |                                                                         | ND        |    | 2 or SB                                      |
| Sodium                                                                                                                                           |                                                                                     | 145    | B  |                                                                                     | 157    | B  |                                                                         | ND        |    | SB                                           |
| Vanadium                                                                                                                                         |                                                                                     | 9.8    |    |                                                                                     | 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.



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

| Sample Designation:<br>BELL Sample Number:<br>Lab ID:<br>Sample Depth (ft):<br>Sample Date: | SB-2<br>6002E<br>111711<br>17.5-18.5<br>02/04/1999 |        |    | SB-3<br>6003C<br>111715<br>8.5-11.5<br>02/04/1999 |        |    | SB-4<br>6004C<br>111720<br>10.5-12.0<br>02/04/1999 |        |    | SB-5 (SB-4-DUP)<br>6005C<br>111725<br>10.5-12.0<br>02/04/1999 |        |    | FIELD BLANK<br>1009<br>111738<br>---<br>02/04/1999 |      |   | Recommended<br>Soil Cleanup<br>Cleanup<br>Objectives |
|---------------------------------------------------------------------------------------------|----------------------------------------------------|--------|----|---------------------------------------------------|--------|----|----------------------------------------------------|--------|----|---------------------------------------------------------------|--------|----|----------------------------------------------------|------|---|------------------------------------------------------|
|                                                                                             | PQL                                                | CONC   | Q  | PQL                                               | CONC   | Q  | PQL                                                | CONC   | Q  | PQL                                                           | CONC   | Q  | PQL                                                | CONC | Q | (mg/kg)                                              |
| <b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b><br>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     |    | 0.001                                              | ND   |   | 0.7                                                  |
| Tetrachloroethene                                                                           | 0.001                                              | 0.0085 |    | 0.001                                             | 0.14   |    | 0.001                                              | 0.017  |    | 0.001                                                         | 0.017  |    | 0.001                                              | 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.

